

## **20 Environmental Impact Tables**

### **20.1 Introduction**

- 20.1.1 This chapter summarises the predicted environmental impacts of the proposed scheme in tabular form.
- 20.1.2 Potential environmental impacts are provided for each environmental parameter, with a Mitigation Item Number corresponding to the Schedule of Environmental Commitments (Chapter 21).
- 20.1.3 The residual impact (i.e. following implementation of mitigation) is given in terms of magnitude and significance, and is considered a negative impact unless otherwise stated.

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

**Table 20.1: Environmental Impact Tables**

Impact Description  <i>Note: these are potential environmental impacts (i.e. before specific mitigation)</i>	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. with mitigation)	
			Magnitude	Significance
<b>Land Use (Chapter 7)</b>				
Newton Farm Land Reference 116 - Loss of 8.18ha (29% of the total farmed area) with severance.	LU1 - LU18, LU23	Medium	High	Substantial
Keppleston Farm Land Reference 100 - Loss of 6.47ha (11% of farm area) with severance.	LU1 - LU18, LU23	High	High	Substantial
SAC Land Reference 101.- Loss of 30.01ha (9% of farm area) with severance.	LU1- LU23	High	High	Substantial
Walton Farm SAC Land Reference 69. - Loss of 10.60ha (29% of farm area) with severance.	LU1 - LU18, LU23	High	High	Substantial
Howemoss Land Reference 61 - Loss of 8.14ha (31% of the farm area) with severance.	LU1 - LU18, LU23	Medium	High	Substantial
Bogenjoss Farm Land Reference 55 - Loss of 6.44ha (41% of the farm area) with severance.	LU1 - LU18, LU23	Medium	High	Substantial
Meadowlands Land Reference 28 - Total loss of all farmland.	LU5, LU23	High	High	Substantial
Meadowhead Farm Land Reference 34 - Loss of 8.98ha (48% of the farm area) with severance.	LU1- LU23	Medium	High	Substantial
The Laurels Land Reference 21 - Loss of 1.56ha (39% of farm area) and loss of equestrian facilities (ménage and hardstanding). <i>N.B. also assessed separately for impact on Cattery &amp; Stable business</i>	LU5, LU23	High	High	Substantial
Middleton Farm Land Ref 10 - Loss of 5.16ha (10% of farm area) with severance.	LU1 - LU18, LU23	High	High	Substantial
Middlefield Land Ref 416 - Loss of 9.19ha (37% of the farm area).	LU1 - LU18, LU23	Medium	High	Substantial
Corsehill, Land Ref 65 – Loss of 13.99ha (20% Farm area) with severance.	LU1 - LU18, LU23	Medium	High	Moderate/Substantial
Standing Stones, Land Ref 56 – Loss of 7.82ha (12% Farm area) with severance	LU1 - LU18, LU23 LU1- LU23	Medium	High	Moderate/Substantial
Pitmedden Home Farm, Land Ref 59 – Loss of 20.06ha (16% farm area) with severance.	LU1- LU23	Medium	High	Moderate/Substantial
Nether Kirkton, Land Ref 52 – Loss of 11.37ha (39% farm area) with severance.	LU1 - LU18, LU23	Medium	High	Moderate/Substantial
Waulkmill Croft, Land Ref 26 – Loss of 1.63ha (47% farm area) with severance.	LU1 - LU18, LU23	Medium	High	Moderate/Substantial
Newpark Cottage, Land Ref 36 – Loss of 0.52ha (17% farm area) with severance.	LU1 - LU18, LU23	Medium	High	Moderate/Substantial
Lochgreens, Land Ref 13 – Loss of 17.43ha (13% farm area) with severance.	LU1 - LU18, LU23	Medium	High	Moderate/Substantial
Auchernack/Leuchlands, Land Ref 289 – Loss of 6.77ha (11% farm area) with severance.	LU1 - LU18, LU23	Medium	High	Moderate/Substantial
Cranfield, Land Ref 8 – Loss of 18.72ha (14% farm area) with severance.	LU1 - LU18, LU23	Medium	High	Moderate/Substantial
Tawse, Land Ref 417 - Loss of 6.64ha (11% farm area) with no severance.	LU1 - LU18, LU23	Medium	High	Moderate/Substantial
Upper Kirkton, Land Ref 53 – Loss of 8.02ha (6% farm area) with severance.	LU1 - LU18, LU23	Medium	High	Moderate
Goval Farm, Land Ref 58 – Loss of 29.69ha (3% farm area) with severance	LU1- LU23	Medium	High	Moderate
Littlejohn's Wood, Land Ref 302 - Loss of 3.81ha (36% farm area) with severance.	LU1- LU8, LU10- LU12, LU14-LU17, LU23	Low	High	Moderate
Blackdog Croft, Land Ref 37 - Loss of 0.65ha (25% farm area) with severance.	LU1 - LU18, LU23	Low	High	Moderate
7 Acres at Strathathie, Land Ref 18 - Loss of 1.46ha (52% farm area) with no severance.	LU1 - LU18, LU23	Low	High	Moderate
Rowett Research Institute, Land Ref 292 – Loss of 2.68ha (1% Farm area) with severance.	LU1 - LU18, LU23	High	Medium	Slight/Moderate

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
			Magnitude	Significance
Hillhead of Muirton, Land Ref 415 - Loss of 1.15ha (8% farm area) with severance.	LU1 - LU18, LU23	Low	Medium	Slight/Moderate
Overhills, Land Ref 108 - Loss of 0.67ha (1%farm area) with severance.	LU1 - LU18, LU23	Medium	Low	Slight
Hillhead, Land Ref 350 - Loss of 2.21ha (4 %farm area) with no severance.	LU1- LU23	Medium	Low	Slight
Corsehill and surrounds, Land Ref 29 - Loss of 0.33ha (4 %farm area) with no severance.	LU1 - LU18, LU23	Medium	Low	Slight
Tarbothill, Land Ref 17 - Loss of 1.14ha (1 %farm area) with no severance.	LU1 - LU18, LU23	High	Negligible	Slight
Newton Farm and Chapel Works, Land Ref 66 - Loss of 6.01ha (0.6% farm area) with severance.	LU1 - LU18, LU23	Low	Low	Negligible/Slight
Kirkhill Forest (including East Woodlands), Land Ref 250 - Loss of 12.52ha (2 % area of commercial forestry).	LU1- LU2, LU4 -LU8, LU10 - LU12, LU14 - LU17, LU19 - LU21	Low	Low	Negligible/Slight
Waste Recycling Group, Land Ref 447 - Loss of 2.54ha (4 %farm area) with no severance.	LU1 - LU18, LU23	Low	Low	Negligible/Slight
Waulkmill Farmhouse, Land Ref 25 - Loss of 0.02ha (1 %farm area) with no severance.	LU1 - LU18, LU23	Low	Negligible	Negligible
Demolition of three residential properties and associated buildings e.g. garage at Sunnybank, Craibstone Estate (Chainage 316550.00).	LU24	High	High	Substantial
Demolition of an SAC rearing shed (Chainage 316300.00).	LU24	Low	High	Moderate
Loss of approximately 50% of the area operated by the business Parkhill Stables and Cattery (Chainage 325400.00-325600.00).	LU24	N/A	Adverse	Adverse
Loss of land set aside for business/industrial and transport opportunities, which also have approved and pending planning applications. (Chainage 317500.00).	N/A	N/A	Neutral	Neutral
Loss of buildings with planning permission for conversion to dwellings at Sunnybank, Craibstone (Chainage 316550.00).	LU24	N/A	Adverse	Adverse
Loss of Community Land – Educational/Commercial Land SAC Estate (Chainages 316700.00-317200.00).	LU24	Medium	Low	Neutral
Loss of Community Land – 0.42 ha Craibstone Golf Course.	LU24	Low	Negligible	Neutral
Loss of 0.39ha at Brimmond Hill (Community Land).	LU24	Low	Negligible	Negligible
Loss of 0.68ha woodland (Community Land) around North Kingswells Junction (Chainage 314800.00).	LU24, LU26 (also refer to landscape/ecology)	Low	Low	Negligible
Loss of 4.33ha of woodland (Community Land) at Craibstone/West Woods with severance. Proposed planting resulting in a net gain of woodland although with severance.	LU24, LU26 (also refer to landscape/ecology)	Medium	Low	Negligible
Loss of 9.69ha of woodland (Community Land) at Kirkhill Forest.	LU24, LU26 (also refer to landscape/ecology)	Medium	Negligible	Negligible/Slight

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  <b>Note: these are potential environmental impacts (i.e. before specific mitigation)</b>	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. with mitigation)	
			Magnitude	Significance
Loss of 3.38ha of woodland (Community Land) at East Woodlands (2.83 of which is commercial). Proposed planting resulting in a net gain of woodland.	LU24, LU26 (also refer to landscape/ecology)	Medium	Negligible	Negligible
Loss of 2.25ha of woodland (Community Land) at Monument Wood (Chainages 321200.00-321800.00). Proposed planting resulting in a net gain of woodland.	LU24, LU 26 (also refer to landscape/ecology)	Low	Negligible	Negligible
Loss of 3.25ha and severance of woodland (Community Land) at Littlejohn's Wood.	LU24, LU26 (also refer to landscape/ecology)	Low	Low	Negligible/Slight
Loss of 1.34ha of various wooded areas (Community Land) at Goval (Chainages 324400.00-325100.00). Proposed planting resulting in a net gain of woodland.	LU24, LU 26 (also refer to landscape/ecology)	Low	Negligible	Negligible
Loss of 0.77ha of woodland (Community Land) around B977 overbridge (east).	LU24, LU26 (also refer to landscape/ecology)	Low	Low	Negligible/Slight
Access arrangements to Businesses where minor modifications/diversions (SAC, Mills of Dyce Blockworks, Parkhill Nursery, Annfield Quarry and Tarbott Hill Landfill Site).	LU25	n/a	Neutral	Neutral
Access arrangements to Businesses where modifications and diversions required (FIS Chemicals, Gas Pumping Station (Chapel of Stoneywood), Marshall Trailers, Parkhill Stables & Cattery, Blackdog Industrial Estate, Wester Hatton Landfill Site and Stevenson & Kelly Roof Truses Ltd.).	LU25	n/a	Adverse	Adverse
AWPR has a beneficial impact on development plans and planning applications e.g. improved access (OP3, OP4, OP6, OP7, FNC Dubford, FNC Whitestripes, OP2/P5, P6, P7, P10, P20, P21, P29).	n/a	n/a	Beneficial	Beneficial
No change to development plans and planning applications due to AWPR (OP1/P1, P3, P8, P9, P11, P12, P13, P14/OP5, P15, P16, P17, P18, P21, P22, P23, P24, P25, P26, P27, P30, P32, P33, P34).	n/a	n/a	n/a	Neutral Impact
AWPR has an adverse impact on the development plans and planning applications (P2, P18, P31) e.g. land-take.	n/a	n/a	n/a	Adverse Impact
AWPR has both beneficial and adverse impacts on the development plans and planning applications (Land for Transport within OP2, P4/OP2).	n/a	n/a	n/a	Beneficial & Adverse Impacts
<b>Geology, Contaminated Land and Groundwater (Chapter 8)</b>				
Disturbance of solid geology during ground excavations	n/a	Low	Negligible	Negligible
Disturbance of drift deposits during ground excavations (glacial material, river alluvium and peat).	n/a	Low	Negligible - Low	Negligible - Negligible/Slight
Potential accidental pollution of groundwater.	refer to Water Environment	Low	Negligible - Low	Negligible - Negligible/Slight

