



# Stromeferry Appraisal

STAG Part 2 / DMRB  
Stage 2 Assessment

Stakeholder Workshop  
No.4 Summary

November 2013

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## 1 INTRODUCTION

This document provides a summary of the discussions and presentation held during the Combined Stakeholder Workshop in relation to the Stromeferry Options Appraisal, Stage 2 Assessment to DMRB and STAG, Part 2.

The workshop was held on the 11<sup>th</sup> November 2013 at the Strathcarron Hotel, Strathcarron. Both Stakeholder groups established during the Stage 1 works, namely the 'Statutory Stakeholders' and the 'Economic Stakeholders' were invited to this workshop. A list of invited Stakeholders, together with a copy of the attendance register, is provided in Appendix A of this report.

### 1.1 Agenda

A workshop agenda, as issued to all invited Stakeholders prior to the meeting, is provided in Appendix B of this document.

### 1.2 Scope of Workshop

This workshop was held as part of the ongoing process in relation to the assessment of route options for the Stromeferry Bypass, in order to keep all Stakeholders informed of the assessment work currently being carried out, as well as ensuring the all Stakeholders remained part of this process, by providing vital feedback on assumptions, findings and proposals made during this stage of the assessment.

The workshop outlined the progress made since the last workshop held in January 2013, and the delivery of the 'Stromeferry Appraisal, STAG Part 1 / DMRB Stage 1' report in May 2013, highlighting the engineering and environmental challenges, scheme budgets and consultations considered during the Stage 2 assessment process.

The workshop also briefly re-viewed the Project Objectives set during the Pre-Appraisal stage, and provided an introduction to proposed phasing of the scheme.

Some of the power-point slides displayed during the workshop have been included in this summary report, for information. Numbers shown indicate slide number of the presentation, a copy of which can be made available on request.

### 1.3 Findings & Conclusions

In general, all represented Stakeholders appeared satisfied with the process and progress presented during this workshop.

It was recognized that some of the proposed route options require challenging engineering solutions, which will have a bearing on the overall scheme cost and deliverability of a solution. Buildability, with considerations regarding disruptions to traffic flows, remains a predominant objective throughout this appraisal.

Tidal energy solutions are unlikely to be included in any of the scheme proposals at present, as technology does not appear far enough advanced to make a preferred solution viable at this stage. In addition, pay-back revenue does not significantly off-set construction costs to make renewable energy a viable addition to the scheme. However, this could be further investigated and followed up in the future.

The Stage 1 assessment had been a very detailed assessment for that stage of the process. Therefore, re-assessing the emerging route options as presented at the outcome of the Stage 1 appraisal work during this (Stage 2) phase, does widely re-iterate the findings previously reported, with further in-depth information having been compiled. At present, however, none

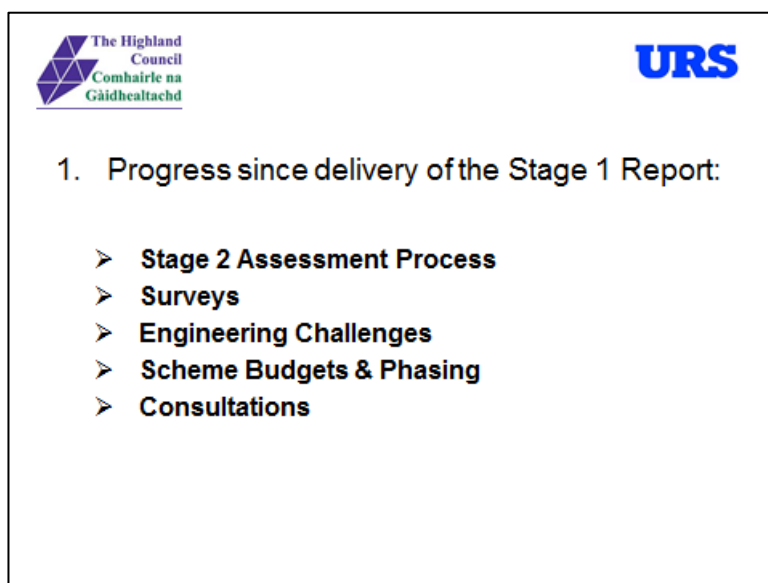
of the Stage 2 assessment work has high-lighted any 'show-stoppers' in relation to any of the route proposals, and therefore the assessment remains focused on all three route corridors (North Shore, On-line and Southern) as before.

Scheme affordability is likely to be a governing factor and therefore phasing, as expressed in the cost section of the Stage 1 report, will be considered in detail during the Stage 2 assessment work. Stakeholders were asked to provide feedback on a phasing drawing presented during the meeting, which has been further developed based on comments received and is included in Appendix C of this report.

A further Stakeholder workshop is to be held in April / May 2014, after the Public Exhibition, to confirm findings to be presented in the Stage 2 report.

2

**PROGRESS SINCE DELIVERY OF STAGE 1 REPORT**



No.6

The introduction to this section of the workshop highlighted that the process of the Stage 2 assessment work is ongoing at present, as further outlined in the following paragraphs below.

It was important to ensure that Stakeholders are aware that they, if they so wish, have a continuing influence on the assessment work through ongoing feedback.

It was also important to highlight that this is a continuous process, building on findings and conclusions drawn from the Pre-Appraisal and Stage 1 / Part 1 works. The current assessment is aiming to recommend for a single route option to be taken forward, once the Stage 2 process is concluded.

**2.1 Stage 2 Assessment Process**

The presentation of the Stage 2 assessment process provided information on the following issues:

- STAG
- DMRB
- Project Objectives
- Nomenclature

The overall aim of the Stage 2 / Part 2 assessment is to conclude in the recommendation to take one emerging route option out of all options appraised during Stages 1 and 2 forward to detailed design and future construction.

**2.1.1 STAG**

The following slides were presented during the workshop discussions. STAG, the Scottish Transport Appraisal Guidance, requires the assessment of the 'softer issues' in relation to a transport proposal, considering assessment criteria, as per STAG Part 1, of environment, safety, economy, integration and accessibility and social inclusion, in addition to risk and

uncertainties and cost to the government, in comparison to the 'harder issues' of engineering considerations required under the DMRB.




• **STAG (Scottish Transport Appraisal Guidance)**

The Part 2 Appraisal requires a more detailed appraisal of options taken forward from Part 1.



This includes detailed analysis of the option's performance against:

- Transport Planning Objectives;
- STAG Criteria;
- Cost to Government; and
- Risk and Uncertainty

No.8

At the end of the Part 2 appraisal, a STAG report is to be compiled, outlining the findings of the assessment. Usually such a report is only required for projects for which the Scottish Government and/or Transport Scotland may provide funding, or for which approval by the Scottish Government or Transport Scotland is required. In relation to the Stromeferry bypass, should Scottish Government funding become available to construct the scheme, STAG guidance has been followed as part of this Stage 2 / Part 2 appraisal.

The aim of the STAG report is to provide a concise summary of the works undertaken to demonstrate that the process of the guidelines have been followed. In order to easily illustrate the summary of findings, a series of summary tables will be developed. One such table was shown during the presentation and is replicated below.

