

## **17 Schedule of Environmental Commitments**

### **17.1 Introduction**

- 17.1.1 As described throughout this Environmental Impact Assessment (EIA) Report, the design of the proposed scheme has been progressed taking account of identified environmental constraints and considerations, enabling avoidance or reduction of potential environmental impacts where practicable. This chapter summarises the additional mitigation measures identified in the EIA Report, which are considered necessary to avoid; reduce; or offset potential impacts.
- 17.1.2 The purpose of the following Schedule of Environmental Commitments is to collate mitigation measures, both for ease of reference and for use by the Contractor. These mitigation measures are those identified within Chapters 6 to 15 of this EIA Report (Table 17.2 to 17.10), as well as six overarching mitigation items (Table 17.1). A description and purpose of each mitigation item is given. The tables also state the party responsible for implementation, whether consultation or approval with a consultee is required, and monitoring or compliance requirements.
- 17.1.3 The timing of mitigation varies and may be a design requirement, or implemented prior to construction, during construction and/or during operation of the proposed scheme. The stated mitigation measures have been identified through the EIA process, and whilst some of these are also necessary to achieve separate legislative compliance (e.g. protected species licences), they are included as they still encompass mitigation commitments of this EIA Report.
- 17.1.4 Further mitigation measures and commitments identified during the scoping and consultation process as described in Chapter 5 (Consultation and Scoping) are outlined in Table 17.11 and 17.12.

**Table 17.1: Standard Mitigation**

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
SM1	Contractor	Pre-construction & Construction	<p>A Construction Environment Management Plan (CEMP) will be developed in accordance with DMRB LA 120 'Environmental management plans' by the Contractor to provide a framework for the implementation of construction activities, setting out how the Contractor intends to operate the construction site, including construction related mitigation measures identified below in Tables 17.2 to 17.12. The relevant sections of the CEMP will be in place prior to the start of construction work and the CEMP will continue to be developed throughout the construction process to avoid, reduce or mitigate construction impacts on the environment and the surrounding community.</p> <p>The CEMP will include but not be limited to, subsidiary plans relation to: geology and land contamination, surface water and groundwater (including a Flood and Tidal Response Plan); ecology (Ecological Management Plan which will include specific Species Protection Plans and a Saltmarsh Management Plan), cultural heritage, air quality (e.g. dust), noise and vibration, and landscape (Site Restoration Plan).</p>	To provide a framework for the implementation of construction activities in accordance with the environmental commitments and mitigation measures in the EIA Report.	Consultation with the relevant local authorities, other statutory bodies and regulatory authorities (Refer to Tables 17.2 to 17.12).	Employer's Requirements in the Contract.
SM2	Contractor	Pre-construction & Construction	<p>Prior to construction, a team of suitably qualified Environmental Clerk of Works (EnvCoW) (i.e professionally qualified in a relevant environmental discipline) will be appointed by the Contractor.</p> <p>The EnvCoW(s) will be present on site, as required, during the construction period to monitor the implementation of the mitigation measures identified and ensure that activities are carried out in such a manner to prevent or reduce impacts on the environment.</p>	To monitor the implementation of mitigation measures identified and ensure that activities are carried out in such a manner to prevent or reduce impacts on the environment.	Approval by Transport Scotland.	Employer's Requirements in the Contract.
SM3	Contractor	Pre-construction & Construction	Throughout the construction period the Contractor will, as required, contribute towards the overall communications strategy for the proposed scheme to ensure that consultees and members of the public are kept informed on the	To ensure that consultees and members of the public are kept informed on the progress of the proposed scheme and to	Approval by Transport Scotland.	Employer's Requirements in Contract.

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			<p>progress of the proposed scheme and to efficiently address any queries or concerns raised.</p> <p>As part of this the Contractor will appoint a Community Liaison Officer who will:</p> <ul style="list-style-type: none"> <li>• Liaise with the relevant local authorities; other statutory bodies and regulatory authorities; relevant community groups; and businesses and residents in local communities affected by the construction works;</li> <li>• Notify occupiers of nearby properties of the nature and anticipated duration of planned construction works that may affect them;</li> <li>• Support the production of project communications;</li> <li>• Establish a dedicated freephone telephone helpline together with a dedicated email address and postal address for enquiries and complaints during the construction phase. The relevant contact numbers, email and postal addresses will as a minimum be displayed on signs around the construction site and will be published on the project website. Enquiries and complaints will be logged in a register and appropriate action will be taken in response to any complaints.</li> </ul>	efficiently address any queries or concerns raised.		
SM4	Contractor	Pre-construction & Construction	The Contractor will ensure that all site workers receive adequate training relevant to their role prior to working on the construction site, including specific environmental project inductions and 'toolbox talks' as required.	To ensure site workers are aware of best practice construction methods, mitigation measures how they are implemented.	None required.	N/A
SM5	Contractor	Pre-construction	<p>Design changes will be subject to environmental review to ensure that:</p> <ul style="list-style-type: none"> <li>• there are no new residual significant adverse effects; and/or</li> <li>• the significance levels of residual significant effects are not greater than those reported in this EIA Report.</li> </ul> <p>If environmental review found that any future changes to the design resulted in either of the above, an addendum to the EIA Report, or a new EIA Report, would need to be published</p>	To ensure that the Contractor's design is implemented in compliance with the Roads EIA Regulations.	Approval by Transport Scotland.	Employer's Requirements in Contract.

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			for public consultation and comment in order to comply with the Roads EIA Regulations. As these Regulations require the consideration and reporting of significant effects prior to consent decisions from the Scottish Ministers.			
SM6	Contractor	Construction	Construction work would take place within the limit of the land made available (LMA) to the appointed Contractor as defined within the contract documents. The appointed Contractor may wish to utilise other areas of land outwith the LMA. In such an instance, the appointed Contractor would have to secure the use of these areas by agreement and through separate planning applications or other consents, where appropriate.	To ensure that the construction of the proposed scheme is undertaken within the land made available to the Contractor.	Landowner and relevant stakeholder approval (if required).	Employer's Requirements in Contract.

Table 17.2: Geology, Soils, and Groundwater

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
G1	Contractor	Construction	The Contractor shall develop a Soil Management Plan prior to construction, for implementation during construction, with cognisance of the requirements identified in relation to organic rich/peaty saltings under Falkirk Local Development Plan 2 (LDP2) Place and Environment Policy PE25 (Soils and Agricultural Land) (Falkirk Council 2018), the 'Scottish Soil Framework' (Scottish Government 2009) and other voluntary or industry regulated Codes of Practice, including 'Promoting the Sustainable Reuse of Greenfield Soils in Construction' (SEPA 2010), the 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' (Defra 2009). This shall include consideration of the selection of appropriate construction methodologies to limit the areas and volume of saltings to be disturbed and/or excavated to a minimum during construction to limit the impact upon the	To comply with relevant waste management practices under The Waste Management Licensing (Scotland) Regulations 2011 and reduce impacts on rare soils of potential national interest.	Consultation with Falkirk Council and SEPA	Ongoing monitoring of compliance throughout works via implementation of Management Plans as specified in Employer's Requirements in the Contract documents.