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  <b>Note: these are potential environmental impacts (i.e. before specific mitigation)</b>	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. with mitigation)	
			Magnitude	Significance
Disturbance to groundwater flow and quality caused by road cuttings in particular at Newtonhill cut, West Overton cut, Chapel of Stoneywood cut and Nether Kirton, potentially affecting private groundwater supplies.	G1	Low to High	None - High	Negligible - Slight
Impact on groundwater quality caused by accidental spillage and road drainage system	G2	Low to High	None - Medium	Negligible
Impact on groundwater quality and human health caused by cone of influence of road cutting reaching areas of potential contaminated land and contamination flowing towards humans and groundwater receptors at Newtownhill	G3	Low to high	None-Negligible	Negligible
Disturbance of contaminated land encountered during road construction. Including known and suspected contamination identified through site investigations, and any unknown contamination discovered during construction works.	G4-G6	n/a	n/a	Slight Beneficial
<b>Water Environment (Chapter 9)</b>				
<b>Generic Construction Impacts</b>				
<u>Surface Water Hydrology</u> : Impact on hydrology and flow regime as a result of watercourse diversions for culvert or bridge construction, watercourse realignments and removal of vegetation.	W1, W15, W20, W22, W24 – W27, W29, W31	n/a	n/a	n/a
<u>Fluvial Geomorphology</u> <ul style="list-style-type: none"> <li>Release of suspended solids into watercourses during construction of culverts, realignments, bridges, or proposed road.</li> <li>Vegetation Clearance.</li> </ul>	W1 – W6, W10 - W15, W20, W22, W24 – W31	n/a	n/a	n/a
<u>Water Quality</u> <ul style="list-style-type: none"> <li>Pollutant spillage as a result of construction for watercourse / drain crossings and diversions, realignment of watercourses.</li> <li>Spillage or leakage of oils, fuels and chemicals from mobile or stationary plant.</li> <li>Accidental release into watercourses of concrete, cement and admixtures or contaminants from washing of plant and machinery or spillage during concrete pour.</li> <li>Accidental / uncontrolled release of sewage from sewers through damage to pipelines during service diversions.</li> <li>Disturbance of contaminated land and sediment.</li> </ul>	W1-W15, W20, W22, W24 - W31	n/a	n/a	n/a
<b>Generic Operational Impacts - Road Drainage</b>				
<u>Surface Water Hydrology</u> <ul style="list-style-type: none"> <li>New impermeable areas would increase volume of water and road runoff reaching a watercourse.</li> <li>Road run off may also reach the receiving watercourse more quickly than previously resulting in the flood response of the catchment becoming more 'flashy'.</li> <li>Water movement within and between catchments may be altered.</li> </ul>	W17, W23 – W26	n/a	n/a	n/a

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. before specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. with mitigation)	
			Magnitude	Significance
<u>Fluvial Geomorphology</u> Increased flow in watercourse may cause: <ul style="list-style-type: none"> <li>• an increase in turbidity and a greater competence to entrain and transport sediment.</li> <li>• an increase of erosion in the channel bed and banks which may reduce or improve morphological diversity depending on sediment movement</li> <li>• a period of adjustment to different flow and sediment regimes</li> </ul> Increased sediment may cause channel sedimentation, increased turbidity and sedimentation, and reduced morphology.	W17, W18, W19, W23 – W26	n/a	n/a	n/a
<u>Water Quality</u> Road runoff may transport contaminants into the watercourses. Risk of accidental spillage is increased due to traffic loads and drainage designs directing road run off to specific burns.	W17, W18, W19, W23 - W26			
<b>Generic Operational Impacts - Watercourse Crossing Impacts</b>				
<u>Surface Water Hydrology</u> Potential for occasional increases to local flood risk due to watercourse crossings and alterations to hydrological pathways may cause increased.	W16, W20,	n/a	n/a	n/a
<u>Fluvial Geomorphology</u> Culverting may cause increase in sedimentation and erosion. This will lead to reduced morphological diversity within the culvert, loss of sinuosity and riparian land. Sediment regime of watercourse may be impacted if sediment transfer is prevented through the culvert.	W16, W20	n/a	n/a	n/a
<u>Water Quality</u> The alterations to the sediment regime may release previously locked contaminants into the watercourse. Lack of light in culverts will create oxygen sags and reduce water quality. Bridges will allow better light penetration.	W16, W20			
<b>Generic Operational Impacts - Watercourse Realignment Impacts</b>				
<u>Surface Water Hydrology</u> – The surface water hydrology will be altered if the realignment significantly changes the catchment of the affected watercourse.	W21, W27	n/a	n/a	n/a
<u>Fluvial Geomorphology</u> – Realignment will result in changes to sediment supply, rate of sediment transfer, erosion and deposition. Changes to sediment regime may increase flood risk.	W21, W27			
<u>Water Quality</u> – Sediment released as a result of the realignment, may include contamination.	W21, W27			

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
<b>Specific Environmental Impacts</b>					
Kepplehill Burn	<b>Construction</b>		Low	Negligible	Negligible
	<u>Hydrology</u> – Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22			
	<u>Geomorphology</u> - Proposed culvert: will involve earthworks, resulting in sediment release and short-term change to morphological diversity and turbidity of the water column.	W1-W6, W10-W15, W22, W28			
	<u>Water Quality</u> - Risk of accidental spillage of pollutants during construction	W1-W15, W22, W28			
	<b>Operation</b>			Negligible	Negligible
	<u>Hydrology</u> – Culverting and realignment will impact flow paths and potential flood risk.	W16, W21			
	<u>Geomorphology</u> - Proposed culvert: decrease to morphological diversity due to culverting and realignment of channel.	W16, W21			
<u>Water Quality</u> - No outfall planned therefore only impacted as a result of diffuse pollution. Length of culvert may impact upon water quality.	W16, W21				
Gough Burn	<b>Construction</b>		High	Low	Moderate
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22			
	<u>Geomorphology</u> - Culverting and realignment will involve major earthworks resulting in sediment release and loss of morphological diversity.	W1-W6, W10-W15, W22, W28			
	<u>Water Quality</u> - Risk of accidental spillage of pollutants during construction. Potential risk of accidental pollutant spillage during construction due to proximity of works and extent.	W1-W15, W22, W28			
	<b>Operation</b>			High	Substantial
	<u>Hydrology</u> - Culverting and realignment will impact flow paths and potential flood risk. Minimal change to flow as a result of culvert.	W16, W21			
	<u>Geomorphology</u> - Proposed culvert: decreased morphological diversity. Reduced sediment transfer and major alteration to the morphology. Extensive reduction to channel sinuosity due to realignment potentially resulting in channel instability & excessive erosion/deposition	W16, W21			
<u>Water Quality</u> - No outfall planned therefore only impacted as a result of diffuse pollution. Length of culvert may impact upon water quality.	W16, W21				
Parkhead Burn & Ditch	<b>Construction</b>		Low	Negligible	Negligible
	<u>Overall</u> - Watercourse re-directed into pre-earthworks drainage design, therefore a very short section of the watercourse will be lost.	W1-W14, W15			
	<b>Operation -</b>			N/A	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)		
				Magnitude	Significance	
Craibstone Burn	<b>Construction</b>		High	Low	Moderate	
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22				
	<u>Geomorphology</u> - Culverting and realignment will involve major earthworks resulting in sediment release and loss of morphological diversity.	W1-W6, W10-W15, W22, W28				
	<u>Water Quality</u> - Potential risk of accidental pollutant spillage during construction due to proximity and extent of works.	W1-W15, W22, W28				
	<b>Operation</b>			High	High	Substantial
	<u>Hydrology</u> - Culverting and realignment will impact flow paths and potential flood risk. Minimal change to flow as a result of culvert.	W16, W21				
<u>Geomorphology</u> - Proposed culvert: long-term decrease to morphological diversity. Reduction of sediment transfer and major alteration to the morphology. Extensive reduction to channel sinuosity due to realignment potentially resulting in channel instability & excessive erosion/deposition.	W16, W21					
<u>Water Quality</u> - No outfall planned therefore only impacted as a result of diffuse pollution. Length of culvert may impact upon water quality.	W16, W21					
Green Burn	<b>Construction</b>		Medium	Negligible	Negligible	
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22				
	<u>Geomorphology</u> - 3 proposed culverts: and realignment will involve earthworks, resulting in sediment release and straightening of the channel, leading to loss of morphological diversity and short-term increase in suspended solid loads.	W1-W6, W10-W15, W22, W28				
	<u>Water Quality</u> - Potential risk of accidental spillage of pollutants during construction due to the length of works in close proximity to the watercourse.	W1-W15, W22, W28				
	<b>Operation</b>			Medium	Low	Slight
	<u>Hydrology</u> - Culverting and realignment will impact flow paths and potential flood risk. Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn.	W16, W17, W21, W23				
<u>Geomorphology</u> - 3 proposed culverts with realignment, therefore decreased morphological diversity, straightening of the channel and reduction in sinuosity. Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn may lead to siltation, requirement for dredging, and build-up of pollutants.	W16, W17, W18, W19, W21, W23					
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff. Increased accidental spillage risk. Number and length of culverts may impact upon water quality due to lack of light.	W16, W17, W18, W19, W21, W23					

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Walton Field	<b>Construction</b>		Low	Negligible	Negligible
	<u>Overall</u> - Watercourse would be re-directed into pre-earthworks drainage design, therefore a short section of the watercourse will be lost. Release of fine sediment or construction pollution may occur.	W1-W14, W15			
	<b>Operation</b>			Negligible	Negligible
	<u>Overall</u> - Section of the watercourse downstream of road will be lost.	n/a			
Howemoss Spring	<b>Construction</b>		Medium	Negligible	Negligible
	<u>Overall</u> - Culverting of the spring may have an impact on the functioning of the spring during construction.	W1-W14, W15, W22, W28			
	<b>Operation</b>			Negligible	Negligible
	<u>Overall</u> - Part of surface water catchment taken into pre-earthworks though spring is not likely to depend on the surface water catchment. However potential impact upon the functioning of the spring is likely, if the culvert is constructed incorrectly.	W16, W21			
Howemoss Burn	<b>Construction</b>		Low	Negligible	Negligible
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22			
	<u>Geomorphology</u> - Proposed culvert and realignment: some earthworks, resulting in sediment release and short-term change to morphological diversity and turbidity of the water column	W1-W6, W10-W15, W22, W28			
	<u>Water Quality</u> - Risk of accidental spillage of pollutants during construction.	W1-W15, W22, W28			
	<b>Operation</b>			Negligible	Negligible
	<u>Hydrology</u> - Change to flow regime as a result of culverting.	W16, W21			
<u>Geomorphology</u> - Change to sediment regime as a result of culvert.	W16, W21				
	<u>Water Quality</u> - No outfall planned but impacted as a result of diffuse pollution. Length of culvert may impact upon water quality.	W16, W21			
Bogenjoss Burn	<b>Construction</b>		High	Medium	Moderate/Substantial
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22, W25, W27			
	<u>Geomorphology</u> - 6 proposed culverts and extensive realignment: major earthworks, resulting in sediment release and straightening of the channel, loss of morphological diversity and increase to short-term suspended solid loads.	W1-W6, W10-W15, W22, W25, W27, W28			
	<u>Water Quality</u> - Construction of six culverts may increase risk of accidental spills/pollution due to amount of major construction activity near watercourse.	W1-W15, W22, W25, W27, W28			
	<b>Operation</b>				
	<u>Hydrology</u> - Culverting and realignment will impact flow paths and potential flood risk. Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn.	W16, W17, W21, W25, W27			

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Bogenjoss Burn	<u>Geomorphology</u> - 6 proposed culverts and extensive realignment: Decrease to geomorphological diversity and sinuosity, shortening and straightening of channel and loss of riparian zone. Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn may lead to siltation, requirement for dredging, and build-up of pollutants.	W16, W17, W18, W19, W21, W25, W27	High	High	Substantial
	<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff. Increased accidental spillage risk. Number and length of culverts impact upon water quality.	W16, W17, W18, W19, W21, W25, W27			
River Don	<b>Construction</b>		High	Negligible	Slight/Negligible
	<u>Hydrology</u> - Impact due to amount and duration of works required on floodplain.	W1, W20, W24			
	<u>Geomorphology</u> - Bridging and approach roads: extensive earthworks, sediment release, increase to suspended sediment loads and turbidity, impacts on water quality and geomorphological diversity. Sediment modelling assessed potential impact as a result of the construction of the mainline approach roads as high magnitude.	W1-W6, W10-W14, W20, W24, W29, W30			
	<u>Water Quality</u> - Potential impact of pollutant spills, bridge deck spraying, concreting activities due to proximity and duration of construction activities (both mainline approach road & bridge construction).	W1-W14, W20, W24, W29, W30			
	<b>Operation</b>				
	<u>Hydrology</u> - Potential long-term impact upon flood risk. Changes to flow regime likely as a result of increased input from road runoff.	W17, W20, W24			
	<u>Geomorphology</u> - Increasing turbidity and change to current morphological diversity possible as a result of bridging.	W17, W18, W19, W20, W24			
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff. Increased accidental spillage risk.	W17, W18, W19, W20, W24				
Goval Burn	<b>Construction</b>		High	Negligible	Slight/Negligible
	<u>Hydrology</u> - Bridging could have short term impact on surface water and flood risk.	W1, W20, W26			
	<u>Geomorphology</u> - Bridging at three locations: limited earthworks, sediment release will increase suspended sediment loading in the water column.	W1-W6, W10-W14, W20, W26, W29, W30			
	<u>Water Quality</u> - Potential for spillage of pollutants	W1-W14, W20, W26, W29, W30			
	<b>Operation</b>		High	Negligible	Slight/Negligible
	<u>Hydrology</u> - Potential long-term impact upon flood risk. Potential changes to flow regime as a result of increased input from road runoff.	W17, W20, W26			
	<u>Geomorphology</u> - Change to current morphological diversity possible as a result of bridging.	W17, W18, W19, W20, W26			
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff. Increased accidental spillage risk.	W17, W18, W19, W20, W26				

