



**Shetland Islands Council**

# **Environmental Study**

**Scord Quarry Extension  
and A970 Re-alignment**

**Nov 2025**

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## **1 INTRODUCTION**

### **1.1 THE PROPOSALS**

Shetland Islands Council (SIC) wishes to extend its current planning permission to quarry stone from Scord Quarry (National Grid Reference HU 412401). In addition it is proposed that as part of the quarry plans the A970 would be realigned to remove the existing hairpin bend as the road drops towards Scalloway close to the quarry (NGR HU 413397). This road improvement is not part of the current planning application but is a consideration as to how the quarry will be developed going forward. This improvement to the public road network was originally proposed when a Notice of Intention to Develop (NID) was approved in April 2006. The Council's Roads Service is now submitting a planning application to further extend the permission for the quarry. A second planning application will be submitted in due course, when the quarry is no longer viable, to realign the A970. There is a requirement to extend the quarry and the area of the current planning permission to enable a reliable supply of stone to be quarried. The proposed works are to the north-east of the existing quarry area with an extension of some 4.9 hectares (ha) into the southern end of Outnabreck Hill. The proposals are shown on the Site Plan submitted as part of the planning application.

Quarrying activities have been ongoing at the Scord since 1932. The Council wishes to ensure that the future quarrying plans are developed to facilitate restoration of the whole site in the longer term that is within the existing quarry area and also within the extension area. It is intended that a final landform would be created which best fits with the surrounding natural environment.

Quarrying stone would deliver the eventual earthworks for the road. Therefore, the quantities of stone required would determine when the new road alignment will be achieved. The existing line of the road would remain in place to facilitate local access and access to the viewpoint. An indicative road re-alignment plan showing possible future proposals for the A970 has also been submitted as part of this planning application.

At the end of the proposed extension period the need for stone from this source would be reviewed and if a requirement is identified, a further planning application would be made or alternatively the quarry would be fully restored.

### **1.2 ENVIRONMENTAL REPORT (ER) 2005**

In 2005 the Council's Planning service confirmed that a formal environmental impact assessment (EIA) under the provisions of the "The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017" was not required for the NID. However, the Council commissioned Natural Capital Ltd in association with landscape architects from Environmental Resources Management (ERM) to undertake an informal appraisal of the potential environmental impacts of the proposals to ensure that appropriate mitigation was identified for any potentially significant effects and that the final proposals were refined taking account of this mitigation.

This Environmental Study is an update of the 2005 Environmental Report. The mitigation proposed in the 2005 report is also proposed for the currently planned extension.

In addition the Council wanted to ensure a restoration plan was developed and taken into account in the planning process. Further environmental information was to be collated at the time the NID was submitted for the road re-alignment. This approach is also proposed for this latest extension and the 2025 planning application. Further environmental information would also be submitted with the later planning application for the road re-alignment.

### **1.3 PLANNING CONTEXT**

The strategic and local planning context for the proposals are set out in the Shetland Local Development Plan (LDP) 2014. The proposals are reviewed within the framework of this plan in Chapter 5.

## 1.4 SOURCES OF INFORMATION

The following sources of information have been used in the appraisal:

- Information and inputs from the Roads Service including plans of the proposals and quarry production figures;
- Published information including relevant planning documents, Local Biodiversity Action Plans, etc.
- Ordnance Survey map tiles HU4139 and HU4140;
- Topographical surveys of the quarry and surrounding area;
- Field visits undertaken by Roads Service staff including the Council's Quarry Manager; and
- The Environmental Report from 2005.

Other specific sources of information are referenced in individual chapters.

## 1.5 CONSULTATIONS

The Roads Service has considered a number of proposals for the extension of the quarry before deciding on the option considered in this report. These options were considered in 2005 prior to the NID for the current permission being submitted (see Section 2.4). There was good support for the preferred option at that time which comprised a road improvement through the south end of the quarry, provision of a supply of rock for the next 20 years and allowed a large section of the present quarry to be sloped back and landscaped (see Section 2.5).

## 1.6 APPROACH TO THE 2005 ASSESSMENT

The approach to the 2005 ER was informed by Scottish Executive and other EIA guidance. The individual technical assessments were carried out with reference to relevant legislative and policy requirements and current best practice of the time. The focus of the ER was informed by discussions with SIC Planning Department and the comments from consultees.

A common approach was used for the assessment of each environmental topic. This included:

- establishing the baseline conditions through a combination of desk review, consultations and site visits;
- identifying potential environmental impacts which could result from the quarrying proposals;
- identification of mitigation measures to prevent, reduce and, where possible offset any impacts which could either by themselves, or in combination with other impacts have a significant adverse effect;
- assessment of the level of significance of all residual effects (direct and indirect, adverse and beneficial, short-term and long-term, permanent and temporary) taking account of committed mitigation measures.

Potential impacts were taken into account in the iterative development of the proposals. Where the potential for a significant adverse effect either by itself or in combination with other impacts was identified the environmental team fed back concerns to the Council's project team who accounted for the issues when refining the design for the quarry extension, restoration plans and road realignment.

Permanent effects associated with permanent development and use of land for the project were considered such as visual changes or loss of habitat. Operational effects from operation of the quarry were also considered.

In the 2005 ER, where relevant, effects were categorised into:

- none: no detectable change to the environment;
- minor: a detectable but non-material change to the environment;

- moderate: a material but non-fundamental change to the environment;
- major: a fundamental change to the environment.

Effects which were major or moderate were considered to be significant.

## **2 NEED FOR THE PROJECT, OBJECTIVES AND ALTERNATIVES**

### **2.1 INTRODUCTION**

This chapter explains why an extension to the quarry is required and why realignment of the A970 has been included in the proposals. The objectives for the project are set out and other alternatives which have been considered are described.

### **2.2 NEED**

Quarrying at Scord began in 1932 and since then the supply of stone has been in more or less constant demand. Quarried stone is mainly for local use for roadstone and some is used for rock armour. There is a bitmac coating plant at the quarry which is the only one in Shetland. Production at the quarry is all year round although there are some periods when greater quantities of stone are required than others depending on specific demands. In the main the quarry services the demands of SIC projects which are ongoing.

Scord Quarry, Staney Hill and the quarry at Brindister have been the three main sources for stone in Shetland. These quarries have all had similar production rates. There are also quarries at Sullom and Scatsta but there would be a financial and environmental cost to move stone from these sources to all areas of Shetland.

Scord Quarry is well positioned to supply stone economically to mainland Shetland with good road links to key areas of requirement (Scalloway, Lerwick etc). Rock within the existing quarry area is nearly worked out (the existing benches are almost vertical) and the quarry cannot therefore be extended within the boundary of land currently owned or leased by the Council.

To ensure a secure supply of required materials (rock, road aggregates and asphalt) it is essential that the quarry is extended or another quarry opened. SIC does not wish to open another quarry because an extension at Scord provides the opportunity to restore the existing site, because the quarry supplies high quality materials and because SIC has invested in the machinery and plant in the quarry. Trial excavations of the stone in the proposed extension area indicate that it is also of good quality and that there is sufficient material of good quality to ensure supply.

The Roads Service has therefore been in discussion with the owners of the land in which the extension would be located and it is thought that agreement will be reached.

### **2.3 PROJECT OBJECTIVES**

The Council objectives in taking forward the proposals are:

- to ensure a reliable supply of rock, road aggregates and asphalt for use in projects in Shetland;
- to ensure that the quarry is restored as part of the extension proposals;
- to improve the A970 road; and
- to ensure that the proposals are progressed in a way which best safeguards the local environment and reduces impacts to the local community.

### **2.4 ALTERNATIVES**

The Council previously considered various alternatives for the extension of the quarry. These included:

- Option 1: Opening of a quarry in another location;

- Option 2: Outsourcing of the supply of stone and coated products;
- Option 3: Joint venture with an external quarrying specialist; and
- Option 4: Quarry extension and related realignment of the A970 with progressive restoration of the quarry.

Prior to the NID submission the Council established a working group of members and officers to review the Shetland community's need for aggregates and consider alternatives for provision. The review group was also asked to consider the future of Scord Quarry and investigate the possibility of private sector provision or the possibility of joint venture arrangements with the private sector.

Investigations into alternative locations showed little scope for suitable sites in the Central Mainland area. A potential site at Njugal's Water was investigated, 1-2km north-east of the Scord Quarry, with similar quality stone which was at first considered to be a potentially suitable alternative site. The site is not overlooked by any residential properties and it would be possible to construct a suitable access onto the local road network. However, Scottish Water stated that a loch in close proximity to the site, although not used for water supply at present, could be used in the future and thus the site was not considered further. The only other alternative site which was considered to be potentially suitable was further north and increased haulage costs from this location were considered to be prohibitive to developing a proposal for that site further. The costs of establishing a new quarry together with a new power supply and also of relocating all the quarry plant would also have been prohibitively expensive.

The second option was to outsource the supply. This option would have facilitated early restoration of Scord Quarry. The local market could only support one supplier of coated road stone products and the prospect of a private monopoly was considered inadvisable. This could lead to unfair competition.

A third option which was considered was a joint venture with the private sector whereby all stone production would be transferred to Brindister Quarry. This option would also allow early reinstatement of Scord Quarry and SIC's involvement would control the risk of unfair competition between contractors. At first this proposals seemed worthy of further investigation but further discussions indicated that costs would be likely to increase above current levels. The review group considered that these increased costs together with loss of flexibility and total control meant that this option was less attractive. A public meeting held in Scalloway in October 2003 was used as a sounding board to gauge local community perceptions about continuing quarrying at Scord (Option 4). There was overwhelming support for the continuation of operations from those at the meeting.

## **2.5 PREFERRED OPTION**

The preferred option following the review process was Option 4, the extension of the quarry. Restoration of the existing faces would be progressed as part of the extension and access to and from Scalloway would be improved by realigning the A970. This preference remains the same with the reasoning for this also unchanged. The reasons for this are summarised below:

- In view of the support from the local community the review group considered that the Council's preferred option should be to continue operations at the Scord beyond the Council owned boundary. It is a wholly owned Council asset and it is fully within the Council's remit to change anything at any time (within the permissions for the quarry at the time). The proposed extension would guarantee the availability of stone and coated products for several years at prices within the control of the Council. Making the supply of quarry materials available to all at the same prices would ensure that fair competition between contractors is maintained. The extension would also allow the Council to continue with its investments to improve the quarry and minimise carbon emissions.
- The bend on the A970 at Scord is very sharp as the road winds around Outnabreck Hill and turns through 90 degrees on a downhill section of road towards Scalloway. The

realignment of the road would not be possible without undertaking a major rock cutting through Outnabreck Hill. Under normal circumstances the costs of this major cutting could not be justified. By designing the extension to the quarry to be sympathetic to the requirements of the road proposal then the proposed road improvement becomes viable.

- Some concerns had been expressed by the community about the junctions of the A970 with the Tingwall valley and East Voe junctions. The Roads Service took these concerns into account and designed an indicative road alignment through the existing quarry that would also facilitate the eventual improvements to these junctions should they be prioritised by the Council in the future.
- In the past the Scalloway community had expressed concerns about changes to the skyline but until 2005, and the development of computerised 3D modelling, it had been extremely difficult to evaluate the effect of the changing skyline for local residents. It was possible to show the extent of the proposed changes to the Scalloway community and the views that would be seen from key viewpoints. This resulted in the proposals being accepted by a majority of the consultees.
- The planned extension would permit the rounding of the existing hillside to provide a more natural reinstatement. The quarrying work would be phased to allow a top-down reinstatement in order to re-establish natural vegetation as early as possible.
- The Council is keen to promote recycling wherever possible and by retaining full control of the Scord operation it would continue to actively encourage the reprocessing of materials and minimise the volume sent to landfill.

### **3 THE PROPOSALS**

#### **3.1 INTRODUCTION**

This chapter describes the current quarry activities and the 2025 proposals in more detail. The restoration proposals are set out in Chapter 4.

#### **3.2 THE CURRENT QUARRY ACTIVITIES**

Current production at the Scord is currently 100,000 tonnes/year. It is estimated that some six million tonnes of material has been quarried to date for use in road building and other construction works. The majority of the stone is crushed for road aggregates, some of which is fed to the bitumen coating plant, using a primary and secondary crusher although some suitably sized stone is used for rock armour. The process is efficient and no materials are double handled unless it is really essential. The processing machinery is well screened and sited in the base of the quarry which reduces the noise from the plant at neighbouring properties.

Blasting in the quarry is dependent on demand but on average there is one blast every three months. Explosives are placed at 3.5m x 21m spacing and usually ten holes are set at any one blast. The Quarry Manager notifies residents close to the quarry before a blast and the main blasts are monitored using a vibrograph. Readings are generally found to be low and not significant.

The quarried stone is fed to the primary crusher which is enclosed and the product from this process passed through primary screens which sorts oversized material from material approximately 100mm in size which is then fed into the secondary crushing station. The oversized by product is sold either as secondary armour stone or reprocessed through the primary crusher. The secondary crushing station, which includes three crushers, is also enclosed. The output from the secondary crushers is small aggregate between 28mm in diameter and dust. It is passed through secondary screens before the final screen which is used to grade the materials.

Some of the graded stone is used to feed the on-site asphalt plant. The quarry produces on average some 80,000 to 100,000 tonnes of coated product each year. Various gradings of stone are mixed in proportions, determined by British and European Standards, then heated and mixed with hot bitumen to produce a range of road construction products. Bitumen is delivered by road tanker directly to the quarry having travelled to Shetland on the Aberdeen to Lerwick ferry, typically two road tankers with a total of 42 tonnes per delivery. This is stored in a large storage facility (400 tonnes). Once in storage the bitumen is allowed to solidify until it is needed at the plant. It is then heated by steam coils within the tanks and pumped into heated storage tanks which feed the coating plant. Some 200 tonnes of bitumen can be maintained at the necessary temperature for use in the coating plant. The quarry has developed a bitumen emulsion manufacturing facility in conjunction with the Council's partner in the process and bitumen supplier Nynas UK. The bitumen is processed through a mill after mixing with other chemicals to manufacture bituminous emulsion which is used in the surface dressing operation.

All runoff from the quarry (rainfall, waste water from dust suppression measures etc.) is collected and drained to a settling tank where it is discharged to the East Voe of Scalloway after passing through an oil interceptor. Fines from the bottom of the settling tank are regularly dug out and disposed of to a suitably licensed waste facility.

Maintenance activities (of the process machinery etc.) are mainly done in-house by those working at the quarry and generally maintenance does not generate many additional car/HGV movements.

There is a small electricity substation within the existing quarry which services the plant.

The quarry is also used as a depot for other SIC roads operations including providing the main storage area for salt for winter maintenance and grit which is used for several winter gritting routes. These activities would continue through the life of the quarry.

