

Item: 18

Policy and Resources Committee: 22 November 2022.

Proposed Salt Storage Facility.

Stage 2 Capital Project Appraisal.

Report by Corporate Director for Neighbourhood Services and Infrastructure.

1. Purpose of Report

To consider a Stage 2 Capital Project Appraisal in respect of the new Salt Storage Facility.

2. Recommendations

The Committee is invited to note:

2.1.

That, on 21 December 2021, the Policy and Resources Committee recommended the allocation of one-off funding towards a series of projects considered to provide recovery prospects from the COVID-19 pandemic, including an allocation of £500,000 towards the provision of a salt storage facility, potentially located at Cursiter Quarry.

2.2.

That, on 6 September 2022, when considering options for the provision of a proposed new salt storage facility, the Development and Infrastructure Committee noted:

- That the Winter Maintenance Policy, approved by Council in October 2021, stated that the ability to adequately manage storage conditions for salt and keep it dry was required if national road safety standards were to be met.
- Options for the proposed development of a Salt Storage Facility, as detailed in the Stage 1 Capital Appraisal, attached as Appendix 1 to the report by the Corporate Director for Neighbourhood Services and Infrastructure, with the preferred option being a new build facility at Cursiter Quarry.
- That, should the project be approved for progression through the Capital Project Appraisal process, a further sum of up to £20,000 is required to develop the Stage 2 Capital Project Appraisal, which could be met from existing service budgets.

2.3.

That the Development and Infrastructure Committee subsequently recommended that, as an exception to the Capital Project Appraisal process, in order to manage storage conditions for salt to meet national road safety standards, the Corporate Director for Neighbourhood Services and Infrastructure should submit, to the Policy and Resources Committee, a Stage 2 Capital Project Appraisal in respect of a proposed new Salt Storage Facility at Cursiter Quarry.

It is recommended:

2.4.

That the Stage 2 Capital Project Appraisal in respect of the proposed salt storage facility at Cursiter Quarry, attached as Appendix 1 to this report, be approved.

2.5.

That, as an exception to the Capital Project Appraisal process, in order to manage storage conditions for salt to meet national road safety standards, the proposed salt storage facility at Cursiter Quarry be added to the capital programme for 2023/24 onwards, at a gross capital cost of £500,000, funded by the allocation of one-off funding referred to at paragraph 2.1 above.

3. Background

3.1.

On 6 September 2022, when considering options for the provision of a proposed new salt storage facility, the Development and Infrastructure Committee noted:

- That the Winter Maintenance Policy, approved by Council in October 2021, stated that the ability to adequately manage storage conditions for salt and keep it dry was required if national road safety standards were to be met.
- Options for the proposed development of a Salt Storage Facility, as detailed in the Stage 1 Capital Appraisal, attached as Appendix 1 to the report by the Corporate Director for Neighbourhood Services and Infrastructure, with the preferred option being a new build facility at Cursiter Quarry.
- That, should the project be approved for progression through the Capital Project Appraisal process, a further sum of up to £20,000 is required to develop the Stage 2 Capital Project Appraisal, which could be met from existing service budgets.

3.2.

The Development and Infrastructure Committee subsequently recommended that, as an exception to the Capital Project Appraisal process, in order to manage storage conditions for salt to meet national road safety standards, the Corporate Director for Neighbourhood Services and Infrastructure should submit, to the Policy and Resources Committee, a Stage 2 Capital Project Appraisal in respect of a proposed new Salt Storage Facility at Cursiter Quarry.

4. Proposed New Salt Storage Facility

4.1.

With the quarry expansion now underway, the current salt pile will require a new storage location and arrangements after this winter. As the expectation is that the current pile will be used up during the coming winter, in effect, this means that new storage arrangements require to be in place by October 2023.

4.2.

It is expected that savings will be realised as a result of a better storage solution and hence more efficient use of the salt. In addition, road treatment will be more effective and meet the required national standards.