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Goval Mill Lade	<b>Construction</b>		Low	Low	Negligible
	<u>Hydrology</u> - Temporary realignment and storage of water during aqueduct construction may impact on flow regime.	W1, W20, W31			
	<u>Geomorphology – Bridging</u> : limited earthworks, sediment release will increase suspended sediment loading in the water column.	W1-W6, W10-W14, W20, W31			
	<u>Water Quality</u> - Construction activities close to watercourse may result in accidental spillage of construction-sourced pollutants such as concrete, oils etc.	W1-W14, W20, W31			
	<b>Operation</b>			Negligible	Negligible
	<u>Hydrology</u> - Changes to flow regime likely where new aqueduct is proposed.	W20			
	<u>Hydrology</u> - Impact sediment regime expected due to bridging of watercourse.	W20			
<u>Water Quality</u> - No outfall planned therefore only impacted due to diffuse pollution.	W20				
Corsehill Burn	<b>Construction</b>		Medium	Negligible	Negligible
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22, W26			
	<u>Geomorphology</u> - 3 proposed culverts and realignment will involve earthworks, resulting in sediment release and straightening of the channel, leading to loss of morphological diversity and short-term increase in suspended solid loads.	W1-W6, W10-W15, W22, W26, W28			
	<u>Water Quality</u> - Potential risk of accidental spillage of pollutants during construction due to the length of works in close proximity to the watercourse.	W1-W15, W22, W26, W28			
	<b>Operation</b>			Low	Slight
	<u>Hydrology</u> - Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn may lead to siltation, requirement for dredging, and build-up of pollutants.	W16, W17, W21, W26			
	<u>Geomorphology</u> - 3 proposed culverts and realignment, therefore decreased morphological diversity, straightening of the channel reduction in sinuosity.	W16, W17, W18, W19, W21, W26			
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff. Increased accidental spillage risk. Number and length of culverts impact upon water quality.	W16, W17, W18, W19, W21, W26				
Red Moss Burn	<b>Construction</b>		Medium	Negligible	Negligible
	<u>Hydrology</u> – Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22, W26			
	<u>Construction</u> – 1 proposed culvert and realignment: earthworks, sediment release changes to suspended sediment loads and erosion and depositional patterns. Impacts on Corby Loch downstream possible if sediment is transported downstream, and drainage flows alter.	W1-W6, W10-W15, W22, W26, W28			
<u>Water Quality</u> - Proximity of construction works to watercourse poses a risk of pollution from accidental spillage i.e. concrete, oil etc.	W1-W15, W22, W26, W28				

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Red Moss Burn	<b>Operation</b>		Medium	Low	Slight
	<u>Hydrology</u> -Minor changes to flow regime as a result of increased input from road runoff. Impacts on Corby Loch downstream are possible from flow changes as a result of drainage outfall.	W16, W17, W21, W26			
	<u>Geomorphology</u> -Long term decrease to morphological diversity due to culverting and realignment. Impacts on Corby Loch downstream are possible if sediment is transported downstream.	W16, W17, W18, W19, W21, W26			
	<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff. Increased accidental spillage risk. Length of culvert may impact upon water quality.	W16, W17, W18, W19, W21, W26			
Corby and Lily Lochs	<b>Construction</b>		High	Negligible	Slight/Negligible
	<u>Hydrology</u> - Culverting and realignment of the Red Moss Burn may lead to associated indirect impacts upon the lochs as a result of changes to the discharge regime of Red Moss Burn.	W1, W15, W22, W26			
	<u>Geomorphology</u> - Culverting and realignment of the Red Moss Burn may lead to associated indirect impacts upon the lochs as a result of sediment release in Red Moss Burn.	W1-W6, W10-W15, W22, W26, W28			
	<u>Water Quality</u> - Culverting and realignment of the Red Moss Burn may lead to associated indirect impacts upon the lochs as a result of pollution release in Red Moss Burn.	W1-W15, W22, W26, W28			
	<b>Operation</b>			Negligible	Slight/Negligible
	<u>Hydrology</u> - long-term (indirect) changes to flow regime due to increased input from road runoff to the Red Moss Burn – approx 55% of Corby and Lily Loch catchments affected upstream.	W16, W17, W21, W26			
	<u>Geomorphology</u> - Indirect impacts if sediment is transported downstream Red Moss Burn as a result of drainage outfall.	W16, W17, W18, W19, W21, W26			
<u>Water Quality</u> - Indirect impacts upon water quality if pollutants are transported downstream Red Moss Burn as a result of drainage outfall.	W16, W17, W18, W19, W21, W26				
Blackdog Ditch	<b>Construction</b>		Medium	Negligible	Negligible
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22			
	<u>Geomorphology</u> - Culverting existing straightened channel will involve some earthworks, resulting in sediment release and short-term change to morphological diversity and turbidity of the water column	W1-W6, W10-W15, W22, W28			
	<u>Water Quality</u> - Potential for small-scale spillage of potential pollutants.	W1-W15, W22, W28			
	<b>Operation</b>			Negligible	Negligible
	<u>Hydrology</u> - Change to flow regime as a result of culverting.	W16, W21			
	<u>Geomorphology</u> - Change to sediment regime as a result of culvert.	W16, W21			
<u>Water Quality</u> - No outfall planned but impact as a result of diffuse pollution. Length of culvert may impact upon water quality.	W16, W21				

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Blackdog Burn	<b>Construction</b>		Medium	Negligible	Negligible
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22, W26			
	<u>Geomorphology</u> - 2 proposed culverts and realignment: major earthworks, sediment release changes to suspended sediment loads and erosion and depositional patterns.	W1-W6, W10-W15, W22, W26, W28			
	<u>Construction</u> - Proximity of construction works to watercourse poses a risk of pollution from accidental spillage i.e. concrete, oil etc.	W1-W15, W22, W26, W28			
	<b>Operation</b>			Low	Slight
	<u>Hydrology</u> - Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn.	W16, W17, W21, W26			
	<u>Geomorphology</u> - 2 proposed culverts and realignment, therefore decreased morphological diversity, straightening of the channel reduction in sinuosity. Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn or erosion.	W16, W17, W18, W19, W21, W26			
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff. Increased accidental spillage risk. Number/ength of culverts may impact on water quality.	W16, W17, W18, W19, W21, W26				
Middlefield Burn	<b>Construction</b>		Low	Negligible	Negligible
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1, W15, W22, W26			
	<u>Geomorphology</u> - 3 proposed culverts and realignment: major earthworks, sediment release changes to suspended sediment loads and erosion and depositional patterns.	W1-W6, W10-W15, W22, W26, W28			
	<u>Water Quality</u> - Proximity of construction works to watercourse poses a risk of pollution from accidental spillage i.e. concrete, oil etc.	W1-W15, W22, W26, W28			
	<b>Operation</b>			Medium	Slight
	<u>Hydrology</u> - Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn.	W16, W17, W21, W26			
	<u>Geomorphology</u> - 3 proposed culverts and realignment, therefore decreased morphological diversity, straightening of the channel reduction in sinuosity. Change to discharge regime may lead to siltation, requirement for dredging.	W16, W17, W18, W19, W21, W26			
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff. Increased accidental spillage risk. Number and length of culverts impact upon water quality.	W16, W17, W18, W19, W21, W26				
Green/ Craibstone/ Gough Burn (catchment impacts)	<b>Construction</b>		High	Low	Moderate
	<u>Overall</u> – Accumulation of direct impacts from culverting and realigning of the burns.	W1-14			
	<b>Operation</b>			High	Substantial
	<u>Overall</u> – Extensive straightening, realigning and culverting of watercourses in combination with on outfall to Green Burn is considered to impact the water environment in the area.	W1-W28			
<u>Overall</u> – Impact on geomorphology on overall catchment					

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
<b>Ecology and Nature Conservation (Chapter 10)</b>					
<b>Section NL1 Predicted Construction Impacts on Habitats and Species</b>					
Badger	Risk of direct mortality due to clearance for construction (outlier sett Group NB) (Agricultural land to the east of Brimmond Hill N2, N8 and N13)	E1, E2, E6, E7, E11, E16, E17, E72-E74	County	Negligible	Negligible
Bat	Disturbance to one historical roost and fragmentation of roost habitats and foraging corridors (Newton Farm N11)	E1, E2, E6, E11-E13, E22-E24	Regional	Low	Minor
	Disturbance and fragmentation of roost habitats and foraging corridors (Kepplestone Farm N12 and N13, Newhills Woods N16)	E1, E2, E6, E11-E13, E22-E24	County	Low	Minor
	Potential pollution of aquifers in Kepplehill Burn	refer to Water Environment		Negligible	Negligible
<b>Section NL2 Predicted Construction Impacts on Habitats and Species</b>					
Terrestrial Habitats	Temporary habitat loss, disturbance and fragmentation, of riparian habitats. (Craibstone Burn, Gough Burn and Craibstone campus N24- N26)	E1, E2, E4	County	Low	Minor
	Potential pollution of habitat due to runoff/particulates into aquifers and adjacent land (Gough Burn and Craibstone Campus N24 - N26)	E3, E4, E8-E10, E15		Negligible	Negligible
Badger	Risk of direct mortality due to clearance of outlier sett (NC) (Craibstone N26-N28)	E1, E2, E6, E7, E16, E17, E72-E75		Negligible	Negligible
Bat	No known roosts to be destroyed but there is potential Risk of direct mortality during clearance for construction including of trees and buildings, particularly Sunnyside cottages (Gough Burn N18 and N24, Craibstone golf course N19, Craibstone Campus N25, Craibstone Burn and Pond N26, Green Burn N27, Craibstone Campus N28)	E1, E2, E6, E11-E13, E18- E21	County	Negligible	Negligible
	Disturbance and fragmentation of roost habitats and foraging corridors along Gough Burn N18 and N24, Craibstone golf course N19, Craibstone Campus N25, Craibstone Burn and Pond N26, Green Burn N27, Craibstone Campus N28	E1, E2, E6, E11-E13, E22-E24, E76		Low	Minor
	Pollution of aquifers due to sediment and accidental spills Gough, Craibstone and Green Burn (Gough Burn N18 and N24, Craibstone golf course N19, Craibstone Burn and Pond N26, Green Burn N27)	refer to Water Environment		Negligible	Negligible
Breeding Birds	Risk of direct mortality due to habitat clearance around Parkhead Burn (N25), Craibstone Burn and Craibstone Pond (N26) and Green Burn (N27)	E1, E2, E5, E8, E25 – E30	County	Negligible	Negligible
	Temporary fragmentation, disturbance to Parkhead Burn (N25), Craibstone Burn and Craibstone Pond (N26) and Green Burn (N27)	E1, E2, E12, E14, E25- E30		Negligible	Negligible
	Potential pollution due to sediment and accidental spills to Parkhead Burn (N25), Craibstone Burn and Craibstone Pond (N26)	refer to Water Environment		Negligible	Negligible
	Potential pollution due to sediment and accidental spills due to realignment Green Burn (N27)			Negligible	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Otter	Risk of direct mortality due to habitat clearance around Green Burn (N22, N23 and N30) of riparian habitat and wildlife corridors.	E1, E2, E5-E8, E11-E14, E31- E33, E72-E75	Regional	Negligible	Negligible
	Potential pollution due to particulates at Gough Burn (N14, N15, N17, N18 and N24), Craibstone Burn (N21, N24 – N26 and N28) and, Green Burn (N22, N23 and N30)	refer to Water Environment		Negligible	Negligible
	Temporary habitat loss, disturbance and fragmentation due to culverting (and realignment of Green Burn) of riparian habitat and wildlife corridors, at Gough Burn (N14, N15, N17, N18 and N24), Craibstone Burn (N21, N24 – N26 and N28) and, Green Burn (N22, N23 and N30)	E1, E2, E5-E8, E11-E14, E33, E34, E46		Low	Minor
	Temporary habitat loss, disturbance and fragmentation to Craibstone Pond (N26)			Negligible	Negligible
Red Squirrel	Risk of direct mortality during clearance for construction at Craibstone Wood South (N24, woodland 2) and Craibstone Wood North (N25, woodland 3)	E1, E2, E6, E7, E11, E35	Regional	Negligible	Negligible
	Temporary disturbance in Craibstone Wood South (N24, woodland 2) and Craibstone Wood North (N25, woodland 3)			Low	Minor
Fish	Risk of direct mortality caused by pollution due to release of sediment during culvert construction, which may damage or kill fish at Gough Burn (N14, N15, N17, N18 and N24) and Craibstone Burn (N21, N25, N26 and N28)	E1, E2, E5, E8, E9, E14, E41, E42, E46-E47	County	Negligible	Negligible
	Fragmentation and isolation due to fish stranding during culvert construction at Gough Burn (N14, N15, N17, N18 and N24) and Craibstone Burn (N21, N25, N26 and N28)			Low	Minor
	Risk of direct mortality caused by pollution due to release of sediment during construction of three culverts, which may damage or kill fish. (Green Burn N28 and N30)			Low	Minor
	Fragmentation and isolation due to fish stranding during construction of three culverts, prevention of migration upstream results in spawning habitat loss (Green Burn N22, N23, N28 and N30)	E1, E2, E40- E42	County	Low	Minor
Freshwater	Pollution due to release of sediment during culvert construction and short-medium term loss in-stream habitat complexity at (Gough Burn N14, N15, N17, N18 and N24), Craibstone Burn (N21, N25, N26, and N28) and Green Burn (N22, N23, N28 and N30)	refer to Water Environment	Regional	Low	Minor
<b>Section NL3 Predicted Construction Impacts on Habitats and Species</b>					
Terrestrial Habitats	Temporary habitat loss, disturbance and fragmentation and potential pollution of woodlands at Kirkhill Forest and Standingstones Wood (N35 - N37) and agricultural land surrounding Hare Moss (N32 and N33),	refer to Water Environment	County	Low	Minor

