

Neighbourhood Services & Infrastructure Quarry Operations – Business Plan 2024-2029 May 2024

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1.Executive Summary

This business plan describes how Cursiter Quarry operates, the products that it supplies to public and private sector consumers and its beneficial impact on the Orkney community and the Council by providing products essential for infrastructure maintenance and development.

This plan is an update to the previously approved plan which covered the period 2015 – 2020.

Part 2 of the business plan illustrates a historically strong performance for the quarry in terms of trade surplus. This part of the business plan is intended to lay the foundations of how the service operates, noting the past three years have shown significant drops in trade.

With a significant reduction in trade in recent years, Part 3 of this business plan provides a review of the service, setting a framework for improvements aimed at increasing trade as a road to recovery for the service and ensuring that the quarry is able to meet the needs of both the Council and the wider community.

Financial information on past performance and on future targets is detailed in Appendices 6 and 7. Appendix 2 notes the requirements around set-aside funding for the replacement of plant and equipment, to ensure ongoing sustainable operations.

The quarry is vital for maintaining roads and other infrastructure, both Council owned and externally.

With recent investment securing the quarry's future for the next 30-50 years, recovering market shares for aggregates is required to ensure a return to sustainability for this service.

2. Cursiter Quarry, Overview & Current Position

Section 2.1 - The Business and Management

2.1.1. History and general position to date

Orkney Islands Council was established in 1975 under the Local Government (Scotland) Act 1973, replacing the Orkney County Council, Kirkwall and Stromness Burgh Councils and the Orkney Harbour Commissioners.

Traditionally the County and Burgh Councils operated several smaller quarries on the Orkney Mainland and outer islands to produce road and building stone. Cursiter Quarry, set up in the 1950's, adopted more modern processes to provide road and building stone with an output of circa 25,000 tonnes per annum.

Since local government reorganisation, quarry activity has undergone radical changes. By 1980 the majority of small Mainland and outer island quarries had ceased operation leading to the centralisation of production and thus an increase in demand for aggregate products from Cursiter Quarry.

During the mid-1980's, a short-term revival of outer island quarries took place. This was due to the significant quantities of aggregate required for outer island transport infrastructure projects, saving significant costs in the haulage of aggregates from Mainland Orkney. The temporary reopening of these quarries was facilitated by importing staff and equipment from the operations at Cursiter on a temporary basis. Aggregate production reverted to Cursiter Quarry in the early 1990's.

Since opening, Cursiter Quarry has provided dry stone and bitumen coated products, starting from 25,000 tonnes per annum and peaking at c300,000 tonnes in 1992/93. Annual tonnage outputs vary significantly and are subject to the scale of civil projects being developed, typically via government funded infrastructure projects.

To secure future provision, under the direction of the Council approved 2015 Business Plan, additional land was purchased to increase rock reserves. Planning for the expansion of the quarry was granted on 30 June 2021, noting a rolling 12-month limit of 100,000 tonnes permitted for extraction.

With dwindling reserves prior to the granting of planning approval in 2021, in 2021/22 80,000 tonnes of stone from the Glensanda Quarry near Oban were purchased and imported to the quarry to ensure sufficient stock for essential infrastructure servicing.

Extraction of rock from the newly purchased reserves commenced in March 2024. Prior to this date, Cursiter stone was restricted to the production of asphalt and was not available as dry stone. It is anticipated that, by reverting to aggregates produced from locally sourced stone and increasing available tonnes for sale, Cursiter Quarry can seek to draw back a larger share of the available market.

Cursiter Quarry stands today as one of two major producers of construction stone and aggregates in Orkney and is the sole producer of coated surfacing materials. It has benefited from continuous investment in plant and machinery, including the replacement of the coating (Asphalt) plant in 2016 and, following the recently approved expansion, should be able to service the local market for the next 30 - 50 years.

Present day production has seen a significant decline from the highs of the early 1990s. In 2022/23 quarry production and sales reduced to 26,000 tonnes of materials. This reduction is attributed to the following main factors:

- Uncertainty in supply of rock and delay surrounding the Quarry extension, resulting in limiting sales in part by restricting sales to essential infrastructure servicing only.
- Some customer resistance to the use of the imported stone, which was sourced and purchased in 2020/21 to meet the shortfall during quarry expansion.
- Ongoing market and social instability as a result of global and national events.

To illustrate sales history, a table and graph of wet and dry sales of materials over five years can be found in Appendix 3. A summary of the quarry's financial performance is provided in Appendix 6, which demonstrates a general correlation against sales figures.

Cursiter Quarry sits in the Neighbourhood Services and Infrastructure Directorate of Orkney Islands Council with management oversight provided by the Head of Neighbourhood Services and the Corporate Director Neighbourhood Services and Infrastructure.

Quarrying operations are ISO 9001 certified, with the most recent certification being achieved in November 2023 and covering the period up to September 2026.

2.1.2. Premises and Locations

OIC Quarries is assigned a number of quarries or compounds, assigned historically and prior to the centralisation of production. The only premises where rock extraction currently takes place is at Cursiter Quarry in Firth. The other sites are;

- Borrow Pit (Near Pictou), Shapinsay
- Breck Depot, Eday
- Loth Quarry, Sanday
- Pictou Quarry, Shapinsay
- Walliwall Quarry and compound, Kirkwall

Borrow Pit (Near Pictou) is leased whilst all other sites are owned by the Council.