4.3.

The current operation of sheeting the salt costs £7,700 just to put the sheet on. Current arrangements are labour intensive as the sheet requires to be manually moved every time salt is issued. Therefore, a different approach is estimated to save around two hours for each call out. Restocking can also be done in the summer months which is on average £4 per tonne cheaper to buy. Efficiencies in loading the gritters could release further savings which can be passed on to the Operational crews. It is therefore expected that the Quarry might achieve savings of something of the order of £10 per tonne on the gate fee. This could be used to offset the construction costs and would give a payback of an estimated £1m over 20 years.

4.4.

Experience elsewhere has indicated that the provision of a Salt Storage Facility will reduce typical winter maintenance costs by some £5,000 per year per 1000 tonnes of salt used. The Salt Barn is to be designed for 5000 tonnes, so the savings could amount to £25,000 per year. This is achieved by reducing gritting spread rates by using dry (covered) salt rather than damp salt which clumps together leading to less even spread rates and can cause blockages of the gritting equipment. Operational costs could be reduced even further by optimising the salting routes as spreading dry salt is far more efficient.

4.5.

The Stage 2 Capital Project Appraisal in respect of the proposed salt storage facility at Cursiter Quarry is attached as Appendix 1 to this report.

5. Corporate Governance

This report relates to the Council complying with its financial processes and procedures and therefore does not directly support and contribute to improved outcomes for communities as outlined in the Council Plan and the Local Outcomes Improvement Plan.

6. Financial Implications

6.1.

The financial implications are detailed in the attached Stage 2 Capital Project Appraisal.

6.2.

Financial year 2020/21 was unique, with a national lockdown and many Council services required to rearrange their method of service delivery. Additional government funding was provided to support Council costs, and on an agency basis to support the local community. Significant additional funding was paid to the Council in mid to late March 2021 as “redeterminations” of General Revenue Grant and £8.25M of this was carried forward, through the Renewable, Redevelopment and Regeneration Fund.

6.3.

On 21 December 2021, the Policy and Resources Committee recommended the allocation of one-off funding towards a series of projects considered to provide recovery prospects from the COVID-19 pandemic, including an allocation of £500,000 towards a salt storage facility, potentially located at Cursiter Quarry.

6.4.

The preferred option is to build a new salt storage facility at Cursiter Quarry at an estimated cost of £500,000 based on market feedback, noting that final cost will be confirmed following a procurement exercise to establish most economically advantageous proposal based on price / quality criteria.

6.5.

It is estimated that a new salt storage facility will achieve savings in staff time, wastage of salt, and enable operational efficiencies as well as potential benefits of being able to buy salt at different times of the year when more favourable pricing exists. Any savings generated would be available to fund capital costs in excess of the £500,000 already allocated to the cost of the project, should that be required.

6.6.

The revenue implications in developing the project are estimated to be £20,000 funded by the remaining allocation of £5,000 from the Capital Project Appraisal Fund and £15,000 funded through existing Service revenue budgets.

7. Legal Aspects

7.1.

Section 95 of the Local Government (Scotland) Act 1973 requires the Council to make arrangements for the proper administration of its financial affairs. As part of that, the Council is expected to have regard to economy, efficiency and effectiveness in its use of resources.

7.2.

In terms of Section 35 of the Local Government in Scotland Act 2003 the Council must determine and keep under review the maximum amount which it can afford to allocate to capital expenditure. In so doing, the Council must comply with regulations made by Scottish Ministers.

8. Contact Officers

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Lorna Richardson, Interim Head of Neighbourhood Services, extension 2322, Email lorna.richardson@orkney.gov.uk

David Custer, Service Manager (Engineering), extension 2328, Email david.custer@orkney.gov.uk

9. Appendix

Appendix 1: Stage 2 Capital Project Appraisal – Proposed Salt Storage Facility.