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Terrestrial Habitats	Temporary habitat loss, disturbance and fragmentation and potential pollution of riparian habitat Hydrological impacts upon wetland habitat surrounding the area of Bogenjoss Burn (N38 and N42)	see above	see above	see above	see above
Badger	Risk of direct mortality during clearance for construction, loss of four setts for group NE (one main sett) one sett for NG and four setts for NH (one main sett) areas affected are Howemoss, Kirkhill Forest, Standingstones Wood, East Woodlands, Monument Wood and Bogenjoss Burn (N33-35, N37, N39, N41-N44 and N46-N47)	E1, E2, E6, E11-E13, E18- E21	Regional	Negligible	Negligible
Bat	Disturbance and fragmentation of roosts and foraging corridors at Walton Farm and Sunnybrae Cottage (N30)		Regional	Negligible	Negligible
	No known roosts to be destroyed but potential Risk of direct mortality during clearance for construction is a High negative impact at Standingstones Wood, Kirkhill Forest North, East Wood, Monument Wood and Bogenjoss Burn N35, N37, N42-N43, N47)		County	Negligible	Negligible
	Disturbance and fragmentation of potential roosts and foraging corridors. Pollution due to particulates at Howemoss Burn and Bogenjoss Burn. (Standingstones Wood, Kirkhill Forest North, East Wood, Monument Wood and Bogenjoss Burn N33, N35-N47)	E1, E2, E6, E11-E13, E18- E21	County	Low	Minor
	Pollution due to particulates at Howemoss Burn and Bogenjoss Burn (N32, N33 & N37).	refer to Water Environment		Negligible	Negligible
Breeding Birds	Potential pollution to Howemoss Burn and Bogenjoss Burn due to accidental spills. (N32, N33 & N37)	refer to Water Environment	County	Low	Minor
	Risk of direct mortality due to temporary habitat loss, temporary fragmentation, disturbance to Monument Wood (N41), East Woodlands (N43) and potential pollution to Bogenjoss Burn (N42) due to accidental spills.	E1, E2, E5, E8, E14, E25, E26, E29, E30			
Otter	Risk of direct mortality along Bogenjoss Burn (N37-N45)	E1, E2, E5-E8, E11-E14, E31- E33, E72-E75	Regional	Negligible	Negligible
	Temporary disturbance during construction due to crossing and realignment of riparian habitat and wildlife corridors, with potential pollution due to particulates of Bogenjoss Burn (N37-N45)	E1, E2, E5-E8, E11-E14, E33, E34, E46,		Low upstream Medium at downstream crossing	Minor upstream Moderate at downstream crossing
Red Squirrel	Risk of direct mortality during clearance for construction (Kirkhill Forest N33-35, Standingstones wood N35, East Woodlands N43, Bogenjoss Burn N37, N42 and N45)	E1, E2, E6, E7, E11, E35-E37	National	Negligible	Negligible
	Disturbance during construction (Kirkhill Forest N33-N35, Standingstones wood N35, East Woodlands N43, Bogenjoss Burn N37, N42 and N45)			Negligible	Negligible
	Risk of direct mortality during clearance for construction (Monument Wood N47)	E1, E2, E6, E7, E11	Regional	Negligible	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Brown Hare	Temporary habitat loss, disturbance and fragmentation (Agricultural land surrounding Howemoss N33)	E1, E2, E5, E7, E12	County	Low	Minor
Fish	Risk of direct mortality caused by pollution due to release of sediment during culvert construction (six), which may damage or kill fish. (Bogenjoss Burn N37, N38, N40 – 42, N45)	E1, E2, E5, E8, E9, E14, E41, E42, E46, E47	County	Low	Minor
	Fragmentation and isolation due to fish stranding during construction of six culverts, prevention of migration upstream resulting in spawning habitat loss (Bogenjoss Burn N37, N38, N40 – 42, N45)			Low (upstream) Medium (downstream crossing)	Minor (upstream) Moderate (downstream crossing)
Freshwater	Pollution due to release of sediment during re-alignment and culvert construction and short-medium term loss of in-stream habitat complexity (Bogenjoss Burn N37, N38, N40-42, N45)	refer to Water Environment	Regional	Low (upstream) Medium (downstream crossing)	Minor (upstream) Moderate (downstream crossing)
<b>Section NL4 Predicted Construction Impacts on Habitats and Species</b>					
Terrestrial Habitats	Disturbance and fragmentation of wildlife corridors of the River Don N52	E1, E2, E4	Regional	Low	Minor
	Potential pollution of the River Don (N52)			Negligible	Negligible
	Disturbance and fragmentation of wildlife corridors Goval Burn and the Mill Lade (N61), Formartine and Buchan Way (DWS) (N62)		County	Low	Minor
	Potential pollution of the Goval Burn and the Mill Lade (N61), Formartine and Buchan Way (DWS) (N62)	refer to Water Environment	Negligible	Negligible	
Badger	Risk of direct mortality during clearance of two setts (group NJ) for construction (Goval Burn and Goval Mill Lade N54, N60, N62 and N67)	E1, E2 E6, E7, E16, E17, E72-E75	Regional	Negligible	Negligible
Bat	Risk of direct mortality during clearance for construction and pollution due to particulates of the River Don (N52)	E1, E2, E6, E11-E13 E18-21	National	Negligible	Negligible
	Fragmentation and disturbance at the Banks of the River Don (N52)	E1, E2, E6, E11-E13, E22-E24		Negligible	Negligible
	Risk of direct mortality during clearance for construction of existing roost at Parkhill Pumping Station at Goval Burn/Mill Lade (N61)	E1, E2, E6, E18- E20, E24	Regional	Negligible	Negligible
	Fragmentation and disturbance of existing roost at Parkhill Pumping Station at Goval Burn and the Mill Lade (N61)	E1, E2, E6, E11-E13, E18- E23		Low	Minor
	Habitat loss, disturbance and fragmentation of roosts, foraging and commuting corridors at Goval Burn and the Mill Lade (N61)	E1, E2, E6, E11-E13, E22-E24		Low	Minor
	No known roosts to be felled but potential Risk of direct mortality during clearance at the Formartine and Buchan Way (N62), Goval Farm, Goval Wood, Goval Belt and surrounding agricultural fields (N54, N58, N60) and Parkhill Estate (N63)	E1, E2, E6, E18-E20, E24		County	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Bat	Disturbance and fragmentation of roosts, foraging and commuting corridors in agricultural land surrounding railway (N49-N50), Formartine and Buchan Way (N62), agricultural fields north of Meadow Head (N69) and Goval Farm, Goval Wood, Goval Belt and surrounding agricultural fields (N54, N58, N63)	E1, E2, E6, E11-E13, E22-E24	County	Low	Minor
	Disturbance and fragmentation of foraging corridors at Skate Wood (N65, N67, N70)	E1, E2, E6, E11-E13, E22-E24		Low	Minor
Breeding Birds	Risk of direct mortality during clearance for construction to the River Don (N52)	E1, E2, E5, E8, E14, E25-E28	County	Negligible	Negligible
	Temporary habitat loss, fragmentation and disturbance of the River Don (N52)	E1, E2, E4, E12, E13		Low	Minor
	Potential pollution of the of the River Don (N52) and Goval Burn due to accidental spills (N61)	refer to Water Environment		Negligible	Negligible
Wintering Birds	Risk or Risk of direct mortality during clearance for construction in the area of Nether Kirkton surrounding the River Don (N50, N51 and N52)	E1, E2, E5, E8	Regional	Negligible	Negligible
	Temporary habitat loss, disturbance and fragmentation in the area of Nether Kirkton surrounding the River Don (N50, N51 and N52)	E1, E2, E4, E12, E13		Low	Minor
	Potential pollution in the area of Nether Kirkton surrounding the River Don (N50, N51 and N52)	refer to Water Environment		Negligible	Negligible
Otter	Habitat fragmentation and disturbance of a holt during construction (River Don N52)	E1, E2, E4, E6, E11-E13	International	Negligible	Negligible
	Risk of direct mortality during clearance of one holt and lying up sites and temporary disturbance and habitat fragmentation of Goval Burn (N54, N55, N59-N61)	E1, E2, E5-E8, E11-E14, E72- E75	National	Negligible	Negligible
	Risk of direct mortality at the Mill Lade (N55)	E1, E2, E5-E8, E11-E14, E73, E75	Regional	Negligible	Negligible
	Temporary disturbance and habitat fragmentation at the Mill Lade (N55)	E1, E2, E5-E8, E11-E14, E33, E34, E46, E72- E75		Low	Minor
	Risk of direct mortality temporary disturbance, including loss of prey at Corsehill Burn (N64, N66, N68, N70)		County	Negligible	Negligible
Fish	Fragmentation and isolation due to physical barriers (such as velocity increases due to bridge footings or concrete apron) may prevent migration upstream resulting in spawning habitat loss. Disturbance from noise and vibration during bridge construction could damage fish hearing, impede migration or kill young eggs. (River Don N52)	E1, E2, E5, E8, E9, E14, E41, E42, E44, E46	National	Negligible	Negligible
	Risk of direct mortality caused by pollution due to release of sediment during construction, which may damage or kill salmonids (River Don N52)	E1, E2, E5, E8, E9, E14, E41, E42, E46		Negligible	Negligible
	Risk of direct mortality caused by pollution due to release of sediment during construction, which may harm/kill salmonids (Goval Burn N54, N55, N59-N61)		Regional	Negligible	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Freshwater	Potential pollution due to release of sediment during bridge construction and short-medium term loss if in-stream habitat complexity (River Don, N52)	refer to Water Environment	National	Negligible	Negligible
	Potential pollution due to release of sediment during bridge construction and short-medium term loss if in-stream habitat complexity (Goval Burn, N54, N55, N59 – N61)	refer to Water Environment	County	Low	Minor
<b>Section NL5 Predicted Construction Impacts on Habitats and Species</b>					
Terrestrial Habitats	Fragmentation and disturbance of wetland habitats with hydrological disruption and potential pollution of the lochs (Corby and Lily Lochs (SSSI, DWS, SINS complex with Bishop's Loch) N85)	refer to Water Environment	National	Negligible	Negligible
Badger	Direct mortality during clearance of outlier sett NN for construction (Littlejohn's Wood and Harehill N67, N85, N91, N93-N94)	E1, E2 E6, E7, E16, E17, E72-E74	County	Negligible	Negligible
Bat	Risk of direct mortality at the roost between Cranfield and Harehill. (Cranfield treelines and treelines surrounding Harehill, N91)	E1, E2, E6, E11-E13, E18-21	Regional	Negligible	Negligible
	Disturbance to potential roosts and fragmentation to foraging corridors (Cranfield treelines and treelines surrounding Harehill, N91)	E1, E2, E6, E11-E13, E22- E24		Low	Minor
	No known roosts to be felled, but Risk of direct mortality at potential roosts during clearance for construction. (Cranfield treelines N90)	E1, E2, E6, E11-E13, E18-21		Negligible	Negligible
	Disturbance to potential roosts and fragmentation to foraging corridors (Cranfield treelines N90)	E1, E2, E6, E11-E13, E22- E24		Low	Minor
	No known roosts to be felled, but Risk of direct mortality at potential roosts during clearance for construction. (Corsehill Wood, Littlejohn's Wood, Woodland at Red Moss, Moss Belt Plantation, Loch Hills Quarry, fields surrounding Loch Greens Farm, N71, N72, N74, N80, N84, N87).	E1, E2, E6, E11-E13, E18-21	County	Negligible	Negligible
	Disturbance to potential roosts and fragmentation to foraging corridors (Corsehill Wood, Littlejohn's Wood, Woodland at Red Moss, Moss Belt Plantation, Loch Hills Quarry, fields surrounding Loch Greens Farm, N71, N72, N74, N80, N84, N87).	E1, E2, E6, E11-E13, E22- E24		Low	Minor
		Potential pollution of aquifers including Red Moss, Corby and Lily Lochs (N85) and Blackdog Burn N91	refer to Water Environment	County	Negligible
Breeding Birds	Potential pollution to Redmoss and Corby Loch (SSSI, DWS, SINS) due to accidental spillage (Agricultural fields south of Lochgreens Farm and between Lochgreens Road/ Gravel Pit (N84 and N87))	refer to Water Environment	County	Negligible	Negligible
	Disturbance during construction (Corby and Lily Lochs (SSSI, DWS) N85 and N87	E1, E2, E12, E14, E25-E30,	Regional	Low	Minor
	Potential pollution to Red Moss and Corby Loch due to accidental spills N85	refer to Water Environment		Negligible	Negligible
Wintering Birds	Fragmentation and disturbance. Potential pollution of aquifers from accidental spills (Corby and Lily Lochs (SSSI, DWS, SINS)	refer to Water Environment	National	Low	Minor

