

# Risk Register

Risks and opportunities are assessed using two criteria:

- **Inherent Impact:** What would be the impact and severity if the risk materialised?
- **Inherent Probability:** How likely is the opportunity to occur within the period stated?

To produce a risk score, a risk is first judged for its inherent impact (extreme, high, medium, low or negligible) and for its inherent probability (almost certain, likely, possible, unlikely or rare) and scored from 1 to 5, where 1 is negligible / rare and 5 is extreme / almost certain. The maximum score for a risk is 25 – i.e., an extreme impact and almost certain likelihood. The table below, developed by Liverpool John Moores University, indicates the status of risks coded in terms of a 'traffic lights system'. A score of above 12 is regarded as needing full risk management.

It should be noted that all scoring is, by its nature subjective. Risk assessment is not an exact science and best estimates and frequent reviews are required to make such appraisals robust – indeed, the risk profile should be updated at Final Business Case stage.

Table D1: Risk Mitigation Table

Significance	Extreme	5	M	M	H	H	H
	High	4	L	M	M	H	H
	Medium	3	L	L	M	M	H
	Low	2	L	L	L	M	M
	Negligible	1	L	L	L	L	L
			1	2	3	4	5
		Rare	Unlikely	Possible	Likely	Almost Certain	
<b>Likelihood</b>							

Risks are sorted on the basis of residual risk followed by inherent risk.

No.	Type	Description	Inherent Impact	Inherent Probability	Inherent Risk Score	Control Actions	Residual Impact	Residual Probability	Residual Risk Score
1	Financial	All prices in this application are based on Q1 2022 prices, adjusted for forecast inflation over the construction period. However, global pressures mean that future inflation rates are uncertain at present.	5	5	25	<p>Conservative inflation assumptions have been included in the OBC and contingency included to account for cost increases.</p> <p>Detailed design will be undertaken ahead of the FBC. The FBC will reflect on affordability in the context of available funding and, as per our application, the Council accepts the risk on cost over-runs.</p> <p>All costs and allocated contingency will be regularly reviewed to the point of procurement and thereafter controlled through the project management framework.</p> <p>It should be noted that, for the Ground Investigations, we are proposing an Early Contractor Involvement (ECI) phase to jointly assess, mitigate and manage risks, including who owns them. This is aimed at reducing the cost risk associated with availability of on-island accommodation, weather risk on mobilisation and remobilisation between sites and vessel charter for getting land-based plant to Fair Isle. An ECI approach may also be used for the main works.</p>	5	4	20
2	Schedule / Timescales	The procurement process is delayed due to the time required to get Shetland Islands Council internal approvals in place – this is	4	5	20	(i) Initial working 'at risk' has been undertaken during 2021 and 2022 to progress the project; (ii) engagement with funders already undertaken ahead of business case submission; and (iii) revisit	4	4	16

No.	Type	Description	Inherent Impact	Inherent Probability	Inherent Risk Score	Control Actions	Residual Impact	Residual Probability	Residual Risk Score
		a key issue in Fair Isle given the need to work around weather windows, where small delays can have much larger consequential effects.				project schedule if required - potential rephasing of works.			
3	Timescales	Vessel completion is delayed. This has particular implications for Fair Isle given the remaining life expectancy of the MV <i>Good Shepherd IV</i> .	5	4	20	<p>Delays to new vessels are highly common and the Council may wish to transfer this risk by including delay damages and / or an early delivery bonus within the contract. However, delay damages may increase the cost of the contract and, if this is considered likely, it would have to be managed through regular progress meetings with the yard.</p> <p>The new vessel should be ordered as soon as possible to minimise this risk. However, a contingency plan will be required in the event that the vessel is delayed. This would entail either: (i) if possible. the minimum required life extension of MV <i>Good Shepherd IV</i>; (ii) operating the service from Shetland mainland with an alternative vessel for a period; or (iii) operating the new vessel on a Lo-Lo basis for a period of time.</p>	5	3	15
4	Financial	Limited contractor market availability / resource.	5	4	20	The Scottish marine maintenance and construction market is buoyant due to the generational nature of maintenance and replacement work. The financial contingency included in the project is intended to account for the risk of inflated costs associated with a buoyant market.	5	3	15