Material excavated as part of roads repairs and ditch clearing elsewhere in Shetland are used wherever possible in reinstatement and landscaping of areas on the quarry. Lorries going to the quarry for materials can deliver unsuitable materials from elsewhere and so help in an ongoing restoration plan at the quarry. It is again intended that these activities would continue.

The quarry operates under a Part 'B' PPC Authorisation with a number of conditions attached to this. The quarry also has a Consent to Discharge. SEPA advised it would not wish any of these consents to be compromised by the proposals.

### **3.3 PLANNED EXTENSION 2025**

#### **3.3.1 Description**

##### **3.3.1.1 The Quarry**

The proposal is to create new quarry faces which would be 15m benches) in the area shown on the Site Plan (also submitted with the Planning Application). This is a continuation of the current practice. As part of the proposal the existing quarry faces would eventually be cut back and regraded, during the restoration process, and integrated with the new quarry works in the extension area. This would change the current skyline and create a deep notch through which it is proposed to site the realigned A 970. The V profile would be cut back as far as is feasible at its top to create a more natural slope gradient and the slopes worked to achieve an irregular profile which mimics that of surrounding hills. Particular attention would be paid to the integration of the top of the quarried slope with the natural hill profile, so that a sharp unnatural looking angle is not created.

The new faces would be created by drill blasting (as used at present). The depth of boreholes would be reduced as the proposed hill profile is approached to ensure the final desired profile is achieved. As quarrying progresses there would eventually be three benches and haul roads along the benches would be 10m in width. After quarrying has been completed in any area the benches would be partially removed by further blasting to break up the regular horizontal lines along the hillside which are created by them and partially filled in with materials including wastes from other jobs and soils kept when the extension area is stripped. This cutting and filling would help achieve as natural a profile as possible in the final form of the restored quarry. Small irregular and naturalistic rock faces would be left to provide habitat (for nesting birds and for plants to grow where sheep cannot graze them) and visual diversity to the hillslope.

As part of the proposal the entrance to the quarry would be tidied up and old buildings removed if no longer in use or repainted/reclad if still required.

### **3.3.1.2 Realignment of the A970**

The proposed future realignment would route the A970 along the southern edge of the quarry site (see Re-alignment Plan). The hairpin bend in the main access road to and from Scalloway would thus be removed. The old road would remain to allow access to properties and to the viewpoint for tour buses and other tourists. The existing road would need to be realigned slightly at its eastern end to achieve the tie in with the new road. Opportunities to restore the scars on the side-slopes of the existing road would be investigated at the time of the works and where feasible these would be topsoiled to encourage them to vegetate and blend back into the landscape. Particular attention would be paid to the integration of their tops with the surrounding landscape.

The new road would be a two-lane carriageway. The road would be edged with soiled verges and naturalistically designed ditches at either side. All exposed soil and ledges on rocky slopes would be topsoiled and revegetated with locally typical grass, wildflower and heather species, either through natural regeneration or by hydroseeding.

The gradient of the realigned road would be slightly less than that of the existing road (1 in 14 as compared with 1 in 10 at the steepest point of the existing road). The road would be mainly in cutting near the existing quarry where the slopes would be considerable (up to 70-80m) and at grade through the quarry extension area. Rocky outcrops, scalloped hollows, boulders and irregularities would be included in the deep cutting wherever possible to help break up the very steep and high slopes. There would be no requirement for man-made reinforcement (e.g. concrete retaining walls, rock bolting, gabions or wire netting) would not be permitted as it is important that the slope returned to a natural looking hillside. Similarly, rock catch fencing would not be required and sufficient space would be left at the foot of the slope for swales to make as like natural watercourses as possible. Roadside fencing (if required) would be designed and located so that it is not prominent on skylines.

### **3.3.2 Phasing of Operations**

Quarry activities in the proposed extension would begin from the top down with phased restoration to minimise the impacts of ongoing activities. It is proposed that activities would proceed as follows:

- the extension area boundary fenced off;
- the overburden would be removed and used as filling along the base of the existing quarry benches;
- the eastern extremity of the existing face would be reduced in height and rock quarried from the extension area;
- the regraded face and newly quarried area would be shaped to give as natural a profile as possible, particularly in grading the top of the slope into the existing hillside;
- the eastern faces would be further reduced in height and the hill shaped to a natural profile falling away behind the northern slopes of Bersa Hill (the hill to the south of the quarry) thus creating a deep notch on the skyline which is not there at present;

- quarry activities would be completed in the extension area always working towards a natural profile for the final faces. The blast programme would be designed to work towards this and to exploit and expose natural bedding planes and jointing in the rock as far as possible;
- restoration of the quarry faces would be ongoing as work is completed in any one location including the existing faces which have not yet been restored;
- the area south of the proposed realignment would be reshaped to integrate with the existing natural terrain and the redundant areas of the quarry filled in and man-made mounds and earthworks graded out;
- man-made debris in this area would be tidied up so that the land between the two roads flows cleanly between them and can be used for grazing;
- work would progress back into the existing quarry area to allow final trimming of the profile of the existing benches;
- the existing benches would be broken up by restorative blasting to remove their dominant linear form and the strong horizontal stripes which they create on the hillside when seen in views from the surrounding area;
- the work would be progressed to completion of restoration of the whole quarry site unless a further extension to the planning permission is sought;
- subject to the outcome of a further planning application and the allocation of suitable funding the new road would be constructed. This activity would not be possible until the completion of quarrying works in the extension and is unlikely to commence before 2040 (i.e. towards the end of the quarrying period of after the proposed extension period).

The Restoration Plan, submitted as part of the current planning application, shows some of the phased activities which are proposed.

### **3.3.3 Other Quarry and Construction Activities**

Soils from any new work areas would be carefully stripped and stored in low uncompacted bunds to be used for restoration purposes at an appropriate time. Vehicles would not be allowed to track over the soil mounds. If bunds are to be left for long periods of time (over a year) they would be seeded so as to prevent their erosion and degradation.

The major profiling works for the future road realignment would be undertaken as part of the quarrying activities. The construction compound and storage areas for the road finishing works would be within the quarry. Other road works would include placing the road layers, constructing the road drainage and surfacing the road. Final landscape works would be undertaken once quarry activities in the immediate vicinity of the road have been completed. All activities would be undertaken in accordance with best practice.

### **3.3.4 Access**

Access to the quarry and to the road works would be via the current quarry access off the A970.

### **3.3.5 Employment**

Some 5 to 8 people are employed in the quarry and this is anticipated to continue in the future. There are also indirect benefits to the local community from the working quarry.

### **3.3.6 Working Hours**

Current working hours at the quarry are Monday to Saturday 07.00-19.00 (or occasionally longer when demand is high). It is anticipated that a similar pattern would continue for the working life of the quarry extension. Any amendments would be agreed in advance with the Council's Environmental Services.

Any requirement in the future for night-time working would be agreed in advance with the Council's Environmental Services and account taken of the potential for disturbance at nearby properties. Measures would be implemented to ensure any potential impacts are mitigated.

### **3.3.7 Traffic**

Car and vehicle movements to and from the quarry are expected to remain at current levels although at any one time this depends on the activities which the quarry is servicing. In addition to staff car movements there are additional traffic movements associated with visitors, delivery and maintenance traffic. Typical average figures are 40 vehicle movements<sup>s</sup> for any working day.

### **3.3.8 Infrastructure**

The quarry extension would be serviced by exiting utilities (power, water etc) and no new services are required.

The quarry extension would not affect any existing utilities. The road realignment works would be planned to take account of existing utilities and all necessary diversions completed. The SSE power lines would need to be repositioned to facilitate the new road alignment and there may be a need to move some BT cables. At this stage it is thought the existing water main would not be affected.

### **3.3.9 Waste**

Waste management (disposal of materials from the settling tank and interceptor, redundant machinery etc.) would continue as at present (see Sections 3.2 and 3.3.12 below). All wastes would be managed in accordance with best environmental practice and disposed of to suitably licensed facilities.

### **3.3.10 Drainage**

All drainage water from rainfall and quarry activities would continue to be collected and passed through the settlement tank and oil interceptor before discharge as at present (see Section 3.2).

### **3.3.11 Signing and Lighting**

At present there are flood lights in the quarry to allow safe working when dark and security lights which are used each night. The quarry activities would continue to be lit as at present. The A970 when complete would not be lit.

### **3.3.12 Environmental Management**

The Quarry Manager and Roads Service are committed to a proactive approach to environmental management of activities in the quarry. This would continue if the extension is granted. Examples of measures which are implemented at present include:

- all old machinery is carefully drained of oil before disposal and the oil collected and disposed of at a suitably licensed facility;
- all waste materials are disposed of to suitably licensed facilities;
- haul roads are regularly dampened with a water bowser to reduce dust in dry weather;
- nearby residents are informed before blasting takes place;
- all runoff from the quarry is collected and discharged through a settlement tank and oil interceptor before discharge;
- measures are implemented to contain dust and reduce noise (e.g. housing the crushing plant and boxing in conveyors);
- all procedures documented and checked regularly for effectiveness;
- minimising operational impacts on local biodiversity through progressive restoration;
- the maintenance of emergency responses and spill procedures; and
- commitment to effective liaison with local communities and provision of information about key activities.

The quarry is operated under a Part 'B' PPC and as part of this process all potentially polluting activities are carefully regulated (see Section 3.2).

## **4 RESTORATION PROPOSALS 2025**

### **4.1 INTRODUCTION**

A key objective of the proposals is to ensure that there is progressive restoration of the quarry. This chapter sets out the objectives and design principles and outlines the restoration plans (see Restoration Plan submitted with the planning application).

### **4.2 PREVIOUS RESTORATION**

The western benches of the existing quarry have been, in part, restored. The face was shaped at the cessation of working this area and the top face left and the lower area filled in. The slope was backfilled and soiled from the top and seeded several times including hydroseeding of the soiled face some 30 years ago. Soil which had been stripped from the hillside before quarrying was used together with imported soil. Natural regeneration has now taken place and has been quite successful.

Greening has been partially successful although close inspection of the vegetation indicates large numbers of ruderal species at present. The terraces have not been broken out and are hard lines along the hillside. The horizontal form of the benches is apparent at distance and some restorative blasting to break up the horizontal lines would, be beneficial.

The preferred proposal described in Sections 2.5 and 3.3 in cutting back the top of the existing slopes of the quarry would allow better integration with the surrounding landform and gentler slopes than at present which would help promote successful regeneration of vegetation. The new cut faces would be lower than those in the earlier quarry workings (15m as opposed to 20m) so it would be easier to restore them through blasting and backfilling.

### **4.3 OBJECTIVES AND DESIGN PRINCIPLES**

The objectives of the restoration plans and the key design principles would be as follows:

- to integrate the quarry into the surrounding landscape in a sensitive manner taking account of the surrounding landform;
- to reduce the visual impact of the worked quarry faces by reducing the prominence of redundant terraces, backfilling, shaping, topsoiling and vegetating the faces;
- to take opportunities to enhance local biodiversity by creating a variety of habitats in the final landform, including rocky outcrops, cliffs, ledges and damp hollows;
- to achieve progressive restoration of the site and reduce the impact of ongoing quarrying activities;
- to ensure the new road works are undertaken sensitively and promote natural regeneration of vegetation, so that the associated earthworks integrate sympathetically back into the landscape.

### **4.4 PHASING**

The proposals would be phased over the operational life of the quarry. Progressive restoration of the quarry is proposed as has been undertaken to date, including emphasis on successful landform integration and on returning the faces to natural looking slopes and rocky outcrops. As any area is worked out and the face profiled to its final form opportunities to soil and seed the graded faces would be taken. Opportunities would be taken to leave random areas of rock exposed where possible and appropriate.

### **4.5 PLANS**

This section sets out the restoration plans which would be implemented in more detail.

Restoration plans for the quarry site include:

#### *General*

- Detailed design of quarry workings to facilitate restoration in the longer term would be ongoing.
- Ongoing review of the restoration proposals to ensure all opportunities are exploited to achieve best fit with the natural landform and the successful regeneration of vegetation.
- Unnatural engineered profiles would be avoided and irregular concave and convex slopes mimicking natural contours, which match the scale of the existing hill, would be created.
- Measures would be taken to reduce the impact of the large-scale man-made notch, where the realigned road would pass through the hillside.
- Obvious man-made stepped profiles in the quarried hill where seen on the skyline would be avoided where possible.
- All redundant machinery and materials in the quarry would be removed.
- All skyline fencing would be removed and placed where it does not silhouette against the sky in views.
- Some small faces would be retained as new landscape features and to provide habitat for nesting birds which use rocky ledges.
- No rock catch fencing or netting would be used in the final works.
- Review of all the landscaping works to check their success and any which fail in the first five years (for example due to erosion, failure of seeding etc) would be revisited and alternative approaches to restoration identified. Work would continue until these areas are successfully restored.

#### *Profiling*

- Profiling of the final quarry faces to achieve a landform which integrates with the surrounding landscape.
- All created profiles would be carefully shaped to tie back into the surrounding natural slopes.
- Creation of faces with a variety of ledges and slopes of different gradient with some rock outcrops to create interest and provide a variety of ecological niches in the longer term.
- Reducing the hard lines of redundant terraces by selective restorative blasting, exploiting and exposing the natural joints and bedding planes in the local geology where possible.
- Opportunities to leave examples of the rock faces would be exploited as part of the restoration plans for educational purposes.
- Rocky outcrops and scallops would be included in the deep cutting created by the works wherever possible to help break up the regularity of the very steep and high slopes.

#### *Soiling*

- Reuse of peat, soil, and subsoil removed from the area of the quarry extension, which would be carefully stored until required. Redundant materials from other jobs would also be used in restoration. Materials would be dribbled down the slope from the top of the quarry to encourage the development of stable slopes between the terraces and to ensure that any ledges become topsoiled and therefore promote the growth of vegetation.
- Measures would be taken to prevent the tipped material not to from being blown or washed away and to encourage germination of the seeding and natural regeneration.
- Slopes would be shaped and graded to match in with surrounding contours.
- Particular attention would be paid to the tie-ins at the top edge of the quarry so that scarred and eroded ground at the edges are graded out, soiled and vegetated.

- Any spoil heaps remaining at the end of quarry activities would be graded out to match existing contours or used to create naturalistically designed bunds to screen the remnants of quarry activities.

#### *Seeding*

- The soiled slopes would be seeded with a mix of native grasses and herbs which reflect those in the natural surroundings and include species with a good root system to encourage formation of a stable community. Advice would be taken from and reputable seed suppliers on suitable mixes for the conditions.
- If seeding is not successful the slopes would be hydroseeded again with suitable species chosen with appropriate advice.
- Redundant turfs of suitable vegetation from other jobs in Shetland would be placed on ledges to encourage species diversity, as these become available.
- Plugs with heather from other sites where the Road Service is working would be used on soiled slopes and ledges on the quarry faces.
- All areas of disturbed earth would be cultivated and seeded with local species (see above).