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Otter	Potential pollution of Corby and Lily Lochs (N85)	Water Environment (Chapter 9)	National	Negligible	Negligible
	Temporary fragmentation and disturbance during construction (Blackdog Burn N91, N93 – N95)	E1, E2, E5-E8, E11-E14, E33, E34, E46, E72- E75	Regional	Negligible	Negligible
	Risk of direct mortality during construction (Red Moss Burn N82-N87)	E1, E2, E5-E8, E11-E14, E73, E75	County	Negligible	Negligible
	Temporary fragmentation, and disturbance during construction (Red Moss Burn N82-N87)	E1, E2, E5-E8, E11-E14, E33, E34, E46, E72- E75		Low	Minor
Red Squirrel	Risk of direct mortality during construction (Corsehill Wood, Littlejohn's Wood N71, N72)	E1, E2, E6, E7, E11, E12, E35- E37	Regional	Negligible	Negligible
	Disturbance due to construction and fragmentation of habitat (Corsehill Wood, Littlejohn's Wood N71, N72)	E1, E2, E6, E7, E11, E35-E37, E54-E56, E59, E61, E62, E67		Negligible	Negligible
Terrestrial Inverts	Potential hydrological disruption (Corby Loch N84-N85)	refer to Water Environment		Negligible	Negligible
<b>Section NL1 Predicted Operational Impacts on Habitats and Species</b>					
Badger	Risk of direct mortality due to RTAs (Agricultural land to the east of Brimmond Hill N2, N8 and N13)	E6, E7, E16, E72-E76	County	Negligible	Negligible
	Loss of setting and foraging habitat. Fragmentation and disturbance of social groups NA and NB (Agricultural land to the east of Brimmond Hill N2, N8 and N13)	E16, E17, E48- E50, E52, E54, E56, E59, E60-E65, E67- E68, E75, E76		Low	Minor
Bat	Risk of direct mortality due to RTAs between roost and foraging sites (Newton Farm N11)	E6, E18, E19, E22, E24, E75, E76	Regional	Low	Minor
	Disturbance due to lighting, fragmentation of foraging corridors (Newton Farm N11)			Negligible	Negligible
	Disturbance of roost habitats and commuting routes at Keppleston Farm, Kepplehill Burn, Gough Burn, Newhills Woods (N12-N14, N16)	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76	County	Negligible	Negligible
	Fragmentation of roost habitats and commuting routes at Keppleston Farm, Kepplehill Burn, Gough Burn, Newhills Woods (N12-N14, N16)			Low	Minor
	Potential pollution of aquifers due to runoff and particulates into aquifers and adjacent land Kepplehill Burn and Gough Burn, (N12-N14, N16)	refer to Water Environment		Negligible	Negligible
Wintering Birds	Risk of direct mortality due to RTAs between foraging sites at Kepplestone Farm (N12 and Newhead Woods (N13, Gough Burn N14 and N16)	E27, E28	County	Low	Minor
	Fragmentation, disturbance at Kepplestone Farm (N12 and N13, Gough Burn N14 and N16)	E29, E30, E48- E71		Low	Minor

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Wintering Birds	Permanent habitat loss and and potential pollution of aquifers from runoff at Kepplestone Farm (N12 and Newhead Woods (N13, Gough Burn N14 and N16)	refer to Water Environment	County	Low	Minor
Otter	Risk of direct mortality due to RTAs and /or drowning due to culverting and potential pollution due to run-off (Kepplehill Burn N11-N13)	E14, E32, E72- E76	County	Negligible	Negligible
	Fragmentation of habitat (Kepplehill Burn N11-N13)	E13, E14, E34, E53, E57, E58, E63, E65, E66, E70, E71, E74- E76		Low	Minor
<b>Section NL2 Predicted Operational Impacts on Habitats and Species</b>					
Terrestrial Habitats	Potential pollution due to runoff and particulates into aquifers and adjacent land (Craibstone Burn N24, Gough Burn and Craibstone Campus N24 - N26).	refer to Water Environment	County	Negligible	Negligible
	Permanent habitat loss of pond and stream riparian habitats, disturbance and fragmentation, (Craibstone Burn N24, Gough Burn and Craibstone Campus N24 - N26)	E10, E15, E48- E71		Low	Minor
Badger	Potential Risk of direct mortality due to RTAs. (Craibstone N26-N28)	E6, E7, E16, E72-E76	County	Negligible	Negligible
	Fragmentation of territory of social group NC. (Craibstone N26-N28)	E16, E17, E48- E50, E52, E54, E56, E59, E60-E65, E67- E68, E75, E76		High	Moderate
	Habitat loss and disturbance and fragmentation of setting and foraging habitat and fragmentation of territory (Social Group NC) (Craibstone N26-N28)			Low	Minor
Bat	Risk of direct mortality due to RTAs between foraging sites (Gough Burn N18 and N24, Craibstone golf course N19, Craibstone Campus N25, Craibstone Burn and Pond N26, Green Burn N27, Craibstone Campus Woodland north of Parkhead N23, N28)	E6, E18, E19, E22, E24, E75, E76	County	Low	Minor
	Habitat loss, disturbance and fragmentation of roost habitats and foraging corridors Gough, Craibstone and Green Burn (Gough Burn N18 and N24, Craibstone golf course N19, Craibstone Campus N25, Craibstone Burn and Pond N26, Green Burn N27, Craibstone Campus Woodland north of Parkhead N23, N28)	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76		Low	Minor
	Pollution of aquifers due to runoff particularly Gough, Craibstone and Green Burn (Gough Burn N18 and N24, Craibstone golf course N19, Craibstone Campus N25, Craibstone Burn and Pond N26, Green Burn N27, Craibstone Campus Woodland north of Parkhead N23, N28)	refer to Water Environment		Negligible	Negligible
Breeding Birds	Risk of direct mortality due to RTAs between foraging sites (Craibstone Burn N25, Craibstone Pond N26, Green Burn N28)	E27, E28	County	Low	Minor
	Habitat loss and disturbance due to fragmentation of habitat and foraging corridors (Craibstone Burn N25, Craibstone Pond N26, Green Burn N28)	E29, E30, E48- E71		Low	Minor
	Pollution of Craibstone Burn N25, Craibstone Pond N26, Green Burn N27 N28)	refer to Water Environment		Negligible	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Wintering Birds	Risk of direct mortality due to RTAs between foraging sites (Craibstone Burn N21, N23 and N25 Craibstone Pond N26, Green Burn N28)	E27, E28	County	Low	Minor
	Habitat loss and disturbance due to fragmentation of habitat and foraging corridors and potential pollution of aquifers due to runoff at Craibstone Burn (N21, N23 and N25) and Craibstone Pond (N26), Green Burn (N28)	E29, E30, E48- E71		Low	Minor
	Potential pollution of aquifers due to run-off at Craibstone Burn (N21, N23 and N25) and Craibstone Pond (N26), Green Burn (N28)	refer to Water Environment		Low	Minor
Otter	Risk of direct mortality due to RTAs and/or drowning where culverted between foraging sites at Gough Burn, Craibstone Burn, Craibstone Pond and Green Burn (N14, N15, N17, N18, N24, N21, N25, N26, N28, N23, N30)	E14, E32, E72- E76	Regional	Negligible	Negligible
	Habitat loss and disturbance at at Craibstone Burn (N26) and Green Burn (N23, N28 and N30)	E13, E14, E34, E53, E57, E58, E63, E65, E66, E70, E71, E74- E76		Low	Minor
	Fragmentation of commuting habitat at Craibstone Burn (N26) and Green Burn (N28)			Medium	Moderate
	Habitat loss, disturbance and fragmentation of habitat and foraging corridors at Gough Burn (N14-N18) and Craibstone Pond (N26)	Low		Minor	
	Potential pollution of aquifers due to run-off at Gough Burn (N14-N18) Craibstone Burn (N26), Craibstone Pond (N26), Green Burn (N23, N28 and N30)	refer to Water Environment		Negligible	Negligible
Red Squirrel	Risk of direct mortality due to RTAs (Craibstone Wood South (N24, woodland 2) and Craibstone Wood North (N25, woodland 3))	E76	Regional	High	Major
	Fragmentation of habitat may result in isolation of these populations and ultimately extinction in these areas (Craibstone Wood South N24 (woodland 2))	E36, E37, E50- E52, E54- E56, E59, E61, E62, E67, E76		High	Major
	Habitat loss of foraging and breeding habitat. Disturbance in these areas may cause squirrel to abandon habitat Craibstone Wood North N25 (woodland 3))			Low	Minor
Fish	Risk of direct mortality caused by pollution due to road runoff carrying sediment load and heavy metals at Gough Burn, Craibstone Burn, Green Burn N14, N15, N17, N18, N21, N23-N26, N28, N30).	refer to Water Environment	County	Negligible	Negligible
Freshwater	Pollution due to road runoff carrying sediment load and heavy metals may cause long-term decreased habitat complexity for leading to localised changes in invertebrate distributions (Gough Burn, Craibstone Burn, Green Burn N14, N15, N17, N18, N21, N23-N26, N28, and N30).	E14, E15, E45, E46, E47 refer to Water Environment	Regional	Low	Minor
<b>Section NL3 Predicted Operational Impacts on Habitats and Species</b>					
Terrestrial Habitats	Permanent habitat loss of farmland and 13-14 dry stone walls. Disturbance, fragmentation and potential pollution of woodlands. Hydrological impacts upon wetland habitat (Agricultural land surrounding Howemoss N32 and N33, Kirkhill Forest and Standingstones Wood N35- N37).	E54, E56-E59, E62 refer to Water Environment	County	Low	Minor
	Permanent habitat loss, fragmentation and potential pollution of riparian habitat due to runoff (Bogenjoss Burn N38, N42 and N1).				