No.	Type	Description	Inherent Impact	Inherent Probability	Inherent Risk Score	Control Actions	Residual Impact	Residual Probability	Residual Risk Score
5	Schedule / Timescales	Inclement weather delays on-site work - this is a major risk in the context of Fair Isle, both in terms of physical work on site and the movement of contractors and equipment to site.	5	4	20	<p>This risk can only be managed rather than resolved. However, site works will be run over the summer period to minimise the risk of disruption (albeit the haar season will impact on flight reliability).</p> <p>Note that the NEC form of contract defines weather conditions for a compensation event to apply, and such circumstances are comparatively rare, and can be minimised by undertaking the works outwith the winter period.</p>	5	3	15
6	Schedule / Timescales	General programme slippages	5	4	20	<p>(i) Shetland Islands Council has undertaken work at risk over 2021 and 2022 to keep to programme and we have committed budgets in place to progress design work whilst the outcome of the LUF application is awaited; (ii) At construction stage, appointment of Vessel and Port Infrastructure Project Manager(s) &amp; Supervisor(s) to oversee programme; (iii) potential inclusion of delay damages in tender documentation for each package of work to be considered.</p>	5	3	15
7	Financial	<p>Shipyards encounters financial difficulties during the build process</p> <p>This is a particular risk at present given high inflation and uncertainty over future construction materials prices.</p>	5	4	20	<p>It is recommended that the Council transfer this risk through:</p> <ul style="list-style-type: none"> <li>- requesting a refund guarantee within the contract.</li> <li>- applying an appropriate financial standing threshold in the PQQ; and</li> </ul>	5	3	15

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						the purchase of FD&D insurance. If the premiums for FD&D insurance are excessive, this risk would have to be managed by Council procurement.			
8	Financial	There will be very little information available on vessel costs until the market has been engaged.	4	5	20	<p>Work at risk throughout 2021 and 2022 has allowed a more detailed specification to be developed, which will allow for a tighter cost envelope to be developed. Indeed, our procurement approach may involve single source procurement of an existing vessel design.</p> <p>Detailed design will be undertaken ahead of the FBC. The FBC will reflect on affordability in the context of available funding and additional / alternative funding will be sought if required. Particularly close attention to emerging vessel costs will be required, as prices are influenced by UK / European rather than local demand and thus are subject to considerable fluctuation, particularly given the current volatility in exchange rates.</p> <p>All costs will be regularly reviewed to the point of procurement and thereafter controlled through the project management framework.</p>	3	4	12
9	Technical	Vessel(s) is not built to necessary specification	4	5	20	As the Council has limited recent experience in managing a ship build, it is strongly recommended that they transfer this risk by appointing a Vessel Project Manager & Supervisor to supervise and manage the build. Whilst this approach will	4	3	12

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						<p>have up-front costs, it significantly reduces construction risk and also likely reduces the required time for addressing 'snagging' once the build is completed. An appropriately experienced individual should also be recruited by the Council to liaise with the yard and supervisory consultants.</p> <p>The procurement approach may involve a single source procurement of an existing vessel design, which would significantly reduce this risk.</p>			
10	Contractual	The shipyard or landside infrastructure contractor(s) do not perform as anticipated.	5	4	20	Risk partially mitigated through use of Public Contracts Scotland procurement route and application of the Restricted Procedure (or potentially a sole source procurement for the vessel), to ensure that only suitably qualified and experienced contractors are shortlisted. Any quality or timescale risks will be flagged by the Vessel and Port Infrastructure Project Manager(s) & Supervisor(s) and addressed through liaison with the contractor(s). The works contract(s) will require sufficient levels of insurance to indemnify the Council against any losses in the event that contractors are negligent in their duties.	4	3	12
11	Schedule / Timescales	Landside infrastructure project completion delayed once on site. This is a major risk given the limited life expectancy of the MV <i>Good Shepherd IV</i> .	4	4	16	Delays to marine infrastructure projects are not uncommon and the Council may wish to transfer this risk by including delay damages and / or an early delivery bonus within the contract. However, delay damages may increase the cost of the	4	3	12