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			deposits. In addition, whilst not directly relevant to saltings, guidance provided in the publication 'Development on Peatland: Guidance on the Assessment of Peat Volumes, Reuse of Excavated Peat and the Minimisation of Waste' (Scottish Renewables and SEPA 2012) shall be adopted where appropriate.			
G2	Transport Scotland and Contractor	Construction	Consultation has been undertaken with the relevant local authorities and SEPA (as necessary) regarding works in relation to land affected by contamination to support the obligations set out in 'Planning Advice Note 33: Development of Contaminated Land' (Scottish Government 2000) if and where relevant. No remediation requirement has been identified, however should unforeseen contamination be identified during construction, any remedial action will be carried out under the appropriate remediation licencing.	To reduce impacts from contaminated land sources.	Consultation with Falkirk Council and SEPA as required.	Consultation requirements to be included as a contract requirement as necessary.
G3	Contractor	Pre-construction and Construction	Prior to construction, appropriate health and safety and waste management procedures for working with potentially contaminated soils (including asbestos) and water will be established. In respect of potential risks to construction workers associated with the presence of asbestos fibres and dust, it is recommended that the Contractor should produce the necessary risk assessments for construction within potentially asbestos contaminated ground, and develop appropriate method statements and procedures to manage the potential risks in line with CL:AIRE publication 'Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials' (CL:AIRE 2016).Waste management procedures will take account of inter alia Waste Management Licence (Scotland) Regulations 2011 (as amended by the Waste Management Licensing (Scotland) Amendment Regulations 2016) and the HSE Approved Code of Practice for managing and working with asbestos (L143) (HSE 2013). These procedures will be implemented as appropriate during construction.	To ensure appropriate health and safety and waste management procedures for working with potentially contaminated soils are followed.	None required	Employers Regulations and/or specification

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
G4	Contractor	Construction and Post-construction / Operation	Risks to construction, demolition and maintenance staff working with/near contaminated land will be mitigated by the implementation of the above in combination with the adoption of appropriate systems of work, including personal protective equipment (PPE) as a last resort. In the event that unrecorded contamination is encountered, works should be stopped and the working procedures reassessed to confirm the working methods remain appropriate. An appropriate response procedure should be developed in the event that unexpected asbestos contamination is identified during construction works in accordance with requirements of the Control of Asbestos Regulations (CL:AIRE 2016) and the HSE Approved Code of Practice for managing and working with asbestos (L143) (HSE 2013).	To reduce impacts from contaminated land sources and confirm the safety of construction and maintenance staff.	None required	Employers Regulations and/or specification
G5	Contractor	Construction	A watching brief to be implemented to identify potential presence of previously unidentified contamination. Personnel appointed by the Contractor to be appropriately trained if involved in earthworks activities.	To identify potential presence of previously unidentified contamination	None required	Employers Regulations and/or specification
G6	Contractor	Construction	To prevent cross contamination and pollution from piling works undertaken in areas of land affected by contamination, the Contractor will develop a Piling Risk Assessment and adhere to appropriate guidance including the 'Piling and Penetrative Ground Improvement Methods on Land Affected by Contamination: Guidance on Pollution Prevention, National Groundwater and Contaminated Land Centre Report NC/99/77'	To prevent cross contamination and pollution from piling works undertaken in areas of land affected by contamination.	None required	Employers Regulations and/or specification
G7	Contractor	Pre-construction and Construction	To maximise the reuse of site-won materials on-site (and minimise the need for disposal of waste in line with the principles of the "Waste Hierarchy") whilst ensuring that no risks are posed to human health nor the water environment, a soil reuse assessment will be undertaken prior to construction. The soil reuse assessment will identify any potential risks posed to both human health and the water environment from potentially contaminated soils reused throughout the scheme.	To identify any potential risks posed to human health and the water environment. In addition, this mitigation item would maximise re-use of site-won materials on-site and minimise the need for disposal of waste in line with the principles of the "Waste Hierarchy" through re-	None required	Employers Regulations and/or specification

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
				use of excavation arisings (refer to Mitigation Item M&W3)		
G8	Contractor	Construction	If excavated soils are deemed unsuitable or not required for onsite reuse they should be initially considered for offsite reuse or recycling (in accordance with Waste Management Licensing requirements). If destined for offsite disposal they will be assessed in line with the 'Waste Classification: Guidance on the Classification and Assessment of Waste' (Technical Guidance WM3) (Natural Resources Wales, SEPA, Northern Ireland Environment Agency, Environment Agency 2015) prior to disposal to determine whether they are hazardous or non-hazardous. This will establish the most appropriate and cost-effective waste stream for the waste materials	To determine whether disposed soils are hazardous or non-hazardous.	None required	Employers Regulations and/or specification
G9	Contractor	Pre-construction and Construction	Given the presence of made ground, organic rich/peaty saltings and underlying coal seams there is potential for the localised generation of methane and/or carbon dioxide which may warrant further consideration should below ground or confined space working be required. Appropriate working methods cognisant of potential ground gas risks will be required to be developed and adopted by the Contractor during below ground site construction works including excavations and piling. It is recommended that this should include as a minimum, gas monitoring undertaken prior to any entry into excavations, confined spaces or below ground structures and use of personal gas monitors and personal protective equipment (PPE) (including respiratory protective equipment (RPE)) as a last resort. The implications of encountering pockets of ground gas should also be considered during piling risk assessments for the proposed scheme.	To mitigate against potential impacts on human health due to ground gas.	None required	Employers Regulations and/or specification
G10	Contractor	Pre-construction and Construction	The potential volume of groundwater drainage would be considered in the context of potential groundwater abstraction CAR licences prior to works commencing. This	Compliance with CAR licensing to protect the water environment.	Approval required from SEPA	None expected once approval granted

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			would be done using all available Ground Investigation (GI) data			
G11	Contractor	Construction	Storage of excavated soils and made ground will be minimised on site (spatially and in duration) and all storage areas will be appropriately lined, with adequate drainage management in place. This is to ensure that no polluted water percolates into the ground or contaminated run-off is generated.	To ensure that no polluted water percolates into the ground or contaminated runoff is generated.	None required	Ongoing monitoring of compliance throughout works and ensuring site is restored upon completion via contract requirements

**Table 17.3: Road Drainage and the Water Environment**

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
W1	Contractor	Pre-Construction and Construction	<p>To mitigate the potential significant effects from flood risk during construction, a Flood and Tidal Response Plan will be developed by the Contractor which will include:</p> <ul style="list-style-type: none"> <li>Detail on expected tidal levels, nature and timings during the construction phase;</li> <li>Inundation protection of construction activities located within the intertidal zone and 10% Annual Exceedance Probability (AEP) (10-year) flood extent (where appropriate). Inundation protection for temporary works should be provided up to the 10% AEP (10-year) flood level in line with CIRIA C648 (CIRIA 2006a);</li> <li>Use of Met Office construction specific forecasting services and SEPA's Floodline Scotland to predict adverse weather and tidal conditions;</li> <li>Systems and protocols to follow in the event of adverse weather and tidal conditions including evacuation plans;</li> </ul>	Prevent flood incidents during construction	Plans will be linked to Environmental Management Plan (EMP) and Construction Site Licence (CSL) (if required) so will need approval by SEPA.	<p>Duties and responsibilities of hired EnvCoW may include monitoring implementation of Flood and Tidal Response Plan.</p> <p>Site visits from SEPA staff will likely check compliance</p> <p>Requirement for EnvCoW supervision will be included as an Employer's Requirement in Contract.</p>



Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			<ul style="list-style-type: none"> <li>Programming and phasing of works to reflect the intertidal conditions and time when land-based plant will likely be unavailable for work; and</li> <li>Erosion protection measures for temporary works and structures located within the intertidal zone and 10% AEP flood extent (where appropriate).</li> </ul>			
W2	Contractor	Pre-construction and Construction	Compliance with the conditions of the Marine licence, CSL (if required) and any CAR authorisation (if required).	Good practical guidance followed during design, construction and post-construction	CAR Licence approval for new or changes to existing engineering structures by SEPA (if required)	Duties and responsibilities of hired Environmental Clerk of Works (EnvCoW) may include monitoring of CAR licence compliance. Site visits from SEPA staff will likely check compliance. Requirement for EnvCoW supervision will be included as an Employer's Requirement in Contract.
W3	Contractor	Pre-construction and Construction	<p>To mitigate the potentially significant effects on water quality during the construction phase, a Pollution Prevention Plan (PPP) will be developed by the Contractor, which will include:</p> <ul style="list-style-type: none"> <li>A Pollution Incident Response Plan for all on-site activities including specific measures for intertidal works and spillage response procedures.</li> <li>Spillage kits to be stored at key locations on site and an appropriate temporary boom (such as a shore sealing boom) to be implemented in the case of a pollution event.</li> <li>Minimisation of disturbance of potentially contaminated estuarine sediments, for example through the use of</li> </ul>	Prevent pollution incidents during construction	PPP proposals will be linked to EMP and CSL (if required) so will need approval by SEPA	Duties and responsibilities of hired EnvCoW may include monitoring implementation of PPP. Site visits from SEPA staff will likely check compliance. Requirement for EnvCoW supervision will be included as an

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			<p>floating track and minimising the extent of temporary work areas.</p> <ul style="list-style-type: none"> <li>Isolation of any works in the intertidal zone that are intended to continue to operate during high tide, likely using a raised platform.</li> <li>Details of appropriate collection of water within excavations or isolated work areas and delivery to treatment facilities as per <b>Mitigation Item W4</b>.</li> <li>Rehabilitation of disturbed ground in line with the Saltmarsh Management Plan (described in <b>Mitigation Item W12</b>) as soon as possible after the work has been completed to reduce the risk of erosion and mobilisation of contaminants.</li> <li>Plans showing the storage of fuels, chemicals, oils, concrete washes, water storage and treatment systems and any other potentially polluting materials outside of the intertidal zone and 10% AEP flood extent.</li> <li>Plans showing the storage of fuels, chemicals, oils, concrete washes, water storage and treatment systems and any other potentially polluting materials at least 10m from any drainage channel, saltmarsh creek or intertidal area, where practicable.</li> </ul>			Employer's Requirement in Contract.
<b>W4</b>	Contractor	Pre-construction and Construction	<p>A detailed site run-off construction drainage design should be developed by the Contractor. This should comprise a closed-loop system, to ensure run-off or spillages do not enter the inter-tidal habitat surrounding the site, and should pump any collected water within excavations or isolated works to appropriate treatment facilities (likely comprising a proprietary treatment system and dosing system and supporting header tanks to store excess capacity). Water discharged from treatment facilities must be of an acceptable quality, in line with General Binding Rule (GBR) 10 (Scottish Government 2017b) and should the Contractor propose to discharge to the Firth of Forth SEPA must be</p>	Prevent pollution incidents during construction	Proposals will be linked to PPP, EMP and CSL (if required) so will need approval by SEPA.	<p>Duties and responsibilities of hired EnvCoW may include monitoring of water quality of discharge.</p> <p>Requirement for EnvCoW supervision will be included as an Employer's Requirement in Contract.</p>

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			satisfied that an appropriate discharge quality has been achieved.			
W5	Contractor	Pre-construction and Construction	<p>Adherence to SEPA's Guidance for Pollution Prevention (GPPs) and CIRIA's Coastal and Marine Environmental Site Guide (C744) and Environmental good practice on site guide (C741). Appropriate measures will include, but may not be limited to:</p> <ul style="list-style-type: none"> <li>avoiding unnecessary stockpiling of materials and exposure of bare surfaces;</li> <li>use of an appropriate grade of material on temporary surfaces that will be clean and will be durable under heavy trafficking;</li> <li>maintenance and regrading of temporary surfaces where issues are encountered with the breakdown of the existing surface and generation of fine sediment; and</li> <li>provision of wheel washes at appropriate locations (in terms of proposed construction activities) and &gt;10m from water features where practicable.</li> </ul>	To protect the water environment and ecology.	None required	<p>Duties and responsibilities of hired EnvCoW may include monitoring implementation of good practice guidance.</p> <p>Requirement for EnvCoW supervision will be included as an Employer's Requirement in Contract.</p>
W6	Contractor	Pre-construction and Construction	<p>Installation of temporary treatment facilities to protect water quality and promote flow attenuation during construction following CIRIA's guidance including C648 (CIRIA 2006a) and C744 (CIRIA 2015c) and compliance with GBR 10 of The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) (CAR).</p>	Prevent sediment laden runoff discharging from site	None required	<p>Duties and responsibilities of hired EnvCoW may include monitoring this aspect of construction.</p> <p>Requirement for EnvCoW supervision will be included as an Employer's Requirement in Contract.</p>
W7	Contractor	Pre-construction and Construction	<p>Preparation of a Construction Environmental Management Plan (CEMP) prior to commencement of works.</p>	To provide a framework for the implementation of construction activities in accordance with the environmental commitments	None required	<p>Duties and responsibilities of hired EnvCoW may include monitoring</p>

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				and mitigation measures in the EIA Report. It will be developed and evolve to avoid, reduce or mitigate construction impacts on the environment and the surrounding community.		implementation of the CEMP. Requirement for CEMP and EnvCoW supervision will be included as an Employer's Requirement in Contract.
W8	Contractor	Pre-construction and Construction	Compliance of any chemicals, fuel and oil storage required under CAR and SEPA PPG02, including a secondary containment system providing a capacity of at least 110% of the volume of the tank. Storage of excavated soils and made ground should be minimised and all storage areas appropriately lined, in line with <b>Mitigation Item G11</b> within Chapter 6 (Geology, Soils and Groundwater).	To reduce impacts on the water environment in relation to oil/fuel leaks and spillages.	None required	Duties and responsibilities of hired EnvCoW may include monitoring this aspect of construction. Requirement for EnvCoW supervision will be included as an Employer's Requirement in Contract.
W9	Contractor	Pre-construction and Construction	A suitably qualified and experienced EnvCow shall be appointed by the Contractor to oversee the implementation of mitigation and monitoring of water environment	To monitor the implementation of the mitigation measures identified and ensure that activities are carried out in such a manner to prevent or reduce impacts on the environment.	Approval by Transport Scotland	Requirement for EnvCoW supervision will be included as an Employer's Requirement in Contract.
W10	Contractor	Pre-construction, Construction and Post-construction phases	Any further refinement of the permanent piled viaduct replacement structure design will be undertaken in accordance with environmental good practice guidance (CIRIA 2015c) and will receive input from the appropriate environmental specialists to ensure no significant effects on the water environment will occur during the operational phase.	To ensure no significant effects on the water environment arise.	Consultation with SEPA and Marine Scotland	None required.