#### *Future Road Works*

- The embankments and cuttings for the road would be profiled to a natural landform with scallops and mounding and undulating top and toe profiles to create features that are as natural as possible and help the new works integrate with the surrounding landscape.
- The final line of the road would be designed to best fit with the final contours of the worked areas of the quarry.
- Rocky outcrops would be left exposed and stones carefully placed along the earthworks for the road to help create natural features of visual interest and to encourage biodiversity. Boulders would be placed in the natural orientation of those in the surroundings.
- Drainage swales at the roadside would be created to look as natural as possible.
- Attention would be paid to soiling the edges of the road to encourage regeneration of vegetation which is similar to the surrounding vegetation and which blends in with it.
- The old section of the road would be retained to provide access to the existing residential properties and chalets. This link would also retain access to the view point over Scalloway.
- All redundant road works within the quarry would be broken up, graded, topsoiled and seeded.
- Opportunities to restore the scars on the slopes of the existing road would be investigated at the time of the new road works.

## **5 POLICY AND PLANNING FRAMEWORK**

### **5.1 INTRODUCTION**

This chapter provides a summary of the national, strategic and local planning policy context for the proposals. The effects of the proposal on extant planning applications and permissions and other known future developments are also considered.

### **5.2 NATIONAL POLICY & FRAMEWORK**

The following relevant Scottish Planning Policy, National Planning Framework (NPF4) and Planning Advice Notes have been considered in relation to the quarry extension and road realignment proposals:

- Policy 3 - Biodiversity
- Policy 4 - Natural Places
- Policy 7 - Historic assets and places
- Policy 33 - Minerals

- PAN 50 - Controlling the Environmental Effects of Surface Mineral Workings
- PAN 60 - Planning for Natural Heritage
- PAN 64 - Reclamation of Surface Mineral Workings
- PAN 75 - Planning for Transport

### **5.3 STRUCTURE PLAN**

Strategic planning policy covering the development area is set out in the Shetland Local Development Plan (LDP), 2014. The aims set out in the plan include the following:

- Enhancing existing communities throughout Shetland by encouraging sustainable economic development to create strong, healthy, vibrant communities where diversity is recognised and celebrated, ensuring they are attractive and inclusive places to live.
- Supporting new and existing sustainable economic opportunities, including employment, housing, transport, communications and community facilities.
- Promoting the efficient and sustainable use of natural resources and material assets such as land, water, soil, buildings and infrastructure whilst minimising waste.
- Conserving and promoting Shetland's historic environment and cultural traditions, recognising their contribution to Shetland's sustainable economic growth, and the quality of life of its people.
- Furthering the conservation of biodiversity and geodiversity throughout Shetland, including landscapes and seascapes.
- Encouraging new development of good quality that is environmentally sensitive, accessible to all, utilises sustainable design techniques and low carbon or renewable energy technologies.
- Supporting better access across Shetland, in particular supporting sustainable and active transport solutions, such as by foot, cycle and public transport, and enabling people to access services, employment and other opportunities.
- Ensuring policies reflect the Council's commitment to the Climate Change (Scotland) Act 2009 through encouraging measures to maintain good air quality, reduce carbon emissions and mitigate against or anticipate the effects of global climate change.

### **5.4 LOCAL PLAN**

#### **5.4.1 Shetland Wide**

Local planning policy covering the development area is set out in the Shetland Local Development Plan (adopted 2014). The policies relevant to the proposed development along with an appraisal of compliance are given in Table 5.1.

**Figure 5.1: Local Plan Designations**

POLICY NUMBER	NATURE OF POLICY	APPRAISAL
<b>GP1 Sustainable Development</b>	Development will be planned to meet the economic and social needs of Shetland in a manner that does not compromise the ability of future generations to meet their own needs and to enjoy the area's high-quality environment.	Continuing the use of the Scord Quarry would have the least impact on the "area's high-quality environment" of all the options where the Council retains its own roadstone quarry.
<b>GP2 General Requirements for All Development</b>	Applications for new buildings or for the conversion of existing buildings should meet all of the following General Requirements: a. Developments should not adversely affect the integrity or viability of sites designated for their landscape and natural heritage value. b. Development should not occur any lower than 5 metres Above Ordnance Datum. c. Development should be located, constructed and designed so as to minimise the use of energy and to adapt to impacts arising from climate change. d. Suitable water, waste water and surface water drainage must be provided; g. Development should not adversely affect areas, buildings or structures of archaeological, architectural or historic interest;	No areas designated for their nature conservation interest will be directly affected by the proposals. The quarry floor is metres Above Ordnance Datum. Extending the quarry would generate significantly less embodied carbon than its relocation. The new road alignment would incorporate SuDS features such as swales. A structure of archaeological interest will be adversely affected but discussions regarding appropriate measures to address this loss will be held with the Regional Archaeologist.
<b>NH1 International and National Designations</b>	Any development proposal that is likely to have a significant effect on an internationally important site, (Special Area of Conservation (SAC), Special Protection Areas (SPA) or Ramsar Sites) and is not directly connected with or necessary to the conservation management of that site will be subject to an assessment of the implications for the site's conservation objectives.	No conservation sites of international importance would be affected by the proposed development.
<b>NH2 Protected Species</b>	Where there is good reason to suggest that a species protected under the Wildlife and Countryside Act 1981 (as amended), Annex IV of the Habitats Directive or Annex 1 of the Birds Directive is present on site, or may be affected by a proposed development, the Council will require any such presence to be established. If such a species is present, a plan should be provided to avoid or mitigate any adverse impacts on the species, prior to determining the application.	There is no reason to suggest that protected species would be affected by the proposed development.

<p><b>NH3 Furthering the Conservation of Biodiversity</b></p>	<p>Proposals for development that would have a significant adverse effect on habitats or species identified in the Shetland Local Biodiversity Action Plan, Scottish Biodiversity List, UK Biodiversity Action Plan, Annexes I and II of the Habitats Directive, Annex I of the Birds Directive (if not included in Schedule 1 of the Wildlife and Countryside Act) or on the ecosystem services of biodiversity, including any cumulative impact, will only be permitted where it has been demonstrated by the developer that;</p> <ul style="list-style-type: none"> <li>• The development will have benefits of overriding public interest including those of a social or economic nature that outweigh the local, national or international contribution of the affected area in terms of habitat or populations of species; and</li> <li>• Any harm or disturbance to the ecosystem services, continuity and integrity of the habitats or species is avoided, or reduced to acceptable levels by mitigation.</li> </ul>	<p>The continuing operation of the Scord Quarry is of overriding public interest as the Council’s only roadstone quarry and Shetland’s only asphalt batching plant so there is an “overriding public interest” in the proposed development. The quarry would be restored when its operational phase is at an end.</p>
<p><b>NH4 Local Designations</b></p>	<p>Development that affects a Local Nature Conservation Site or Local Landscape Area will only be permitted where:</p> <ul style="list-style-type: none"> <li>• It will not adversely affect the integrity of the area or the qualities for which it has been identified; or</li> <li>• Any such effects are clearly outweighed by social, environmental or economic benefits.</li> </ul>	<p>No local conservation sites or landscape areas would be affected by the proposed development.</p>
<p><b>NH 6 Geodiversity</b></p>	<p>Development will only be permitted where appropriate measures are taken to protect and/or enhance important geological and geomorphological resources and sites, including those of educational or research value.</p>	<p>The Scord Quarry is not designated as geological conservation site. The development will be extracting geological resource in the form of roadstone for use by the Council.</p>
<p><b>NH 7 Water Environment</b></p>	<p>Development will only be permitted where appropriate measures are taken to protect the marine and freshwater environments to an extent that is relevant and proportionate to the scale of development. Development adjacent to a watercourse or water body must be accompanied by sufficient information to enable a full assessment of the likely effects.</p>	<p>Continued compliance with SEPA requirements regarding the discharge of water through the quarry.</p>
<p><b>HE1 Historic Environment</b></p>	<p>The Council should presume in favour of the protection, conservation and enhancement of all elements of Shetland’s historic</p>	<p>A structure of archaeological interest will be adversely affected but discussions</p>

	environment, which includes buildings, monuments, landscapes and areas.	regarding appropriate measures to address this loss will be held with the Regional Archaeologist.
<b>HE4 Archaeology</b>	Scheduled monuments, designated wrecks and other identified nationally important archaeological resources should be preserved in situ, and within an appropriate setting. All other significant archaeological resources should be preserved in situ wherever feasible. Where preservation in situ is not possible the planning authority should ensure that developers undertake appropriate archaeological excavation, recording, analysis, publication and archiving in advance of and/ or during development.	No scheduled monuments would be affected by the proposed development. However, a structure of archaeological interest will be adversely affected but discussions regarding appropriate measures to address this loss will be held with the Regional Archaeologist.
<b>TRANS1 Integrated Transport</b>	The Shetland Local Development Plan and the Shetland Transport Strategy prepared by ZetTrans, Shetland’s Regional Transport Partnership in association with external agencies, operators and providers should integrate different modes of transport to support sustainable economic growth and improve access to jobs and training, improve social inclusion and well-being and develop healthy communities. The Council will support proposals that; <ul style="list-style-type: none"> <li>1. sustain and develop the economy of Shetland through maintaining an appropriate level of accessibility by road, sea and air;</li> <li>9. undertake selected road improvement, bridge or tunnel building or reconstruction projects where these can be justified by gains in terms of; long term funding, economic growth, safety, environment, accessibility, inclusion and integration.</li> </ul>	The final phase of this proposed development, the re-alignment of the A970 road, would improve accessibility and road safety.
<b>WD3 SuDs</b>	All development proposals that will give rise to surface water run-off should incorporate Sustainable Drainage Systems (SuDS).	The run-off from the extension would be treated as at present. The new road would drain into swales.

### 5.5 LOCAL TRANSPORT STRATEGY

In the “Shetland Transport Strategy 2018-2028” ZetTrans, the regional transport partnership, sets out its commitment to road safety and the objectives of the implement the Shetland Road Safety Strategy & Action Plan 2023-28. The key aim of the safety strategy is to reduce the number of road casualties in Shetland. The proposed future road realignment would improve the standard of the existing road.

## **6 APPRAISAL OF EFFECTS OF THE PROPOSALS 2025**

### **6.1 INTRODUCTION**

This chapter presents the appraisal of the effects of the proposals.

### **6.2 LAND USE**

#### **6.2.1 Introduction**

This section provides an overview of the land use context of the quarry and considers the properties in proximity to the Scord.

#### **6.2.2 Sources of Information and Consultations**

Information has been gained from relevant maps, previous consultations and site visits.

#### **6.2.3 Assessment Methodology**

The consideration of land use effects has taken account of:

- current land uses within the site boundary including agricultural activities;
- surrounding land uses; and
- the implications of changes in land use as a result of the proposals.

#### **6.2.4 Baseline**

The proposed quarry extension and future road realignment are adjacent to the existing Scord Quarry where quarrying activities have been ongoing since 1932 (see Figure 1.1). Current activities which are contained within the quarry are described in Section 3.2.

The quarry is sited on the southern edge of Outnabreck Hill above Scalloway. The edge of the town, which includes a primary school and sports facility, is less than 1 kilometre to the west. The town includes residential properties, piers and jetties and a marina, various facilities including shops and cafes, a hotel and a number of bed & breakfasts, a castle, a college, pubs and other businesses. Access to and from Scalloway is via the A970 which passes the quarry. There is a viewpoint on the road at the hairpin which gives views to Scalloway and out to the islands to the west.

There is considerable residential development directly to the south-west of the quarry at Blydoit accessed by the B9074 (see Figure 1.1). There is a group of holiday chalets (Easterhoull Chalets) above the main settlement of Blydoit which can also be accessed via a track from near the viewpoint on the A970. South of Blydoit the B9074 runs between the coast (the East Voe of Scalloway) and the western slopes of the Hill of Easterhoull and is edged by scattered properties. The road gives access to Trondra via a bridge. The northern tip of the island also has scattered properties amongst grazing land.

North-west of the quarry there are scattered residential properties, a campsite and a golf course adjacent to the B9074 which runs north to Veensgarth through the Tingwall valley with improved grassland fields passing the Lochs of Asta and Tingwall.

There are no properties in proximity to the eastern edge of the quarry extension. The A970 follows the valley of the Trowie Burn between Outnabreck Hill and the northern slopes of the Hill of Easterhoull and Bersa Hill. All are covered with moorland vegetation and areas of grassland used for grazing.

There are no formal footpaths in proximity to the quarry.

#### **6.2.5 Potential Impacts**

Potential impacts which have been considered include:

- changes in land use;
- impacts on access to properties;
- impacts to vehicle users and pedestrians.

Visual effects from properties were appraised in 2005 (see section 6.4 below). Ecological effects are appraised in Section 6.5.

### **6.2.6 Mitigation Measures**

The following mitigation measures would be implemented:

- only land within the site boundary shown would be affected by change in land use;
- access along the A970 would be maintained at all times;
- access to surrounding land used for agricultural purposes would be maintained;
- access to Easterhoull Chalets would be maintained at all times;
- the viewpoint on the A970 would be retained.

### **6.2.7 Assessment of Effects**

The extension of the quarry would result in a change of land use of an area of some 4.9 hectares from moorland used for grazing to operational quarry and eventually restored quarry and realignment of part of the A970 (see Section 3.3). This is not considered to be significant in land use terms because of the existing quarry activities and the relatively small area of grazing land, which would be affected.

Access to surrounding land would be maintained. The other uses for which the quarry is important (storage of salt and grit, the bitmac plant etc.) would all continue.

During the future proposed re-alignment access to and from Scalloway would be maintained at all times although while tie-ins between the realigned road and existing road are achieved there would be the need for short-term traffic management measures. The realigned road would provide a higher standard of access for road users in the longer term as the existing hair pin bend would not need to be negotiated.

Access to the Easterhoull Chalets and to the existing viewpoint would be maintained and appropriate safety measures implemented to ensure pedestrians can pass the road works safely at all times.

### **6.2.8 Summary**

- No significant land use effects are predicted from extension of the quarry or future realignment of the road because existing land uses which would be affected are not sensitive nor would the scale of impact be very large in the context of the wider area.
- Existing activities would continue at the quarry during the life of the works.
- Access would not be significantly affected and would be improved by the road alignment in the longer term.

## **6.3 GEOLOGY AND SOILS 2025**

### **6.3.1 Introduction**

This section considers the geological effects of the proposals and any effects on soils.

