

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.

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Table 20.1: Environmental Impact Tables

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
Land Use (Chapter 7)				
Newton Farm Land Reference 116 - Loss of 7.96ha (28% of the total farmed area) with severance.	LU1n-LU18n, LU23n	Medium	High	Substantial
Keppleston Farm Land Reference 100 - Loss of 6.71ha (12% of farm area) with severance.	LU1n-LU18n, LU23n	High	High	Substantial
SAC Land Reference 101 - Loss of 32.30ha (10% of farm area) with severance.	LU1n- LU23n	High	High	Substantial
Walton Farm SAC Land Reference 69 - Loss of 10.24ha (28% of farm area) with severance.	LU1n-LU18n, LU23n	High	High	Substantial
Howemoss Land Reference 61 - Loss of 5.97ha (23% of the farm area) with severance.	LU1n-LU18n, LU23n	Medium	High	Substantial
Bogenjoss Farm Land Reference 55 - Loss of 7.31ha (47% of the farm area) with severance.	LU1n-LU18n, LU23n	Medium	High	Substantial
Meadowlands Land Reference 28 - Total loss of all farmland.	LU5n, LU23n	High	High	Substantial
Meadowhead Farm Land Reference 34 - Loss of 9.30ha (50% of the farm area) with severance.	LU1n-LU23n	Medium	High	Substantial
The Laurels Land Reference 21 - Loss of 1.45ha (36% of farm area) and loss of equestrian facilities (ménage and hardstanding). <i>N.B. also assessed separately for impact on Cattery & Stable business</i>	LU5n, LU23n	High	High	Substantial
Middlefield Land Ref 416 - Loss of 9.54ha (39% of the farm area) with no severance.	LU1n-LU18n, LU23n	Medium	High	Substantial
Corsehill, Land Ref 65 – Loss of 11.54ha (17% Farm area) with severance.	LU1n-LU18n, LU23n	Medium	High	Moderate/Substantial
Standing Stones, Land Ref 56 – Loss of 7.93ha (12% Farm area) with severance	LU1n-LU18n, LU23n	Medium	High	Moderate/Substantial
Pitmedden Home Farm, Land Ref 59 – Loss of 21.286ha (17% farm area) with severance.	LU1n-LU23n	Medium	High	Moderate/Substantial
Nether Kirkton, Land Ref 52 – Loss of 12.81ha (44% farm area) with severance.	LU1n-LU18n, LU23n	Medium	High	Moderate/Substantial
Waulkmill Croft, Land Ref 26 – Loss of 0.91ha (26% farm area) with severance.	LU1n-LU18n, LU23n	Medium	High	Moderate/Substantial
Newpark Cottage, Land Ref 36 – Loss of 0.61ha (20% farm area) with no severance.	LU1n-LU18n, LU23n	Medium	High	Moderate/Substantial
Lochgreens, Land Ref 13 – Loss of 20.14ha (15% farm area) with severance.	LU1n-LU18n, LU23n	Medium	High	Moderate/Substantial
Auchernack/Leuchlands, Land Ref 289 – Loss of 6.70ha (11% farm area) with severance.	LU1n-LU18n, LU23n	Medium	High	Moderate/Substantial
Cranfield, Land Ref 8 – Loss of 20.43ha (16% farm area) with severance.	LU1n-LU18n, LU23n	Medium	High	Moderate/Substantial
Tawse, Land Ref 417 - Loss of 11.15ha (17% farm area) with no severance.	LU1n-LU23n	Medium	High	Moderate/Substantial
Upper Kirkton, Land Ref 53 – Loss of 7.25ha (8% farm area) with severance.	LU1n-LU18n, LU23n	Medium	High	Moderate
Goval Farm, Land Ref 58 – Loss of 33.29ha (3% farm area) with severance.	LU1n-LU23n	Medium	High	Moderate
Corsehill and surrounds, Land Ref 29 - Loss of 0.46ha (5 %farm area) with no severance.	LU1n-LU23n	Medium	Medium	Moderate
Littlejohn's Wood, Land Ref 302 - Loss of 3.69ha (35% farm area) with severance.	LU1n- LU8n, LU10n- LU12n, LU14n-LU17n, LU23n	Low	High	Moderate
Middleton Farm Land Ref 10 - Loss of 5.45ha (11% of farm area) with severance.	LU1n-LU18n, LU23n	Medium	Medium	Moderate
Blackdog Croft, Land Ref 37 - Loss of 0.92ha (32% farm area) with severance.	LU1n-LU18n, LU23n	Low	High	Moderate
7 Acres at Strabathie, Land Ref 18 - Loss of 1.55ha (55% farm area) with no severance.	LU1n-LU18n, LU23n	Low	High	Moderate