PROPOSED STAG (PART 2) SUMMARY TABLE										
Assessment Criteria	Route Options									
	North Shore Route			On-Line Route					Southern Route	
	Route	Testcase		02	03	04	05	07	Route	Test
Environment										
Safety										
Economy										
Integration										
Accessibility										
Risk & Uncertainty										
Cost to the Government										
Project Objectives										


- Major benefit
- Moderate benefit
- Minor benefit
- No benefit or impact
- Minor negative impact
- Moderate negative impact
- Major negative impact

✓✓✓  
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 X  
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 XXX


No 9

## 2.1.2 DMRB

A major part of this appraisal is the assessment of route options in accordance with the requirements of the DMRB. The Design Manual for Roads and Bridges looks at the engineering aspects of a project, as outlined in the slide below presented during the workshop:



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• **DMRB**

The Design Manual for Roads and Bridges requires the following engineering aspects to be assessed as part of the preparation of the Stage 2 report:

- Existing traffic, engineering and environmental conditions;
- Description of the Scheme Options assessed, including cost estimates;
- Engineering assessment;
- Environmental assessment; and
- Traffic & Economic assessment.

• Also feeding into the Stage 2 report will be stand-alone reports on environmental surveys, renewable energy solutions etc.

No.10

Due to the number of route options still to be assessed during the Stage 2 appraisal, it is proposed to split the report(s) into a STAG Part2 and separate DMRB Stage 2 report, which is proposed to contain the assessment in relation to road alignments, structures and traffic. There will be a separate environmental report produced.

Again, the assessment and findings thereof will need to be summarized. The following table is providing an indication of the proposed assessment of the route options against the set criteria. These are similar to some of the STAG criteria; however the DMRB requires a more factual approach, and assessment is monetary, and could be displayed in actual cost (£) or as a benefit number smaller than one (ie displayed as a fraction).

Scheme costs will include estimated construction cost plus preliminaries (overheads), as well as allowances for contingencies (to cover unforeseen costs during construction), estimated land purchase costs, and professional fees to carry out design and site supervision work. It is noted that on road schemes for Transport Scotland, an optimism bias of 43% is to be applied in addition to the above, when assessing full scheme costs, to cover for all project risks. URS in conjunction with The Highland Council will decide on a suitable bias to be applied for this project.



[illegible]

No.11


### 2.1.3 *Project Objectives*

As part of the Part 2 assessment, Project Objectives are to be re-viewed to ensure their validity during this stage of the process. The Objectives are also to be re-assessed to ensure that they are SMART (Specific, Measurable, Attainable, Relevant and Timed), to allow future monitoring and evaluation of the transport / scheme proposals.


11 No. Project Objectives were developed during the Pre-Appraisal Stage in relation to this Strome ferry Bypass Options Appraisal, as shown below, and used to assess the route options against during the Part 1 appraisal. It is now proposed, to group the objectives, where applicable, to aid the Part 2 assessment, but without losing any of the relevance and content of the individual objectives. This was discussed during the workshop, and it was agreed that most applicable grouping would be under the headings of the STAG criteria, as shown in the following slide. Stakeholders are asked to comment further on the proposed grouping shown.

In addition, the Part 1 appraisal also included assessment of strategic objectives. These consider the Government's purpose, National Outcomes, and Government Agencies' policy statements in relation to this study. These objectives were detailed in the Stage 1 report, which concluded that the 'Strategic Objectives' were considered to be well reflected in the set of developed Transport Planning (Project) Objectives, and did therefore not to be considered separately within the assessment.

During the workshop it was queried, why the STAG process, including the continuing discussion about Project Objectives, had to be followed in addition to the engineering assessment to DMRB of proposed route options. This was discussed and it was concluded that this is vital to support an all-encompassing appraisal process to current Government guidelines, in view to supporting the findings of this appraisal and emerging route option throughout a likely Public Enquiry process.



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## Final SMART Transport Planning Objectives (as agreed 31/01/13)

TRANSPORT PLANNING OBJECTIVES TRANSLATED INTO SMART OBJECTIVES						
Ref.	Draft SMART Objectives	Appraisal Criteria				
		Environment	Safety	Economy	Integration	Accessibility
A(1)	Safeguard and, where possible, enhance and provide access to the natural and built environment and areas of national, regional and local importance and heritage during construction, maintenance and operation of the scheme (with reference to environmental appraisal)	✓				
B(2)	Minimise all risk during design, construction, operation and maintenance (with reference to Risk Register)	✓	✓	✓		
C(3)	Ensure deliverability of scheme within programme and to agreed capital cost and maintenance budgets, thus providing value for money			✓		
D(4)	Deliver a safe and reliable 2 lane carriageway, by applying appropriate / proportionate design standards		✓	✓	✓	✓
E(5)	Solution reduces, or does not increase, the risk and liability of the railway and maintains suitable access over the life of the scheme		✓	✓		✓
F(6)	Keep the A90 and peripheral road network open during construction			✓	✓	✓
G(7)	Maintrain and improve local social cohesion by improving accessibility for emergency services, responding to callouts, as well as for the local population making use of local and regional leisure, health and educational facilities			✓	✓	✓
H(8)	Maintrain and improve choice of transport mode and integration of public transport into the scheme			✓	✓	✓
I(9)	Scheme to take account of relevant local, regional and national planning policies (during the design stage)	✓			✓	
J(10)	(removed)					
K(11)	Maximise / improve network efficiency, sustainable connectivity and social cohesion in terms of journey time and journey reliability in the Vicker/Ross area			✓	✓	✓
L(12)	Deliver a scheme that allows both the local businesses to maximise opportunities for sustainable development and economic growth over the life of the scheme			✓	✓	✓

No.13

Proposed grouping of the developed Project Objectives, as discussed during the workshop:

**TRANSPORT PLANNING OBJECTIVES TRANSLATED INTO SMART OBJECTIVES**

Ref.	Draft SMART Objectives	Grouping under Appraisal Criteria				
		Environment	Safety	Economy	Integration	Accessibility
A(1)	Safeguard and, where possible, enhance and provide access to the natural and built environment and areas of national, regional and local importance and heritage during construction, maintenance and operation of the scheme (with reference to environmental appraisal)					
B(2)	Minimise all risk during design, construction, operation and maintenance (with reference to Risk Register)					
C(3)	Ensure deliverability of scheme within programme and to agreed capital cost and maintenance budgets, thus providing value for money					
D(4)	Deliver a safe and reliable 2 lane carriageway, by applying appropriate / proportionate design standards					
E(5)	Solution reduces, or does not increase, the risk and liability of the railway and maintains suitable access over the life of the scheme					
F(6)	Keep the A90 and peripheral road network open during construction					
G(7)	Maintrain and improve local social cohesion by improving accessibility for emergency services, responding to callouts, as well as for the local population making use of local and regional leisure, health and educational facilities					
H(8)	Maintrain and improve choice of transport mode and integration of public transport into the scheme					
I(9)	Scheme to take account of relevant local, regional and national planning policies (during the design stage)					
J(10)	(removed)					
K(11)	Maximise / improve network efficiency, sustainable connectivity and social cohesion in terms of journey time and journey reliability in the Vicker/Ross area					
L(12)	Deliver a scheme that allows both the local businesses to maximise opportunities for sustainable development and economic growth over the life of the scheme					

No.15

It was highlighted that objective I(9) above had not been allocated to a group. URS are to consider and propose, in a revised table, which is to be circulated to all Stakeholders for comments with a copy of this summary report.

In addition, it was also agreed, that the Objectives should be re-numbered, relevant to the grouping, putting economy and safety first.