Whilst these sites may offer potential for extraction, licensing as well as the provision of all associated infrastructure would be required to extract rock from these sites. The majority of these have minimal rock reserves available, however may offer potential savings for large scale projects on the outer islands.

Sites, where viable, are used for temporary storage of OIC assets. The long-term future of these sites is subject to corporate direction, in line with OIC's Property Asset Management Plan. The current strategy, having made the sites safe, is to look for opportunities for disposal.

2.1.3. Management Team

The following posts are responsible for the overall management of the Quarry, ensuring it meets the needs of its customers, the local community, the demands for servicing local infrastructure and operates within its legislated requirements.

- Corporate Director Neighbourhood Services and Infrastructure
- Head of Neighbourhood Services
- Team Manager (Quarries)
- Quarry Operational Manager

2.1.4. Legal Requirements

The Quarry operates to the requirements of the Local Government in Scotland Act 2003 and was subject to a full Best Value Review in 2003. Acting on the subsequent recommendations, business plans for the Quarry are provided and periodically reviewed. This plan replaces the 2015 Business Plan.

Quarry operations are controlled by numerous regulations and acts, documented within the QMS on Appendix 5: Standards & Statutory & Regulatory Requirements Declared and Interested Parties, which is subject to regular review to ensure processes remain current and compliant.

Section 2.2 – Business Control and Monitoring

2.2.1. Financial

Business control is currently exercised through the Roads Service area within the Council budget. All financial accounts of Cursiter Quarry are kept by the Finance Service, Orkney Islands Council.

2.2.2. Control of Sales

In the absence of agreed firm orders, quarry products are available for public works in Orkney with any surplus generated for sale to the general public on a first come first served basis. Pricing is subject to cost recovery (See section 2.4 Product Pricing) however further adjustments can be made as a method of control to ensure market parity as required.

2.2.3. Control of Production

Within the constraints set out in this plan, production is geared to maintaining sufficient critical mass of output to justify the capital investment in an operation primarily geared to secure a source of quality road maintenance materials and public works and secondarily to provide materials for sales to the general public. This is achieved through the controls such as:

- Timing the frequency of blasting to ensure feed stock for processing.
- The operation of the asphalt plant scheduled to meet client needs with minimum order requirements to minimise energy consumption.

- To have a level of stock to meet ad-hoc customer demands (i.e. on the day requests).
- To keep stock levels at an optimum minimum.

Section 2.3 - Products and Services

2.3.1. Product Descriptions

Cursiter Quarry currently produces the following list of products split into four main categories. Imported Glensanda stone is blended with the majority of dry aggregate materials to varying proportions.

Basic Rock Fill Materials, blended / non graded

Rock Fines; Scalpings; Primary Rock; Crushed bottoming.

Added Value Products, blended & graded to specifications

Granular Fills; Single sized aggregates; Rock armour; Hot coated material; Asphalt; Saw cut paving stone (Sourced from other Quarries).

Recycled Materials

125mm to 20mm recycled stone and concrete; 28mm to dust recycled bituminous material.

Subsidiary Products & Service

Salt for road winter treatment; Mixed sand/aggregate; Building stone; Sawed offcuts; Selected stone for special projects; Concrete testing services.

2.3.2. Product Applications

The available dry stone and bitumen coated road stone products can be applied to the majority of construction techniques for infrastructure improvement or maintenance currently employed in Orkney.

2.3.3. Alternative product providers

A direct comparison of Cursiter dry stone products can be drawn with Heddle Hill Quarry, operated by Orkney Aggregates. The stone from this quarry is similar to Cursiter dry stone products.

Cursiter Quarry is the sole producer of bitumen coated road stone in Orkney. Orkney Aggregates also produces concrete for ready mix and precast trade supply.

2.3.4. Product Assurance

Orkney Islands Council Quarries operate a quality management system to BS EN ISO9001:2015.

Cursiter Quarry provides assurance on specified products, where stated products are manufactured to meet the appropriate British Standards Specifications (BS) or relevant European Aggregate Standards (EN).

All tests on products are carried out periodically and in accordance with the relevant BS or EU standards.

Alternative products are available to client specified needs, subject to prior agreement.

The majority of dry and coated aggregate materials are sold on a price per tonne, charged on a net weight sold basis. All weights are measured and recorded via a fully calibrated weighbridge system to provide assurance on accuracy of quantities sold. This system also provides a control mechanism to advise drivers on the gross vehicle weight prior to leaving the premises.

Exceptions to weighing are the provision of saw cut paving stone and concrete testing, where prices are set on a cost per metre squared basis and cost per unit tested respectively.

Section 2.4 - Market and Competition

2.4.1. Clients

The primary client for products supplied by Cursiter Quarry is Orkney Islands Council for roads and infrastructure development. Materials are sold direct to Council operational teams or to contractors assigned to undertake these works by the Council. Surpluses produced during production are sold either in current formats, or blended according to client needs, and made available for general sale.

Products are also supplied for privately led developments within the County and to a range of contractors and developers, according to need. Individual customers are also able to purchase product from the quarry if stocks allow.

2.4.2. Competition

The main competitor for Cursiter Quarry is Orkney Aggregates who operate Heddle Hill Quarry producing similar products to those listed above (excluding salt and bitumen coated products).

Cursiter Quarry operates as the only coated roadstone provider in Orkney. It does so on a comparable cost basis to similar remotely situated facilities in Shetland and the Western Isles. Whilst no direct competition exists, large-scale projects could be open to competition from other providers where special circumstance allow the use of mobile tar production plants.