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
W11	Contractor	Construction	The working area located on saltmarsh should be minimised as far as practicable.	To limit the extend of impacts to saltmarsh creeks	None required.	None required.
W12	Contractor	Pre-construction, Construction and Post-construction phases	<p>Prior to construction, the Contractor will develop a Saltmarsh Management Plan, outlined in Chapter 8 (Marine Ecology) <b>Mitigation Item ME6</b>. This should include the following measures to mitigate potential impacts on estuarine geomorphology during the construction and operational phase:</p> <ul style="list-style-type: none"> <li>• Methodology for restoration of saltmarsh geomorphological features (including creeks) post-construction;</li> <li>• Pre and post construction monitoring of saltmarsh habitat, by a suitably qualified Environmental Clerk of Works (EnvCoW), to include photographic record of existing creeks, habitat types and extent, species diversity and scour assessments around new or removed structures; and</li> <li>• Measures to minimise future scour and erosion and promote recovery of saltmarsh vegetation.</li> </ul>	To mitigate the potential impacts on estuarine geomorphology during the construction and operational phase	Consultation with Scottish Natural Heritage (SNH)	Duties and responsibilities of hired EnvCoW include monitoring of saltmarsh habitat pre and post construction and monitoring of implementation of Saltmarsh Management Plan. Requirement for EnvCoW supervision will be included as an Employer's Requirement in Contract.

Table 17.4: Marine Ecology

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
ME1	Contractor	Pre-construction & Construction	Prior to construction the Contractor will develop a Construction Environmental Management Plan (CEMP), including an Ecological Management Plan, which will detail the mitigation to be implemented and how this will be monitored.	To provide a framework for the implementation of construction activities in accordance with the environmental commitments and mitigation measures relating to the aquatic environment.	Consultation with SNH	CEMP requirement will be included as an Employer's Requirement in Contract.

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
ME2	Contractor	Pre-construction & Construction	<p>Prior to construction a suitably qualified Ecological Clerk of Works (ECoW) will be appointed by the Contractor and will be responsible for implementation of the Ecological Management Plan. The ECoW will:</p> <ul style="list-style-type: none"> <li>provide ecological advice over the entire construction programme;</li> <li>in collaboration with the ecologist acting on behalf of Transport Scotland, undertake or oversee pre-construction surveys for protected species in the areas affected by the proposed scheme;</li> <li>ensure mitigation measures are implemented to avoid and reduce impacts on ecological features; and</li> <li>monitor the implementation of the mitigation measures during the construction phase to ensure compliance with protected species legislation and commitments within the EIA Report.</li> </ul> <p>The ECoW will be a member of CIEEM and will have previous experience in similar ECoW roles. All ECoWs will be approved by Transport Scotland to be appropriately qualified for the role and compliance will be monitored by an ecologist acting on behalf of Transport Scotland. The ECoW will be appointed in advance of the main construction programme commencing to ensure pre-construction surveys are undertaken and any advance mitigation measures required are implemented, in collaboration with the ecologist acting on behalf of Transport Scotland.</p>	To ensure that the mitigation strategies required for safeguarding protected species and habitat are implemented.	ECoW approved by Transport Scotland	Ecologist acting on behalf of Transport Scotland will monitor the Contractor's ECoW to ensure compliance with mitigation. Requirement for ECoW supervision will be included as an Employer's Requirement in Contract.
ME3	Contractor	Construction	Best practice construction methods (CIRIA 2015) will be used including the use of appropriate pollution controls (i.e. Guidance for Pollution Prevention (GPPs)), such as construction drainage, a strict re-fuelling protocol and removal of all loose materials from the intertidal area.	To avoid pollution being discharged into the marine environment and impacting on protected species and habitats.	None required	N/A
ME4	Contractor	Construction	The footprint of the working area will be minimised as far as possible and vehicles, plant and personnel will be constrained to this area through the use of temporary	To minimise damage to habitat and disturbance of aquatic and marine species.	None required	N/A

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			barriers to minimise the damage to habitats and potential direct mortality and disturbance to animals located within and adjacent to this footprint. The access track and working platforms on the saltmarsh will be created through use of geotextile layer under aggregate material.			
ME5	Contractor	Post-construction	On completion of the works all access tracks and working platforms will be removed in their entirety from the saltmarsh.	To minimise damage to habitat and disturbance of aquatic and marine species.	None required	Contractor's ECoW to monitor compliance and requirement for removal of tracks and platforms will be included as an Employer's Requirement in the Contract.
ME6	Contractor	Pre-construction, Construction & Post-Construction	Prior to construction the Contractor will develop a Saltmarsh Management Plan. This will include measures to reduce damage and encourage recovery of the saltmarsh and will include a period of post-construction monitoring.	To monitor potential impacts and encourage recovery of the saltmarsh.	Consultation with SNH	Monitoring required during and post-construction to ensure efficacy of the Saltmarsh Management Plan. Development of the Saltmarsh Management Plan will be included as an Employer's Requirement in the Contract.
ME7	Contractor	Construction	With the exception of temporarily realigning the existing SuDS outfall, no works will be undertaken on the saltmarsh outside the footprint of the working platform and access tracks. This includes provision of drainage or water treatment facilities for construction runoff.	To minimise damage to habitat and disturbance of aquatic and marine species.	None required	This mitigation item will be detailed in the CEMP. Contractor's ECoW to monitor compliance
ME8	Contractor	Construction	The Contractor will take cognisance of Marine Scotland guidance on the protection of marine European Protected Species (Marine Scotland 2014) and JNCC guidance on	To minimise disturbance or potential for injury of cetaceans.	None required	This mitigation item will be detailed in the CEMP. Contractor's

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			minimising the risk of injury to marine mammals from piling noise (JNCC 2010).			ECoW to monitor compliance
TE3	Contractor	Construction	The Contractor will employ a 'soft-start' to all noisy activities to avoid sudden and unexpected disturbance. Each time the activity is started up after a period of inactivity, the noise levels will be gradually increased over a period of 30 minutes to allow birds (and other animals) to relocate. This will apply year-round.	To avoid sudden and unexpected disturbance to ecological receptors.	None required	This mitigation item will be detailed in the CEMP. Contractor's ECoW to monitor compliance
TE12	Contractor	Pre-construction & Construction	Licences in respect of works necessary to construct the proposed scheme that are likely to breach applicable conservation legislation will be obtained. The Contractor will comply with the requirements or conditions of any granted licence. Licensing may be for the UK and/or European Protected Species.	To comply with conservation legislation.	Approval from SNH and Marine Scotland	The requirement to obtain licences will be included as an Employer's Requirement in Contract. The Contractor's ECoW will monitor compliance.