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Badger	Risk of direct mortality due to RTAs (Howemoss, Kirkhill Forest, Standingstones Wood, East Woodlands, Monument Wood and Bogenjoss Burn N33-N35, N37, N39, N41-N44 and N46 – N47).	E6, E7, E16, E72-E76	Regional	Negligible	Negligible
	Habitat loss of setting and foraging habitat, disturbance and severe fragmentation of territory (social groups ND, NE, NF, NG and NH) and of Bogenjoss Burn as a wildlife corridor (Howemoss, Kirkhill Forest, Standingstones Wood, East Woodlands, Monument Wood and Bogenjoss Burn N33-N35, N37, N39, N41-N44 and N46-N47).	E16, E17, E48- E50, E52, E54, E56, E59, E60-E65, E67- E68, E75, E76		Low	Minor
Bat	Disturbance and fragmentation of roosts and foraging corridors (Walton Farm and Sunnybrae Cottage N30).	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76	Regional	Low	Minor
	Risk of direct mortality due to RTAs caused by severance of flight lines (N35-N37, N42-N43, N45, N47).	E6, E18, E19, E22, E24, E75, E76		Low	Minor
	Habitat loss of potential roosts and foraging corridors (Standingstones Wood, Kirkhill Forest North, East Wood, Monument Wood and Bogenjoss Burn N35, N37- N38, N42-N45).	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76		Low	Minor
	Disturbance and fragmentation of potential roosts and foraging corridors (Standingstones Wood, Kirkhill Forest North, East Wood, Monument Wood and Bogenjoss Burn N33, N35-N43, and N45, N47).	refer to Water Environment	County	Low	Minor
	Fragmentation of foraging corridors (Farburn Wood (DWS) N36).			Low	Minor
	Potential pollution to Howemoss Burn and Bogenjoss Burn.	refer to Water Environment		Negligible	Negligible
Breeding Birds	Potential pollution to Howemoss Burn due to run off (N32) potential pollution to Bogenjoss Burn due to accidental spills (Bogenjoss Burn, Monument Woods and East Woodlands N41, N42 & N43).	refer to Water Environment	County	Negligible	Negligible
	Risk of direct mortality due to RTAs (Kirkhill Forest, N37, Bogenjoss Burn, Monument Woods and East Woodlands N41, N42 & N43).	E27, E28		Low	Minor
	Permanent habitat loss, disturbance and fragmentation (excluding N43 with respect to fragmentation), of Kirkhill Forest, N37, Bogenjoss Burn, Monument Woods and East Woodlands N41, N42 & N43).	E29, E30, E48- E71		Low	Minor
Wintering Birds	Risk of direct mortality due to RTAs, around Bogenjoss Burn, Kirkhill Lower Overton Wood Standingstones Wood and Howemoss (HA N30-N35 and N37-N48).	E27, E28	County	Low	Minor
	Habitat loss, fragmentation and disturbance around Bogenjoss Burn, Kirkhill Lower Overton Wood, Standingstones Wood and Howemoss (HA N30-N35 and N37- N48).	E29, E30, E48- E71		Low	Minor
	Potential pollution of aquifers at Bogenjoss Burn (N37, N38 & N40) and Howemoss (N32-N33)	refer to Water Environment		Negligible	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)		
				Magnitude	Significance	
Otter	Risk of direct mortality due to RTAs and/or drowning where culverted between foraging sites (Bogenjoss Burn N37, N38, N40-N42, N45)	E14, E32, E72- E76	Regional	Negligible	Negligible	
	Fragmentation of habitat and Potential pollution of aquifers (Bogenjoss Burn N37, N38, N40-N42, N45)	E13, E14, E34, E53, E57, E58, E63, E65, E66, E70, E71, E74-E76		Medium	Moderate	
	Risk of direct mortality due to RTAs and/or drowning where culverted between foraging sites (Howemoss Field Ditch N33, Walton Field Ditch N30)	E14, E32, E72- E76	County	Negligible	Negligible	
Red Squirrel	Risk of direct mortality due to RTAs between foraging sites (Kirkhill Forest North N37 (woodland 5),	E76	National	Low	Moderate	
	Risk of direct mortality due to RTAs between foraging sites and East Woodlands N43 (woodland 6) Standingstones wood N35 (woodland 12),)			Medium	Major	
	Fragmentation potentially affecting the viability of the population at Kirkhill Forest North N37 (woodland 5)	E36, E37, E50- E52, E54- E56, E59, E61, E62, E67, E76		Low	Moderate	
	Fragmentation potentially affecting the viability of the population at Standingstones wood N35 (woodland 12), East Woodlands N43 (woodland 6))			High	Major	
	Permanent habitat loss and disturbance (Kirkhill Forest N37 (woodland 5), Standingstones wood N35 (woodland 12), East Woodlands N43 (woodland 6) and (Monument Wood N47 (woodland 7)))			Low	Moderate	
	Risk of direct mortality due to RTAs between foraging sites (Monument Wood N47 (woodland 7))	E76		Regional	High	Major
	Fragmentation potentially affecting the viability of the population (Monument Wood N47 (woodland 7))	E36, E37, E50- E52, E54- E56, E59, E61, E62, E67, E76			Medium	Moderate
Disturbance may cause squirrels to abandon habitat (Monument Wood N47 (woodland 7))	None	Medium	Moderate			
Brown Hare	Permanent habitat loss, disturbance and fragmentation (Agricultural land surrounding Howemoss N33)	No specific mitigation	County	Negligible	Negligible	
Fish	Potential pollution due to input of sediment or pollutants from road runoff will affect the currently excellent water quality	refer to Water Environment	County	Negligible	Negligible	
	Habitat loss of spawning grounds (Bogenjoss Burn N37, N38, N40-N42, N45)	E14, E15, E45, E46, E47	County	Medium	Moderate	
Freshwater	Pollution due to runoff and change in discharge regime carrying sediment load and heavy metals may cause long-term decreased habitat complexity leading to localised changes in invertebrate distributions (Bogenjoss Burn N37, N38, N40-N42, N45)	Refer to Chapter 9: Water Environment E14, E15, E45, E46, E47	Regional	Medium	Moderate	

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
<b>Section NL4 Predicted Operational Impacts on Habitats and Species</b>					
Terrestrial Habitats	Permanent Habitat Loss of riparian and linear habitats, Disturbance and Fragmentation of wildlife corridors along the River Don, Goval Burn and the Mill Lade (River Don N52, Goval Burn and the Mill Lade N61, Formartine and Buchan Way (DWS) N62	E10, E15, E48- E71	County	Low	Minor
	Potential Pollution of riparian habitats along the River Don, Goval Burn and the Mill Lade (River Don N52, Goval Burn and the Mill Lade N61, Formartine and Buchan Way (DWS) N62	refer to Water Environment		Negligible	Negligible
	Fragmentation (Skate Wood (Important Local wildlife Site under the Scottish Wildlife Action Project N65)	E10, E15, E48- E71		Negligible	Negligible
Badger	Risk of direct mortality due to RTAs (Goval Burn and Goval Mill Lade N54, N60, N62, N67)	E6, E7, E16, E72-E76		Negligible	Negligible
	Habitat Loss of setting and foraging habitat. Fragmentation and Disturbance to social groups NH, NI, NJ and NK and riparian commuting habitat along Goval Burn impact (Goval Burn and Goval Mill Lade N54, N60, N62 and N67)	E16, E17, E48- E50, E52, E54, E56, E59, E60-E65, E67- E68, E75, E76		Low	Minor
	Fragmentation of social groups NH, NI, NJ and NK and riparian commuting habitat along Goval Burn impact (Goval Burn and Goval Mill Lade N54, N60, N62 and N67)			High	Moderate
Bat	Risk of direct mortality due to operational RTAs (Banks of the River Don N52)	E6, E18, E19, E22, E24, E75, E76	National	Negligible	Negligible
	Fragmentation, Disturbance and Pollution of the River Don due to runoff (Banks of the River Don N52)	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76		Negligible	Negligible
	Risk of direct mortality due to RTAs (Goval Burn and the Mill Lade N61)	E6, E18-E20, E22, E24, E75, E76	Regional	Low	Minor
	Disturbance and Fragmentation of roosts, foraging and commuting corridors and potential Pollution to Goval Burn, Goval Reservoir and the Mill Lade (Goval Burn and the Mill Lade N61)	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76		Low	Minor
	Risk of direct mortality due to RTAs (Goval Belt N58)		County	Low	Minor
	Risk of direct mortality due to RTAs at Agricultural land surrounding railway N49-N50, Formartine and Buchan Way (DWS) N62, Agricultural fields to the north of Meadow Head N69, Goval Farm, Goval Wood and surrounding agricultural fields N53-N54, N60, Parkhill Estate N63)	E6, E18, E19, E22, E24, E75, E76		Negligible	Negligible
	Disturbance and Fragmentation of roosts, foraging and commuting corridors of Mill Lade (Agricultural land surrounding railway N49-N50, Goval Wood N54 and Den Wood N67-N70	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76		Low	Minor

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Bat	Disturbance and Fragmentation of roosts, foraging and commuting corridors of Mill Lade (Formartine and Buchan Way (DWS) N62 Goval Farm, Goval Wood N53 and Parkhill Estate N63	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76	see above	Negligible	Negligible
	Potential Pollution to Goval Burn and the Mill Lade N61	refer to Water Environment		Negligible	Negligible
	Disturbance and Fragmentation of roosts at Goval Belt and surrounding agricultural fields N58 and N60 Agricultural fields to the north of Meadow Head N69	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76		Low	Minor
Breeding Birds	Potential Pollution to the River Don (DWS) due to run off (N52)	refer to Water Environment	County	Negligible	Negligible
	Risk of direct mortality due to RTAs (N61)	E27, E28		Low	Minor
	Permanent Habitat Loss, Disturbance due to Fragmentation of habitat and foraging corridors and Pollution of Goval Burn, (N61)	E29, E30, E48- E71		Low	Minor
Wintering Birds	Risk of direct mortality due to RTAs between foraging sites in Nether Kirkton surrounding the River Don DWS (N49, N50, N51, N52 & N54)	E27, E28	Regional	Low	Minor
	Permanent Habitat Loss, Disturbance due to Fragmentation in Nether Kirkton surrounding the River Don DWS (N49, N50, N51, N52 & N54)	E29, E30, E48- E71		Low	Minor
	Potential Pollution of the River Don (N52)	refer to Water Environment	County	Negligible	Negligible
	Risk of direct mortality due to RTAs between foraging sites in Agricultural fields and Woodland to the West and South of Goval Burn and Goval Mill Lade (N55, N58, N60, N61, N62, N63, N64, N67- N70)	E27, E28		Low	Minor
	Permanent Habitat Loss of high value riparian habitat. Disturbance due to Fragmentation of habitat and foraging corridors and Pollution of the Goval Burn and the Mill Lade (Agricultural fields and Woodland to the West and South of Goval Burn and Goval Mill Lade N55, N58, N60, N61, N62, N63, N64, N67- N70)	E29, E30, E48- E71		Low	Minor
	Potential Pollution of the Goval Burn and the Mill Lade (N63 and N64)	refer to Water Environment		Negligible	Negligible
Otter	Risk of direct mortality due to RTAs between foraging sites ( River Don N52)	E14, E32, E72- E76	International	Negligible	Negligible
	Fragmentation of the major commuting corridor Potential pollution to the River Don (River Don N52)	refer to Water Environment		Negligible	Negligible
	Risk of direct mortality due to RTAs between foraging sites Goval Burn (N54, N55, N59-N61)	E14, E32, E72- E76	National	Negligible	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Otter	Habitat Loss of high value riparian and wildlife corridor habitat due to culverting realignment, Fragmentation of the major commuting corridor. Potential pollution to Goval Burn (N54, N55, N59-N61)	E13, E14, E34, E53, E57, E58, E63, E65, E66, E70, E71, E74-E76	National	Negligible	Negligible
	Risk of direct mortality due to RTAs between foraging sites (Mill Lade N55)	E14, E32, E72- E76	Regional	Negligible	Negligible
	Fragmentation of the major commuting corridor. Disturbance due to junction lighting. Potential pollution to the Mill Lade (Mill Lade N55)	E13, E14, E34, E53, E57, E58, E63, E65, E66, E70, E71, E74-E76	County	Low	Minor
	Potential Pollution and Risk of direct mortality due to RTAs between foraging sites (Corsehill Burn N64 and N66)	E14, E32, E72- E76		Negligible	Negligible
	Fragmentation of commuting routes (Corsehill Burn N64 and N66)	E13, E14, E34, E53, E57, E58, E63, E65, E66, E70, E71, E74-E76		Low	Minor
Fish	Potential Pollution due to input of sediment or pollutants from road runoff will affect the currently good (A2) water quality (River Don N52)	refer to Water Environment	National	Negligible	Negligible
	Fragmentation and isolation due to physical barriers. Potential Pollution due to input of sediment or pollutants from road runoff will affect the currently good (A2) water quality (Goval Burn N54, N55, N59-N61)	E14, E15, E45, E46, E47	Regional	Negligible	Negligible
F/water	Pollution due to road runoff carrying sediment load and heavy metals may cause long-term decreased habitat complexity leading to localised changes in invertebrate distributions (River Don N52)	refer to Water Environment	National	Negligible	Negligible
	Pollution due to road runoff carrying sediment load and heavy metals may cause long-term decreased habitat complexity for leading to localised changes in invertebrate distributions (Goval Burn N54, N55, N59-N61)		County	Low	Minor
<b>Section NL5 Predicted Operational Impacts on Habitats and Species</b>					
Terrestrial Habitats	Fragmentation and Disturbance of wetland habitats and potential Pollution of aquifers due to runoff (Corby and Lily Lochs (DWS, SINS comple with Bishop's Loch) N85)	E10, E15, E48 refer to Water Environment	National	Negligible	Negligible
Badger	Risk of direct mortality due to RTAs (Littlejohn's Wood and Harehill N67, N85, N91, N93,N94)	E6, E7, E16, E72-E76	County	Low	Minor
	Loss of setting and foraging Habitat. Fragmentation and Disturbance to social groups NK,NL,NM and NN and NO(Littlejohn's Wood and Harehill N67, N85, N91 and N93-N94)	E16, E17, E48- E50, E52, E54, E56, E59, E60-E65, E67- E68, E75, E76			