It was suggested by Stakeholders, that the speed of delivery on above objectives should be taken into account, as some of the route options will take longer to construct, and therefore the risk of further road closures due to rock fall will be greater for these options.

#### 2.1.4 Nomenclature

As part of the Stage 2 appraisal, previous route numbering will be omitted, and routes described by name. These are proposed to be:

- North Shore Route options N2, N6 and N9 will become one principal route named 'North Shore Route', considering A896 on-line through Lochcarron Village as alternative to the eastern bypass, and phasing;
- On-line Route options O2, O3, O4, O5 and O7 will be referred to as a number, as well as representative measure (ie 'viaduct', 'tunnel' etc), due to the large number of options remaining;
- Southern Route option S4, plus link route S1 and S3 will become one principal route named 'Southern Route', with one additional local link route.

## 2.2 Stage 2 Surveys

The following survey work has been carried in order to inform the Stage 2 assessment work:

- 1) **Topographical** survey of the existing road corridor in between Ardnarff and Cuddies' Point, in order to assess the available corridor width and feasibility of proposed new on-line solutions further;
- 2) **Environmental** walk-over surveys of the proposed route corridors, to inform the environmental assessment of route options further;
- 3) **Geotechnical** survey to support engineering solutions at the Strome Narrows and on-line;
- 4) **Business** survey via questionnaires sent out to 250 businesses in the area, to support the assessment of local economics and influence of/ dependency on the A890 and peripheral road network. Businesses are to be encouraged to return their questionnaires to provide a good cross section of information.
- 5) **Traffic** (Origination and Destination) survey carried out at 2 locations 27<sup>th</sup> and 28<sup>th</sup> August 2013, involving road side interviews as well as traffic counts, to feed into network and traffic flow modeling to gauge the importance / influence of a road closure between Stromeferry and Ardnarff.

Comments received from Stakeholders to the above presentations included a comment from SEPA regarding confirmation of extent of habitat surveys carried out on the southern route. URS team to comment.

In addition there was a query as to whether an EIA (Environmental Impact Assessment) would be carried out at this stage. This will not be provided and would go far beyond a Stage 2 assessment. However, a full environmental assessment will be required on an emerging route, if this is taken through the full extent of statutory processes and approvals towards construction, at some stage in the future.

It was widely appreciated, that surveys, in particular the Stage 2 business survey, have covered a wide area and should capture a good indication of the local 'dynamics'. There was a suggestion that developments at Kishorn could put a bias towards a northern route, and appraisal needs to ensure that a fair balance is kept amongst all options considered. It was recognized that new infrastructure will bring benefit in various shapes to the area, in whichever corridor this will be located.

The wider economic benefits of any of the options, and how routes were assessed in relation to (local) benefits, was also briefly discussed during the workshop. It was agreed, that a separate meeting would be required, which HIE and URS are to attend.

## 2.3 Engineering Challenges

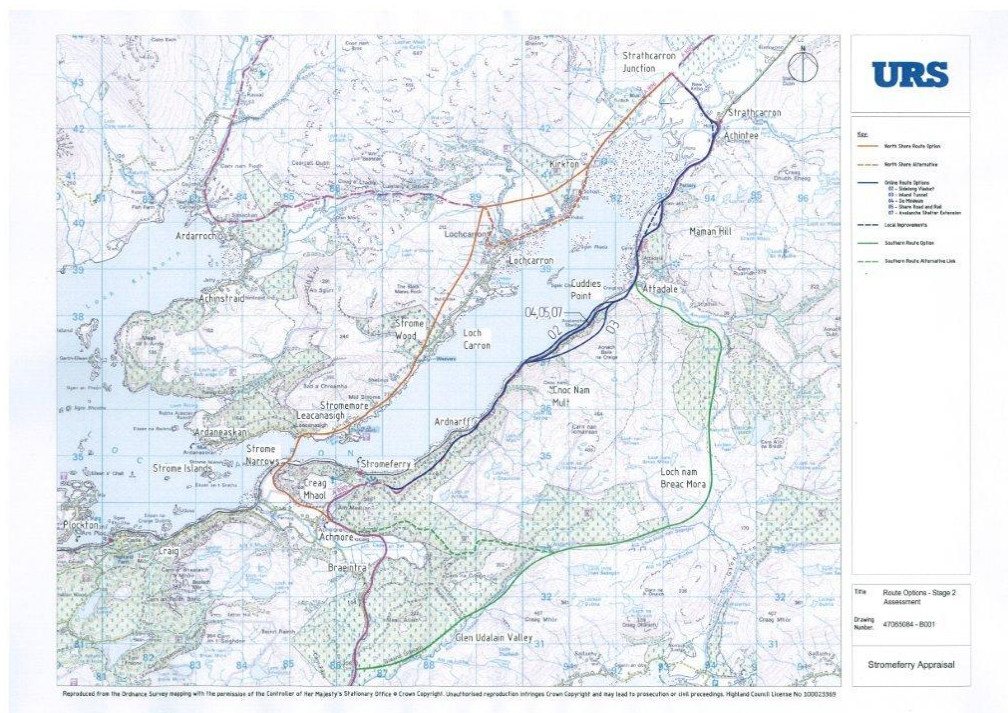
All of the route options proposed in relation to the Stromeferry Bypass appraisal pose some engineering challenges, mainly in relation to alignments and structures, but also to overcome environmental issues regarding the natural habitat, existing landuse, frontage activity and more.

During the Stakeholder workshop, a short presentation of the challenges listed below was given.

### 2.3.1 Route Alignments

Route alignments presented at the outcome of Stage 1 have been re-assessed as part of the preparation of the Stage 2 report. The drawing shown below was displayed to highlight the sections of route posing a particular challenge in relation to:

- Steep road gradients at the Maman Hill and in between Stromeferry and Ardnarff;
- Reducing visual and Environmental impact of new sections of road construction, in particular through Attadale;
- Approach roads to the Strome Narrows crossing;
- Local bypass of Stromemore as an alternative to the on-line route shown; and
- Bypass of the Strathcarron level crossing.



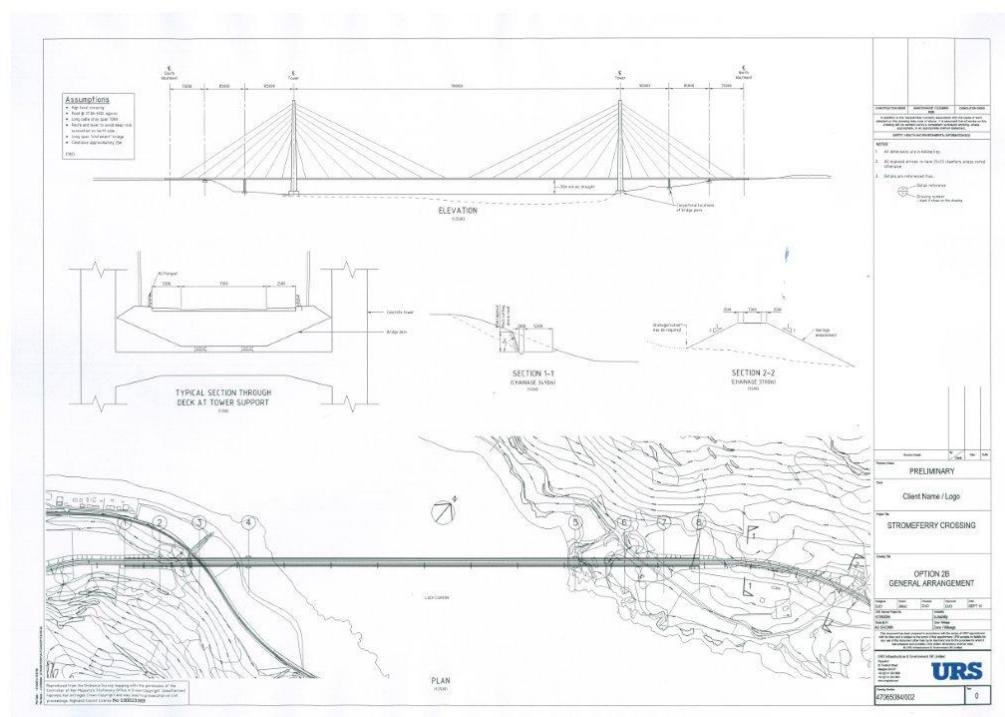
No.20

### 2.3.2 Structural Solutions

In addition to route alignments, structural solutions for all structures required as part of the proposed routes are assessed in preparation of the Stage 2 report. These include:

- Existing structures where route alignments adopt existing roads;
- Major structures at the Strome Narrows;
- On-line solutions; and
- Structures required on new route alignments.

During the workshop, the following drawings were displayed to show draft proposals for structural solutions at the Strome Narrows:



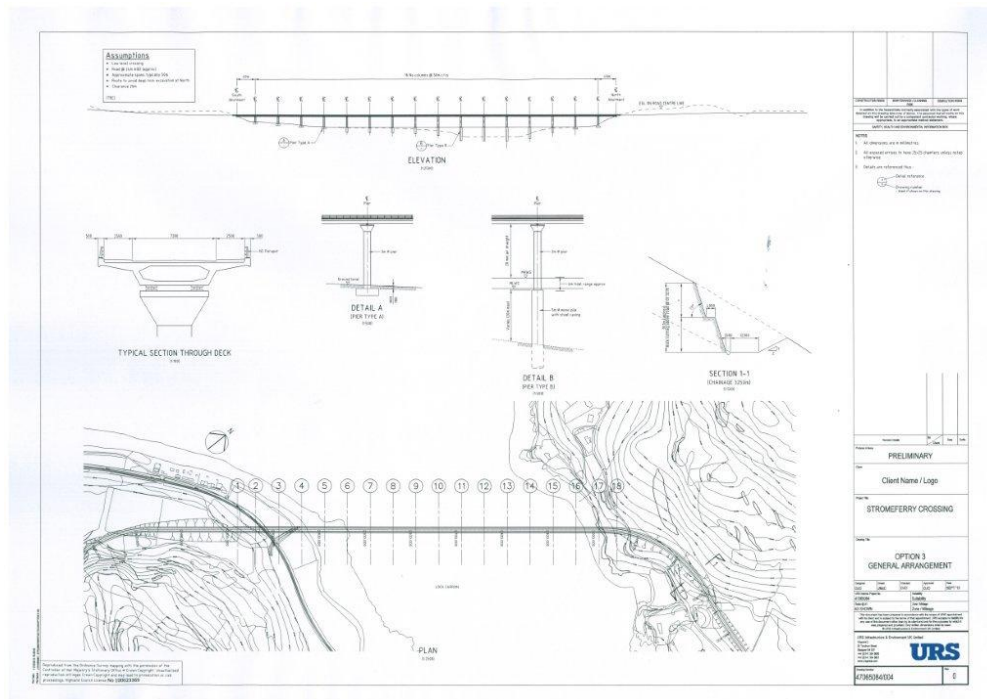
No.22

Cable stay bridge structure, similar in construction to the Kessock bridge, providing approximately 35m of clearance below the deck to Mean High Water Springs (MHWS), in comparison to 29.0m of the Skye and Kessock bridges.

This structure would be the most visually pleasing bridge solution considered for this location, but will be very costly and is therefore the least likely to be promoted for the purpose of this assessment.

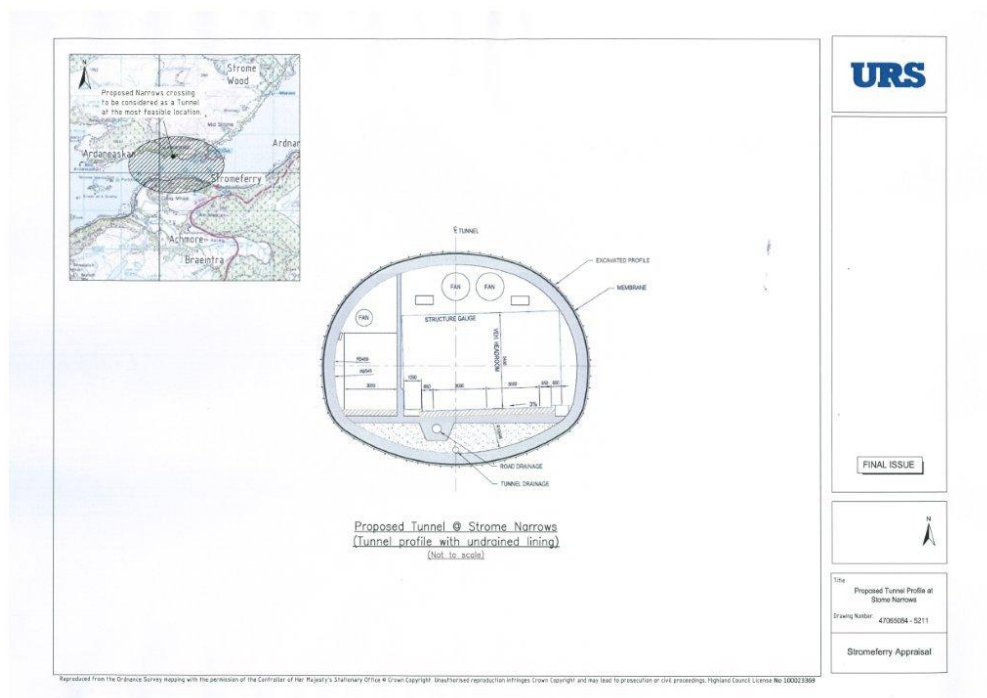
However, all proposed bridge crossings of the Narrows would impose a significant impact on the natural landscape and will be subject to detailed environmental assessment during the Stage 2 works.