Table 17.5: Terrestrial Ecology

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
TE1	Contractor	Pre-construction & Construction	A construction lighting plan and method statement will be developed by the Contractor. The plan will detail specific mitigation requirements, including but not limited to measures to avoid light spill/reflections, and avoidance of white-blue spectrum and high UV emitting lighting. The lighting plan will take into account published guidance on lighting (e.g. Institution of Lighting Professionals (2011), The Royal Commission on Environmental Pollution (2009) and Bat Conservation Trust and Institution of Lighting Professionals (2018)).	To protect sensitive bird and mammal habitats from illumination.	N/A	The requirement for a construction lighting plan and method statement will be included as an Employer's Requirement in the Contract. The Contractor's ECoW will monitor compliance.



Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			The construction lighting design will be developed specifically to avoid illuminating sensitive habitats in locations such as sensitive bird habitats adjacent to the bridge, particularly to the southeast of the piers; watercourses; known commuting routes, and where there is known activity of protected species identified through pre-construction ecological surveys ( <b>Mitigation Item ME1</b> ). Where this is not possible the Contractor will agree any exceptions with the Ecological Clerk of Works (ECoW).			
TE2	Designer/ Contractor	Pre-construction & Construction	<p>Monitoring of bird responses to construction activities will be undertaken. Surveys will follow an adapted methodology based on the wetland bird Through The Tide Count (TTTC) surveys (Table 9.1 in Chapter 9: Terrestrial Ecology) and will be undertaken by an ecologist acting on behalf of Transport Scotland throughout the construction period. If required, further mitigation will be proposed and discussed with the Ecological Clerk of Works (ECoW) and Scottish Natural Heritage (SNH).</p> <p>Screening of at least 2m in height (such as Heras Readyhoard or Steelhoard Screening fences (Heras 2020)) will be provided between the works and the coastal area throughout winter (September to March). Where possible, and as agreed by the ECOW, screens will be positioned around working areas, including ancillary works/plant such as water treatment tanks, to reduce the visual disturbance caused by operatives, plant and vehicles within the working area. Screens will be in place to mitigate against visual disturbance from the works primarily, but also provide some sound attenuation to limit noise disturbance. The screening should be checked by the ECOW prior to works to ensure that the screening has been appropriately placed.</p> <p>The Construction Environmental Management Plan (CEMP) will include a Species Management Plan for wetland birds which will provide further detail on mitigation and monitoring for these species.</p>	To avoid significant impacts on qualifying species of the SPA, Ramsar and SSSI, as well as other species of birds present, as a result of the proposed scheme.	N/A	Ecologist (acting on behalf of Transport Scotland) to undertake monitoring surveys.  The requirement for screening and CEMP (including species management plans) will be included as an Employer's Requirement in Contract. The Contractor's ECOW will monitor compliance during construction.

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
TE3	Contractor	Construction	The Contractor will employ a 'soft-start' to all noisy activities to avoid sudden and unexpected disturbance. Each time the activity is started up after a period of inactivity, the noise levels will be gradually increased over a period of 30 minutes to allow birds (and other animals) to relocate. This will apply year-round.	To avoid sudden and unexpected disturbance to ecological features.	N/A	This mitigation item will be detailed in the CEMP. The Contractor's ECoW will monitor compliance.
TE4	Contractor	Construction	Working during the hours of darkness will be avoided as far as practicable to reduce disturbance to protected species, particularly roosting geese and otter. Working during the hours of darkness will likely be unavoidable during winter, therefore lighting will need to avoid illuminating sensitive bird habitats adjacent to the bridge watercourses; known commuting routes, and where there is known activity of protected species ( <b>Mitigation Item TE1</b> ).	To reduce disturbance to protected species.	N/A	This mitigation item will be detailed in the CEMP. The Contractor's ECoW will monitor compliance
TE5	Designer/ Contractor	Pre-construction	Pre-construction surveys will be undertaken to verify and, where required, update the baseline ecological conditions set out in the EIA Report.	To capture any changes to the baseline which may affect the outcome of the ecological assessment for the proposed scheme.	N/A	The requirement for pre-construction surveys will be included as an Employer's Requirement in Contract.
TE6	Designer/ Contractor	Pre-construction & Construction	Construction work will be programmed, where possible, to commence outside of peregrine breeding season (March to July).  If this cannot be achieved, monitoring surveys will be undertaken to determine if/when peregrine return to their previous nest, or if peregrine move to an alternate nest site, and will commence prior to construction. The natural programme of works should allow for a gradual increase in personnel and noise (e.g. construction of compound first, followed by temporary working platform, temporary bridge and eventually destruction of the piled viaduct) to allow peregrine to habituate so that disturbing works during the breeding season will unlikely disturb peregrine or have implications for the success of the breeding attempt.	To avoid significant effects on peregrine during construction works.	Consultation with SNH (if required)	The requirement for the ECoW to undertake surveys and CEMP (including species management plans) will be included as an Employer's Requirement in Contract. The Contractor's ECoW will undertake monitoring surveys and monitor compliance during construction.

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			<p>Although considered unlikely, should significant disturbance be observed by the Ecological Clerk of Works (ECoW), works will stop until further mitigation measures are put in place as determined by the ECoW in consultation with Scottish Natural Heritage (SNH), if required.</p> <p>The Construction Environmental Management Plan (CEMP) will include a Species Management Plan for peregrine which will provide further detail on mitigation for this species.</p>			
TE7	Contractor	Pre-construction	<p>Vegetation clearance and the start of construction works should be undertaken outside the core bird breeding season (March to August inclusive) to avoid damage or destruction of occupied nests or disturbance to breeding birds. If this cannot be achieved, an inspection of vegetation to be cleared and the works area (plus a suitable disturbance buffer) for nesting birds will be undertaken by a suitably qualified ecologist no more than 24 hours prior to any works being undertaken. If any nesting birds are identified during the survey, they will be left in situ for their entire nesting period until the young birds have fledged. Alternative approaches to the work will need be proposed e.g. leaving an exclusion zone around the nest to avoid disturbance.</p> <p>All cleared vegetation will be rendered unsuitable for nesting birds, for example, by covering, chipping or removing from works area depending on the end purpose of the vegetation. Vegetation clearance operations such as chipping must be taken in accordance with Scottish Environment Protection Agency's (SEPA) Management of Forestry Waste (WST-G-027) (SEPA 2017) guidance.</p>	To avoid damage or destruction of occupied nests or harm to breeding birds.	N/A	This mitigation item will be detailed in the CEMP. The Contractor's ECoW will monitor compliance
TE8	Contractor	Post-construction	On completion of the works, vegetation cleared to facilitate construction, e.g. scrub removed to permit construction of site access tracks, will be replaced on a like for like basis.	To replace habitat temporarily lost during construction.	N/A	The requirement to replace lost vegetation will be included as an Employer's Requirement in Contract. The