Section 2.5 - Product Pricing

2.5.1. Pricing Materials & Services

The pricing of products and services at OIC Quarries is typically set annually. A decision is made by the Team Leader (Quarry) in consultation with the Head of Neighbourhood Services.

Rates are set subject to changes in costs associated against each product, considering overall operational overheads. These are then evaluated against current market prices, ensuring an element of local market parity is maintained to avoid market distortion.

The principles used in setting rates whether for an increase or decrease are based on reviewing future costs and the market conditions. Factors the Team Leader (Quarry) must consider periodically on recommending prices changes include, but are not limited to:

<u>Inputs</u>

- price of bitumen
- price of cement
- price of extraction (blasting or excavated)
- consumables
- transport (importing of supplies)
- fuel costs & consumption rates (oil based and electrical)
- State of rock reserves (OIC demands vs external supply)
- Change in other overheads (i.e. support services costs)

Outputs

- external market opportunities (volume of work for tendering)
- current market price for products (market research)
- client specifications required (ability to provide / product design cost implications)

Section 2.6 - Budget Monitoring

Monthly budget monitoring statements are produced and monitored by the Team Manager (Quarry) and the Head of Neighbourhood Services. There are regularly scheduled management team meetings where financial performance is reviewed as part of the overall management approach. The financial monitoring reports presented to the Development and Infrastructure Committee are available on the Council website.

The financial performance of the Quarry is included in the overall income and expenditure attributed to Roads and Transportation in the published annual accounts of the Council.

Section 2.7 - Core Factors impacting Business Strategy

2.7.1. General Factors affecting delivery of the business plan.

Within the Orkney Islands, factors that impact the operation of Cursiter Quarry can be placed into three main categories;

Social & Planning

Quarrying, by its nature, is a very visible activity and it can be noisy and dusty, both in operation and through traffic generated through sales to clients. Immediate neighbours can be significantly affected by increases in activity due to the operation of processing plant on site and increases in heavy vehicle movements resulting from exports and imports of products arising.

Under the current planning permission for the quarry's expansion, granted in 2021, specified limits on the operation of the site are provided to ensure the continued operation of the quarry does not detrimentally impact the local area and its amenities.

In particular, planning conditions limit the hours of operation for the extraction and processing of stone as well as limiting outputs of sales of extracted stone to 100,000 tonnes over a 12-month rolling period.

Service Related

The Best Value Review carried out in 2003 identified that there should be a continued role for Orkney Islands Council Quarries for strategic, economic and market regulation reasons. The review further demonstrated that in addition to delivering a key component of the requirements of the Council's road maintenance programme, Cursiter Quarry fulfilled the need to preserve the existing situation with regard to quarrying in Orkney in order to avoid a dangerous imbalance in the local market.

It is therefore incumbent upon Cursiter Quarry to provide a secure source of stone and range of quarry products available for use in local authority projects including road maintenance and for other public works, whilst also securing the provision, price and quality of a fundamental resource to support the wider local economy.

Commercial

Orkney Islands Council Quarries must operate in such a manner as to be able to achieve the rate of return required of them by the Council at any particular point in time.

Cursiter Quarry provides a source for aggregates and coated materials that is cost effective when compared with competition. In the case of macadam based products for use by the Roads Authority, this is economically advantageous as opposed to importing from the

mainland, given the added transport costs and uncertain nature of suitable weather conditions.

To achieve this balance Cursiter Quarry operates in a commercial environment to cover the cost of its operation that could not be covered by Roads Authority work alone. The goal annually is to secure sufficient work to cover all costs and in doing so, through effective and efficient management of resources generate a sufficient surplus through trading to cover all direct and indirect costs, noting the need for ongoing investment to ensure long term viability.

In practical terms this means the service seeks out opportunities to tender and/or quote for work and respond to all enquiries brought to its attention, be they from OIC, private development or individuals (residents). To ensure Orkney Islands Council Quarries are competitive, rates and prices are set at least annually, reflective of prevailing market conditions.

This is within an over-arching requirement that the Orkney Islands Council Quarries Service remains viable on a year-to-year basis, noting if any exceptional trading conditions arise (e.g. extraordinary increases in costs associated with the operation or market volatility), this will be reviewed by the Head of Neighbourhood Services and where appropriate the subject of a committee report to highlight any risks, liabilities or opportunities to OIC.

Current and Continual Investment Needs

The operation of this service has heavy reliance on plant which eventually wears out and needs replacement. As it is replaced the changes in technology and methods of operation may mean that quarry staff need further training. Equally, to keep pace with client needs and market demands, both in terms of supplying consistently high performing materials and/or new products there is a need to invest in research and development and possible trials of new or improved products using industry standard approaches where available.

As part of the future business strategy there is a need to ensure that sufficient funds are set aside on an annual basis to provide for these typically, but not exclusively, capital costs. This is particularly critical in periods when a significant level of capital investment is required (e.g. screener or crusher replacements).

It is important to note that although the fund might grow annually to a significant level it cannot necessarily replace the need for support. Significantly, the expansion of Cursiter Quarry to increase and develop stone reserves required investment from the Council Capital Fund to ensure its future for the next 30-50 years. This investment must now be repaid.