No.	Type	Description	Inherent Impact	Inherent Probability	Inherent Risk Score	Control Actions	Residual Impact	Residual Probability	Residual Risk Score
						<p>contract if bidders price in the risk, or they deter firms from bidding at all.</p> <p>Tender acceptance involves adoption of works programme by contractors.</p> <p>In the event that delays do emerge, a contingency plan will be required, which could include: (i) if possible, the minimum required life extension of MV <i>Good Shepherd IV</i>; (ii) operating the service from Shetland mainland with an alternative vessel for a period; or (iii) operating the new vessel on a Lo-Lo basis for a period of time.</p>			
12	Contractual	Landside infrastructure design errors lead to delay or additional cost on the project.	5	4	20	Recommended approach to splitting of contracts as noted in the Commercial Case reduces this risk.	5	2	10
13	Regulatory / Legal	MCA / Lloyds Register approvals	5	4	20	<p>Request for design changes from the regulatory authority or classification society could lead to a need for contract variations and a delay in the process.</p> <p>This risk should however be addressed at the pre-construction phase through the appointment of a competent firm of naval architects. The risk is also low given that the vessel will be relatively small and built using established technologies. It will diminish further if a single source procurement of an existing vessel design is undertaken.</p>	5	2	10

No.	Type	Description	Inherent Impact	Inherent Probability	Inherent Risk Score	Control Actions	Residual Impact	Residual Probability	Residual Risk Score
14	Financial	Landside infrastructure contractor(s) experiences financial difficulties	5	3	15	The tendering process will include a financial standing threshold which prospective bidders must pass.	5	2	10
15	Health & Safety	COVID-19 related restrictions or staff illness as a result of the virus lead to project delays and / or increased cost once on-site.	5	3	15	Given that COVID-19 its impacts are now well understood, this risk should be transferred to the contractor as far as practically possible.	5	2	10
16	Financial	Detailed landside infrastructure design has not yet been undertaken and thus there remains uncertainty around costs.	4	5	20	<p>The Council has worked at risk over 2021 and 2022 to progress outline design and ground investigations, so the risk envelope has narrowed over the last year.</p> <p>Detailed design, for which we have committed funding, will be undertaken ahead of the FBC. The FBC will reflect on affordability in the context of available funding and additional / alternative funding will be sought if required.</p> <p>All costs will be regularly reviewed to the point of procurement and thereafter controlled through the project management framework.</p>	3	3	9
17	Environment	Limitations on site works during avian breeding season	4	5	20	This issue is being actively explored through the consenting process and has been incorporated in the project plan. This risk will be subject to continuous assessment as the consenting requirements crystallise.	4	2	8
18	People / Societal	Inability to secure accommodation on Fair	4	5	20	A site plan will be developed as part of the SBC and, in partnership with the Council	2	4	8

No.	Type	Description	Inherent Impact	Inherent Probability	Inherent Risk Score	Control Actions	Residual Impact	Residual Probability	Residual Risk Score
		Isle for contractors and / or displacement of tourists in summer season.				Client PM, engagement with the local community will take place to explore how impacts can be minimised. A temporary accommodation site is being considered, an approach commonly adopted in Shetland when delivering construction projects.			
19	Technical	All work will be undertaken in a live harbour environment. This presents a health and safety risk.	4	4	16	The development of a robust health and safety plan by the contractors will be required as part of the tender process. This will be discussed and signed off by the Vessel and Port Infrastructure Project Manager(s) & Supervisor(s) and will be regularly monitored throughout the build process. Health & safety will form a standing agenda item at progress meetings.	4	2	8
20	People / Societal	Stakeholder conflict or disagreement over the project.	4	4	16	Council Project Manager will develop and implement a Stakeholder Management Plan, which will detail which stakeholders will be engaged, how they will be engaged and when they will be engaged. Integral to this will be working with the National Trust for Scotland as owner of the islands, the crew of MV <i>Good Shepherd IV</i> and the Fair Isle community.	4	2	8
21	Physical / Assets	Harbour closures during works periods	4	4	16	The detailed project plan seeks to minimise disruption and identifies any proposed harbour closures. Where Grutness is closed, the service will be redirected to Lerwick. The Fair Isle service is however operated on a highly flexible basis and the works are scheduled to minimise disruption	2	4	8