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
Bat	Risk of direct mortality due to RTAs (Cranfield treelines and treelines surrounding Harehill Cranfield treelines N91 N90)	E6, E18, E19, E22, E24, E75, E76	Regional	Low	Minor
	Disturbance and Fragmentation of roosting habitat and foraging corridors (Cranfield treelines and treelines surrounding Harehill Cranfield treelines N91 N90)	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76			
	Risk of direct mortality due to RTAs (Corsehill Wood N71, Littlejohns Wood N72, Woodland at Red Moss N74, Moss Belt Plantation N80, Fields surrounding Loch Greens Farm N85 and N87)	E6, E18, E19, E22, E24, E75, E76	County	Low	Minor
	Permanent Habitat Loss (including Loch Greens Pond). Disturbance and Fragmentation of roosts and foraging / commuting corridors at Corsehill Wood (N71), Agricultural areas around Moss belt (N78) Moss Belt Plantation (N80), Red Moss (N82 and N83) Loch Hills Quarry (N84) and Fields surrounding Loch Greens Farm (N87), and Newton of Shielhill (N88)	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76			
	Pollution of aquifers including Red Moss Burn and Corby and Lily Loch and Blackdog Burn N91	Refer to Chapter 9: Water Environment			
	Fragmentation of commuting corridors at Littlejohn's Wood (N72) Woodland at Red Moss (N74) and Corby and Lily Loch (N85)	E6, E10, E13, E22- E24, E50- E67, E69- E71, E74- E76			
Breeding Birds	Potential pollution of to Red Moss Burn and Corby Loch due to runoff (Agricultural fields South of Lochgreens Farm N84)	refer to Water Environment	County	Negligible	Negligible
	Potential pollution of to Red Moss Burn and Corby Loch due to runoff (Corby and Lily Lochs (SSSI, DWS, SINS) N85)		Regional	Negligible	Negligible
	Risk of direct mortality due to RTAs between foraging sites. (Agricultural fields between Lochgreens Road/ Gravel Pit N87)	E27, E28	County	Low	Minor
	Permanent Habitat Loss, Fragmentation and potential Pollution to Red Moss Burn and Corby Loch due to run off (Agricultural fields between Lochgreens Road/ Gravel Pit N87)	refer to Water Environment		Low	Minor
Wintering Birds	Disturbance due to Fragmentation of habitat and foraging corridors and Pollution of aquifers (Corby and Lily Lochs Area surrounding Lochs N85)	E29, E30, E48- E71	National	Negligible	Negligible
	Risk of direct mortality due to RTAs between foraging sites around Lochgreens Farm (N80, N81, N83, N86 & N87) and Woodland at Red Moss, North of B977 (N74)	E27, E28	Regional	Low	Minor
	Permanent Habitat Loss fragmentation and Disturbance around Lochgreens Farm (N80, N81, N83, N86 & N87) and Woodland at Red Moss, North of B977 (N74)	E29, E30, E48- E71		Low	Minor
	Potential pollution of aquifers from runoff around Lochgreens Farm (N80, N81, N83, N86 & N87) and Woodland at Red Moss, North of B977 (N74)	refer to Water Environment		Negligible	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)		Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
				Magnitude	Significance
	Risk of direct mortality due to RTAs between foraging sites (Backhill of Cranbog and Fifehill N86, N87 & N88)	E27, E28	County	Low	Minor
	Habitat Loss, Fragmentation and Disturbance (Backhill of Cranbog and Fifehill N86, N87 & N88,)	E29, E30, E48- E71		Low	Minor
	Potential Pollution of aquifers (Backhill of Cranbog and Fifehill N86, N87 & N88)	refer to Water Environment		Negligible	Negligible
Otter	Potential Pollution of Corby and Lily Loch (N85)	refer to Water Environment	National	Negligible	Negligible
	Risk of direct mortality due to RTAs (Blackdog Burn N91, N93-N95)	E14, E32, E72- E76	Regional	Negligible	Negligible
	Fragmentation, Disturbance and potential Pollution of Blackdog Burn (N91, N93-N95)	E13, E14, E34, E53, E57, E58, E63, E65, E66, E70, E71, E74-E76		Negligible	Negligible
	Risk of direct mortality due to RTAs at Red Moss Burn, Middlefield Burn (N82-N87)	E14, E32, E72- E76	County	Negligible	Negligible
	Fragmentation at Red Moss Burn	E13, E14, E34, E53, E57, E58, E63, E65, E66, E70, E71, E74-E76		Negligible	Negligible
	Habitat Loss at Red Moss Burn			Low	Minor
	Fragmentation at Middlefield Burn			Low	Minor
Habitat Loss at Middlefield Burn	Negligible		Negligible		
Red Squirrel	Risk of direct mortality due to RTAs between foraging sites (Corsehill Wood N71 (W8) Littlejohns Wood N72 (W8))	E76	Regional	Medium	Moderate
	Fragmentation potentially affecting the viability of the population (Corsehill Wood N71 (W8) Littlejohns Wood N72 (W8))	E36, E37, E50- E52, E54- E56, E59, E61, E62, E67, E76		Medium	Moderate
	Permanent Habitat Loss and Disturbance to these areas (Corsehill Wood N71 (W8) Littlejohns Wood N72 (W8))			Low	Minor
<b>Landscape (Chapter 11)</b>					
<b>Directly Affected Impacts</b>					
<u>Open Farmland: Overhills (chainage 314800-316300)</u>		L1-L15	Low/Medium	Medium	Slight
<ul style="list-style-type: none"> <li>• Farmland</li> <li>• Busy local roads between Kingswell and Bucksburn</li> <li>• Newhills scattered settlement</li> </ul>			Low	Low	
			Medium	Low	

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. before specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. with mitigation)	
			Magnitude	Significance
<u>Wooded Farmland: Craibstone (chainage 316300 – 317500)</u> <ul style="list-style-type: none"> <li>A96 road corridor</li> <li>Craibstone SAC Estate</li> <li>Woodland and farmland west of SAC Craibstone Estate</li> </ul>	L1-L10 L16 -L27	Low	Low	Substantial
		High	Medium	
		Medium	Low	
<u>Open Farmland: Newton (chainage 317500 – 318900)</u> <ul style="list-style-type: none"> <li>Farmland on eastern slopes of Tyrebagger Hill</li> <li>Minor road between A96 and Kirkhill Industrial Estate</li> </ul>	L1-L10, L28-L34	Medium	Medium	Moderate
		Low	Low	
<u>Hill: Tyrebagger Hill/Kirkhill (chainage 318900-322300)</u> <ul style="list-style-type: none"> <li>Commercial plantations on Tyrebagger Hill</li> <li>Farmland on eastern slopes of Tyrebagger Hill (south of Stone Circle)</li> <li>Farmland on western slopes of Tyrebagger Hill</li> <li>Farmland on north facing slopes of Tyrebagger Hill</li> <li>Pitmedden House estate landscape</li> <li>A96 corridor</li> </ul>	L1-L10, L35-L48	Low /Medium	Low /Medium	Moderate
		Medium	Medium	
		Medium	No change	
		Medium	Medium	
		High	Low	
		Low	No change	
<u>Open Farmland Type : Newton (Chainage 322300 – 322800)</u> <ul style="list-style-type: none"> <li>Farmland north of airport</li> <li>Dyce Drive, railway corridor and industrial edge</li> </ul>	L1-L10, L49 -L52	Low /Medium	Medium	Moderate to Slight
		Low	Medium	
<u>Valley Type: Lower Goval (chainage 322800 – 324000, includes bridge across River Don)</u> <ul style="list-style-type: none"> <li>Farmland south of river</li> <li>Farmland to north of river</li> </ul>	L1-L10, L53-L58	Low /Medium	Medium	Moderate to Substantial
		High	Medium	
<u>Open Farmland Type: Goval (chainage 324000 – 325350)</u> <ul style="list-style-type: none"> <li>Open farmland north of Goval Belt</li> <li>Open farmland south of Goval Belt</li> <li>Formartine and Buchan Way</li> </ul>	L1-L10, L59 -L68	Medium	Low	Substantial
		High	Medium	
		High	Medium	
<u>Wooded Farmland: Braes of Don (A947 realignment)</u> <ul style="list-style-type: none"> <li>Northern part of area</li> <li>Southern part of area</li> </ul>	L1-L10, L69-L71	Medium/High	Low	Slight
		Medium	No change	
<u>Wooded Farmland Type: Red moss (chainage 325350 – 326000)</u> <ul style="list-style-type: none"> <li>Littlejohn`s Wood area</li> <li>Wooded Farmland</li> </ul>	L1-L10, L72-L73	Medium/High	Low	Moderate
		Low /Medium	No change	

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. before specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. with mitigation)	
			Magnitude	Significance
<u>Open Farmland Type: Perwinnes (chainage 326000 – 328200)</u> <ul style="list-style-type: none"> <li>Open farmland at Perwinnes Hill, Leuchlands, Lochgreens</li> <li>Lily Loch / Corby Loch</li> <li>Perwinnes Moss / Scotstown Moor</li> </ul>	L1-L10, L74-L82	Low /Medium	Medium	Moderate
		Medium/High	Low	
		Medium	Low	
<u>Open Farmland Type: Potterton (chainage 328200 – A90 North Junction)</u> <ul style="list-style-type: none"> <li>Open farmland</li> <li>A90 road corridor</li> <li>B999 road corridor</li> </ul>	L1-L10, L83-L94	Medium	Low	Moderate
		Low	Medium	
		Medium	Low	
<u>Open Farmland Type: Blackdog (A90 North junction)</u> <ul style="list-style-type: none"> <li>Blackdog settlement</li> <li>Blackdog Industrial Estate</li> <li>A90 road corridor</li> <li>Man-made / industrial</li> </ul>	L1-L10, L95-L102	Low /Medium	Low	Slight beneficial
		Low	Low	
		Low	Low	
		Low	No change	
<b>Indirectly Affected Areas</b>				
Wooded Farmland: Kingswells	N/A	Medium	No change	No change
Urban: Kingswells	N/A	Medium	No change	No change
Hill: Brimmond Hill	L1-L10, L102	Medium / high	Low	Negligible
Recreation: Craibstone Golf Course	L1-L10, L102	Low / medium	Low	Slight to Negligible
Hill: Elrick Hill	L1-L10, L102	Medium / high	Low	Negligible
Open Farmland: Greenferns	L1-L10, L102	Low / medium	Low	Negligible
Recreation: Auchmill Golf Course	L1-L10, L102	Low / medium	Low	Negligible
Urban: Bucksburn	None	Medium	Low	Negligible
Urban: Kirkhill Industrial Estate	L1-L10, L102	Low	Low	Negligible
Urban: Dyce	L1-L10, L102	Low	Low	Negligible
Urban: Lower Don Valley	None	Medium	No change	No change
Urban: Upper Don Valley	L1-L10, L102	Medium / high	Low	Negligible
Urban: St. Fergus	L1-L10, L102	Low / medium	Low	Slight
Hill: Foresterseat	None	Medium	Low	Negligible
Recreation: Newmacher Golf Course	None	Low / medium	Low	Negligible
Urban: Potterton	L1-L10, L102	Medium	Low	Negligible
Urban: Balmedie	None	Medium	No change	No change
Recreation: East Aberdeenshire Golf Course	None	Low / medium	Low	Negligible
Urban: Denmore	None	Low	Low	Negligible

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. before specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. with mitigation)	
			Magnitude	Significance
Open Farmland: Cloverhill	None	Low / medium	Low	Negligible
Coast: Balgownie Links	None	Low / medium	Low	Negligible
<b>Visual (Chapter 12)</b>				
Overall impact from Northern Leg of the new road across open farmland (at winter year of scheme opening): <ul style="list-style-type: none"> <li>Built receptors 63.3% (630) moderate or greater adverse impact</li> <li>Outdoor receptors 53% (68.8%) moderate or greater adverse impact</li> </ul>	L1-L10 & V1, V2	Various dependant on receptor types and proximity / type of proposals	Various magnitude dependant on proximity to proposals	<u>Built receptors:</u> 386 (36.9%) Moderate or greater significance <u>Outdoor receptors:</u> 45 (58.4%) Moderate or greater significance
<b>Cultural Heritage (Chapter 13)</b>				
Removal of known and unknown remains of cultural heritage significance	CH1-CH6	Less than Local - Regional	Low - Medium	Slight - Moderate
Visual impact on known site of cultural heritage significance	CH6	Low - High	Negligible - Prominent	Slight – Substantial
<b>Air Quality (Chapter 14)</b>				
Change in annual mean nitrogen dioxide concentrations at 135 sample properties within 500m of the Northern Leg	n/a	High	Increase in NOx (number of sample properties in brackets):  Very small (7) Small (12) Medium (16) Large (23) Very large (52)	Negligible (7) Slight (51) Moderate (52)
			Reduction in NOx (number of sample properties in brackets):  Extremely small (2) Very small (5) Small (5) Medium (3) Large (9) Very large (1)	Negligible beneficial (7) Slight beneficial (17) Moderate beneficial (1)