The typical areas of capital and ongoing revenue investment are summarised below:

- A) Plant and equipment typically capital set aside (See Appendix 2 for detailed Plant list)
 - Asphalt Plant
 - Materials handling (loaders, excavators)
 - Processing plant
 - Suppression equipment (dust screening and suppression)

- Property (offices, stores, lab and security)
- Phased expansion (final preparation of newly purchased reserves for extraction)
- B) Research and development (typically revenue funded)
 - Material development trials (testing new "mixes" e.g. better use of waste product)
 - Product development (developing new ranges to meet local demand e.g. specified aggregates)
 - Blasting needs (currently contracted)
 - Preparation of land for blasting
- C) People & resource (typically revenue funded)
 - Plant operators (i.e. current certifications and/or best practice training needs).
 - Office based staff (i.e. competency & certification to operate).
 - Succession planning (to secure and train apprentices for ongoing needs and staffing resilience / replacements)
 - Support services (admin, technical, finance, legal, HR etc.)
- 2.7.2. Production and process demands

Modern quarrying means the manufacture and sale of a full range of quarry products to specified European or British Standards as opposed to the traditional industry of simple extraction. The full process consists of three sections; the removal of overlying land to expose the deposit; the reduction of the stone by blasting and crushing; the processing of the stone to produce usable quarry products for clients.

Modern demand for aggregate / stone production is achieved by utilising mobile plant. The mobile process incorporates primary, secondary, and tertiary crushing as well as screening and is carried out as near as is practicable to the area being worked at any one time.

The mobile crushing and screening plant situated in Cursiter Quarry is further utilised in the recycling of bituminous, stone and concrete construction waste.

2.7.3. Supply and output limitations

Output limitations are restricted mainly by either the extraction of mineral / stone on site or the importing of external supplies for production of materials.

The mineral reserves at Cursiter Quarry are finite, however the planning approval for additional reserve extraction in 2021 extended the lifespan of the quarry from 2023 to circa 2060 or beyond (circa 30-50 years, subject to demand). The most significant limitation is the planning constraint limiting the output of stone from its reserves to 100,000 tonnes over a rolling 12-month period. This could restrict the capacity for the quarry to provide sufficient materials where substantial development projects are undertaken within the same periods and will require advanced consultation with potential clients and the Planning Authority if a temporary amendment to this planning condition is required.

Imported material supplies to Cursiter typically consist of gas oil, lubricants, sand and flagstone (purchased from established suppliers), explosives, bituminous binders, salt and other specialist supplies and services being brought in from mainland Britain. These

materials are typically available from a range of suppliers, and subject to purchase via standard Council procurement policies and in compliance with the Contract Standing Orders. While delivery lines are longer to Orkney, sufficient planning is undertaken, and controls put in place, to ensure minimal disruption to services resulting from long distance supply line issues.

2.7.4. Further product development opportunities

The asphalt plant offers potential for the manufacture and supply of new products subject to modification. Examples of these range from coated roadbases, to high specification Marshal asphalts for airports and cold mixes that can be stored for extended periods. While development of these products would be subject to investigation to assess investment required against potential demand, the options are potentially viable.

Other products using dry mixed materials including type 1 and 6F products are primarily demand driven and further variations would require changes in material specifications for the various public and private works within Orkney.

The aggregate levy applied to quarried materials, introduced in 2002, provides incentive for added value through savings of this levy by using alternative sources of aggregates. Initiatives such as recycling of macadam based products or recycled concrete to use wholly as an additive aggregate, and the likely removal of recycled glass from the proposed Deposit Return Scheme may offer opportunities for the development (or reinstatement) of initiatives for recycled material.

2.7.5. Imported stone reserve utilisation

Prior to attainment of planning permission in 2021, to extend the mineral reserves at the quarry, c80,000 tonnes of stone was imported to provide assurances to the service for continued provision of materials for essential infrastructure servicing only. A significant reduction in demand for products since that time has resulted in a continuing surplus of this material.

Currently the quarry is aiming to develop products utilising this stone to draw down on this reserve and to recover the investment in its purchase.

2.7.6. Staffing

The current staffing structure (Appendix 1) has been developed over time to increase the resilience of the team and aims to ensure the quarry can continue to operate without significant disruption due to staff changes. Further development of the team and its structure may offer additional resilience through adjustment while offering further development opportunities for staff.

3. Business Plan – 2024-2029 and Beyond

Introduction

Part 2 of the Business Plan sets out the current status of the operations and management of Cursiter Quarry and its assets, reviewing current aspects of the activities undertaken. It provides detail on the current structure, management controls and methods to manage the overall assets of the operation.

Part 3 of this Business Plan is intended to set a path and a framework for further development of a strategy for its long-term financial stability.

This section further reviews the current service structure, markets and product demands, product pricing and specific aspects in both overall and specific management mechanisms utilised. Part 3 details proposed improvements to the service and operational mechanisms and sets out a series of actions to focus on the quarry's continued development. Implementation of these actions will be subject to provision of appropriate resource and appropriate governance.

The aim is to aid the quarry in achieving its full role of assisting the Neighbourhood Services and Infrastructure Directorate in delivering a continuously improving service and contributing to the required future efficiency savings while still delivering on the aims and priorities of the Council.

This Business Plan is intended to set a path with targets to provide a route map to ensure the long-term future for the quarry.

Section 3.1 - Vision and Objectives

To set a clear and concise initial path to achieve desired outcomes for the service, the core vision, strategy and objectives for Cursiter Quarry are detailed below.

The Vision

To provide a safe operating quarry environment that maximises opportunities for efficient and cost effective production methods that meets the needs of our customers.

Strategy

To develop and maintain a competent and skilled workforce to provide a range of quarry products and services sufficient for the needs of roads maintenance, other public works and the wider community throughout Orkney.