Stage 2 Capital Project Appraisal

Capital Programme: General Fund.
 Client Service: Neighbourhood Services.
 Project Name: Salt Storage Facility (Cursiter Quarry).

1. Background

Currently, salt used in the winter road safety programme is stored in a pile at Cursiter Quarry, covered by tarpaulins. The current storage method is not particularly robust as there is a clear risk of the salt getting damp as the covers are moved back once the salt pile starts to be used. Wet salt is difficult to control in terms of distributing it across the road network and is also less effective with regards to managing road conditions. Manually removing tarpaulins to access salt is a challenging and potentially hazardous operation made more difficult in winter weather eg. high winds.

An ability to adequately manage storage conditions for the salt and keep it dry is required if national road safety standards are to be met, as agreed in the revised Winter Maintenance Policy, recommended for approval by the Development and Infrastructure Committee in September 2021. It is expected that savings will be realised as a result of a better storage solution and hence more efficient use of the salt. In addition, road treatment will be more effective and meet the required national standards.

Some work has already been done to identify potential storage solutions, taking into account methods used by other local authorities and road maintenance organisations.

2. Options Available

Three options have been considered:

- Option 1 – Steel Portal Frame with Cement Fibre cladding (3.5m high reinforced concrete retaining walls on all sides excluding door opening).
- Option 2 – As above with polyester PVC stretch membrane outer cladding
- Option 3 – Timber Dome over reinforced concrete retaining walls (dome comprising laminated timber frame with timber purlins and bitumen roofing shingles fixed to plywood cladding)

The Service requirements are to provide a covered salt storage facility to maintain 5,000 tonnes of salt to the standard of BS 3247:2011 Specification for Salt for Spreading on Highways for Winter Maintenance. This standard provides minimum requirements for moisture content (to be no greater than 4%) as well as required grading for spreading using standard road maintenance vehicles and equipment. The building will be designed to relevant structural design standards and codes of practice including Structural Eurocodes using applicable National Annexes to define local environmental and climatic conditions eg. wind and snow loadings. The other key technical requirements are those relating to durability and design life of the facility with different solutions from the market being offered with varying service life and warranty.

A summary of the main options available is given below as well as what are understood to be typical design life for the main components.

Options Summary

| | Option 1 | Option 2 | Option 3 |
|--------------------------------|----------|----------|---------------|
| <u>Building Geometry</u> | | | |
| Length (m) | 36 | 40 | 30 dia (dome) |
| Width(m) | 23 | 24 | - |
| Height to ridge (m) | 12.5 | 10.0 | 14.5 |
| <u>Storage Capacity</u> | | | |
| Dry Salt (tonnes) | 5000 | 5000 | 5000 |
| <u>Design Life (years)</u> | | | |
| Substructure | 50+ | 50+ | 50+ |
| Superstructure (frame) | 25 | 25 | 30 |
| Cladding | 20 | 20 | 20 |
| <u>Indicative Cost (£'000)</u> | | | |
| Site preparation | 100 | 100 | 80 |
| Structure incl. concrete walls | 340 | 670 | 450 |
| Services | 30 | 30 | 30 |
| Fees | 30 | 30 | 30 |
| (Total) | (500) | (830) | (590) |

3. Land Purchase Requirement

A suitable location for a salt storage facility has been identified at Cursiter Quarry, in the location where currently recycled glass is located – see Indicative Site Layout Plan included as Annex 1. As such there are no requirements to purchase additional land, although the glass storage area will need to be re-located prior to construction works beginning in Spring 2023.