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
						Contractor's ECoW will monitor compliance.
TE9	Contractor	Construction	Trenches, holes and pits will be kept covered at night or provide a means of escape for mammals that may become entrapped.	To avoid mammals becoming trapped during construction.	N/A	This mitigation item will be detailed in the CEMP. The Contractor's ECoW will monitor compliance
TE10	Contractor	Construction	All machinery stored on site and the immediate area (any plant, excavations, etc.) will be checked at the start of each work day to ensure otters are not present.	To mitigate potential direct mortality of otter.	N/A	This mitigation item will be detailed in the CEMP. The Contractor's ECoW will monitor compliance
TE11	Contractor	Pre-construction & Construction	The positioning of construction compounds, storage areas, temporary access tracks etc. and construction works should avoid otter commuting routes as far as practicable.	To mitigate potential direct mortality of otter.	N/A	This mitigation item will be detailed in the CEMP. The Contractor's ECoW will monitor compliance
TE12	Contractor	Pre-construction & Construction	Licences in respect of works necessary to construct the proposed scheme that are likely to breach applicable conservation legislation will be obtained. The Contractor will comply with the requirements or conditions of any granted licence. Licensing may be for the UK and/or European Protected Species.	To comply with conservation legislation.	Approval from SNH and Marine Scotland	The requirement to obtain licences will be included as an Employer's Requirement in Contract. The Contractor's ECoW will monitor compliance.
TE13	Designer	Pre-construction	A licence application will be submitted to Scottish Natural Heritage (SNH) by an ecologist, acting on behalf of Transport Scotland, to permit destruction of the existing holt.	To comply with conservation legislation.	Approval from SNH	N/A
TE14	Designer	Pre-construction & Construction	A replacement artificial otter holt will be constructed at least six months prior to the closure of the existing holt. The replacement holt will be located within 500m of the existing holt on Scottish Ministers land, as agreed; for the exact location see Appendix A9.3 (Confidential Ecology Features). The holt will be constructed above ground where there is a	To mitigate permanent habitat loss for otter.	Approval from SNH (licence application)	Ecologist (acting on behalf of Transport Scotland) to monitor replacement holt

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			suitable route of access, and within 10m from the water's edge to maximise the likelihood of it being found and used by otters. Specifications for the replacement artificial holt will be detailed in a licence application submitted to Scottish Natural Heritage (SNH) to destroy the existing holt ( <b>Mitigation Item TE13</b> ) and within a Species Management Plan which will be produced prior to construction of the replacement holt.			
Further to the above, the mitigation commitments detailed in Chapter 7 (Road Drainage and the Water Environment) (W), Chapter 8 (Marine Ecology) (ME), and Chapter 12 (Noise and Vibration) (NV) will be implemented to protect terrestrial ecology features, as shown in Table 9.7 of this EIA Report.						

**Table 17.6: Cultural Heritage**

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
CH1	Contractor	Construction	Archaeological recording during construction (an archaeological watching brief) will be undertaken to make a permanent record of any surviving unknown archaeological remains that may be identified. This will be undertaken in accordance with relevant guidance provided by the Chartered Institute for Archaeologists, Historic Environment Scotland (HES) and Historic England, and a Written Scheme of Investigation (WSI) that will be agreed with the Curator and Transport Scotland's historic environment advisor. This includes a programme of assessment, reporting, analysis, publication and dissemination of the results of the archaeological watching brief, including the submission of a report to Falkirk and Fife's Historic Environment Records and the National Record of the Historic Environment.	To make a permanent record of any affected unknown archaeological remains.	Consultation with the Curator and Transport Scotland	To be included as an Employer's Requirement in the Contract.
CH2	Transport Scotland	Pre-construction	A historic building survey will be undertaken prior to construction to make a record of the original piled viaduct, and its temporary steel support structure, in the context of	To make a permanent record of Kincardine Bridge.	Consultation with the Curator and	N/A

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			the bridge as a whole. This will be achieved through a laser scan of the bridge and the production of an enhanced historic building record in accordance with the guidance provided Historic Building Recording Guidance (ALGAO: Scotland 2013) and a WSI that will be agreed with the Curator and Transport Scotland's historic environment advisor. This includes a programme of assessment, reporting, analysis, publication and dissemination of the results, including the submission of a report to Falkirk and Fife's Historic Environment Records and the National Record of the Historic Environment.		Transport Scotland	
CH3	Contractor	Construction	Following the removal of the bridge parapet panels from site the appointed Contractor will undertake a detailed condition assessment of each removed bridge parapet panel. The appointed Contractor will prepare a report detailing the findings of this assessment and a justification for the retention or replacement of removed each bridge parapet panel. The report will be submitted to Falkirk Council for approval, who may undertake further consultation with HES. No disposal or replacement of any of the removed bridge parapet panels shall be undertaken by the appointed Contractor until after written approval of the findings of the report is received from Falkirk Council.	To provide a clear rationale and justification for the retention or replacement of each removed bridge parapet panel.	Approval of report required from Falkirk Council.	To be included as an Employer's Requirement in the Contract.

Table 17.7: Air Quality

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
AQ1	Contractor	Pre-construction Construction	The Construction Environmental Management Plan (CEMP) (refer to <b>Mitigation Item SM1</b> ) will adopt best practice measures to control dust emissions in compliance with IAQM guidance on the assessment of dust from demolition and	To minimise dust emissions as a result of construction of the proposed scheme.	Approval from Falkirk Council.	Monitoring report to be produced as per the IAQM (2016) guidance

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			<p>construction. The Contractor will enter into pre-works discussions with Falkirk Council to agree the method of works and appropriate dust mitigation measures outlined in a Dust Management Plan (DMP)</p> <p>Guidance on appropriate mitigation measures for the proposed scheme (defined as a medium risk site) is provided in Table 10 to Table 15 in Appendix A11.1 (Air Quality - Dust Risk Assessment) of this EIA Report. These mitigation measures will be used as a guide to inform the best practice measures within the DMP and will be reviewed as the Contractor confirms further details of the construction activities, location and programme.</p>			prepared by the Contractor quarterly.