No.23

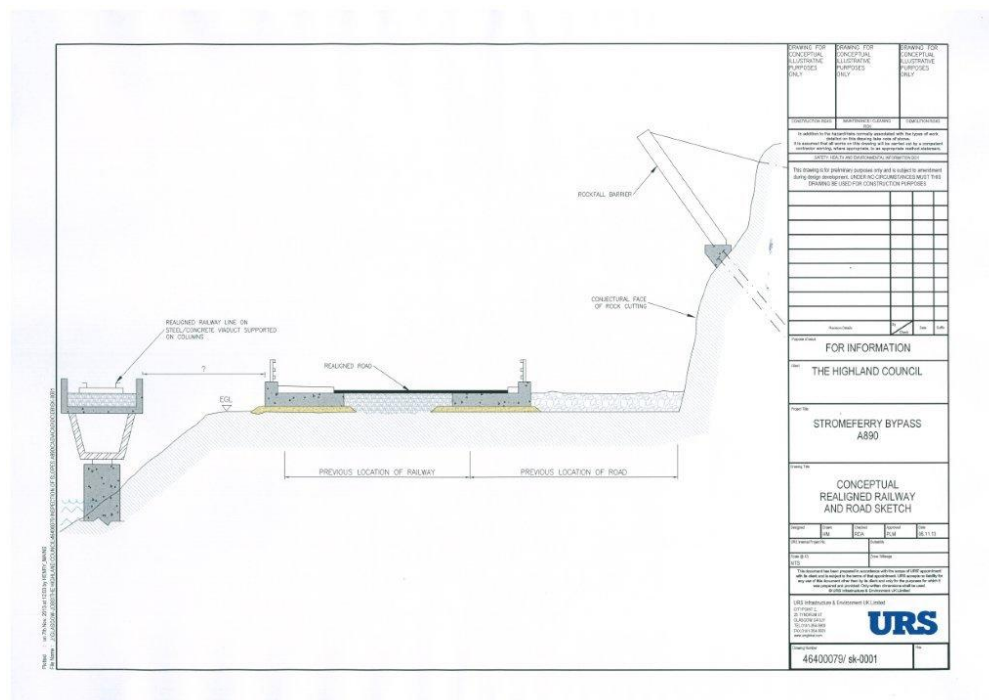
Concrete box structure, similar in dimension and construction to the Dornoch bridge. The structure is proposed to provide a clearance to MHWS of in between 20.0 and 23.0m.



No.24

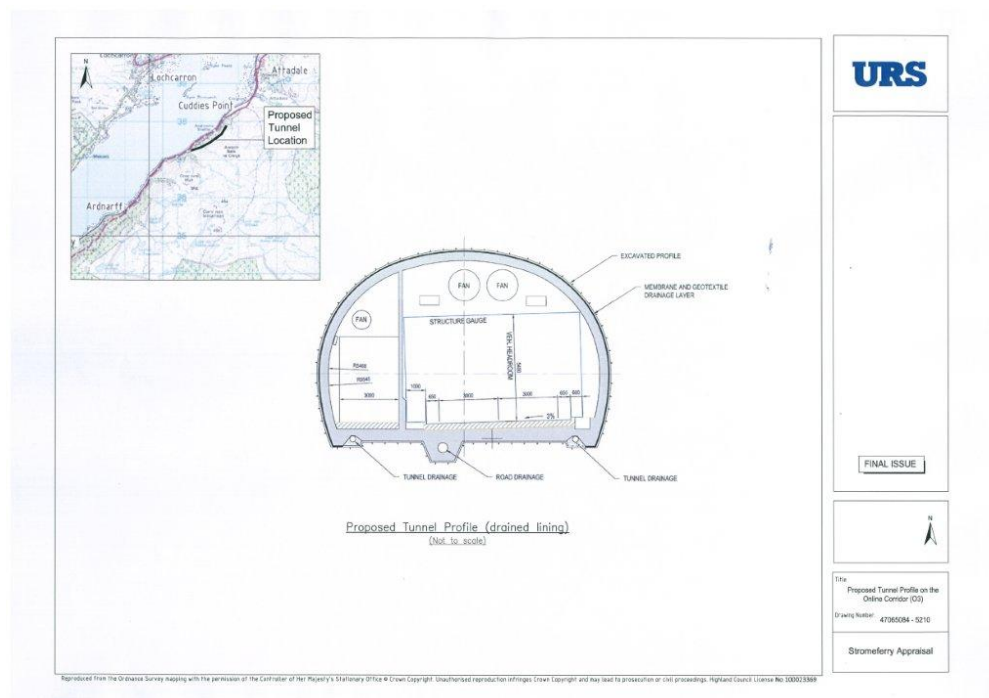
Proposed tunnel cross section for a submerged tunnel under the Strome Narrows. The tunnel would be approximately 2.70km long, with portals located on the south shore near Achmore and on the north shore at Stromemore. The carriageway would be approximately 30m below the bed level at the lowest point of the Narrows.

For on-line solutions, the following slides were displayed during the workshop:



No.25

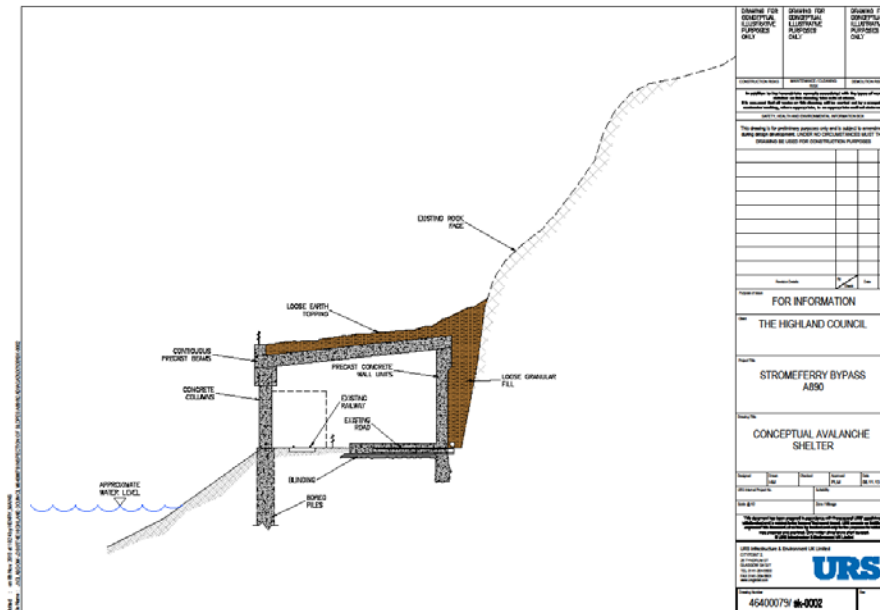
Draft proposals for the on-line 'Viaduct' solution (option O2), showing an amended proposal of moving the railway track onto a new structure above the loch, allowing widening of the road corridor on-line.



No 26

This is the proposed inland tunnel, on-line solution O3, proposed west of Cuddies Point over a

length of approximately 1.7km, to bypass the worst of the rock fall area.

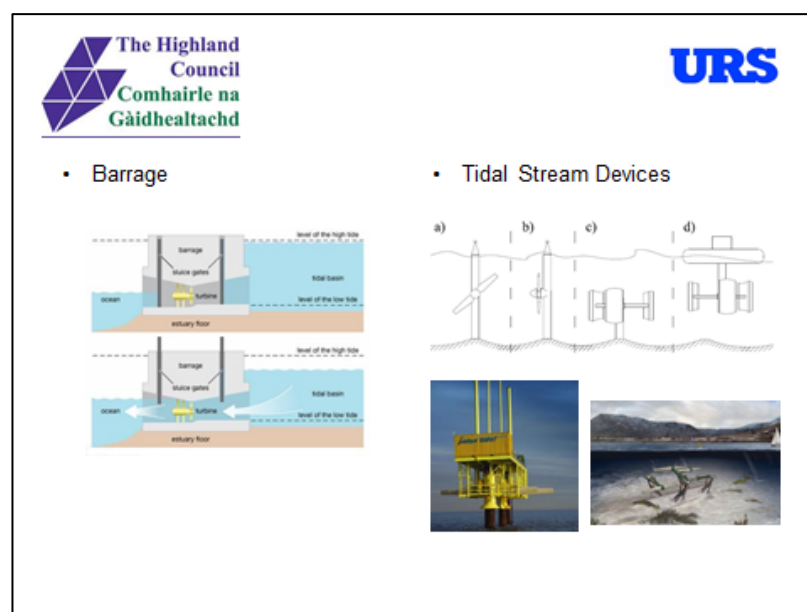


No. 27

The above drawing was displayed to provide an indication of an avalanche shelter, similar to the existing, but proposed to take a two-way carriageway, as previously proposed as on-line option O7.