To be a model employer, operating within the Council's terms and conditions, providing fair wages and conditions of service and giving due regard at all times to the safe working conditions required through Health and Safety legislation and following the stated Safety Policy of the Council.

To produce quality quarry products within specification that meet and, where possible exceed, customer expectations while at the same time contributing towards the strategic objectives of the Council's Delivery Plan and the Neighbourhood Services and Infrastructure Directorate Delivery Plan.

To ensure planning of quarry operations meets production targets in the most efficient and cost effective manner, delivering competitive pricing and the achievement of required financial targets.

Objectives

These service vision and strategies are designed to ensure it continues to meet its objectives;

The need that the quarry has to provide public value beyond that of the private sector, while at the same time maintaining its current commercial discipline.

To ensure that the quarry is commercially viable it must compete in the open market, whilst doing so in a manner which does not unfairly distort the local market nor use public money to subsidise the sales of materials to the wider market.

The remainder of this section reviews the current service and its performance, setting targets / making improvements, aimed at meeting the service objectives and recovering sales outputs against the recent decline.

Section 3.2 - Business Management Development

3.2.1. Structure

To ensure that the quarry is best positioned to fulfil both its own objectives and those of the wider Council, a review of the structure has recently taken place and a new management structure implemented. Noting the necessarily close working relationship between the quarry and its main client, the Roads Service, steps have also been taken to develop much stronger working relationships between these teams and co-ordination and planning of workload.

Both the quarry and the Roads Service come within the overall control of the Neighbourhood Services function, ensuring appropriate management control.

<u>Actions</u>

- Hold workshops to ensure that all managers and staff understand why the changes have been introduced and that they buy into the new way to deliver a much more cohesive service.
- After a reasonable period of time, review the structure to ensure that it is delivering what is required.

Section 3.3 - Markets & Product Development

3.3.1. Market Strategy

At present, the quarry waits for customers to enquire on available products and place orders with it, with generally little or no information in advance of what to expect. This results in inefficiencies / potential lost sales with the quarrying operations.

The recent provision of Cursiter Quarry specific pages on the Council website have improved internal and external client awareness, however further development of public awareness of the scope of services provided by the quarry is required. The simple improvement of current website advertising, organising open days or potential social media posting will aid in promoting sales.

3.3.2. The Market

While the quarry's main customer is the Council, it has also made considerable sales to the private sector so as to facilitate other building and infrastructure projects within the County.

The only orders, particularly with regards to dry stone, that can be guaranteed for the quarry are from the Council, either directly or via its contractors, on the basis of the approved roads programme and the approved capital investment programme. As the quarry is the only provider of coated materials, it is reasonable to assume that similar values of orders that have been received in recent years will continue. However, quantities may be reduced due to the inflationary pressures currently being experienced by the construction

industry and this possibility must be considered when reviewing budgets, production levels and staffing requirements.

Further consideration will be given to the changes in the types of materials that may be looked for in the future and to ensure that products match the demands of the market.

With Local Authority statutory requirements to maintain infrastructure it is inevitable that the quarry will prioritise production to ensure the Council meets this obligation. However, it is also important to be able to contribute to the additional needs of the private market, so as to ensure that critical projects can proceed. Therefore, work is required to understand the wider needs of the market and to provide information regarding available products.

Actions

- Investigate the market place to determine what products and materials are required by both the Council, private customers and the general public.
- Undertake an analysis of private sector demands and determine the potential impact and opportunities for the quarry.
- Seek to develop products suitable for private sector users.
- Further develop a website for the quarry and consider other means of promoting the products and materials it produces.
- Actively market the services and products that the quarry produces.

3.3.3. Recycled Market Opportunities

With the overall move towards a net zero carbon economy, innovation in recycling construction materials may offer suitable options, reducing a demand for 'virgin' produced stone. In particular, there is potential in the use of warm mixes produced by the coating plant which reduces the amount of heat, bitumen and energy used in the production of materials, along with a reduction in carbon emissions.

Two main areas the quarry will investigate in terms of potential products currently being developed on Mainland Britain are recycled materials and developing warm mixes.

Recycling of construction materials removed from existing roads, footways and harbours may have potential to reduce costs, prolong the life of the quarry and support the move towards the net zero economy. From a commercial point of view this may also add value to the recycled materials.

Currently old road surfaces are either excavated or scarified off the existing surface. There are potential uses for this material due to its binding properties on laying and so there is a market for this product. Recently this material has also been utilised in the servicing of Outer Island airport infrastructure, again due to its binding properties.

Additional value may be achieved by recycling this material combined with other products as a bitumen coated product, reducing the quantities of bitumen and virgin stone used in the manufacture of coated road stone for highway construction.

Several UK Mainland quarries are now producing warm mixed material where asphalt is produced and mixed at temperatures roughly between 70 to 100°C lower than current

methods utilised at the quarry. This may offer potential savings in both costs and carbon impacts of roads maintenance.

<u>Actions</u>

- Undertake a full review of how recycled materials can be used, particularly in terms of adding value in the production of both dry and coated materials.
- Establish a group consisting of staff from Roads and the Quarry to review the possibility and advantages of moving to the development and use of warm mix materials.
- Investigate the appetite for new products to assist in the move towards the net zero economy in the construction industry.

Section 3.4 – Pricing

Over recent years the majority of prices have been amended by adding a percentage each year to the existing prices to allow for inflationary increases. Prices in terms of dry sales have also been checked, where possible, against the private sector charges and adjusted accordingly to provide parity with the market.