**Table 17.8: Noise and Vibration**

Mitigation Item	Party Responsible for implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
NV1	Contractor	Pre-construction & Construction	A Construction Environmental Management Plan (CEMP) will be prepared by the Contractor. The CEMP will set out how the Contractor intends to operate the construction site, including construction-related mitigation measures. The relevant section(s) of the CEMP will be in place prior to the start of construction work and will cover a range of aspects including noise and vibration.	To set out how the Contractor intends to operate the construction site, including construction related mitigation measures.	Consultation with Falkirk Council	CEMP to be included as Employer's Requirement in the Contract.
NV2	Designer & Contractor	Pre-construction & Construction	Noise and vibration limits for residential and ecological NSRs will be agreed with the Falkirk Council Environmental Health Department and SNH, respectively, and these limits will be incorporated into the Contract Documents. The Contractor will be required to develop and implement a Noise and Vibration Management Plan (NVMP) as part of the CEMP to meet these requirements. The NVMP will include the design of any necessary NSR specific construction mitigation over	To agree noise and vibration limits and design receptor specific mitigation, over and above the standard mitigation detailed in NV5, where required.	Approval from Falkirk Council and SNH	NVMP to be included as Employer's Requirement in the Contract.

Mitigation Item	Party Responsible for implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			and above the standard mitigation included within Chapter 12 (Noise and Vibration) of the EIA Report .			
NV3	Contractor	Pre-construction & Construction	<p>The Contractor will appoint a community liaison officer who will:</p> <ul style="list-style-type: none"> <li>liaise with the relevant local authorities and nearby residents affected by the construction works and provide a feedback mechanism for any concerns to be raised;</li> <li>consult and seek approval from Falkirk Council regarding any proposed working outwith normal working hours;</li> <li>notify occupiers of nearby properties a minimum of two weeks in advance of the nature and anticipated duration of planned construction works that may affect them; and</li> <li>establish a dedicated freephone telephone helpline together with a dedicated email address and postal address for enquiries and complaints during the construction phase. The relevant contact numbers, email and postal addresses will as a minimum be displayed on signs around the construction site and will be published on the project website. Enquiries and complaints will be logged in a register and appropriate action will be taken in response to any complaints.</li> </ul>	To inform stakeholders and consultees throughout the construction period.	Consultation with Falkirk Council	N/A
NV4	Contractor	Pre-construction & Construction	The Contractor will ensure that all site workers receive adequate environmental training relevant to their role prior to working on the construction site. This will include specific environmental project inductions and 'toolbox talks' on best practice construction methods as appropriate, which would be anticipated to include those relating to noise and vibration control, by employing techniques to keep site noise to a minimum. This would be effectively supervised to ensure that best working practice in respect of noise and vibration reduction is followed.	To ensure site workers are aware of best practice construction methods, mitigation measures and how they are implemented.	None required	N/A
NV5	Contractor	Pre-construction	The Contractor will use best practicable means to limit the level of noise to which operators and others in the vicinity of	To reduce, as far as practicable, the level of noise to which operators and others in the	None required	N/A



Mitigation Item	Party Responsible for implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
		& Construction	site operations would be exposed. This includes the following: <ul style="list-style-type: none"> <li>• the hours of working will be planned and account will be taken of the effects of noise upon persons in areas surrounding site operations and upon persons working on site, taking into account the nature of land use in the areas concerned, the duration of work and the likely consequence of any lengthening of work periods;</li> <li>• where reasonably practicable, quiet working methods will be employed, including use of the most suitable plant, reasonable hours of working for noisy operations, and economy and speed of operations;</li> <li>• noise will be controlled at source, for example, by modification of existing plant/equipment, its use and location and ensuring maintenance of all noise-generating equipment;</li> <li>• the spread of noise will be limited, i.e. by distance between source and receiver and/or screening;</li> <li>• on-site noise levels will be monitored regularly, particularly if changes in machinery or project designs are introduced, by a suitably qualified person appointed specifically for the purpose;</li> <li>• on those parts of a site where high levels of noise are likely to be a hazard to persons working on the site, prominent warning notices will be displayed and, where necessary, ear protectors will be provided;</li> <li>• proper use of plant with respect to minimising noise emissions and regular maintenance in line with plant manuals;</li> <li>• where appropriate, inherently quiet plant will be selected. All major compressors will be 'sound reduced' models fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic percussive tools</li> </ul>	vicinity of site operations would be exposed.		

Mitigation Item	Party Responsible for implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
			will be fitted with mufflers or silencers of the type recommended by the manufacturers; <ul style="list-style-type: none"> <li>machines in intermittent use will be shut down in the intervening periods between work or throttled down to a minimum;</li> <li>all ancillary plant such as generators, compressors and pumps will be positioned so as to cause minimum noise disturbance. If necessary, acoustic barriers or enclosures will be provided; and</li> <li>adherence to the codes of practice for construction working and piling given in British Standard (BS) 5228-1 and BS 5228-2 and the guidance given therein regarding minimising noise and vibration emissions from the site.</li> </ul>			

**Table 17.9: Materials Assets and Waste**

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
M&W1	Contractor	Pre-construction; Construction	Implement Zero Waste Scotland's (ZWS) Design for Resource Efficient (DfRE) Construction Principles, throughout the construction of the proposed scheme.	To minimise material assets consumption and waste generation.	Transport Scotland	Responsible Sourcing Plan and Site Waste Management Plan (SWMP) requirement will be included as an Employer's Requirement in Contract.

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required	Monitoring / Compliance
M&W2	Contractor	Pre-construction; Construction	Prepare a Responsible Sourcing Plan to maximise the responsible sourcing of materials and products associated with constructing the proposed scheme.	To use responsibly sourced materials that minimise adverse impacts on people and their environment, and reduce the attendant environmental impacts related to the extraction and manufacture of construction materials.	Transport Scotland	Responsible Sourcing Plan requirement will be included as an Employer's Requirement in Contract.
M&W3	Contractor	Pre-construction; Construction	Take all such measures available to it, as are reasonable in the circumstances, to apply the waste hierarchy as a priority order to the management of waste.	To reduce the attendant environmental impacts of managing waste, embed circular economy principles into the proposed scheme decisions, and deliver the best overall environmental outcome.	Transport Scotland	SWMP requirement will be included as an Employer's Requirement in Contract.
M&W4	Contractor	Pre-construction; Construction	Develop a SWMP to identify, prior to the start of construction works, to plan, implement, monitor and review waste minimisation and management throughout the construction programme; and ensure compliance with duty of care requirements.	To set out how all construction phase waste will be managed to support the delivery of the Scottish Government's Zero Waste Plan Targets.	Transport Scotland	SWMP requirement will be included as an Employer's Requirement in Contract.
M&W5	Contractor	Pre-construction; Construction	Comply with all 'Duty of Care' requirements ensuring that all surplus materials and waste are stored, transported, treated, used and disposed of safely without endangering human health or harming the environment.	To ensure compliance with the applicable regulatory and policy framework for waste, and prevent harm to human health and the environment.	Consultation and approval from the Local Authority and/or SEPA as applicable to regulatory requirements.	SWMP requirement will be included as an Employer's Requirement in Contract.