4. Project Appraisal

| | Criteria | Response |
|----|--|--|
| 1. | Protects Existing Statutory Provision | The project will ensure the Council is able to meet existing statutory provisions for winter maintenance as set out in the national Code of Practice (CoP) - Well-managed Highway Infrastructure. |
| 2. | Meets Corporate Priority / Community Planning Goal | <p>The provision of a salt storage facility will assist with the following Council Priorities:-</p> <ul style="list-style-type: none"> • Priority 1.3. Retain and where possible enhance public road infrastructure and coastal flood protection of public road infrastructure • Priority 3.11. We will review and develop the Empowering Communities Project to create a sustainable model which will enable and empower communities in the delivery of services and projects in their community. The service on the isles will be supported by providing and funding local delivery. |

| | Criteria | Response |
|------------|--|---|
| 3. | Protects Existing Assets | The project will improve the Council's resilience to winter weather by significantly improving the storage capacity for rock salt, complying with current industry best practice concerning the storage and handling of rock salt which will further help to keep roads open and safe for vehicles and pedestrians during the winter period. |
| 4. | Minimises Capital Cost | The project will be procured via competitive design and build tender to ensure that the technical solution adopted allows for market innovation in terms of final design. This will ensure not just the most economical solution in terms of capital costs but also ensure a long term salt storage solution is put in place that will generate revenue savings on a yearly basis. |
| 5. | Maximises Investment from External Sources | No external investment sources are available for this project. |
| 6. | Beneficial Impact on Revenue Expenditure | <p>The project will allow for more effective and efficient winter maintenance to be carried out. Access to dry salt throughout the winter months will typically mean that less salt is used to treat roads.</p> <p>Experience elsewhere has indicated that the provision of a Salt Storage Facility will reduce typical winter maintenance costs by some £5,000 per year per 1,000 tonnes of salt used. The facility will accommodate 5,000 tonnes, so the savings could amount to £25,000 per annum.</p> <p>This is achieved by reducing gritting spread rates by using dry (covered) salt rather than damp salt which clumps together leading to less even spread rates and can cause blockages of the gritting equipment.</p> <p>Operational costs could be reduced even further by optimising the salting routes as spreading dry salt is far more efficient than when wet salt has to be used.</p> |
| 7. | Linked to Other Council Provision | |
| (a) | Enhances Statutory Provision | There is no direct link to other statutory provisions. |
| (b) | Protects or Enhances Discretionary Provision | There is no direct link to other discretionary provisions. |
| 8. | Re-use of Derelict Land or Building | This project will not reuse derelict land or buildings. |
| 9. | Promote or Enhance Orkney's Environment | The project will have no adverse impact on the Environment. Housing salt in a dry covered facility will mean less product wastage, more efficient winter maintenance and therefore savings in overall |

| | Criteria | Response |
|------------|---|---|
| | | tonnages of salt required over the lifetime of the facility. This will have environmental benefits in terms of less shipping to deliver salt to the island and less vehicle miles in delivering effective winter maintenance. |
| 10. | Promote or Enhance Orkney's Heritage | This project will not directly promote or enhance Orkney's Heritage. |
| 11. | Economic Prosperity or Sustainable Communities | Salt contained in a dry storage facility will be easier to manage, load and distribute across the road network so should lead to improved or more efficient winter maintenance. This should in turn result in less disruption to the road network in general and ensure disruption to businesses and the economy from adverse winter weather is able to be better managed. |
| 12. | Enhances Council operations or Improves Health and Safety | The project will enhance winter maintenance operations through improved efficiency rates in terms of spreading and less wastage. The project will also improve health and safety of operations at Cursiter Quarry by removing the current practices of using heavy tarpaulins to cover salt in the open. At present operatives have to manually place and remove tarpaulins over the stockpile to allow access to salt. These activities often have to take place during adverse weather. |

5. Financial Implications

A summary of the financial implications is attached as Annex 2 and Annex 3, which details the capital and revenue implications associated with the project. The total estimated capital cost of the project is £500,000, with £40k required in FY22/23 for design and consents and then £440k in FY23/24 and a further £20k for retention release in FY24/25.

Anticipated Revenue savings of approx. £25k per annum due to efficiencies (reduced waste, lower spread rates) have not been shown in Annex 3, at this time as there will inevitably be increased costs (product costs and transport costs) that will offset against these. Notwithstanding it should be recognised that efficiency savings in the face of market volatility are real, nonetheless.