However, the full costs of extraction and production of materials have not been reviewed for a number of years and it is therefore not clear whether the price accurately reflects the cost of production.

A fundamental review of all aspects of costs at the quarry is required if meaningful decisions are to be made on the pricing of the materials made at the Quarry. This will take a significant amount of time but will ensure that the Quarry is on a sound financial footing.

<u>Actions</u>

• Undertake a full review of costings at the Quarry to enable a meaningful price list to be determined.

Section 3.5 - Customer Value

The main client of the Quarry – Orkney Islands Council – has faced reducing budgets and consequently numbers of large projects, resulting in an increased dependency on supply to the private sector, particularly in terms of dry sales.

An understanding of the pending pipeline of projects over the life of the business plan both in terms of the Council works and from the private sector is crucial. While some of it may need to be won in competition and / or is outwith the Council's control, nevertheless knowing that it may be on the horizon may affect planning for the development of the extension to the Quarry and the rate of investment in new equipment to meet demands. Operation of a commercial business is largely built on effective communications with existing and potential customers. However, at the same time, promotional material is extremely helpful in raising the awareness of potential customers of the services provided by the Quarry.

Actions

- Develop a marketing brochure.
- Production of necessary marketing materials.
- Record customer data in terms of past, existing and targeted future prospective client detail, collating where viable specific types of materials and tonnages anticipated against projected timescales.

Section 3.6 - Operating Models

This section focuses on operating models, aiming to improve the value delivered to the Council and the Orkney public in general. It specifically considers the people capability, processes and systems which are necessary to deliver the vision and objectives, supporting the business model as discussed in the previous section. Some aspects are covered elsewhere in Part 3 of the business plan and thus do not require specific mention in this section.

3.6.1. Financial Management

Medium and high level reporting on performance and management is currently performed via mechanisms detailed in previous sections.

As already stated, in terms of pricing, a zero based approach to pricing is required.

Full up-to-date financial performance information is provided monthly to the Quarry Manager and the Head of Neighbourhood Services to ensure that the financial position of the Quarry is fully understood throughout the year. This is reported via monthly management summary that measures how the Quarry is performing against all its financial performance targets.

<u>Actions</u>

- Develop full income and expenditure projections to aid in setting revenue and capital budgets.
- Ringfence sufficient trading surplus for capital plant replacement.
- Produce a new price list based on the zero based approach.
- Ensure that the Quarry can provide informed advice in aspects of its income and expenditure (revenue and capital).
 - 3.6.2. Blasting Operations

Previously small quarry blasts were undertaken regularly, as opposed to less frequent larger blasts, using in-house resource.

However, standard industry approach now is to use certified external blasting contractors. The reason for adopting this approach is that blasting companies are likely to be more competent and efficient in performing these tasks, given that they are carrying out this work on a constant basis. Cursiter Quarry is currently using external contractors, partly due to these considerations and partly due to staff retirement leading to a reduction in in-house expertise. However, a review will be undertaken of the cost implications with a view to understanding whether it would be more cost effective to bring these services either wholly or partially back in house.

<u>Actions</u>

• Complete a review on contract blasting costs against reinstatement costs associated with redeveloping part / all of the previous in house provision.

3.6.3. Stock Monitoring and Control

The accurate monitoring and control of stock on the Quarry floor is necessary to enable accurate efficient stock replenishment and financial monitoring.

<u>Actions</u>

- Review and revise the method of monitoring and controlling stock.
- Produce monthly stock information.

3.6.4. Innovation

To ensure that quarry products remain competitive and that market needs are being met, an understanding of the wider construction industry is required in order to identify opportunities for change and to learn from best practice.

<u>Actions</u>

- Maintain relationships with other local authorities and look to share best practice and knowledge.
- Formally log all investigations and outcomes to derive potential for innovation.

3.6.5. Staff and Succession Management Plan

The recent retiral of the long serving Quarry Manager acted as reminder of the key risk around retention of key personnel. Since then, the Quarry structure has been revised, with a view to developing resilience, sharing key responsibilities and ensuring that technical knowledge is retained within the team. An associated training plan is also in development, identifying the specific needs of the team and the qualifications required to satisfy the regulatory regime. Succession planning is also a key consideration within the structure and the training plan.

<u>Actions</u>

• Consider and implement, as appropriate, a Staff Development Plan and evaluation of required roles and responsibilities to secure the long term future of the Quarry.

3.6.6. Performance Measurement

Additional performance measurements are required to enable the setting of targets for Quarry staff to be able to relate to and enable staff performance to be linked directly / indirectly to Quarry performance indicators. Current performance measures are included within the site's Quality Management System, however these are aimed at ensuring specific milestones required to ensure adherence to that system and not directly relatable to staffing performance and their impacts on operational efficiencies.

Whilst financial performances are set via the budget setting process, future budget implications need to be considered against capital payback from quarry sales against the Council's investment required to purchase additional rock reserves. The details of this process are contained in Appendix 7.

Additional targets based on previous, performance and client feedback on projected material quantities will be set on a rolling annual basis – enabling direct measurement of service uptake, noting financial performance may not directly feedback on gains the Quarry makes in market uptake of service.

In order to encourage efficient operations amongst the staff as a whole, formal logging on the quality of selected product outputs from site will be undertaken and reviewed with staff as part of ongoing development.

<u>Action</u>

- Set financial performance monitoring targets.
- Set material performance targets initially based on previous years' performance, adjust further subject to client feedback of future material projection.
- Formally log and review product output quality, provide staff feedback as part of ongoing staffing development.