**Table 17.10: Climate**

Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/ Objective	Specific Consultation or Approval Required	Monitoring / Compliance
<b>CC1: Travel Management Plan (TMP)</b>	Contractor	Pre-construction - before the initiation of works and when the required data are available.	The Contractor will prepare a TMP to capture the proposed travelling of staff required for the construction of the proposed scheme and measures to optimize journeys and demonstrate how the TMP has contributed to reduced carbon emissions.	Greenhouse Gas (GHG) emissions reduction.	Yes / Transport Scotland	Quarterly carbon emissions report during the construction prepared by the Contractor to be required via inclusion in Employer's Requirements.
<b>CC2: Construction Environmental Management Plan (CEMP)</b>	Contractor	Pre-construction and during construction	As part of the CEMP, the Contractor should incorporate energy efficiency and carbon reduction measures on site where practicable.	GHG emission monitoring	Yes / Transport Scotland	Quarterly carbon emissions report during the construction prepared by the Contractor to be required via inclusion in Employer's Requirements.
<b>CC3: Quarterly Carbon Emissions Reporting</b>	Contractor	Construction Phase	Estimate and report carbon emissions on a quarterly basis during Construction Phase using the Carbon Management Systems (CMS) Carbon Tool	GHG emission monitoring	Yes / Transport Scotland	Quarterly carbon emissions report during the construction prepared by the Contractor to be required via inclusion in Employer's Requirements.

**Table 17.11: Licences and Conditions from Consultation**

Consultee	Party Responsible for Implementation	Timing of Measure	Description
Forth Ports	Designer & Contractor	Pre-construction & Construction	Forth Ports Limited advised during consultation that a works licence should be obtained from Forth Ports Limited prior to any works being undertaken as this falls within its area of jurisdiction. Forth and Tay Navigation Department to be provided all relevant information to allow Notice to Mariners and other relevant paperwork to be issued in connection with the works. Northern Lighthouse Board advised during consultation that Forth Ports should be contacted with regard to dissemination of Navigation Warnings and Notice to Mariners concerning the works and that any permanent alterations should be communicated to the UK Hydrographic Office for update of the relevant British Admiralty chart.

**Table 17.12: Mitigation for Non-Significant Effects on Scoped-out Environmental Topics**

Topic	Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
People and Communities – Community and Private Assets	CPA1	Contractor	Construction	The Contractor will ensure access is maintained to land and properties adjacent to the temporary works area at all times during construction.	To maintain access to/from land and properties.	None required	CEMP
People and Communities – Effects on all Travellers	AT1	Contractor	Construction	The construction programme will minimise the length of closures or restrictions of access for Non-Motorised Users (NMUs) as far as reasonably practicable	To minimise length of closures or restrictions of access for NMUs.	None required	n/a
	AT2	Contractor	Construction	Where practicable, temporary diversion routes and/or assisted crossings will be provided to maintain safe access for NMUs throughout the construction works. Any closure or re-routing of routes used by NMUs will take cognisance of the 'Roads for All: Good Practice Guides for Roads' (Transport Scotland 2013). These will be agreed in advance with the relevant local authorities and will be clearly indicated with signage as appropriate.	To maintain safe access for NMUs throughout the construction works.	Any closures will be agreed with Transport Scotland (Rights of Way), and Falkirk Council and Fife Council (local and core paths).	n/a

Topic	Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
	AT3	Contractor	Pre-construction	The Contractor will notify Sustrans Scotland a minimum of two weeks in advance of any diversions to NMU routes.	To maintain safe access for NMUs throughout the construction works and to enable Sustrans to update their website to notify users that a diversion will be in place.	Consultation with Sustrans	n/a
	AT4	Contractor	Pre-construction Construction	The Contractor will produce a traffic management plan that will include measures to avoid or reduce disruption to the road traffic, and in accordance with the Traffic Signs Manual (Department of Transport 2009). The plan will include consideration of the timing of works, measures to reduce site traffic on the public roads and a well maintained traffic management system with sweeping of roads to reduce construction debris on the carriageway.	To avoid or reduce disruption to the road traffic.	None required	n/a
	AT5	Contractor	Construction	Reasonable precautions will be taken by the Contractor to avoid or reduce road closures. One lane in each direction will be provided for traffic during peak hours (Mon to Fri) except in exceptional circumstances and for closures which are pre-approved by Transport Scotland e.g. limited short term closure to allow connection of the temporary bridge to the existing Kincardine Bridge and the subsequent removal of the temporary bridge. In order to minimise disruption these could be planned as overnight closures.	To reduce disruption to the road users.	Approval from Transport Scotland	n/a
	AT6	Contractor	Construction	Road diversions will be clearly indicated with road markings and signage as appropriate. Any road closures will be	To reduce disruption to the road users.	Consultation with Transport Scotland, Falkirk	n/a

Topic	Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
				notified in advance through road signage and appropriate signage will be provided for the duration of the closure. The Contractor will also be responsible for identifying any notable changes in patterns of road network use during construction, where such changes may cause significant disruption elsewhere and will review and update traffic management provisions as appropriate in discussion with Transport Scotland.		Council and Fife Council.	
	AT7	Contractor	Construction	Appropriate lighting will be provided during any necessary night-time working, taking into account potential ecological mitigation ( <b>Mitigation Item TE1</b> ).	To reduce potential adverse amenity impacts on NMU and vehicle travellers during construction.	None required	n/a
	AT8	Contractor	Construction	<p>Access for NMUs will be maintained and improved in accordance with the following principles:</p> <ul style="list-style-type: none"> <li>The requirements of the Equality Act 2010 and 'Roads for All: Good Practice Guides for Roads' (Transport Scotland 2013) shall be incorporated into the proposed scheme wherever practicable; e.g. ramps or footpaths will not present potential barriers to disabled people such as the gradient or surfacing.</li> <li>Surfacing of any new paths including alongside roads will be considered on a case by case basis taking into account factors such as safety, the type of user and should comply with current standards.</li> </ul>	To maintain access for NMUs and provide appropriate facilities based on use and improve access for NMUs.	None required	n/a

Topic	Mitigation Item	Party Responsible for Implementation	Timing of Measure	Description	Mitigation Purpose/Objective	Specific Consultation or Approval Required	Monitoring / Compliance
				<ul style="list-style-type: none"> <li>New cycleways/footpaths will use non-frost susceptible materials to reduce risk of degradation.</li> </ul>			
Landscape and Visual	LV1	Contractor	Construction	As far as practicable, construction plant and materials storage areas will be appropriately sited to minimise their landscape and visual impact.	To reduce landscape and visual impact of plant and material storage areas.	None required.	Via supervision requirements outlined in Contract Documents
	LV2	Contractor	Construction	The construction site will be kept tidy (e.g. free of litter and debris).	To reduce visual impact of construction site.	None required.	Via supervision requirements outlined in Contract Documents
	LV3	Contractor	Construction	Work during hours of darkness will be avoided as far as practicable, and where necessary, directing lighting will be used to minimise light pollution/glare. Light levels will be kept to the minimum necessary for security and safety.	To reduce light pollution/glare during night time working.	None required.	Via supervision requirements outlined in Contract Documents
	LV4	Designer Contractor	Pre-Construction Construction	A Site Restoration Plan will be developed for the site and detailed within the CEMP.	To reinstate vegetation (outwith the saltmarsh) affected by the construction.	None required.	For the duration of the Establishment Period