6. Risk Assessment

The main risks in relation to the project progressing mostly relate to timescales. In order to achieve the Service objective of having a new covered salt storage facility in place by Winter 2023 then construction will need to start early Summer 2023. It is proposed to deliver the project under a design and build type contract whereby the successful contractor is appointed to complete the detailed design and also secure all necessary consents including planning and building warrant.

As there is quite a range of bespoke salt barn solutions available from the market a procurement exercise will be required first to identify the most economically advantageous solution that meets the Technical Specification for the project. This means that the overall size, geometry and height of the building will not be known until a preferred supplier has been identified. As a result, planning permission can only be sought based on the preferred supplier's outline proposals.

To mitigate this risk an application for planning in principle has been submitted based on the outline design proposal developed by Engineering Services. This will ensure that key parameters and design criteria are clearly understood and stated within the Technical Specification issued to tenderers.

7. Conclusion

The proposed new salt storage facility at Cursiter Quarry is required to deliver effective winter maintenance and ensure national road safety standards are met, as set out in the revised Winter Maintenance Policy recommended for approval by the Development and Infrastructure Committee in September 2021.

There are a range of solutions available from the market to meet the Service requirements and technical specification which range from £500,000 to £900,000 in capital cost . The benefits of the more expensive solutions, which are perceived to offer increased durability and longer service life do not appear to justify the additional higher expenditure over more traditional solutions eg. steel portal frame buildings.

Therefore, the technical specification that is being developed ahead of a design and build procurement exercise should not preclude any of the options that have been examined to date. This will ensure that the Council obtains the most economically advantageous solution from the market. It will also allow local contractors to participate in the procurement exercise.

8. Recommendations

It is recommended that the proposed Salt Storage Facility at Cursiter Quarry is added to the capital programme, at a cost of £500,000.

9. Accountable Officers

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10. Annexes

Annex 1 – Location Plan

Annex 2 – Financial Assessment of Capital Expenditure.

Annex 3 – Financial Assessment of Revenue Expenditure.

Notes

- 1. All levels are metres above Ordnance Datum (m AOD).

Indicative shed - dimensions/
form of structure shown only for
context not OIC requirements.



Approx. road edge. Main road in and out of quarry.

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FOR INFO

| 1 | First issue | 10/05/22 | CM | MD | DC |
|-----|-------------|----------|----|-----|-----|
| Rev | Desc | Date | By | Chk | App |

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|----------------------|----------------|---|--|--|--|
| File Ref. 1003122 | | Drawing No. 3 | | | |
| Revision | 1 | | | | |
| Drawn CM | Checked MD | Approved DC | | | |
| Date 10/05/22 | Scale 1:500 | Original drawing size 420mm x 297mm (A3) | | | |

Cursiter Quarry Salt Barn

Indicative Layout

ENGINEERING

NEIGHBOURHOOD SERVICES
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STAGE 2 - CAPITAL PROJECT APPRAISAL
FINANCIAL ASSESSMENT OF ASSOCIATED CAPITAL EXPENDITURE IMPLICATIONS