### **6.3.2 Sources of Information**

Knowledge about site conditions has been informed by the quarrying activities which have been ongoing at Scord since 1932 and relevant geological maps.

### **6.3.3 Baseline**

The area is not designated for its geological interests.

The area has a complex geology. Rock which has been quarried to date is metamorphic including mica schist and grit stone. The area of the proposed extension is of similar character but also with some quartzite.

The southern area of Outnabreck Hill which would be quarried slopes from approximately 140m above ordnance datum (AOD) to the existing quarry floor at 20m AOD. Shallow damp peaty acid soils with small flushes over-lie the area of the extension. No significant watercourses would be affected (see Section 6.6).

No sources of potentially contaminating activities have been identified in the area of the proposed extension.

#### **6.3.4 Potential Impacts**

Potential impacts include:

- loss of the geological resource;
- exposure of geological formations which may benefit geological studies;
- loss of peat and soils;
- compaction of soft ground;
- destabilisation of slopes;
- encountering contaminated land;
- disturbance of the hydrogeological resource.

#### **6.3.5 Mitigation Measures**

- Quarrying would exploit the natural bedding planes of the rock and natural steps left to add interest to the final profiles of the restored faces;
- all quarried materials would be used;
- all rock cuts would be created following current best practice guidance;
- opportunities to leave examples of the rock faces would be exploited as part of the restoration plans for educational purposes;
- soils would be stored following best practice;
- any contaminated materials which are identified would be disposed of to a suitably licensed site;
- machines would only track within the quarry area.

#### **6.3.6 Assessment of Effects**

The extension of the quarry would result in the potential quarrying and re-use of some 1.5 to 2.0 million tonnes of rock. The area which would be affected is not designated for its geological interests and is not considered to be sensitive in terms of its geological or soil interests. Opportunities would be taken to leave exposures of key rock types for educational and aesthetic purposes. All works would be undertaken sensitively and in accordance with good practice. As the works are progressed the requirement for any further mitigation to protect slope stability etc. would be reviewed to ensure no significant effects result from the quarrying or road alignment works. No contaminated land sources have been identified in the area of the proposed extension.

#### **6.3.7 Summary**

- The proposals would result in the quarrying and re-use of some 1.5 to 2.0 M tonnes of rock.
- No geological or soil interests of particular sensitivity would be affected by the extension quarrying.
- Opportunities to leave rock faces exposed for educational and aesthetic purposes would be taken.
- All works would be undertaken in accordance with best practice to reduce the risk of significant effects.

## 6.4 LANDSCAPE AND VISUAL EFFECTS 2005

### 6.4.1 Introduction

The landscape and visual assessment undertaken in 2005 considered impacts upon:

- landscape character and resources, including effects on the physical and aesthetic values of the landscape caused by changes in its elements and qualities as a result of the extension of the quarry; and
- visual amenity, including effects upon potential viewers and viewing groups (e.g. residents, employees, tourists etc.) caused by changes in the appearance of the landscape as a result of the extension of the quarry and experienced by people at locations where viewers are present (visual receptors).

A clear distinction was drawn between impacts on landscape character and visual impacts, i.e. effects on views. Landscape character and resources are considered to be of importance in their own right and are valued for their intrinsic qualities regardless of whether they are seen by people. Impacts on visual amenity as perceived by people are therefore clearly distinguished from, although closely linked to, impacts on landscape character and resources.

The development would have impacts upon the character of the landscape, which may be positive or negative according to the nature, quality and sensitivity of the existing baseline environment. Impacts on visual amenity would affect viewers to a varying extent, depending upon their identity and sensitivity.

The scheme may also result in cumulative effects on the landscape and on views, when it is considered in conjunction with other development work which may be ongoing in the area at the same time, or which is committed for the future.

The value, character, quality and capacity of the landscapes in the area of the quarry have not changed significantly in the 20-year period since the NID. The main change being the extension to the quarry consented at that time and the impact it has had on Outnabreck Hill. Therefore, the findings of an assessment undertaken now in 2025 would be nearly identical to the findings of the 2005 Environmental Report. The only developments proposed for the area at this time that is of a scale that would contribute to a cumulative effect is Statkraft's Mossy Hill windfarm.

### 6.4.2 Methodology

#### 6.4.2.1 Assessment Scope and Methodology

The 2005 assessment was prepared in accordance with good practice, as described in the *Guidelines for Landscape and Visual Impact Assessment* produced jointly by the Landscape Institute and the Institute of Environmental Management and Assessment. This methodology is applicable to the assessment of short term impacts during the operation of the quarry, and to long-term impacts post closure of the quarry.

Key terms and definitions that were used in the assessment are stated below.

- *Landscape value* is the relative value or importance attached to a landscape (often as a basis for designation or recognition), which expresses national or local consensus, because of its quality, special features including perceptual aspects such as scenic beauty, tranquility or wildness, cultural associations or other conservation issues.
- *Landscape character* is the distinct and recognisable pattern of elements that occurs consistently in a particular type of landscape, and how this is perceived by people.

- *Landscape quality* (or condition) is based upon judgments about the physical state of the landscape and about its intactness from visual, functional, and ecological perspectives. It also reflects the state of repair of individual features and
- *Landscape capacity* is the degree to which a particular landscape character type or area is able to accommodate change without unacceptable adverse effects on its character. Capacity varies according to the type and nature of the change being imposed.

The key steps in the methodology were as follows:

- to describe the landscape character areas and types present in the area. A *landscape type* is defined as a landscape which shares broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement patterns. Landscapes belonging to a particular type may be found in many different places. *Character areas* are defined as unique areas and are geographically discrete examples of a particular landscape type;
- to identify significant landscape features that may be affected by the extension of the quarry;
- to identify key viewpoints and viewers likely to be affected by the extension of the quarry;
- to predict the impacts of the project on landscape resources and character, and on visual amenity; and to consider the significance of these impacts;
- to identify measures that would be taken to mitigate potentially significant adverse effects, through the implementation of a Restoration Plan for the quarry (see Chapter 4), which would be implemented progressively as expansion takes place, and completed when operation in the proposed area of expansion ceases, in 20 years time; and
- to assess the residual effects of the development taking account of the committed mitigation measures.

The landscape and visual impact assessment in May 2005 was informed by data gathered in from the following sources of information:

- Ordnance Survey maps;
- Structure and Local Plans;
- the Scottish Natural Heritage landscape assessment for the area <sup>(14)</sup>,
- field surveys;
- aerial photographs; and
- consultations with statutory bodies and other interested parties (see Section 1.5).

#### **6.4.2.2 Assessment Overview**

The significance of the effect depends both upon the sensitivity of the landscape or viewer to change, and on the magnitude of the change. Definitions of receptor sensitivity and magnitude, which were used in the 2005 assessment, are presented in Tables 6.4.1 and 6.4.2. Definitions of levels of significance of effects are presented in Table 6.4.3.

#### **Evaluation of Receptor Sensitivity**

The sensitivity of the landscape depends upon its inherent nature, quality, condition and ability to accommodate change; and on any specific values (such as landscape designations) that may apply. Grades of landscape sensitivity given in the assessment related to the perceived landscape sensitivity to the proposed quarry extension and realignment of the A970 into Scalloway.

The sensitivity of viewers depends upon the type of receptor, *i.e.* residential, worker or traveller, and on their viewing opportunity. Hence, a resident with a permanent view is considered to be of higher sensitivity than a worker or a traveller with only a passing interest in the environment. Tourists are sensitive to changes in their views, but are not likely to experience the change except for short periods of time when they are on holiday.

Sensitivity was described as being *low*, *moderate* or *high*. The following definitions, as detailed in Table 6.4.1, were used in the assessment.

**Table 6.4.1 Definitions of Receptor Sensitivity**

Sensitivity	Receptor	Definition
Low	Landscape	A landscape that is not valued for its scenic quality and is tolerant to change.
	Visual	Viewers with a passing interest in their surroundings, e.g. motorists or workers in industrial premises.
Moderate	Landscape	A moderately valued landscape, perhaps a locally important landscape, tolerant of some change.
	Visual	Viewers with a moderate interest in their environment such as users of recreational facilities.
High	Landscape	A landscape of particularly distinctive character or one that is highly valued for its scenic quality.
	Visual	Viewers with proprietary interest and prolonged viewing opportunities, such as residential receptors.

**Evaluation of Magnitude of Change**

The magnitude of change affecting landscape or a visual receptor depends upon the nature and scale of the development and its location in relation to the receptor. The magnitude of change was described as being *low*, *moderate* or *high*.

The following definitions, as detailed in Table 6.4.2 were used in the assessment.

**Table 6.4.2 Definitions of Magnitude of Change**

Sensitivity	Receptor	Definition
Low	Landscape	A virtually imperceptible change in the components of the landscape.
	Visual	Few viewers affected by minor changes in views.
Moderate	Landscape	Moderate changes in landscape components.
	Visual	A moderate number of viewers affected by moderate changes in views.
High	Landscape	A notable change in landscape characteristics over an extensive area.
	Visual	A large number of viewers affected by major changes in view.

**Evaluation of Significance of Effects**

The significance of effects was determined by cross-referencing the sensitivity of the landscape or viewer, with the magnitude of change expected as a result of the development. Thus an effect of *major* significance will usually occur where both sensitivity of the landscape or viewer and the magnitude of the change are *high*. The assessment of significance of effect also requires the application of professional judgement and experience, as significance can be subjective. Each example is therefore assessed on a case-by-case basis. In this instance, Scord Quarry was already present in the landscape, and resulting in people being used to its presence. It was not a new feature.

The significance of effects was described as being *none*, *slight*, *moderate* or *major*. Significant effects can be positive or negative, and short or long term. The following definitions, as described in Table 6.4.3, were used in the assessment.

**Table 6.4.3 Definitions of Levels of Significance of Effects**

	High magnitude of Landscape or Visual Change	Moderate magnitude of Landscape or Visual Change	Low magnitude of Landscape or Visual Change
<b>High Landscape or Viewer Sensitivity</b>	Major	Moderate/Major	Slight/Moderate
<b>Moderate Landscape or Viewer Sensitivity</b>	Moderate/Major	Moderate	Slight
<b>Low Landscape or Viewer Sensitivity</b>	Slight/Moderate	Slight	None

### 6.4.3 Baseline Landscape Character and Views

#### 6.4.3.1 Collection of Baseline Data

Baseline information about the landscape of the area was collected through a desk top study of OS maps, Shetland Local Plan (Shetland Islands Council, 2004), and A Landscape Assessment of the Shetland Isles (Gillespies, 1998) followed by a field survey in May 2005.

#### 6.4.4.2 The Study Area

The study area for the landscape and visual impact assessment equate to the visual envelope for the proposed scheme: i.e. all areas which would be affected by a change in view as a result of the scheme. This included the existing Scord Quarry and the hill on which it is located, the town of Scalloway, the bay around which Scalloway is located, the island of Tronda, and the hills

#### 6.4.4.3 Designations and Policy

Various planning designations and associated policies relevant to landscape protection were summarised as part of the 2005 assessment and these are considered below.

The proposed development lies within Shetland Mainland. A review of relevant information and reports was undertaken including the Shetland Local Plan (2004). The local plan stated that “The Council-owned Scord Quarry has expanded greatly over the years and dominates the landward view from the village. Planning permission was granted in 2001 to extend its working life by another 5 years. The landscaping of the quarry site will commence from this time in a phased programme.”

The following designations and associated planning policies were relevant to the previous extension in the context of impacts on landscape and visual resources.

- National Scenic Area (NSA): the NSA boundary is located about 1.5km to the west of Scord Quarry on the Hill of Berry and includes part of Scalloway, at Port Arthur. NSAs are defined as those areas of land considered of national significance on the basis of their outstanding scenic interest which must be conserved as part of Scotland’s natural heritage. They have been selected for their characteristic features of scenery comprising a mixture of richly diverse landscapes including prominent landforms, coastline, sea and freshwater lochs, rivers, woodlands and moorlands.

“Policy LP NE10: Development and the Environment. The Council will assess applications for planning permission for their impact on the environment. Applications for planning permission for the extraction and exploitation of natural resources will normally be permitted provided the proposal, by virtue of its location, scale or duration of operation, would not have an unacceptably significant adverse effect on the natural or

built environment. When assessing development proposals, the following general considerations will be taken into account, namely:

- a) likely impacts, including cumulative impacts, on amenity and the environment as a whole;
- b) effects on nearby residents and the buildings they occupy;
- c) landscape character and visual amenity;
- d) water resources and the marine environment (particularly pollution of controlled waters by any contaminants associated with the land); biodiversity; archaeology and other land uses in the area;
- e) transport considerations, including the type and volume of traffic, including construction traffic, likely to be generated by the proposal;
- f) current Government guidance, other policies in the Shetland Structure and Local Plan and particularly those relating to the proposed type of development. In particular the Council will refuse development proposals that would have a significant adverse effect on the integrity or character, as appropriate, of the following designated sites:
- g) possible, candidate or designated Special Areas of Conservation, potential or classified Special Protection Areas, Ramsar sites, Sites of Special Scientific Interest, National Nature Reserves and Marine Consultation Areas and the National Scenic Area;
- h) Listed Buildings;
- i) Conservation Areas;
- j) Scheduled Ancient Monuments;
- k) Historic gardens or designed landscapes.”

Please note that in 2025 the National Scenic Area still has the same boundaries on the Hill of Berry and Port Arthur. Policy NE10 is broadly similar to Policy GP2 (see Figure 5.1 above) in the current Local Development Plan (2014).

- Local Protection Areas LP NE 11 (Shetland Local Plan 2004): these areas were protected in the local plan for their landscape and amenity value and are defined as ‘areas regarded as being of local interest including green space, viewpoints, wildflowers etc’.  
“Policy LP NE11: Local Protection Areas (LPAs). Where an area has been identified on the Map as a Local Protection Area, only applications for the development of facilities, which benefit the community as a whole, will be considered.”

Policy NE11 is broadly similar to Policy NH4 (see Figure 5.1 above) in the current Local Development Plan (2014).

- Scheduled Ancient Monuments (SAMs): the nearest SAM is a Burnt Mound just west of the B9074 200m west of the site. Scalloway Castle is also a SAM, 1.25km to the south west.
- Conservation Areas: the older part of Scalloway along the waterfront from the castle to Westshore Cottage was designated as a Conservation Area in 1982;

#### **6.4.4.4 Other Development Proposals in the Area**

The only other significant development currently proposed is for the construction of a wind farm from the nearby Mossy Hill to the Hill of Tagdale. However, this will not be visible from Scalloway and the other visual receptors to the west, south and north of the quarry.