### 2.3.3 Renewable Energy Solutions

Various tidal devices were initially assessed during Stage 1, to determine suitability of the Narrows as a location for tidal electricity generation in principle. As part of the Stage 2 assessment, a further detailed report has been compiled, to confirm the (economic) feasibility of tidal generation near Stromeferry. Devices considered were as follows:




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• Tidal Fence or Bridge

• Evaluation of Technologies

	Environmental Risk	Construction Risk	Technology Maturity Risk	Planning Risk	Generation Output	Cost
Tidal Storage						
TSD						
Tidal Fence						

Considered feasible	
Considered non-feasible	

No. 30

The renewable feasibility report will be one of the stand-alone reports that is produced as part of the Stage 2 assessment work.

The draft report is suggesting that a solution, which requires fixture to the seabed over the width of the Narrows like a barrage, is not recommended due to the environmental risk and high capital cost associated with it. It concludes that a device like a tidal fence is the most suitable solution, and could be added to a structure crossing the Narrows. However, this technology is fairly new and yet to be fully established, and therefore the risk of using a new technology, outweighs the benefits of a lower capital cost.

The recommendation therefore is likely to be that renewables are not considered at this stage, but could be re-visited in the future when technology has moved on.

#### 2.3.4 Contingency Measures

Colin Howell of The Highland Council provided an update on the contingency measures currently in place in relation to the A890 at Stromeferry.

As part of the on-going considerations for the A890 in case of a further rock-fall event, as well as the 'Do-Minimum' option considered in this appraisal, contingency measures are to ensure that effects to daily traffic flows can be kept to a minimum.

These measures include regular monitoring of the weather through weather stations installed at Ardnarff and Strathcarron, and continuous inspections of the rockfaces, which is to provide an early indication of any future failures, and would therefore allow a quick response.

In addition, The Highland Council are looking for a more permanent solution to provide a suitable vessel to establish ferry services at Stromeferry to maintain linkage in the event of road closures.

A third measure would include temporary road on rail solution, as previously used successfully at this location, to keep traffic flowing during temporary road closures, if required.

## 2.4 Scheme Budgets & Phasing

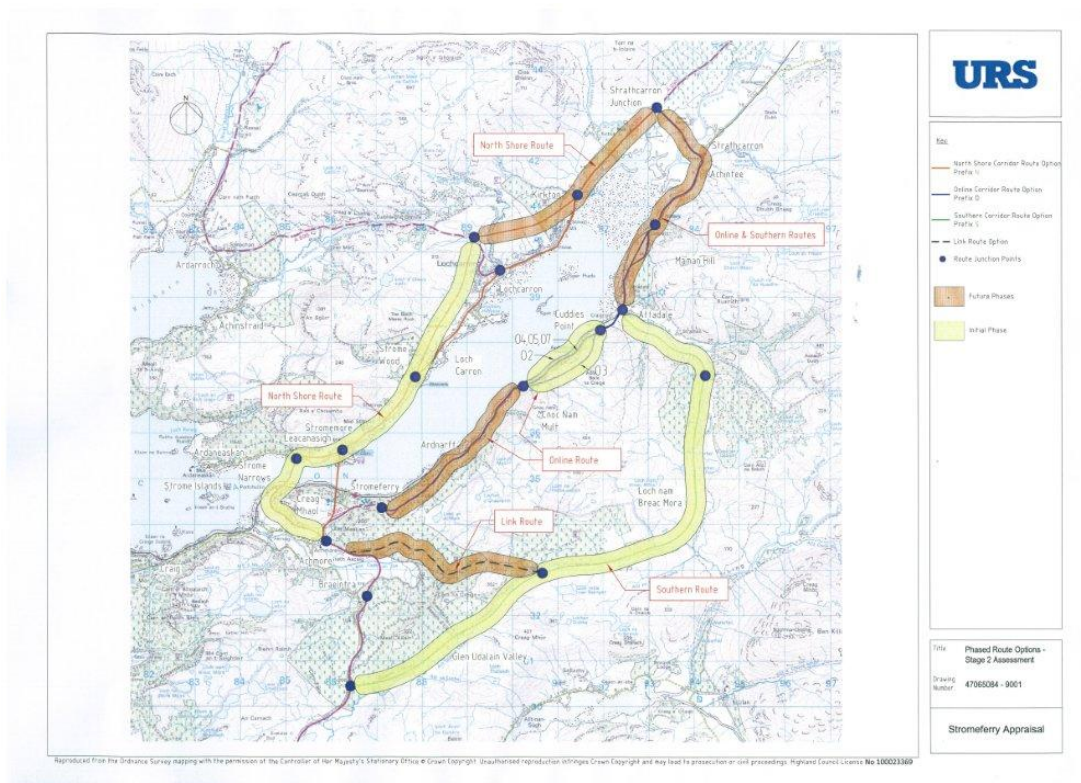
It has been recognized during the Stage 1 appraisal, that developing any of the three proposed route corridors will require finance that will stretch the currently available funding by The Highland Council. Affordability considerations have therefore resulted in the proposal to look at a phased delivery of the project, in order to spread the cost and make the initial phase more affordable.

### 2.4.1 Proposed Phasing of Route Options

A drawing, as indicated on slide No.35 below, was displayed during the workshop discussions, in order to demonstrate the outline proposals of a phased approach to the construction of route options.

Returning to the Project Objectives developed for this assessment, the main aim was to deal with or bypass the area of worst rock fall along the A890 just west of Cuddies' Point. Therefore, a first phase for either of the route options should consider the minimum of work required to deal with this problem area, in order to 'deliver a safe and reliable, 2 lane carriageway, by applying appropriate / proportionate design standards'.

The drawing below indicates the sections of route that were considered for the initial phase in yellow, and a second phase in orange. The aim would be to still deliver the whole route, but completion using a phased approach would be later than using a 'whole route' approach.



No.35

Concerns were voiced regarding The Highland Council's commitment to complete a route, once the initial phase was constructed, and the delay of overall completion. THC confirmed that the scope would remain to deliver the full route, but that budget constraints would also have to be taken into consideration, and later phases would be delivered when further funding

became available. The current 10-year Capital Program includes a budget of £10M in relation to Stromeferry.

In addition, further discussions were held at this stage during the workshop in relation to traffic generated by the Kishorn development. It was suggested, that the route section in between the A896 and Kirkton, currently proposed to be part of a second phase construction, should be included in the first phase. There was great concern to putting additional traffic through Lochcarron Village, and it was therefore agreed that the bypass of Lochcarron would include the 'eastern bypass' section, and that the drawing would be amended to reflect this in the phased approach.


Furthermore, it was also highlighted, that the eastern bypass and upgrade of the route between Kirkton and the Strathcarron Junction may be crucial for the development at Kishorn, and it was proposed by Stakeholders that this part of the route should be included as part of the works for any of the route proposals considered during this appraisal.