Capital Programme: **General Fund**

Client Service: **Neighbourhood Services**

Project Name: **Salt Storage Facility (Cursiter Quarry)**

| | | 1 | 2 | 3 | 4 | 5 | | |
|--|------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------|
| CAPITAL COSTS | Total £ 000 | 2022/23 £ 000 | 2023/24 £ 000 | 2024/25 £ 000 | 2025/26 £ 000 | 2026/27 £ 000 | Onwards £ 000 | Notes |
| 1. Initial Costs (at inflated prices) | | | | | | | | |
| Land or Property Purchase | - | - | - | - | - | - | - | 1 |
| Other Site Costs (including Fees) | 5.0 | 5.0 | - | - | - | - | - | |
| Construction or Improvements | 470.0 | 25.0 | 425.0 | 20.0 | - | - | - | |
| Information Technology Costs | - | - | - | - | - | - | - | |
| Plant, Vehicles & Equipment | - | - | - | - | - | - | - | |
| Professional Fees - Consultancy | - | - | - | - | - | - | - | |
| - In-house | 25.0 | 10.0 | 15.0 | - | - | - | - | |
| Gross Capital Expenditure | 500.0 | 40.0 | 440.0 | 20.0 | - | - | - | |
| 2. Initial Funding (at inflated prices) | | | | | | | | |
| Government Grants | - | - | - | - | - | - | - | |
| Other Grants | - | - | - | - | - | - | - | |
| Other Financial Assistance | - | - | - | - | - | - | - | |
| Total Grants Recievable, etc. | - | - | - | - | - | - | - | |
| Net Capital Cost of Project | 500.0 | 40.0 | 440.0 | 20.0 | - | - | - | |
| Net Present Value | 477.2 | 40.0 | 419.0 | 18.1 | - | - | - | |
| Cost of Capital | | 5% | 5% | 5% | 5% | 5% | 5% | |
| Year | | 0 | 1 | 2 | 3 | 4 | 5 | |

Notes - Additional narrative on main assumptions and support working papers

1. Planning and Building Warrant fees

STAGE 2 - CAPITAL PROJECT APPRAISAL
FINANCIAL ASSESSMENT OF ASSOCIATED REVENUE BUDGET IMPLICATIONS

Capital Programme: **General Fund**

Client Service: **Neighbourhood Services**

Project Name: **Salt Storage Facility (Cursiter Quarry)**

| | | 1 | 2 | 3 | 4 | 5 | Onwards | Notes |
|---|----------------|------------------|------------------|------------------|------------------|------------------|---------|-------|
| REVENUE COSTS / (SAVINGS) | Total £ 000 | 2022/23 £ 000 | 2023/24 £ 000 | 2024/25 £ 000 | 2025/26 £ 000 | 2026/27 £ 000 | £ 000 | |
| 1. Operating Costs (at inflated prices) | | | | | | | | |
| Staff Costs | - | - | - | - | - | - | - | |
| Other Staff Costs (incl. recruitment, etc.) | - | - | - | - | - | - | - | |
| Property Costs | - | - | - | - | - | - | - | |
| Supplies and Services | 20 | 20 | - | - | - | - | - | 1 |
| Transport, Vessel and Plant Costs | - | - | - | - | - | - | - | |
| Administration Costs | - | - | - | - | - | - | - | |
| Apportioned Costs | - | - | - | - | - | - | - | |
| Third Party Payments | - | - | - | - | - | - | - | |
| Finance and Loan Charges | - | - | - | - | - | - | - | |
| Miscellaneous Expenditure | - | - | - | - | - | - | - | |
| Gross Revenue Expenditure/(Saving) | 20 | 20 | - | - | - | - | - | |
| 2. Operating Income (at inflated prices) | | | | | | | | |
| Government Grants | - | - | - | - | - | - | - | |
| Other Grants | - | - | - | - | - | - | - | |
| Rents and Lettings | - | - | - | - | - | - | - | |
| Sales | - | - | - | - | - | - | - | |
| Fees and Charges | - | - | - | - | - | - | - | |
| Miscellaneous Income | - | - | - | - | - | - | - | |
| Gross Revenue Income | - | - | - | - | - | - | - | |
| Net Expenditure/(Saving) of Project | 20 | 20 | - | - | - | - | - | |
| Net Present Value | 20 | 20 | - | - | - | - | - | |
| Cost of Revenue | | 3% | 3% | 3% | 3% | 3% | 3% | |
| Year | | 0 | 1 | 2 | 3 | 4 | 5 | |

Notes - Additional narrative on main assumptions and support working papers

1. £20k for in-house engineering costs associated with preparing and submitted planning application (PIP) and tender documents.