#### **6.4.4.5 Relevant Landscape Character Assessments**

The 2005 assessment referred to “A Landscape Assessment of the Shetland Isles (Gillespies, 1998)” which identifies the landscape types present across Shetland, describes the key features of each and provides some guidance on landscape management and accommodating change

within these areas. The quarry is located in Major Uplands (D4): Peatland and Moorland Inland Valleys. Scalloway is located in Farmed and Settled Voes and Sounds (F5): Scattered Settlement /Crofting and Grazing Lands. A description was provided in the landscape assessment for each of these character types and the following guidance on aggregates was also included:

“The Scalloway site is highly visible and will require considerable reinstatement at some stage. The following issues should be considered:

- the landscape character and nature conservation value of the site;
- the visual prominence of the site and in particular the impact on the skyline and the coast;
- the scale of the activity with reference to the nature and scale of the surrounding landscape;
- the landscape and visual significance of the site from key viewpoints such as communication routes (ferries, roads), landmarks and important archaeological sites;
- the screening of the buildings and access roads from the surrounding landscape;
- earth modelling to assist with screening proposed sites;
- suitable reinstatement measures should be prepared and agreed at the outset of the process. Advice and supervision of reinstatement measures should be undertaken in consultation with SNH.”

This was taken from the “National Planning Policy Guideline NPPG4 – Land for Mineral Working, and the SIC Working Paper: Aggregate Working in Shetland should also be consulted.”

#### **6.4.4.6 Local Landscape Character Areas**

“A Landscape Assessment of the Shetland Isles (Gillespies, 1998)” provided background on the wider scale landscape character of the area but was considered to be too general to be of practical use in terms of identifying locally important landscape characteristics. For the purposes of the 2005 study, therefore, a detailed landscape assessment was undertaken across the area, which identified a number of distinct local landscape character areas (LCAs). Key characteristics of each of these local landscape character areas were listed as detailed below, and their location in relation to the proposed quarry extension, and their landscape quality and sensitivity to change were assessed, as referred to in Section 6.4.2.2.

#### **Scord Quarry**

This area is of low (disturbed and industrialised) existing landscape quality and sensitivity to change of the type proposed within the existing quarry and to the south of the existing quarry. It is a medium sized, working industrial scale quarry, with three tiers of west facing working faces (each being 10-20m high) and terraces (each about 10m wide). Part of the northern sector of the quarry has been partially restored, through tipping waste material to backfill and grade out the faces. This is greening over in places and, when viewed from a distance, blends well into Outnabreck Hill. The sorting, crushing and processing plant is located on the quarry floor, where operations are noisy and dusty. This is quite well screened from surrounding areas, as it is enclosed within the existing quarry faces. A haul road leads up to the south and east, and is used by large scale trucks carrying loads of rock. A low grassed bund (1-1.5m) screens the lower levels of this road from the A970. The main visual receptor in this area is the existing quarry, where workers are present. **(This description is little changed today in 2025).**

#### **Outnabreck Hill-Hill of Easterhoull**

This area is of moderate quality and sensitivity to change of the type proposed to the south of the existing Scord Quarry. It includes the area which will be affected, i.e. the south facing flank of Outnabreck Hill, but the main part of this area is behind, and therefore out of sight of the existing quarry face. The existing quarry is set into the west facing flank of Outnabreck Hill and does not currently breach the ridgeline. The hill has a steep, heather and grass clad west facing flank, and a gentler and similarly vegetated east facing flank. This hill is separated from the Hill of Easterhoull which lies to the south by the steep, hair-pinned A970, as it descends into Scalloway.

The Hill of Easterhoul is similar in character to Outnabreck Hill and comprises steep heathery slopes to the west and more gentle slopes to the east. Between the two hills, the headwaters of the Trowie Burn issue from a flat area of wet heath and bog, which is characterised by the calls of the birds which breed there. East of this area, rolling heath covered hills and small upland lochs characterise the land between Scalloway and Lerwick. Visual receptors in this area are confined to roads, and infrequent recreational users of the hills. There is an existing roadside viewpoint on a bend on the A970, overlooking a development of chalets, and with panoramic views across Scalloway and beyond. **(This description is broadly similar today although the existing quarry does now breach the ridgeline).**

#### **East Voe-Asta-Tingwall Vale**

This area is of moderate sensitivity to change of the type proposed to the south of the existing Scord Quarry. Although it will not be directly affected, it is close to the area of the proposed change, and lies beneath it to the west, facing the existing quarry face. Below the quarry, a tongue of low lying grazed farmland extends from the eastern shore of the East Voe of Scalloway, and up the burn which issues from the Loch of Asta, and the Loch of Tingwall. This land comprises wet pasture with flag irises and marsh marigolds, used for sheep grazing, and there are several isolated farms, crofts and houses located within it, along the B9074. Several archaeological features including two burnt mounds, a cist and a standing stone are located here, reflecting the areas historic use for farming and settlement. Visual receptors in this area include roads and scattered housing along the B904 to Veensgarth, plus larger groups of houses on the B9074 to Tronda, such as chalets at Blydoit. **(This description is unchanged today).**

#### **Scalloway**

This area is of moderate sensitivity to change of the type proposed to the south of the existing Scord Quarry. Although it will not be directly affected, Scalloway is close to the area of the proposed change and lies 500m to 1km to the west of the existing quarry, facing the existing quarry face, with the southern parts of the town being oblique to the quarry face. Scalloway is a busy town located around a harbour and marina, around the edge of the East Voe of Scalloway. As well as housing and shops, there are industrial areas at Blacks Ness, an historic castle (Scalloway Castle, a SAM), a school, hotels, B & Bs, a museum, cafes and restaurants. It is a colourful place, set within an attractive setting. The quarry is very much part of this setting, and the dramatic cut faces are apparent from most places within the town. A small wind farm is visible on the hills behind at Burra Dale. Visual receptors in Scalloway include moderate sized areas of housing, tourist attractions such as the castle, and places of work. Scalloway is the main settlement in the area. **(This description is unchanged today).**

#### **Hill of Berry-Ness of Westshore**

This area is of low sensitivity to change of the type proposed to the south of the existing Scord Quarry. This area is further away from the proposed quarry extension site and lies 1.5km to 2km to the west, facing the existing quarry face. These hills enclose Scalloway to the east, and comprise open, heather clad and rocky slopes, presenting views of the sea from Scalloway in a westward direction. A mast is located on Gallow Hill. They are similar in character to Hill of Easterhoul, although lower. There are no houses in this area, and visual receptors are confined to occasional recreational users. **(This description is unchanged today).**

#### **Tronda**

This area is of low sensitivity to change of the type proposed to the south of the existing Scord Quarry. This area is further away from the proposed quarry extension site and lies 1.5km to 2km to the south-west, at an oblique angle from the existing quarry face. Tronda is an island which is connected to the mainland via a bridge on the B9074, to the south of Scalloway. It is low lying and much of the land is used for pasture. There are scattered houses, farms and crofts. New housing is commonplace amongst the more traditional stone properties. **(This description is unchanged today).**

#### **6.4.4.7 Visual Receptors**

In each landscape character area described above, the visual receptors (i.e. locations where people will have a view of the proposed scheme) were identified. The nature of existing views, their sensitivity, and an assessment of the significance of the proposed impact upon the views is described in full in Table 6.4.5. A number of viewpoints were selected to illustrate proposed views of the scheme. A summary of the visual receptors that were identified in each character area is provided below.

#### **Scord Quarry**

About 8 people work in the quarry. These people are very accustomed to views of the quarry and will not be concerned to see changes in its form. These people cannot see the proposed route of the realigned road from the quarry floor. **(This description is unchanged today).**

#### **Outnabreck Hill-Hill of Easterhoull**

These hills are predominantly unpopulated. The only visual receptors on them are occasional hill walkers and users of the A970 as it passes through the hills and descends the steep hairpin bend toward Scalloway. There is a roadside viewpoint on the hairpin bend, where views over Easterhoull Chalets near Blydoit, and over Scalloway and beyond are available. The quarry is visible from here, but the main focus of views, is westwards over Scalloway and the Skerries. Users of the road are travelling quite fast and are used to seeing the existing quarry. It is therefore unlikely that they will be very sensitive to change in the view of this area. People on the A970 will see the area which will be affected by the eastward extension of the quarry sooner than they see the existing quarry. **(This description is unchanged today).**

#### **East Voe-Asta-Tingwall Vale**

New properties on the flat ground east of the voe and close to the A970 have clear open views up towards the quarry and are quite close to it (300m). Residents are used to seeing the existing quarry and will have bought their houses knowing that it was there. They will however be sensitive to changes at the quarry and to the road due to their physical proximity. Residents who live in the houses located in this area, and users of the B9074 can see the site of the proposed quarry extension and the road to be realigned. There are a few properties to the north of the A970, strung along the B9074 (Utnabrake). These receptors face the quarry, and travelling northwards, become oblique to it. No views are possible beyond the southern tip of the Loch of Asta. There are more properties to the south of the A970, although angles from here are more oblique and views of the area are screened by the flank of the hill. These include properties in Blydoit, Easterhaul Chalets, Braknahool and Grostane. Most of these properties look out westwards over the voe and so would be less sensitive. There are no views available south of Grostane. **(This description is unchanged today although there are new homes, with a view toward the quarry, at Upper Scalloway).**

#### **Scalloway**

Scalloway contains the main concentration of visual receptors. Most likely to be affected are residents along Castle Road, users of the Scalloway Junior High School, residents of the housing estate to the north of the school, and guests at the B and B which is located there, residents scattered along the small road to Houlland, residents in housing with elevated views towards the quarry on the foot slopes of Gallow Hill and Port Arthur, and users of the road and Marina around the western shore of the voe. Views from the main bulk of the housing area in the centre of Scalloway will be obscured by other buildings, and because these houses are set quite low down. Many of the receptors will be desensitised to an extent as they already see views of the quarry and are used to it being there, but they will still be very aware of the changes arising from the extension of the quarry to the south and the realignment of the road. **(This description is unchanged today).**

#### **Hill of Berry-Ness of Westshore**

These hills are largely unpopulated and changes in views from them will only be experienced by the occasional hill walker, workers serving the mast, landowners traversing the hills on all-terrain vehicles etc. **(This description is unchanged today).**

## **Trondra**

There are a number of scattered farms, crofts and homes on Tronda, and residents of the northern part of the island can see the existing quarry, as can people who drive along the B9074 and over the bridge. Once again, these people are used to seeing views of the existing quarry and so are desensitised to its presence to some extent, but they will be aware and sensitive to changes at the quarry if they can see them. **(This description is unchanged today).**

## **6.4.5 Potential Landscape and Visual Impacts**

### **6.4.5.1 Introduction**

Scord Quarry has been a feature in the landscape near Scalloway for many years and has gradually enlarged to meet demand for rock and aggregates. As material has been extracted, parts of the quarry have been worked out, and have subsequently been progressively restored. This has been achieved through tipping overburden from the top of the face, to build up a slope, where natural regeneration of grasses and wild flora has occurred. The division between the terraces is still quite distinct, and in close views the hillside remains scarred by the activities, but from further away, the older restored faces are less apparent, and blend into the existing hillside. The further extension and operation of the quarry and the progressive construction of the realigned road upon its completion will give rise to medium term landscape and visual impacts throughout remaining operational period.

The 2025 assessment considered that the operational period was when the most significant changes to the landscape and to views would take place. After this period, restoration works would reduce the impacts, leaving a permanent change to the landform of Outnabreck Hill. Upon final restoration, and when the new road was in place there would be residual landscape and visual impacts due to the permanent changes in the landform. The assessment of the significance of the effects assumed that the mitigation measures identified in Section 6.5 would be successfully implemented.

### **6.4.5.2 Sources of Landscape and Visual Impacts**

Medium term impacts upon the landscape and upon visual amenity will arise from a quarry expansion and realignment of the A970. The list below concentrates on the elements of this which would give rise to landscape and visual effects during these periods:

- installation of contractor's compound(s) and site office(s);
- soil stripping, excavations, and rock picking;
- installation and movement of construction machinery;
- views of site operations and construction plant;
- HGV and special load movement and storage;
- temporary traffic and pedestrian management;
- construction lighting in winter months;
- rock profile grading and earthworks to create finished slopes;
- road surfacing; and
- topsoiling and seeding of the cutting side slopes.

## **6.4.6 Mitigation Measures**

The following mitigation was proposed in 2005 to reduce the potential impacts resulting from the quarry extension, road construction, and progressive quarry restoration. The same mitigation is proposed for the current planning application. A description of the restoration plan is included in Chapter 4 and a plan to illustrate the progression and final scheme restoration have also been submitted as part of this planning application. The following mitigation measures would be achieved throughout the quarry expansion, road construction and restoration phases, to reduce landscape and visual impacts:

### **Mitigation by Design**

- Design development, phasing and the development of an ultimate quarry restoration plan has enabled mitigation of potential effects through an iterative design process,

which has always had a view towards the end product, being a naturalistic and sympathetically designed landscape profile, with the existing A970 realigned.

### **Quarry Expansion and Phased Restoration**

- Topsoil and the seedbank would be carefully stripped from all areas of quarry expansion. This would be stored in areas where it would not be disturbed or tracked upon, in low vegetated mounds. These can be positioned to help screen views into the quarry from the A970 and from housing to the west. This topsoil and peat would be used for the progressive restoration of the quarry, and spread on newly graded slopes prior to seeding, or natural colonisation of vegetation;
- quarrying processing operations would continue to be located on the quarry floor to enclose them and screen them from view;
- low level grassed mounding (including topsoil mounds) would be used to screen haul roads etc, as they are today;
- quarrying would be phased throughout the operation. The phasing would be designed so that progressive restoration of finished areas can occur, so the area of working face is kept to a minimum, and so that stored topsoil could be replaced on graded areas as these are finished;
- phasing would be designed so that the way that the landform of Outnabreck Hill is progressively altered would be visually acceptable, and so that the ultimate finished alignment of the hill and skyline ties in with surrounding natural slopes;
- the creation of a large scale man-made notch in the hill where the road passes through, or an obvious stepped profile to the hill when seen on the skyline would be avoided. Unnatural engineered profiles would be avoided, and irregular concave and convex slopes mimicking natural contours, which match with the scale of the existing hill, would be created;
- as each area is worked out, it would be restored by:
  - small scale blasting to break up large scale unnatural looking faces;
  - retaining smaller faces as new landscape features and habitat for nesting birds; tipping overburden from the tops of faces so that stable slopes develop between terraces;
  - shaping and grading to make these slopes match in with surrounding natural contours;
  - treating the edge of the quarry in particular, so that scarred and eroded tie-ins are graded out and can be soiled and vegetated;
  - removing all defunct machinery, clutter, fencing and man-made objects;
  - distributing remaining boulders and rocks in a naturalistic way; and
  - topsoiling and placing peat back onto the gentler slopes and ledges so that these areas can recolonise with natural vegetation.