However, this was dismissed due to the fact that enabling the Kishorn development was not part of the brief for this Stromeferry Options Appraisal, which is primarily dealing with the rock fall problem along the A890. Kishorn access should be dealt with through the Authorities as part of the statutory approvals for the development of Kishorn Yard. It was however agreed, that the potentially increased traffic load, generated by a development at Kishorn, should be considered as part of the traffic network modeling during this (Stromeferry) assessment.


An update of the drawing shown in slide No.35 is included in Appendix C of this document, as agreed, for further comments.

#### 2.4.2 Scheme Costs based on phased approach

The Stage 1 report (table 5.11) provided a range of outline costs estimated in connection with each of the route options. Slide No.34 below, displayed during the Stakeholder workshop, shows an extract from this table for all routes emerging from the Stage 1 assessment and considered during the Stage 2 work.



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## Scheme Costs based on phased approach

ROUTE	OPTION DESCRIPTION	COST RANGE		RESOURCE BAND
		Lower	Upper	
N2 (bridge)	Route North N2 is an off-line route option considering a western bridge crossing of the Strone Narrows, and follows the route of the existing minor road along the northern shore of Loch Carron, upgraded to agreed design standards, including a partial western bypass of Lochcarron Village.	£60M	to £100M	A/D/C
N2b (tunnel)	Route North N2b is an off-line route option considering a western tunnel crossing of the Strone Narrows, and follows the route of the existing minor road along the northern shore of Loch Carron, upgraded to agreed design standards, including a partial western bypass of Lochcarron Village.	£60M	to £100M	D/C
N4	Route North N4 is an off-line route option originating at Kishorn, considering an eastern Strone Narrows crossing and following the route of the existing minor road along the northern shore of Loch Carron, upgraded to agreed design standards. This route remains on-line through Lochcarron Village.	£60M	to £100M	A/D/C
N6b	Route N6b takes the same alignment as described for N6 above. N6b considers an integrated renewable energy solution for the Narrows crossing.	£100M	to £200M	C/D
N9	Route N9 is an additional route option proposed to provide a full bypass of Lochcarron Village. This route is an off-line route option considering a western bridge crossing of the Strone Narrows, and follows the route of the existing minor road along the northern shore of Loch Carron, upgraded to agreed design standards.	£60M	to £100M	A/D
O2	Route On-line O2 considers on-line improvement of the existing cartage way and a local 1.6km bypass of the rock fall area west of Cuddie Point by means of a cantilevered structure along the shoreline.	£60M	to £140M	D/C
O3	Route On-line O3 considers on-line improvement of the existing cartage way and a local 1.6km bypass of the rock fall area west of Cuddie Point by means of a tunnel structure.	£70M	to £100M	D/C
O4	Route On-line O4 is the 'Do Minimum' scenario, with no proposed improvement to the existing route.	£20M	to £20M	A
O5	Route On-line O5 considers on-line improvement of the existing cartage way and a local 1.6km shared road / rail corridor west of Cuddie Point.	£10M	to £60M	A
O7	Route On-line O7 considers on-line improvement of the existing cartage way and a local 2.0km extended rock shelter west of Cuddie Point.	£70M	to £100M	D/C
S6	Route South S6 considers a principal southern off-line bypass route from the A890 through Glen Udalain and Gladdie valley, and on-line improvement of the existing A890 cartage way from Gladdie north.	£20M	to £20M	A
S Link	Considers a southern off-line bypass (link) route from A890 through Glen Udalain and Gladdie valley, and on-line improvement of the existing A890 cartage way from Gladdie north.	£20M	to £60M	A

No.34

The range of costs was to represent a phased approach, with the lower range indicative phase 1 costs, and the upper range the estimated whole route costs between the Strathcarron Junction and the tie-in of the respective route option with the existing A890 south of Stromeferry. However these costs were indicative only, as no allowances for inflation etc were made for delivery of the whole route later than the completion of the first phase.

## 2.5 Consultations

Various parties were consulted further during Stage 2 of the Stromeferry Options Appraisal work. These were, amongst others, in relation to:

- Bridge Clearance requirements;
- Network Rail requirements;
- Tunnel proposals;
- Landowners;
- Environmental Consultees.

A brief update on the above consultations was provided to Stakeholders during the workshop.

### 2.5.1 *Bridge Clearance*

In order to ensure that any structures considered for the Strome Narrows at this outline design stage are feasible, the proposed clearances to be provided by such structures to provide adequate navigational spaces below the bridge need to, within reason, cover the requirements of the users of Loch Carron.

Therefore, various parties were consulted to check the navigational requirements for the Strome Narrows, and the findings discussed with the THC Chief Structures Engineer, to agree on the dimensions to be used.

As a result of the above process, a range of vertical clearances, from 20.0m to 35.0m above Mean High Water Springs (recorded high water tables for the location) were considered. It was agreed that the structure providing the most economical solution in relation to construction costs would be adopted at this stage, which will be a bridge similar to the structure shown on slide No. 23, providing a clearance of approximately 20m.

### 2.5.2 *Network Rail*

Network Rail have been one of the Stakeholders in relation to this options appraisal from the on-set, and therefore consultation has been ongoing since December 2012. More recently, further meetings have been held to discuss Network Rail requirements in relation to the structural solutions proposed for the on-line corridor, as displayed earlier during the workshop.

Relationship to the Network Rail engineers is good and feedback has been encouraging so far.

It has been confirmed at various occasions that the railway line between Strathcarron and Kyle is to remain, and there are no future plans to close the line.

The railway operator, First Group (Scotrail), have not been consulted separately, but have also been one of the Statutory Stakeholders for this project.

### 2.5.3 *Tunnel Proposals*

Two tunnel proposals are included as part of the North Shore and On-Line route options for this project. Indicative tunnel cross sections, providing a two-way carriageway, as well as a separate enclosed walkway over the full length of the tunnel, had been developed during the Stage 1 works.

These cross sections were further assessed and confirmed, in consultation with THC, to be appropriate for use as part of this appraisal. The proposed cross sections are in keeping with the requirements of current UK design standards for tunnel construction and have therefore been adopted for this project, in particular to ensure the safe long-term use and operation of a tunnel, should this become the emerging option at the outcome from this appraisal.

### 2.5.4 *Landownership*

Detailed consultation will be carried out to ascertain all landownership following selection of the preferred route. There are two estates, Attadale and Lochcarron, as well as the Forestry Commission, who own large parcels of land within the considered route corridors. The proposed route options have been discussed with these landowners and a working relationship has been developed with all three.

### 2.5.5 *Environmental Consultees*

As part of both the Stage 1 and Stage 2 appraisals, statutory authorities have been consulted and been invited to join the Stakeholder groups, as well as commenting on the route proposals in further detail.

More in-depth consultation has been held with SNH and SEPA regarding their requirements, in particular where greenfield routes (routes that run through currently undeveloped land) are concerned. These discussions are currently on-going, with details of site walk-over surveys etc having been made available to the consultees, where requested.

### 3 NEXT STEPS

#### 3.1 Ongoing Consultation

Consultations, as outlined in the foregoing chapter, are still ongoing at present, and are to inform the Stage 2 report findings.

#### 3.2 Public Exhibitions

Public exhibitions to present the findings of the Stage 2 appraisal work, in a non-technical manner, will be held in two locations in the Loch Carron area during March 2014. Likely locations are the Lochcarron Village and the Stromeferry & Achmore village halls, details are to be confirmed early in 2014.