4. Appendices

Appendix 1 – Cursiter Quarry Staffing Structure



Appendix 2 – Cursiter Quarry Plant and Equipment and Projected Replacement Costs

The list below is of major plant items (in terms of cost) critical for service delivery.

The table below provides the current projected replacement costs required for continued operation, noting this is subject to variation.

- 3 Service & transport vehicles (2 Vans, 1 Pick-up)
- Lorry, 10 Tonne
- Three 20 tonne Loading Shovels
- 360 degree 29 tonne Excavator (With Breaker)
- Rough Terrain Forklift
- Telescopic Loadall
- 6 inch Water pump
- Tracked primary rock crusher
- Tracked secondary rock crusher
- Three multi decked tracked screeners
- One tracked aggregate washing screener
- Blastmaster ANFO Mini Mixer 300kg
- Drill rig & dust Collection
- Boretrak Base System with Rods
- Boretrak System Quarryman Pro Full System
- Weighbridge JWS Surface Mounted BPGSM-15 60T
- Emulsion tank 80 tonne capacity
- Laboratory with concrete cube tester, Carbolite (Tar) tester, tar ovens & consumables.
- Benninghoven Tar plant with 2 Bitumen tanks and associated equipment.
- Bunded fuel tank 45000 litres (Kerosene)
- Mobile fuel tank 2500 litres (Diesel)
- Bunded fuel tank 2000 litres x 2 (Diesel)
- Bunded 1000ltre tank (Diesel)
- Explosives stores plus alarm system + Ammonium nitrate store



Appendix 3 – Cursiter Quarry 5 year outputs of material

All figures in Tonnes Sales per year in Tonnes 2018-2019-2020-2021-2022-2019 2020 2021 2022 2023 Gravel Washed &/or Product Group graded 22,350 14,176 13,659 14,031 5,165 **Gravel Bitumen Coated** 6,257 9,451 9,100 5,090 8,100 Stone Crushed & Graded 58,000 44,781 44,962 21,712 8,135 Untreated rock 281 84 122 155 655 Dust (Rock Fines) 4,542 3,298 3,008 5,541 3,884 TOTAL 94,273 68,596 66,841 50,891 25,938





Appendix 4 – Projected work opportunities 2024 – 2029

To consider demand in the market, past and current outputs have been considered with potential capital projects for the 2024 – 2029 period, to assess the needs and demands of the service. Below is the current assessment of the areas of work where orders will most likely come from, this is only a sample of some of the potentially larger areas. A coloured RAG rating indicates likelihood of sales arising, green indicates sales assured while amber marks sales subject to others securing funding for development. Proportions can only be estimated at this stage.

Programmes and Projects	Demand for Aggregate supply	Aggregate supply Comments	Demand for Tarmac Supply	Tarmac Supply Comments
Roads	Yes (circa 10- 15%)	Road stone for reconstruction, surface dressing and drainage	Yes (circa 10-15%)	Road stone for various Cap/Rev. tarmac projects
Housing	Yes (circa 10– 20%)	General Aggregate needs for several construction processes – usually tendered	Yes (circa 10– 20%)	Footpaths, roads and car parking areas – typically tendered
Capital Programme – various projects (e.g. airport, care home, waste, nursery 2020/20)	Yes (circa 10– 20%)	General Aggregate needs for several construction processes – usually tendered	Yes (circa 10– 20%)	Footpaths, roads and car parking areas – typically tendered
Port Master Plan	Yes (circa 10%)			Footpaths, roads and car parking areas – typically tendered
Strategic Projects – Energy	Yes (circa 5%)	Access roads and hardstanding's to wind farms – typically tendered nearer to 2025 than 2020.	Yes (circa 5%)	Limited to adjoining the highway network may not be fully surfaced access roads/footpaths – typically tendered

Table of Projected works opportunities 2024-2029

Private developmentYes** (circa 45% on the low side)Various small, medium and larger requests can account for 45% of day to day business	Yes Various small, medium and larger requests can account for 30% of day to day business side)	(circa 30% on the low	
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** Recovery of sales to this area require development of products utilising local stone from newly acquired reserves.

Appendix 5 – Actions

Section No.	Action Heading	Action Required	Year Commence	Lead	Completion Date
3.2	Management (Structure)	Hold workshops to ensure that all managers and staff understand why the changes have been introduced and that they buy into the new way to deliver a much more cohesive service	2024	Head of Service	Continual
		Review the service structure to ensure that it is delivering what is required	2024 Monitor	Head of Service	2027
3.3	Markets	Investigate the market place to determine what products and materials are required by both the Council, private customers and the general public	2024	Quarry Manager	Continual
		Undertake an analysis of private sector demands and determine the potential impact and opportunities for the Quarry.	2024	Quarry Manager	Continual
		Seek to develop products suitable for private sector users, aimed to recover private sector sales income.	2024	Quarry Manager	2026 & Ongoing
		Further develop a website for the Quarry and consider other means of promoting the products and materials it produces.			Continually Develop
		Actively market the services and products that the Quarry produces.	2024	Quarry Manager	Continual