### **Associated Quarry Infrastructure**

No significant changes to the location, layout and design of the associated buildings and plant equipment is planned as part of the current 2025 proposals. The existing buildings and plant will be retained in their current locations within the quarry.

### **Mitigation during Quarry Operation**

- blasting operations would be carefully controlled and planned;
- lighting and any floodlighting would be carefully positioned so as not to contribute to light pollution/ light spillage off site/ glare to the sky and surrounding residential properties or to disrupt the horizon in longer distance views of the scheme;
- lighting to external areas would be switched off when not in use;
- the quarry and the surrounding area would be maintained in a clean and uncluttered state. The quarry manager will continue to ensure that best environmental management procedures are implemented on site.

### **Future Road Construction**

- Topsoil and seedbank would be stripped from any undisturbed sections of the road corridor and stored in low uncompacted mounds (less than 2m), which would be seeded or left to regenerate naturally with grasses and wildflowers;
- road construction vehicles would not track across undisturbed areas of farmland and moorland outwith the area which would already be disturbed by the quarry works;
- materials and machinery would be stored tidily during the works. Tall machinery would not be left in place for longer than required for construction purposes, in order to minimise its impact in views; lighting of compounds and works sites would be restricted to agreed working hours and that which is necessary for security;
- roads providing access to site compounds and works areas would be maintained free of dust and mud;
- contractors' compounds would be located away from residential areas as far as possible;
- on completion of construction, all remaining construction materials would be removed from the site;
- the road would be fenced immediately adjacent to the carriageway, or would not be fenced at all, to avoid the presence of unsightly fencing in prominent skyline locations along the tops of cuttings;
- rock catch fencing would not be used: the rock slopes would be trimmed back from the road so that this is not required, as it is unsightly;
- man-made rock slope reinforcement such as gabions, concrete and mesh would not be used as they are unsightly: the rock slope will be designed and engineered so that such measures are not required;
- any remaining spoil heaps would be graded to match existing contours or used to create landscape bunds to help in screening the lower components of the site;
- road cutting and embankment slopes would be graded to tie in with existing natural slopes, and no sharp edges would be left, except where rock faces are considered appropriate;
- topsoil would be placed on gently sloping cutting slopes and road verges to encourage regeneration of vegetation;
- seeding would be undertaken using locally native species appropriate to their location, and to tie in with adjacent vegetation types (see below);
- the existing road which is to be retained would also be improved, through grading of cutting slopes, topsoiling and seeding with appropriate species;
- access to the viewpoint at Easterhoull Chalets would be retained.

### **Landscape Seeding**

- A seeding strategy would be detailed to help mitigate adverse impacts during the period of quarry extension and progressive restoration. Seeded boundary screening mounds will be located at around the perimeter of the site where they would help screen views from the A970 and homes to the west;
- species of plants selected for landscape planting and seeding would include those which are native and occur locally (local provenance). Cues for planting will be taken from the surrounding area and species would include those present in the surrounding moorland and grassland areas including *Agrostis* spp. (bents) and *Festuca* spp. (fescues).
- areas of disturbed earth would be cultivated and seeded with locally typical grass and wildflowers, using species that match those found in the surrounding area;
- any landscape restoration works which fail within the first five years (ie erosion, failure of seeding) will be revisited and alternative approaches taken to their restoration. Work would continue until these areas are successfully restored.

## **6.4.7 Residual Effects**

### **6.4.7.1 Residual Effects upon the Landscape**

#### **Introduction**

In 2005 the specific effects on the resources and character within each local landscape character area were assessed, based upon the predicted impacts, assuming implementation of the proposed mitigation. Indirect effects and effects due to the inter-relationships between different character areas as considered in 2005 are discussed below.

#### **Permanent Effects on Landscape Resources**

An area of moorland used for grazing, between the existing quarry and the existing road, would be progressively displaced by the gradual extension of the quarry. No trees or shrubs or any other landscape features of importance would be lost.

The southern part of Outnabreck Hill would be gradually removed by the quarrying process and slopes would be progressively steepened. The glen formed by the Trowie Burn currently forms a 'V' in the skyline when seen from the east or west. Towards the end of the operational period, the new road would be built in a new, deeper and more pronounced 'V', passing between a new artificially created lowest point between the two hills.

The new quarry faces would be progressively restored through selective blasting, and backfilling with overburden. Ultimately, upon restoration of the quarry faces, new vegetation would become established on parts of the steep, man-made slopes which remain. The mitigation measures detailed above would need to be closely followed to help ensure that this slope integrates back into the surrounding landscape as far as possible.

#### **Permanent Effects on Landscape Character**

There would be permanent direct effects on the Scord Quarry and Outnabreck Hill area primarily as a result of the permanent change to the landform of Outnabreck Hill.

The location of the proposals adjacent to the existing quarry diminishes the significance of landscape effects when compared to a rural undeveloped site, but it was acknowledged that some indirect effects on the landscape character would still result.

The presence of the quarry extension and realigned road in the area would affect the landscape character of each local landscape character area around it, due to the changes in outlook from and in the setting to these areas and loss of open moorland/grassland within the wider landscape. The progressive change in the profile of Outnabreck Hill would be apparent from parts of Scalloway, to the west, and from the open hills and A970 to the east. Effects would be greatest in the landscapes immediately west of the site, where the partial removal and steepening of Outnabreck Hill would be apparent against the skyline, for example the outlook from the road to Houlland, and from the housing estate north of the school would change. Although a change would be apparent, there will be no significant effect on the character of these areas. The impacts would reduce further with distance from the site.

No sites which are designated for their landscape protection, or for their archaeological setting would be directly affected.

There would be indirect changes to the settings of the NSA, SAMs (Burnt Mound, Scalloway Castle) and Scalloway Conservation Area. It is not considered that these changes would give rise to any significant effects as the quarry already exists, but it would be important to ensure that the final form of the quarry will be sympathetic to the existing landform in order to ensure this is the case. Given successful restoration and revegetation of the quarry slopes (or of this part of the quarry) upon completion of the works, the future settings to the designated sites and areas may even be improved.

Indirect effects on surrounding local landscape character areas, and on the NSAs and setting to archaeological features are described and summarised below:

- East Voe-Asta-Tingwall Vale: this area lies below the quarry to the west and is already affected by the existing quarry. Although a steepening of Outnabreck Hill would be apparent on the skyline, there would be no significant change to the landscape character of this area as a result of the quarry extension or road diversion. This includes the setting of the Burnt Mound SAM, which would not be affected;
- Scalloway: the town lies below the quarry to the west and is already affected by the existing quarry. There would be no significant change to the landscape character of this area as a result of the quarry extension or road diversion, although the steepening of Outnabreck Hill on the skyline would be apparent. This includes the setting of Scalloway Castle SAM, which would not be affected;
- Hill of Berry-Ness of Westshore: this area lies 2km west of the quarry and is already affected by the existing quarry, although at some distance. There would be no significant change to the landscape character of this area as a result of the quarry extension of road diversion, although again, the change in profile of the hill would be apparent. This includes the setting of the NSA, which would not be affected;
- Trondra: this area lies to the south-east of the quarry and is already affected by the existing quarry, although it is at some distance from it. There would be no significant change to the landscape character of this area as a result of the quarry extension of road diversion, and due to the angle of view, the change in profile of the skyline would be barely apparent.

Table 6.4.4 summarises the residual effects upon local landscape character predicted by the 2005 assessment.

**Table 6.4.4 Summary of Residual Effects upon Local Landscape Character**

Local Landscape Character Area	Quality	Condition	Sensitivity	Magnitude of Change	Significance of Residual Effect
Scord Quarry	Poor	Poor	Low (industrial character)	High - direct	Slight
Outnabreck Hill – Hill of Easterhoull	Moderate	Moderate	Moderate	High - direct	Moderate (localised)
East Voe – Asta – Tingwall Valley	Good	Good	Moderate	Low - indirect	None
Scalloway	Good (Conservation Area)	Good	Moderate	Low - indirect	None
Hill of Berry – Ness of Westshore	Good (NSA)	Good	Low (due to distance)	Low - indirect	None
Trondra	Good	Good	Low (due to distance)	Low - indirect	None

**Operational Related Effects**

Quarry operations and associated vehicles, night time lighting and views of construction compounds for the road works, etc. would provide disruption to the landscape during the extension, restoration of the quarry and the construction of the road.

Blasting operations are ongoing and periodically disturb the landscape character. The rate at which blasting occurs will not increase if planning consent is granted. The rate is entirely dependent on the level of demand for aggregates and asphalt.

The construction and operational activities detailed would have a medium-term negative effect on the landscape in all character areas within close proximity of the site during the operational and

restoration period, and permanent effects in the Scord Quarry and Outnabreck Hill local landscape character areas, as a result of the gradual reprofiling of Outnabreck Hill as material is extracted.

Surrounding areas would experience indirect effects as a result of the progressive altering of the skyline, the presence of the new quarry faces in views, noise from the quarry, large vehicles on the skyline, and traffic on roads etc. The significance of the effects would be greatest in specific areas where the outlook towards the development site is open, direct and unhindered, mainly to the west of the site, including from:

- the elevated land followed by Castle Street;
- the east shore of the East Voe of Scalloway;
- areas around Utnabreck on the B9074 north of the A970;
- the land around the A970 immediately to the west of the quarry;
- the elevated area north of Scalloway School;
- the hillslopes followed by the minor road to Houlland; and to the east; and
- the land around the A970 to the east of the quarry.

The significance of the effects would be subject to change throughout the operation of the quarry, as detailed phasing will mean that different receptors are affected to a different degree at different times.

During construction of the new road towards the end of the operational period, there would effectively be two roads running up past Scord Quarry, one which is live (the old road) and one under construction. The old road cannot be removed until the new road is operational, so in the interim period two roads will be present in the landscape, and once the old road has been broken out, it would take some time for new vegetation to become established, and for the old route to blend back into the landscape. Sympathetic landform grading to remove the old roadside embankments will be essential.

Within an undeveloped rural landscape such activities would result in effects of major significance, but the existing quarry already exerts considerable influence within the landscape around Scalloway and, as such, effects associated with its extension, restoration and the realignment of the existing road should be reasonably accommodated.

#### **6.4.7.2 Residual Effects on Views**

##### **Introduction**

In 2005 the specific effects on the views and visual amenity were assessed, based upon the predicted impacts, assuming implementation of the proposed mitigation.

##### **Permanent Effects of Views**

All these views would be affected by the changes in the skyline as a result of the expansion of the quarry, resulting in the progressive steepening of the southern flank of Outnabreck Hill. However, the quarry would not be a new feature in any of these views, as it already exists today. The change in views would be a result of its southerly expansion and eventually of the road construction in a new more pronounced and deeper 'V' in the hills.

The following receptors are of particular note as they would experience moderate significant negative visual effects:

- residents in properties in the housing estate to the north of Scalloway School who have direct and elevated views;
- residents in properties along the minor road to Houlland, who have direct and elevated views;
- residents living along Castle Street and users of this road, including tourists visiting the castle, who have elevated and slightly oblique views from the south west;

- users of the A970 to the east of the development whose view when driving towards Scalloway would be quite different from today;
- users of the A970 driving east from Scalloway towards Lerwick on the newly aligned road;
- residents in the new housing on the east shore of the East Voe of Scalloway, who are below and very close to the existing quarry; and
- residents of properties including Utnabrike on the B9074 north of the A970.

### **Operational Effects on Views**

During the phased expansion of the quarry, and the road construction towards the end of this period, views of vehicle activities, construction compounds, night time lighting etc. would provide a degree of intrusion into views. It will be possible to see views of the operating quarry and the road construction from all areas included within the visual envelope.

The quarrying and road construction activities would have medium term (20 years), negative impacts on the viewing experience of all the visual receptors identified as being within the visual envelope for the scheme, including all people living and working close to the existing quarry. Residents, as the most sensitive receptors, would experience the most significant effects.

The site compound for the road construction, including stockpiles of materials, plant and construction vehicles, would be visible to receptors to the west. Views of construction would affect residents of houses in Scalloway, and to a lesser extent, on Trondra, and users of nearby roads (the A970, B9074, the minor road to Houlland). The road construction would be completed relatively quickly at the end of the operational period, as compared to the 20 year operation of the quarry, and so effects arising from the construction work on site would be short term (1-2 years).

As with effects on the landscape, effects on views which would arise from the quarry operation and the road construction would be linked and it would be difficult to separate the effects of one part of the works from the other. The two operations would undertaken in tandem, as progressive quarrying then restoration and road construction takes place.

### **Night-Time Effects of Lighting**

Operation of the facility may require night-time lighting at some times of the year and security lighting will be required at all times as now (see Section 3.3.11). This would be apparent in hours of darkness, particularly from the surrounding landscapes, as existing lighting of the area in the vicinity of the development is of a low level, and skies are quite dark. No additional lighting is to be provided as part of the extension proposals.

### **6.4.7.3 Post-Restoration Effects**

Once construction of the road is complete, and the landscape shaping, grading, topsoiling and seeding has been undertaken, it would take some time for the vegetation to become established and to grow. Grass cover should be complete after a few years, whereas low level shrubs such as heather would take about 5-10 years to grow, so the landscape would take time to mature. As new vegetation grows and becomes more established, the resulting effects arising from the development would gradually be reduced further and would be at a minimum when vegetation cover is complete.

Visual impacts during the operational phase are likely to significantly exceed the permanent effects arising from the proposed scheme as once the work is completed, and assuming a naturalistic and sympathetic landform profile and vegetation of the slopes is successfully achieved the restored quarry and new road alignment would merge into the landscape and will be less prominent in views.

The key apparent change will be the permanent foreshortening and steepening of the southern flank of Outnabreck Hil, creating a new more prominent 'V' in the hills, which would be the route taken by the realigned road. The permanent loss of moorland and farmland in this area would be

replaced by a new, partially vegetated, and partially rock covered steep slope. Existing redundant roads would be broken out and removed.

The very gradual change in views means that people are unlikely to notice the change, although if a before and after image were directly compared, the steepening of the skyline would be apparent.