URS will liaise with the local Community Councils to confirm suitable locations and times for the exhibitions. It was also suggested that the exhibition should include a presentation of the appraisals and findings, which may be held at various times during the days of the exhibitions.

Queries were raised with regards to how developed the 9 No. Stage 1 emerging route options appraisal will be by then. The engineering, environmental and economic appraisals will be concluded by March, and therefore these findings, together with an indication for an emerging route option, will be displayed at the exhibitions.

#### 3.3 Stakeholder Workshop

A further Stakeholder workshop will be held during April / May 2014, to summarise the appraisal findings and report on feedback from the public exhibitions.

#### 3.4 Draft Stage 2 Report

It is proposed to issue a draft Stage 2 report, as well as the STAG Part 2 and complimentary reports for the environmental assessment, tunnel considerations, and renewables in draft format to The Highland Council in May / June 2014, for their consideration and comments.

#### 3.5 Final Stage 2 Report

The final reports prepared during Stage 2, which will propose one emerging route option to be taken forward to detailed design stage in the future, are proposed to be issued in July 2014.

The final reports, once approved, will be made available to the public via THC website, as previously.

#### 3.6 The Highland Council Committee Meeting

The findings of the Stage 2 / Part 2 appraisal will be presented to the Highland Council Committee in August 2014. The Committee will assess the findings of the appraisal with the intention of selecting their preferred route.

Once approved by the Committee, the selected route option will be taken into the next stages of the process.



## **4 OTHER BUSINESS**

### **4.1 Kishorn Yard Development**

During the workshop discussions, it was re-iterated how important the Kishorn Yard development is for the local area. The development has now received Planning Permissions for the erection of additional accommodation, as well as an extension to the yard (both permissions issued on the 1<sup>st</sup> of November 2013).

URS are to check if Planning Conditions have been applied in relation to transport, and assess bearing on assessments (economy and traffic) in relation to this Stromeferry Appraisal.

It was agreed that the Kishorn development would benefit from any of the currently proposed route options, as all would provide an upgraded and more reliable access to and from the yard towards the south. It was stated that the Kishorn development, although to be accessed heavily from the water, would also greatly depend on an adequate road network.

The current assumption is that the Kishorn Yard will be developed. As Planning Permissions have been granted, the generated traffic from the yard will have an influence on the traffic modeling and scheme economics of the Stromeferry appraisal. It is however not expected that this additional traffic will influence route selection and at this time no additional routing or upgrading is being considered.

## **Appendix A**

### **Workshop Attendance Register & Stakeholder List**





# Stromeferry Options Appraisal Joint Stakeholder Workshop

11<sup>th</sup> November 2013


## Workshop Register

Name	Company	Contact Details
JAMES MOULA	LAPBA	JAMES.MOULA@BTINTERNET.COM
COUN HANCO	THC	-
GARRY SMITH	THC	
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ALASDAIR MACLEOD	APPLGROSS CL	fisherap@btinternet.com
Kristine MacKenzie		
Anke Goulder	URS	
David Taylor	URS	

STAKEHOLDER LIST				
Ref.	Group		Stakeholder	
1	Statutory Stakeholders		Marine Scotland	
2			Network Rail	
3			First Scotrail	
4			Transport Scotland	
5			Highlands & Islands Enterprise	
6			The Highland Council – Ward Manager	
7			The Highland Council - Planning	
8			Scottish Environment Protection Agency	
9			Scottish Natural Heritage	
10			Historic Scotland	
11			National Trust for Scotland	
12	Economic Stakeholders		The Highland Council – Ward Manager	
13			The Highland Council - Transport	
14			The Highland Council – Planning (local)	
15			The Highland Council – TEC Services	
16			Highland Councillors	
17			Highlands & Islands Enterprise	
18			Forestry Commission Scotland	
19			Plockton Community Council	
20			Stromeferry & Achmore Community Council	
21			Lochcarron Community Council	
22			Applecross Community Council	
23			Lochcarron and District Business Association	
24			Kirkton Woodland & Heritage Group	

## **Appendix B**

### **Workshop Agenda**



## Agenda

<b>Subject</b>	<b>Stromeferry Option Appraisal - Joint Stakeholder Meeting</b>		
<b>Date</b>	11th November 2013	<b>Time</b>	10:30am
<b>Place</b>	Loch Carron Hotel		

### 1. Progress since Delivery of Stage 1 Report:

- **Stage 2 Assessment Process**
  - STAG
  - DMRB
  - Project Objectives
  - Nomenclature
- **Surveys**
  - Topographical
  - Environmental
  - Geotechnical
  - Business
  - Traffic (O&D)
- **Engineering Challenges**
  - **Route Alignments**
    - Assessment of steep road sections
    - Assessment of Strome Narrows approaches
    - Strome to Strome Wood
  - **Structural Solutions**
    - Major Structures (bridges & tunnels)
    - On-line solutions (viaduct, tunnel)
  - **Renewable Energy Options**
    - Renewable Energy Generation at the Strome Narrows
  - **Contingency Measures**
    - Ferry Options
    - Rock Slope Maintenance
- **Scheme Budgets & Phasing**
  - Proposed Phasing of Route Options Drawing
  - Scheme Costs based on phased approach
- **Consultations**
  - Bridge Clearance Requirements
  - Network Rail



- 
- Landowners
  - Environmental Consultees

## **2. Next Steps**

- Ongoing Consultation
- Public Exhibitions (Plockton/Achmore & Lochcarron)  
March 2014
- Stakeholder Workshop April/May 2014
- Draft Stage 2 Report May/June 2014
- Final Stage 2 Report July 2014
- THC Committee August 2014, Selection of Preferred Route

## **3. Other Business**

## **Appendix C**

### **Transport Planning Objectives**

**(Grouped and re-numbered as discussed during the Stakeholder Workshop.**

**Stakeholders are asked to return comments on this table)**

TRANSPORT PLANNING OBJECTIVES		NOVEMBER 2013				
		Grouping under Appraisal Criteria				
Ref.	Objectives	Safety	Economy	Environment	Integration	Accessibility
1	Deliver a safe and reliable, 2 lane carriageway, by applying appropriate / proportionate design standards					
2	Minimise <b>all risk</b> during design, construction, operation and maintenance (with reference to Risk Register)					
3	Ensure deliverability of scheme within programme and to agreed capital cost and maintenance budgets, thus providing 'Value for Money'					
4	Solution reduces, or does not increase, the risk to and liability of the railway and maintains suitable access over the life of the scheme					
5	Deliver a scheme that assists both the local businesses to maximise opportunities for sustainable development and economic growth over the life of the scheme					
6	Safeguard and, where possible and appropriate, enhance and provide access to the natural and built environment and areas of national, regional and local importance and heritage, during construction, maintenance and operation of the scheme (with reference to environmental appraisal)					
7	Scheme to take account of relevant local, regional and national planning policies (during the design stage)					
8	Keep the A 890 and peripheral road network open during construction					
9	Maintain and improve choice of transport mode and integration of public transport links over the lifetime of the scheme					
10	Maintain and improve local social cohesion by improving accessibility for emergency services responding to call-outs, as well as for the local population making use of local and regional leisure, health and educational facilities					
11	Maximise / improve network efficiency, sustainable connectivity and social cohesion in terms of journey times and journey reliability in the Wester Ross area					

## **Appendix D**

### **Proposed Phasing of Route Options**

(Drawing amended based on comments received and further appraisal work since the November Workshop.

Stakeholders are to return comments on this drawing)