Section No.	Action Heading	Action Required	Year Commence	Lead	Completion Date
3.3	Market (Recycled)	Undertake a full review of how recycled materials can be used, particularly in terms of adding value in the production of both dry and coated materials.	2025	Quarry Manager	2027
		Establish a group consisting of staff from Roads and the Quarry to review the possibility and advantages of moving to the development and use of warm mix materials.	2025	Quarry Manager / Roads	2027
		Investigate the appetite for new products to assist in the move towards the net zero economy in the construction industry.	2024	Quarry Manager	Ongoing
3.4	Pricing	Undertake a full review of costings at the Quarry to enable a meaningful price list to be determined.	2024	Quarry Manager	2024 & continual
3.5	Customer Value	Develop a marketing brochure & other marketing materials	2024	Quarry Manager	2024 & continual
		Record customer data in terms of past, existing and targeted future prospective client's detail, collating where viable specific types of materials and tonnages anticipated against projected timescales.	2024	Quarry Manager	Continual
3.6	Operating model (Finance)	Develop full income and expenditure projections to aid in setting revenue and capital budgets.	2024	Quarry Manager	Continual

Section No.	Action Heading	Action Required	Year Commence	Lead	Completion Date
		Ring Fence sufficient trading surplus for capital plant replacement.	2024	Head of Service / Quarry Manager	Continual
		Produce a new price list based on the zero based approach.	2024	Quarry Manager	2024
		Ensure that the Quarry can provide informed advice in aspects of its income and expenditure (Revenue and capital)	2024	Quarry Manager	Continual
3.6	Operating model (Blasting)	Complete a review on contract blasting costs against reinstatement costs associated with redeveloping part / all of the previous in house provision.	2025	Quarry Manager	2025
3.6	Operating model (Stock Control)	Review and revise the method of monitoring and controlling stock,	2024	Quarry Manager	2024
		Produce monthly stock information.	2024	Quarry Manager	2024
3.6	Operating model (Innovate)	Maintain relationships with other local authorities and look to share best practice and knowledge.	2025	Quarry Manager	2026
		Formally log all investigations and outcomes to derive potential for innovation.	Immediate	Quarry Manager	Continual
3.6	Operating model (Staff)	Consider and implement, as appropriate, a Staff Development Plan and evaluation of required roles and responsibilities to secure the long term future of the Quarry.	2024	Quarry Manager	Continual

Section No.	Action Heading	Action Required	Year Commence	Lead	Completion Date
3.6	Operating model (Performance)	Set financial performance monitoring targets	2024	Head of Service / Quarry Manager	2025
		Set Material Performance targets initially based on previous years performance, adjust further subject to client feedback of future material projection.	2024	Quarry Manager	2024
		Formally log and review product output quality, provide staff feedback as part of ongoing staffing development.	2024	Quarry Manager	2025

Appendix 6 – Financial performance history

Cursiter Quarry Financial Performance 2016/17 to 2022/23

The table below provides a summary of costs and income for the previous seven years of trading for Cursiter Quarry.

Reduction in income correlates to the drop in sales noted previously. The net loss in 2021/22 is due to the purchase of imported stone during that period, noting however that the stock value of that stone remains on the balance sheet.

	Financial period							
	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	
Costs (£,000)	1,331	1,324	1,768	1,468	1,542	3,451	1,456	
Income (£,000)	(1,864)	(1,732)	(2,105)	(1,606)	(1,713)	(3,259)	(1,574)	
Out-turn (£,000)	(533)	(408)	(337)	(138)	(171)	192	(118)	

Appendix 7 – Cursiter Quarry 5 year projected financial performance

The table and graph below provide the lowest estimated benchmark of sales performance for 2023/24, noting that final out-turn costs were not available at the time of writing this plan. Anticipated performance over the following five years is provided, on the basis of conservative figures for income. Whilst a number of large civil projects are possible during that time, with the potential to significantly increase sales, and hence profits, the timescales of these are beyond the quarry's control and so not included here.

Should additional income be derived from these projects, it is anticipated that this would be diverted to increase capital plant payments so as to ensure funding for earlier plant replacement, due to excess wear, was available.

On comparing the projected figures below against historic figures in Appendix 6, readers should note the additional burden in costs faced going forward for repayments for the land purchase and expansion project, a burden not faced previously, which will impact profits until all debt is paid over the next 20 years. Increased profit may also enable a reduction in these payback periods.

To note in these figures, it is assumed;

- 1. Repayments for quarry expansion costs assume current uptake of available funding.
- 2. Figures include proposed ringfencing of income set aside for plant replacements.

	Period – Estimated performance (5 Year Projected)						
	23/24	24/25	25/26	26/27	27/28	28/29	
Operating Costs	£1,538,000	£1,578,000	£1,600,000	£1,600,000	£1,578,000	£1,578,000	
Capital Plant Payment*	£0	£0	£200,000	£250,000	£300,000	£300,000	
Repayment, Land Asset***	£78,800	£76,500	£74,200	£72,000	£69,700	£67,400	
Repayment, Expansion**	£107,000	£129,000	£133,000	£130,000	£127,000	£118,000	
Net Cost	£1,723,800	£1,783,500	£2,007,200	£2,052,000	£2,074,700	£2,063,400	
Income	- £1,705,332	- £1,850,000	- £2,100,000	- £2,200,000	- £2,250,000	- £2,250,000	
NET TOTAL	£18,468	-£66,500	-£92,800	-£148,000	-£175,300	-£186,600	

* Denotes ringfenced payment of £200K to Capital for plant replacements

** Based on Phase 1 expansion costs from 2024/25 only at £1,600K. A 20 year payback Period

*** A 20 year payback to the Strategic Reserve Fund for the purchase of the land for the quarry expansion and the payment of royalties to the Strategic Reserve Fund on the stone extracted from the extension, until the full land transfer has been completed.