#### **6.4.9 Summary**

This summary was for the 2005 assessment but still applies today and for the current planning application:

- An area of moorland used for grazing would be progressively displaced by the gradual extension and phased restoration of the existing quarry throughout the life of the quarry. No trees or shrubs or any other landscape features of importance will be lost.
- There would be permanent direct effects as a result of the permanent change in the landform of Outnabreck Hill. The southern part of the hill would be gradually removed by the quarrying process and slopes would be progressively steepened. The glen formed by the Trowie Burn currently forms a 'V' in the skyline when seen from the east or west, and towards the end of the 20 year period, the new road would be built in a new, deeper and more pronounced 'V', passing between a new artificially created lowest point between the two hills.
- The presence of the quarry extension and realigned road in the area would indirectly affect the landscape character of each character area around it, due to changes in outlook from and in the setting to these areas. Effects would be greatest in the landscapes and upon views from immediately west of the site, where the partial removal and steepening of Outnabreck Hill would be seen against the skyline. There would be no significant effect on the character of these areas, but some significant changes to views would result. The progressive change in the profile of the hill would be apparent from parts of Scalloway, Houlland, Utnabrake, Trondra and Blydoit to the west, and from the open hills and A970 to the east;
- No sites which are designated for their landscape protection or for their archaeological setting would be directly affected. There would be indirect changes to the settings of the NSA, SAMs, Scalloway Conservation Area, and to the settings of the Local Protection Areas. It is not considered that these changes would give rise to any significant effects as the quarry already exists.
- Ultimately, when the work is complete, and as progressive restoration draws to an end, the regraded and revegetated hillslope would start to blend back into the landscape and would be less prominent in views. This would take several years, as moorland vegetation is slow to establish, and would depend on the successful implementation of the mitigation.

## **6.5 ECOLOGY**

### **6.5.1 Introduction**

This section considers the ecological impacts which may result from the proposals and defines mitigation measures which would be implemented to reduce the significance of any likely effects.

### **6.5.2 Sources of Information**

The 2005 appraisal was informed by consultations, desk review and a site walkover.

### **6.5.3 Consultations**

The closest Site of Special Scientific Interest (SSSI) was the Lochs of Tingwall & Asta which is designated for its mesotrophic lochs. This remains the case.

#### 6.5.4 Baseline

The 2005 assessment found that small pockets of grassland within the quarry support a variety of species common in Shetland including *Dactylis glomerata* (cock's foot), *Agrostis* spp (bents) *Silene dioica* (red campion), *Bellis perennis* (daisy), *Primula vulgaris* (primrose), *Ranunculus* spp (buttercups).

In the areas where the quarry faces have been restored the grassland included frequent ruderal<sup>15</sup> species including *Urtica dioica* (common nettle) and *Cirsium arvense* (field thistle).

The area of the proposed quarry extension is moorland which is grazed at times by sheep. The area is fenced at the edge of the A 970 and there is a fence at the quarry edge. The vegetation is primarily dry heath with small areas of acid grassland. In 2005 *Calluna vulgaris* (ling) was dominant with *Erica cinerea* (bell heather), *Vaccinium myrtillus* (bilberry), *Juncus squarrosus* (heath rush), *Nardus stricta* (matt grass), *Festuca rubra* (red fescue), *Agrostis* spp (bents), *Luzula multiflora* (heath woodrush), *Carex nigra* (common sedge), *Lotus corniculatus* (bird's foot trefoil), *Galium saxatile* (heath bedstraw), *Potentilla erecta* (tomentil), and a variety of mosses typical of moorland in Shetland including *Polytrichum commune*, *Dicranum* spp, *Hylocomium splendens* and *Rhytidiadelphus squarrosus*. In small flushed areas on the hillside species such as *Erica tetralix* (cross leaved heath), *Eriophorum angustifolium* (bog cotton grass) and *Carex panicea* (carnation sedge) increased. At the roadside grasses increased together with *Rumex* spp (docks) and *Urtica dioica* (common nettle).

Marshy grassland with frequent *Juncus* spp bordered the south side of the A970 near the quarry and provided a habitat for a range of birds.

A variety of birds nest in the quarry site including fulmar, starling (which nest amongst the machinery), collard and rock doves (which nest amongst the quarry machinery and on the quarry faces), pied wagtail (which nest amongst the old machinery and rock at the base of the restored quarry faces) and raven (which nest on ledges on the quarry faces). Other species found in the environs of the quarry extension, include lapwing, ring plover, rock pipit and redshank and a few grouse (but none nesting).

#### 6.5.5 Methods of Prediction

An outline of the development proposals was compared with the known information about the baseline ecological interests of the site and its environs in order to predict the ecological impacts, likely to arise from the proposals. Potential impacts were considered (see Section 6.5.6) and appropriate mitigation measures defined (see Section 6.5.7). These impacts are likely to be the same for the currently proposed extension so the same mitigation measures will be put in place. Residual effects were evaluated using the criteria set out in Section 6.5.8 and the effects were as summarised in Section 6.5.9. These are again likely to be the same for the current proposals.

#### 6.5.6 Potential Impacts

- Permanent loss of habitats or species as a result of permanent or temporary land take for the proposals;
- fragmentation of habitat or severance of ecological corridors between isolated habitats of ecological importance;
- creation of barriers to the movements of animals, especially mammals, amphibians and invertebrates and plants with limited powers of dispersal;
- fragmentation of habitat or severance of ecological corridors between isolated habitats of ecological importance;
- disturbance or damage to adjacent habitats not required for the proposals through quarrying and construction activities (movement of vehicles and personnel, artificial lighting, dust, spillage of fuels and chemicals, emissions and noise);
- disturbance to or displacement of species as a result of quarry and construction activities;
- alterations to drainage regimes which may affect habitats;

- creation of new habitats and introduction of species as a result of restoration and landscaping works;
- kills, disturbance or displacement of animals by on-site activities.

### **6.5.7 Mitigation Measures**

The following mitigation measures that were proposed in the 2005 report would be implemented for the currently proposed extension:

- Habitat loss would be restricted to the minimum necessary for the works.
- The edge of the quarry extension and the road tie-ins would be fenced to prevent unnecessary intrusion into adjacent habitats.
- Particular care would be taken to prevent unnecessary intrusion into the marshy grassland area south of the A970 used by breeding birds.
- Further consultations and survey would be undertaken prior to construction of the tie-ins to check that all nature conservation interests are taken into account and any further necessary mitigation measures identified and implemented.
- Habitat to be removed would be checked for breeding birds before removal if this is programmed within the bird nesting season. Wherever possible vegetation would be removed outwith this period.
- If any protected species are identified in the surveys mitigation measures would be agreed with SNH and licences obtained from the Scottish Executive if required.
- Opportunities to enhance local biodiversity would be taken when detailing and implementing the restoration plans for the quarry.
- All soils stripped from the site would be carefully stored and re-used in restoration of the quarry and in the landscaping of the roadworks.
- Seed mixes for use in restoration and landscaping of the new road alignment works would be discussed with Shetland Amenity Trust and the Shetland LBAP officer.
- Best environmental management practices would be implemented on site to reduce the risk of pollution .
- Use of lighting would be minimised to that which is essential for safe operation of the quarry and for the construction works to reduce disturbance to wildlife.

### **6.5.8 Evaluation Criteria**

In 2005 the significance of ecological effects was assessed according to the following primary criteria:

- The magnitude of the effect, as determined by its intensity and by its extent in space and time. This takes into account:
  - the vulnerability of the habitat or species to the change caused by the development; and
  - its ability to recover.
- The value, in nature conservation and ecological contexts, of affected receptors including species, populations, communities, habitats and ecosystems.

### **6.5.9 Assessment of Effects**

No sites designated for their nature conservation interests would be affected by the proposals. No species of note have been identified in the area which would be directly affected by the proposals.

An area of some 4.9ha (2025 figure) of moorland and acid grassland would be lost when the extension area is quarried and further small areas to achieve the tie-ins of the new road with the existing A970. Similar habitat is widespread in the locality and in Shetland and the loss of the small area is not considered to be important. In 2005 no species of particular sensitivity or nature conservation importance was identified which would be directly affected by the works. Fencing would be used to ensure there is no unnecessary incursion into habitats adjacent to the site.

Best practice measures would be implemented on site to ensure that disturbance to the area of marshy grassland south of the exiting road used by nesting waders is reduced to the minimum necessary for safe implementation of the works. Best practice measures would also be implemented to ensure that run off from the works is collected and treated before discharge and the risk of pollution of surrounding habitats and watercourses is controlled.

Wildlife may be disturbed by the quarrying activities (blasting in particular). Scord Quarry has been in operation for some almost 100 years and thus it is likely that species have, to some extent, become habituated to the regular blasting activities and effects are not likely to be significant.

The future roadworks would not be commenced without a further planning application. Further consultations and checks would be made at this time to ensure that nature conservation interests are protected and mitigation measures identified and implemented if required.

The restoration plans set out in Chapter 4 seek to ensure that opportunities to enhance local biodiversity would be identified and taken in detailing the progressive restoration plans for the quarry. These would be discussed with NatureScot, Shetland Amenity Trust and the LBAP officer to ensure lessons can be learnt from elsewhere in Shetland and opportunities are maximised and contribute to LBAP plans.

#### **6.5.10 Summary**

- No sites designated for their nature conservation interests would be affected by the proposals.
- There would be a loss of some 4.9ha of moorland and acid grassland. Habitat loss would be kept the minimum necessary for the works.
- No habitats or species of particular sensitivity or nature conservation importance have been identified and the loss is not predicted to be significant.
- Best practice measures would be implemented on site to ensure disturbance and potentially polluting activities are adequately managed.
- Further checks and surveys would be undertaken as the work progress to ensure no species of nature conservation importance are significantly affected and that breeding birds are protected.
- The restoration plans for the quarry would ensure that local biodiversity is enhanced in the longer term.

## **6.6 WATER AND DRAINAGE**

### **6.6.1 Introduction**

The effects of the quarry extension and the road realignment on water resources and drainage are considered in this section.

### **6.6.2 Sources of Information and Consultations**

Information for the assessment has been sourced from the Council's Quarry Manager.

### **6.6.4 Baseline**

There are no watercourses in the area of the proposed extension. There are a few seepages on the hillside (see Section 6.5) but no sizeable freshwater sources. The Trowie Burn flows at the southern end of Outnabreck Hill and drains north-eastwards to join the Burn of Fitch which outfalls at Dales Voe.

No abstractions have been identified in proximity to the proposals.

All rainwater from within the area of the quarry is collected by a drainage system in the quarry and fed into a large settlement tank. The overflow from the settlement tank then flows into a petrol/oil interceptor before discharging into an unnamed watercourse which flows to the voe.

The drainage system and discharge arrangements are regularly monitored by the quarry manager and independently by SEPA.

#### **6.6.5 Potential Impacts**

- Changes to drainage characteristics and hydrology of the study area from the quarrying activities;
- physical interference with aquatic features or resources;
- impacts on surface water abstractions or discharges;
- pollution of burns from runoff from quarry activities or road drainage.

#### **6.6.6 Mitigation Measures**

- All runoff from the quarrying activities would be collected and directed to the settlement tank and passed through the oil interceptor before discharge as for the current activities.
- All roads run off would be collected into a road drainage system of open ditches which would connect to the existing A970 drainage system.
- Best management practices would be implemented on site to reduce the risk of spills etc.

#### **6.6.7 Assessment of Effects**

No watercourses would be directly affected by the works. Implementation of best management practices on site and instigation of a collection system for all runoff from the quarry would ensure the risk of pollution of watercourses in the vicinity of the works is reduced to the minimum.

Less water would drain from Outnabreck Hill to the Trowie Burn than at present but this is not predicted to have a significant effect on flows in the burn.

A road drainage system would be constructed at the edge of the realigned section of the A970 and this would be connected to the existing A970 drainage system, which drains to the voe. The road drainage would consist of SuDS in the form of swales and sheet flow over the roadside verges.

#### **6.6.8 Summary**

- No watercourses would be directly affected by the quarry extension or construction of the road alignment.
- No significant effects to watercourses in proximity to the proposals are predicted from changes in flow or from potentially polluting activities.

### **6.7 ARCHAEOLOGY AND CULTURAL HERITAGE**

#### **6.7.1 Introduction**

The effects of the quarry extension and the road realignment on archaeology were appraised in a report prepared by EASE Archaeology dated October 2005. This report has been submitted as part of the current planning application.

#### **6.7.2 Sources of Information and Consultations**

The appraisal was based on a site survey, consultations with and information provided by Historic Scotland and Shetland Amenity Trust archaeologists supplemented by inspection of relevant Ordnance Survey maps.

#### **6.7.3 Baseline**

Reference to the Pastmap website has confirmed that there are no scheduled ancient monuments, listed buildings or historic gardens and designed landscapes within the area of the proposals. In 2005 Historic Scotland identified two scheduled ancient monuments in the vicinity of the proposals, which could be affected indirectly.

These are:

- Tingwall Valley Junction, burnt mound (NGR HU 409401);
- Scalloway Castle (NGR HU 404392).

The Shetland Amenity Trust previously advised from their desk-based assessment of archaeological remains in the area of Scord Quarry that there are a number of prehistoric and later sites in the vicinity of the voe near the quarry which indicate a long period of land use and settlement in the area. Some of these are now destroyed or overlain by development. As well as the Bronze age burnt mound designated as a SAM there are several possible smaller burnt mounds in the marshy area at the head of the voe to the north of the A970 road. A burial cairn shown on the OS map for the area was destroyed by the expansion of the quarry after 1990. A walkover survey of the land near the quarry was undertaken at this time but it is not known what area this covered.

A summary of the sites in proximity to Scord Quarry, identified from the Pastmap website, is provided in Table 6.7 below.

**Table 6.7 Features of Historical Interest in proximity to the Quarry**

<b>Name</b>	<b>Designation</b>	<b>NGR</b>	<b>Details</b>
Scord Junction Burnt Mound	Scheduled Monument  Historic Environment Record  National Record of the Historic Environment	HU 40899 40171	Comprises a burnt mound, prehistoric cooking place of probable Bronze Age date which may conceal remains of contemporary settlement
Scalloway Castle	Schedule Monument  Historic Environment Record  National Record of the Historic Environment	HU 40431 39230	Comprises a castle of early 17th century date. The Castle consists of a rectangular tower-house measuring about 18m by 10m with an attached Jamb of 8m by 8m
Scord Quarry (Building (Prehistoric)(Possible), Quarry (Period Unassigned))	National Record of the Historic Environment	HU 41296 40042	Possible prehistoric house (located within the existing quarry boundary).
Scord Quarry & Outnabrake Hill (Cairn (Period Unassigned), CIST (Period Unassigned) & Burial Cairn	Historic Environment Record  National Record of the Historic Environment	HU 41420 40028	A very ruined cairn consists of a rectangular cist and two parallel rows of boulders (located within the existing quarry boundary).
Outnabrake (Structure?; Clearance Cairn)	Historic Environment Record	HU 41482 39946	A very ruinous cairn (now within the existing quarry boundary and destroyed).
Outnabreck Hill (Oval House; Burial Cairn)	Historic Environment Record	HU 41586 40047	Covered with geotextile, possibly as protection ( <b>lies within the boundary of the proposed extension</b> )
Scord of Scalloway (Farmstead; Period Unassigned)	National Record of the Historic Environment	HU 41031 39695	Farmstead comprising 2 roofed buildings, 1 unroofed structure and 2 enclosures
Blydoit (Enclosure (Period Unassigned), Farmstead (Period Unassigned)	National Record of the Historic Environment	HU 41029 39559	What may be a farmstead comprising of 1 unroofed building and an attached enclosure

Name	Designation	NGR	Details
Scalloway Horizontal Mill	National Record of the Historic Environment	HU 40828 40003	Industrial/horizontal mill
Scord of Scalloway Dyke/Wall	Historic Environment Record  National Record of the Historic Environment	HU 41100 39937	Construction suggests a prehistoric date

The location of all these sites is shown in a “Features of Historical Interest” plan submitted as part of this planning application.