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						to service and operation of the harbour, which will assist in reducing the impact of any closures.			
22	Contractual	The Vessel and Port Infrastructure Project Manager(s) & Supervisor(s) do not perform as anticipated.	5	3	15	Only suitably qualified and experienced consultancies to be appointed and will require to have sufficient levels of professional indemnity insurance to indemnify the Council against any losses in the event that they were negligent in their duties.	4	2	8
23	Professional	Contractor(s) and / or Vessel and Port Infrastructure Project Manager(s) & Supervisor(s) are not sufficiently competent for the scale of work.	5	3	15	Adoption of proposed procurement approach through Public Contracts Scotland will ensure the widest possible competition for the works contracts and will also establish a minimum quality threshold which will have to be met.  Vessel and Port Infrastructure Project Manager(s) & Supervisor(s) will be selected on a similar basis, with emphasis placed on their experience in this field and knowledge of the Shetland-specific context.	4	2	8
24	Technical	The new vessel proves to be unreliable	4	3	12	Requirement for a warranty / after sales service. A short-term contingency plan for Fair Isle will be required.  Should we proceed with a single source procurement of an existing design, this risk would be further reduced.	4	2	8
25	Technical	Vessel design changes through process.	4	3	12	Changes to vessel design during the process can impact the critical path and lead to a request for contract variations	4	2	8

No.	Type	Description	Inherent Impact	Inherent Probability	Inherent Risk Score	Control Actions	Residual Impact	Residual Probability	Residual Risk Score
						<p>from the yard. To mitigate this risk, governance arrangements must include a formal sign-off for the vessel design and an agreement that this will not be amended unless there are extenuating circumstances. A financial contingency should be retained for this.</p> <p>Should we proceed with a single source procurement of an existing design, this risk would be further reduced.</p>			
26	People / Societal	There are insufficient resources within the Council (Members and salaried staff) to meet the multiple needs of the project.	4	3	12	<p>Appointment of Vessel and Port Infrastructure Project Manager(s) &amp; Supervisor(s) to oversee the day-to-day delivery of the project.</p> <p>Appointment of a dedicated Client Project Manager to oversee the contract from the Council side.</p>	3	2	6
27	Contractual	Interface risk at design stage in ensuring compatibility between the vessel and the winch & cradle and linkspan.	3	4	12	Appointment of a Council Project Manager to oversee and coordinate all activities. Any key issues escalated to the Project Board	3	2	6
28	Financial	Cost of obtaining marine insurance.	3	3	9	Cost of marine insurance underestimated. Accurate insurance quotations are difficult to obtain without complete detail of methodologies and liabilities. Advice to be obtained from appropriate insurers. Detail requirement for marine insurance within scope. Will be assed in risk schedules when building up the price.	3	2	6

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29	Financial	COVID-19 response leads to financial cutbacks in the public sector and funding for scheme reallocated.	5	3	15	<p>There is no 'Do Nothing' option for Fair Isle, and any delay will therefore increase costs both in the short and long-term. This risk will be managed through the detailed design and FBC stage with Council Heads of Service, the Chief Executive and Members being regularly updated on progress.</p> <p>The Council has committed funding to take the project to FBC stage.</p>	5	1	5
30	People / Societal	Limited experience within the Council of delivering a vessel and civil engineering project package of this scale.	4	3	12	(i) Several Council staff remain in-post from previous procurements, including the B600 fleet and associated harbour works, Hamars Ness breakwater and tugs procurement, so there is in-house experience; (ii) Appointment of Vessel and Port Infrastructure Project Manager(s) & Supervisor(s) for works contracts; and (iii) appointment of a specific Client Project Manager to oversee the project.	4	1	4
31	Reputation	The Council cannot demonstrate the benefits of the investment to Members.	3	3	9	OBC contains a benefits realisation plan and monitoring and evaluation plan which will track the outcomes and impacts of the project.	2	2	4
32	Financial	Risk of currency fluctuations if vessel is built outwith the UK or landside infrastructure components have to be sourced from abroad.	3	3	9	Agreements as close as possible to award to guarantee quoted and entered rates. Risk contingency allowance in tender price. Early material purchase with supplier on lower rates (assuming rates increasing) will maximise margin.	2	2	4
33	Contractual	The procurement approach for the vessel or landside	4	2	8	Following PC(S)R 2015 minimises / eliminates the risk of challenge.	3	1	3

No.	Type	Description	Inherent Impact	Inherent Probability	Inherent Risk Score	Control Actions	Residual Impact	Residual Probability	Residual Risk Score
		infrastructure works is challenged.				Nonetheless, the Council should ensure that the procurement and approach and all documentation is signed-off by the in-house procurement and legal team.			