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. before specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. with mitigation)	
			Magnitude	Significance
Change in annual mean PM <sub>10</sub> concentrations at 135 sample properties within 500m of the Northern Leg	n/a	High	Increase in Annual Mean PM <sub>10</sub> (number of sample properties in brackets):  Extremely small (7) Very small (81) Small (17) Medium (4) Large increase (1)	Negligible (43) Slight a (66) Moderate (1) Negligible beneficial (12)
			Reduction in Annual Mean PM <sub>10</sub> (number of sample properties in brackets):  Extremely small (9) Very small (13) Small reduction (3)	Slight beneficial (12) Moderate beneficial (1)
Change in the number of exceedences of 50 µg/m <sup>3</sup> as a 24-hour PM <sub>10</sub> concentration at 135 sample properties within 500m of the Northern Leg	n/a	High	Chnge in number of exceedances:  Extremely small increase (8) Extremely small reduction (1) No change (126)	Negligible (8) Negligible beneficial (1) No change (126)
<b>Traffic Noise and Vibration (Chapter 15)</b> <i>Note: All properties expected to experience L<sub>A10(18hr)</sub>&gt;59.5dB at first floor with a ModerateAdverse or worse significance unmitigated impact are listed.</i>				
Greenacres	N1	High	High	Substantial
Hill Crest (Design Year Only)	N1	High	Low	Moderate
1 Walton View	N1, N2	High	Medium	Moderate/Substantial
Strathinver, Chapel Brae	N1	High	Low	Moderate
Scottish Agricultural College	N1	High	High	Substantial
Mackie Hall House	N1	High	High	Substantial

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
			Magnitude	Significance
2 Walton View	N1, N2	High	High	Substantial
3 Walton View	N1, N2	High	Medium	Moderate/Substantial
4 Walton View	N1, N2	High	Medium	Moderate/ Substantial
Braeside Cottage, Chapel At Braeside (Design Year Only)	N1	High	High	Substantial
Lyndmoor Pitmedden Road	N1, N5	High	High	Substantial
Tillybrig Pitmedden Road	N1, N5	High	High	Substantial
Upper Kirkton (Design Year Only)	N1	High	High	Substantial
Nether Kirkton	N	High	Low	Moderate
2 Bogenjoss	N1, N4	High	High	Substantial
Parkhill Cottage, Parkhill Pumping Station	N1, N6	High	Low	Moderate
Bungalow, Parkhill	N1, N8	High	High	Substantial
1 Little Goval Cottages, Parkhill	N1	High	Medium	Moderate/ Substantial
Norwood	N1	High	Low	Moderate
Birchville, Corsehill (Design Year Only)	N1	High	High	Substantial
Roselea, Parkhill	N1	High	High	Substantial
2 Lochgreens Cottages	N1, N7	High	High	Substantial
Middleton Farm	N1	High	High	Substantial
1 Wester Hatton Cottages	N1	High	Low	Moderate
2 Wester Hatton Cottages	N1	High	Low	Moderate
Middlefield Farmhouse	N1	High	Low	Moderate
Middleton Farm Steading East	N1	High	High	Substantial
16 Forrit Brae (Year Of Opening Only)	N1	High	Negligible	Slight

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
			Magnitude	Significance
<b>Pedestrians, Cyclists, Equestrians and Community Effects (Chapter 16)</b>				
Path from north Kingswells to Hillhead of Derbeth severed (C13)	P2, P6 & P7	High	-	<u>Amenity:</u> Moderate
		High	-	<u>Severance:</u> Slight
		<u>Vulnerable (V)</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Minor	<u>Journey change:</u> Moderate (V) Slight (NV)
Path from Newton to Brimmond Hill severed (C14)	P1, P2, P6 & P7	High	-	<u>Amenity:</u> Moderate (not incl visual)
		High	-	<u>Severance:</u> Slight/ Moderate
		<u>Vulnerable (V)</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Negligible - Moderate	<u>Journey change:</u> Major (V) Slight (NV)
Path from SAC Craibstone campus to Parkhead/ Golf Centre severed (C15)	P1, P6 & P7	High	-	<u>Amenity:</u> Slight (not incl visual)
		High	-	<u>Severance:</u> Moderate
		<u>Vulnerable (V)</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Moderate	<u>Journey change:</u> Major (V) Moderate (NV)

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
			Magnitude	Significance
Path from SAC Craibstone campus to Chapel Croft severed (C16)	P1, P2, P6 & P7	High	-	<u>Amenity:</u> Slight (not incl visual)
		High	-	<u>Severance:</u> Moderate
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Moderate/ Major	<u>Journey change:</u> Severe (V) Moderate (NV)
Walton Road severed (C17)	P2, P6 & P7	High	-	<u>Amenity:</u> Moderate
		High	-	<u>Severance:</u> Slight/ Moderate
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Moderate	<u>Journey change:</u> Major (V) Moderate (NV)
Path from Howemoss to Standing Stones Wood severed (C18)	P1, P5, P6 & P7	High	-	<u>Amenity:</u> Slight (not incl visual)
		High	-	<u>Severance:</u> Slight/ Moderate
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Moderate	<u>Journey change:</u> Major (V) Moderate (NV)

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
			Magnitude	Significance
Paths to Bogenjoss/ Kirkhill Forest severed (C19)	P2, P6 & P7	High	-	<u>Amenity:</u> Slight/ Moderate
		High	-	<u>Severance:</u> Negligible/ Slight
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults Equestrians (E)	Neutral	<u>Journey change:</u> Positive impact
Path to Kirkhill Forest severed (C20)	P2, P6 & P7	High	-	<u>Amenity:</u> Slight/ Moderate
		High	-	<u>Severance:</u> Negligible/ Slight
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults Equestrians (E) Cyclists (C)	Minor	<u>Journey change:</u> Moderate (V) Slight (NV) Slight (E) Negligible (C)
Path to North Kirkhill Forest (C21)	P1, P4, P6 & P7	High	-	<u>Amenity:</u> Slight/ Moderate
		High	-	<u>Severance:</u> Slight/ Moderate
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Minor	<u>Journey change:</u> Moderate (V) Slight (NV)

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
			Magnitude	Significance
The Formartine & Buchan Way severed at two points (C22 & C23)	P3, P6 & P7	High	-	<u>Amenity (C22):</u> Slight/ Moderate <u>Amenity (C23):</u> Moderate
		High	-	<u>Severance:</u> n/a
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults Equestrians (E) Cyclists (C)	Neutral	<u>Journey change:</u> (at both crossing points) Negligible for all users
Path from Corsehill to Meadowhead (C24)	P1, P2, P6 & P7	High	-	<u>Amenity:</u> Slight/ Moderate
		High	-	<u>Severance:</u> n/a
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Moderate	<u>Journey change:</u> Major (V) Moderate (NV)
Path from Potterton to Blackdog severed (Laingseat Road) (C25)	P2, P6 & P7	Slight	Major	<u>Amenity:</u> Slight/ Moderate
		Slight		<u>Severance:</u> Slight
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults		<u>Journey change:</u> Severe (V) Major (NV)

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  <i>Note: these are potential environmental impacts (i.e. before specific mitigation)</i>	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. with mitigation)	
			Magnitude	Significance
Bus stop at A96 on eastbound carriageway	None	<u>Non Vulnerable (NV)</u> Adults	Moderate	<u>Journey change</u> Moderate
Two bus stops on both sides of the A96 at Craibstone	None	<u>Non Vulnerable (NV)</u> Adults	Moderate (bus stop 1) Minor (bus stop 1)	<u>Journey change</u> Moderate Slight
Bus stop at A96 at junction with Dyce Drive	None	<u>Non Vulnerable (NV)</u> Adults	Minor	<u>Journey change</u> Slight
Two bus stops on both sides of the A90	None	<u>Non Vulnerable (NV)</u> Adults	Major (both)	<u>Journey change</u> Major (both)
<b>Chapter 17: Vehicle Travellers</b>				
Views from the AWPR will offer a significant change to those currently available from the A90, with views that will generally be more rural in character. Sections of the proposed route will offer attractive open views across the rolling countryside around Aberdeen, which will become more enclosed as proposed mitigation planting matures, that will be more pleasant for drivers than the generally enclosed urban journey that is continually disrupted by stop/start traffic caused by traffic lights and roundabouts travellers experience as the drive through Aberdeen.	VT1	n/a	<u>Significance not assessed. Impacts considered qualitatively as % and type of view:</u> <i>No view:</i> 20.5% of views winter year of opening increasing to 29.6% summer 15 years after opening. <i>Restricted view:</i> 13.5% of views winter year of opening increasing to 23.8% summer 15 years after opening. <i>Intermittent view:</i> 26.1% views at winter year of opening increasing to 27.3% summer 15 years after opening. <i>Open view:</i> 39.9% views winter year of opening decreasing to 19.3% summer 15 years after opening.	
Changes to driver stress levels: main sections of road network where driver stress levels are predicted to decrease due to the proposed scheme.	VT2	n/a	<u>Key predicted driver stress decreases:</u> <ul style="list-style-type: none"> <li>The A90(T) Murcar Industrial Estate to Balmedie southbound - Low</li> <li>The A96 Blackburn to Craibstone southbound - Low</li> <li>The B999 Aberdeen to Tarves Road westbound - Moderate.</li> </ul>	
Changes to driver stress levels: sections of road network where driver stress levels are predicted to increase due to the proposed scheme.	VT3	n/a	<u>Key predicted driver stress increases:</u> <ul style="list-style-type: none"> <li>The A96 Blackburn to Craibstone eastbound will change from Low to Moderate; and</li> <li>The A947 Aberdeen - Oldmeldrum - Turriff Road southbound will change from Moderate to High.</li> </ul>	

**Aberdeen Western Peripheral Route**  
**Environmental Statement**  
**Part B: Northern Leg**

Impact Description  Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)	Mitigation Item Number (refer to Chapter 21)	Sensitivity/value of Receptor	Residual Impact (i.e. <i>with</i> mitigation)	
			Magnitude	Significance
<b>Disruption due to Construction (Chapter 18)</b>				
Damage to land (e.g. due to movement of machinery, storage of materials, access routes).	D1	See Land Use Impact summary	Not assessed	Not Significant
Dust and emission impacts on arable crop production (e.g. dust covering plant leaves - reducing photosynthesis).	D1			
Temporary restriction of access to farm buildings and severance of land preventing movement of machinery or livestock.	D2			
Temporary restriction of access to local business premises.	D3			
Visual impact of machinery including heavy excavators, earth moving plant, concrete batching plant, pile drivers, cranes etc. Also vehicles moving machinery and materials to and from the site including barges used in bridge construction.	D4	See Visual Impact summary	Not assessed	Significant landscape and visual impacts possible near construction compounds, major structures and/or earthworks. Precise details of construction programme and approach required for full assessment
Visual impact of site compound areas including site accommodation and parking.	D4			
Visual impact of construction works including structures, earthworks, road surfacing and ancillary works, temporary soil storage heaps, night-time working and construction material stockpiles.	D4			
Generation of dust. A risk of soiling 750 properties within 500m of the Northern Leg without mitigation. A risk of enhanced PM <sub>10</sub> concentrations for 293 properties within 100m of proposed Northern Leg without mitigation.	D5, D6	High	Large	Moderate
Construction related vehicle emissions.	D5, D6	High	Very Small	Negligible
Increased noise and vibration levels to properties nearby to construction works.	D7	High	Not assessed	Adverse impacts likely at several properties close to the works
Temporary obstruction of routes used by pedestrians and others due to construction activities.	D8	See Pedestrian Impact summary	Not assessed	Short-term impacts likely on some routes
Increases to driver stress (e.g. due to increased journey times, diversions, queuing traffic).	D9, D10	Not assessed	Not assessed	Not significant
<b>Policies and Plans (Chapter 19)</b>				
Refer to Planning Summary Tables (Tables 19.3 – 19.6)				