#### 6.7.4 Potential Impacts

- Direct effects to artefacts of archaeological or cultural heritage importance;
- indirect effects on the settings of archaeological or cultural heritage features of importance.

#### 6.7.5 Mitigation Measures

- A walkover survey would be undertaken by a competent archaeologist prior to any quarrying activities in the extension area. The archaeologist would have experience in Scottish prehistoric or upland archaeology. Further archaeological assessment or investigations would be undertaken if a need is indicated by the walkover survey.
- The Regional Archaeologist would be invited to be present on-site during soil stripping operations.
- Activities on site would stop if any evidence of historical artefacts is found on site until appropriate mitigation has been agreed with the Regional Archaeologist and implemented.
- The Roads Service would continue to restore the existing quarry and new faces and to improve the environs of the quarry and therefore the setting of historic monuments in the area.

#### 6.7.6 Assessment of Effects

A single designated archaeological site (Oval House; Burial Cairn - Historic Environment), has been identified within the proposed areas of the extension which would be directly affected by the proposals. Effective implementation of agreed mitigation measures should ensure that any as yet undiscovered remains are identified. All necessary additional studies would be undertaken if the walkover survey indicates any potential interests in the area of the extension.

The indirect effects on the setting of the two SAMs in proximity to the quarry are appraised in Section 6.4. No significant effects were predicted. Restoration the quarry in the longer term would improve the setting of the monuments.

#### 6.7.7 Summary

- One archaeological site has been identified which would be directly affected by the proposals. Implementation of mitigation measures would ensure that as yet undiscovered remains are protected.
- The setting of the Scord Junction burnt mound and Scalloway Castle scheduled ancient monuments (SAMs) would not be further compromised by the proposals and in the longer-term successful implementation of the quarry restoration proposals would improve their setting.

## **6.8 TRAFFIC**

### **6.8.1 Introduction**

Road traffic movements related to the quarry are not anticipated to change significantly and thus no particular traffic related effects relating from the quarrying activities are predicted and these have not been considered further.

### **6.8.2 Baseline**

The current annual average daily traffic flows on the A970 are 4,500 (24 hour) and movements associated with the quarry are some 40 per working day.

### **6.8.3 Potential Impacts**

- Disruption to traffic and other users of the A970 during construction of the road realignment and tie-ins.

### **6.8.4 Mitigation Measures**

- Access along the A970 would be maintained at all times;
- all construction activities would be undertaken in accordance with good practice;
- the local community would be made aware of any potential disruption on the road from construction activities including traffic management.

### **6.8.5 Assessment of Effects**

Management of the road construction activities in accordance with SIC best practice would ensure that any disruption is reduced to the minimum necessary for the works. Construction traffic on the A970 would be low volume as most materials for construction would come from the quarry (aggregates, asphalt etc.). No soil would be disposed of off-site, as all redundant materials would be used in the quarry restoration works. Disruption from future construction of the road would be small, as most works would be undertaken within the quarry site. There may be some short-term disruption because of traffic management when the realigned section of the A970 is tied into the existing road.

### **6.8.6 Summary**

- No significant changes in traffic movements associated with the quarry are predicted from the quarry extension.
- Disruption from construction of the road alignment would not be significant as most activities would be contained within the quarry site and most construction materials would be sourced from the quarry itself including aggregates and asphalt.
- There may be some short-term disruption due to implementation of traffic management measures during construction of the tie-ins between the new road and the old sections of the A970.

## **6.9 NOISE AND VIBRATION**

### **6.9.1 Introduction**

Noise and vibration from quarrying activities and construction of the new section of road are considered qualitatively in this section.

### **6.9.2 Sources of Information**

The assessment is based on knowledge from ongoing quarrying activities at Scord Quarry provided by the Council's Quarry Manager.

### **6.9.4 Baseline**

The existing quarry activities (blasting, other quarrying operations, crushing activities and traffic) are the key sources of noise and vibration in proximity to the quarry. Over the life of the quarry SIC has implemented measures to reduce emissions. The process machinery is located in the bottom of the quarry and screened by bunds. The primary crusher, secondary crusher and conveyors are all enclosed to reduce noise and dust emissions.

Activities are monitored regularly and have been found to comply with the limits which have been agreed with SIC Environmental Health officers and SEPA. The maximum recommended peak particle velocity to avoid any structural damage is 25mm/sec<sup>2</sup>. Vibration levels during blasts are monitored at the closest house (which is some 200m from the quarry) and levels have always been found to be within the agreed limits of 5-6mm/sec<sup>2</sup>.

General operating noise from Scord Quarry has not been a matter of complaint to date by the general public although complaints about vibration from blasting and dust from the operations have in the past. There have been none for a number of years probably due to blasting techniques changing, the quarry face moving further from properties and the enclosure of the crushers and conveyors.

#### **6.9.5 Potential Impacts**

- Increased noise impacts at properties in proximity to the quarry.
- Increased vibration impacts at properties in proximity to the quarry.
- Increased noise levels at properties from operation of the realigned section of the A970.

#### **6.9.6 Mitigation Measures**

- All quarrying activities would continue to meet the noise and vibration limits agreed with SIC Environmental Health officers and set out in the Pollution Prevention and Control (PPC) permit.
- Activities which generate high levels of noise would only take place during daytime hours (0700-1900).
- Noise and vibration levels would continue to be monitored during the operational life of the quarry.
- Activities would be redesigned if any non-compliances with the agreed limits are detected.
- All plant and machinery would be maintained and used in an appropriate manner to minimise noise emissions.
- Inherently quiet plant would be used wherever possible.
- Noisy plant has been screened to reduce noise at nearby properties wherever possible.
- All road construction activities would be undertaken in accordance with best practice to reduce the risk of noise nuisance.
- The design of future haul roads within the site would take account of the potential for noise and would seek to reduce noise emanating from quarry activities within the area of the site.
- The local communities would continue to be kept informed about activities at the quarry.

#### **6.9.7 Assessment of Effects**

Quarrying activities in the area of the extension would be located further from sensitive residential properties in Blydoit and Scalloway than at present and noise and vibration effects are likely to be slightly reduced. Location of the haul road further from the A970 is also likely to have a positive effect in terms of noise.

Future realignment of the A970 would mean the road is further away from the chalets at Easterhoull and some of the houses at Blydoit which again may have a small positive effect.

Construction of the main road works as part of the ongoing quarrying activities mean that noise from the road construction works themselves would be minor. Noise emanating from construction traffic would be reduced as most materials would be sourced from the quarry itself. Best management practices would be implemented to ensure that all emissions are kept to the minimum necessary for the works.

### **6.9.8 Summary**

- The quarrying activities in the area of the extension would continue within the agreed noise and vibration limits as the present quarry operations.
- The extension area is located further from residential properties than the current faces and there may be some noise and vibration benefits.
- Noise from the road construction works would be short term and unlikely to be significant.

## **6.10 AIR QUALITY**

### **6.10.1 Introduction**

Air quality effects, which may result from the proposals, are appraised qualitatively in this section.

### **6.10.2 Sources of Information**

Information has been provided by the Council's Quarry Manager regarding the current quarrying activities.

### **6.10.4 Baseline**

Dust from current quarry activities can be significant in certain weather conditions if environmental management procedures are not successfully implemented. Winds from the southeast can result in dust (if generated by ongoing activities and not adequately mitigated) having a nuisance effect at properties along the B9074.

Atmospheric particulate emissions associated with the roadstone coating plant at the quarry have previously been shown to be substantially below the maximum permissible concentration of 100mg/m<sup>3</sup> set out in the appropriate guidance note. This was prior to the primary crushers being enclosed with the associated reduction in dust emissions. Other emissions are monitored regularly as part of the PPC permit.

Traffic levels are likely to remain approximately as now and effects from increased emissions are not considered further.

### **6.10.5 Potential Impacts**

- Increased dust nuisance at nearby properties;
- Increased traffic emissions from the new road.

### **6.10.6 Mitigation Measures**

- Haul roads and storage mounds of soil which are not vegetated would be regularly dampened with a water bowser particularly in periods of dry weather to reduce airborne dust and the risk of nuisance.
- The primary and secondary crushers would continue to be enclosed.
- Conveyor belts would continue to be enclosed to reduce the risk of dust emissions.
- The quarry staff would continue to adopt a proactive approach to the management of dust nuisance.

### **6.10.7 Assessment of Effects**

No significant changes in emissions from traffic as a result of the proposals are predicted as traffic levels would not be changed significantly and if anything quarry generated traffic is likely to reduce in the longer term. The section of road which would be realigned in future is small in length and the finishing works after the line is constructed at the end of quarry activities would be short term (assuming Capital approval is obtained the works could be completed in less than 12 months).

SIC continually improves the management of quarry operations and mitigation measures to reduce emissions. No significant effects are predicted provided that the agreed procedures to reduce dust are successfully implemented. The potential for significant effects from dust is

greatest in periods of dry weather and the Quarry Manger would monitor these carefully and implement appropriate mitigation measures as required.

#### **6.10.8 Summary**

- No significant changes in traffic emissions are predicted from the proposals.
- Provided best practice environmental management measures are proactively implemented on site and no significant effects from dust are predicted.

## **7 SUMMARY OF EFFECTS**

### **7.1 INTRODUCTION**

This chapter presents a summary of the key findings of the assessment of the environmental effects of the proposals taking account of mitigation measures which have been committed to by SIC.

The cumulative effects of the proposals, in terms of inter-relationship of their cumulative effects with other projects in the area are also evaluated.

### **7.2 SUMMARY OF EFFECTS**

#### **7.2.1 Policy and Planning**

The proposals to extend Scord Quarry would not affect any designated areas and are compliant with relevant planning policies.

#### **7.2.2 Land Use**

- No significant land use effects are predicted from extension of the quarry or future realignment of the road because existing land uses which would be affected are not sensitive nor would the scale of impact be very large in the context of the wider area.
- Existing activities would continue at the quarry during the life of the works.
- Access would not be significantly affected and would be improved by the road alignment in the longer term.

#### **7.2.3 Geology and Soils**

- The proposals would result in the quarrying and re-use of some 1.5-2.0 M tonnes of rock.
- No geological or soil interests of particular sensitivity would be affected by the extension quarrying.
- All works would be undertaken in accordance with best practice to reduce the risk of significant effects.

#### **7.2.4 Landscape and Visual Effects**

- An area of moorland used for grazing would be progressively displaced by the gradual extension and phased restoration of the existing quarry throughout the extension to the working life of the quarry. No trees or shrubs or any other landscape features of importance would be lost.
- There would be permanent direct effects as a result of the permanent change in the landform of Outnabreck Hill. There would be further removal of the southern part of the hill by the quarrying process and slopes would be progressively steepened. Toward the end of the quarry's useful life, the new road would be built in a new, deeper and more pronounced 'V', passing between a new artificially created lowest point between the two hills.
- The presence of the quarry extension and eventually realigned road in the area would indirectly affect the landscape character of each character area around it, due to changes in outlook from and in the setting to these areas. Effects would be greatest in the landscapes and upon views from immediately west of the site, where the further removal and steepening of Outnabreck Hill would be seen against the skyline. There would be no

significant effect on the character of these areas, but some significant changes to views would result. The progressive change in the profile of the hill would be apparent from parts of Scalloway, Houlland, Utnabrake, Tronda and Blydoit to the west, and from the open hills and A970 to the east.

- No sites which are designated for their landscape protection would be directly affected. There would be indirect changes to the settings of the National Scenic Area, Scheduled Ancient Monuments (SAMs), Scalloway Conservation Area, and to the settings of the Local Protection Areas. It is not considered that these changes would give rise to any significant effects as the quarry already exists.
- Ultimately, when the work is complete, and as progressive restoration draws to an end, the regraded and revegetated hillslope would start to blend back into the landscape and would be less prominent in views. This would take several years, as moorland vegetation is slow to establish, and would depend on the successful implementation of the mitigation.

### **7.2.5 Ecology**

- No sites designated for their nature conservation interests would be affected by the proposals.
- There would be a loss of some 4.9ha of moorland and acid grassland. Habitat loss would be kept the minimum necessary for the works.
- No habitats or species of particular sensitivity or nature conservation importance have been identified and the loss is not predicted to be significant.
- Best practice measures would be implemented on site to ensure disturbance and potentially polluting activities are adequately managed.
- Further checks and surveys would be undertaken as the work progress to ensure no species of nature conservation importance are significantly affected and that breeding birds are protected.
- The restoration plans for the quarry would ensure that local biodiversity is enhanced in the longer term.

### **7.2.6 Water and Drainage**

- No watercourses would be directly affected by the quarry extension or construction of the road alignment.
- No significant effects to watercourses in proximity to the proposals are predicted from changes in flow or from potentially polluting activities.

### **7.2.7 Archaeology and Cultural Heritage**

- To date a single designated archaeological site (Oval House; Burial Cairn - Historic Environment), has been identified within the proposed areas of the extension which would be directly affected by the proposals. Implementation of mitigation measures would ensure that as yet undiscovered remains are identified.
- The setting of the Scord Junction burnt mound and Scalloway Castle scheduled ancient monuments (SAMs) would not be further compromised by the proposals and in the longer-term successful implementation of the quarry restoration proposals would improve their setting.

### **7.2.8 Traffic**

- No significant changes in traffic movements associated with the quarry are predicted from the quarry extension.
- Disruption from construction of the road alignment would not be significant as most activities would be contained within the quarry site and most construction materials would be sourced from the quarry itself including aggregates and asphalt.
- There may be some short-term disruption due to implementation of traffic management measures during future construction of the tie-ins between the new road and the old sections of the A970.

### **7.2.9 Noise and Vibration**

- The quarrying activities in the area of the extension would continue within the agreed limits as the present quarry operations.
- The extension area is located further from residential properties than the current faces and there may be some noise and vibration benefits.
- Noise from the road construction works would be short term and unlikely to be significant.

### **7.2.10 Air Quality**

- No significant changes in traffic emissions are predicted from the proposals.
- Provided best practice environmental management measures are proactively implemented on site and no significant effects from dust are predicted.