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			Magnitude	Significance
The Gables, Land Ref 445 - Loss of 1.40ha (26% farm area) with severance.	LU1n-LU18n, LU23n	Low	High	Moderate
Rowett Research Institute, Land Ref 292 – Loss of 3.38ha (2% Farm area) with severance.	LU1n-LU18n, LU23n	High	Medium	Slight/Moderate
Hillhead of Muirton, Land Ref 415 - Loss of 1.14ha (8% farm area) with severance.	LU1n-LU18n, LU23n	Low	Medium	Slight/Moderate
Overhills, Land Ref 108 - Loss of 0.92ha (1%farm area) with severance.	LU1n-LU18n, LU23n	Medium	Low	Slight
Hillhead, Land Ref 350 - Loss of 2.73ha (5 %farm area) with no severance.	LU1n-LU23n	Medium	Low	Slight
Tarbothill, Land Ref 17 - Loss of 1.34ha (1 %farm area) with no severance.	LU1n-LU18n, LU23n	High	Negligible	Slight
Kirkhill Forest (including East Woodlands), Land Ref 250 - Loss of 15.15ha (3 % area of commercial forestry).	LU1n-LU2n, LU4n-LU8n, LU10 - LU12, LU14n-LU17n, LU19n-LU21n	Low	Low	Negligible/Slight
Waste Recycling Group, Land Ref 447 - Loss of 2.46ha (4 %farm area) with no severance.	LU1n-LU18n, LU23n	Low	Low	Negligible/Slight
Waulkmill Farmhouse, Land Ref 25 - Loss of 0.29ha (1 %farm area) with no severance.	LU1n-LU18n, LU23n	Low	Low	Negligible/Slight
Land at Blackdog, Land Ref 284 - Loss of 0.06ha (2% farm area) with no severance.	LU1n-LU18n, LU23n	Low	Low	Negligible/Slight
Harehill, Land Ref 38 - Loss of 0.90ha (4% farm area) with no severance.	LU1n-LU18n, LU23n	Low	Low	Negligible/Slight
Newton Farm and Chapel Works, Land Ref 66 - Loss of 4.45ha (0.5% farm area) with severance.	LU1n-LU18n, LU23n	Low	Negligible	Negligible
Demolition of three residential properties and associated buildings e.g. garage at Sunnybank, Craibstone Estate (Chainage 316550.00).	LU24n	High	High	Substantial
Demolition of an SAC rearing shed (Chainage 316300.00) and loss of Educational/Commercial land within SAC Estate.	LU24n	n/a	Medium	Neutral
Loss of approximately 35% of the area operated by the business Parkhill Stables and Cattery (Chainage 325400.00-325600.00).	LU24n	n/a	Adverse	Adverse
Loss of approximately 23% of Parkhill Nursery and Garden Centre (Chainage 326000.00).	LU24n	n/a	Adverse	Adverse
Land-take at Wester Hatton Landfill site to accommodate new access road to Stevenson & Kelly Roof Trusses Ltd.	LU24n	n/a	Adverse	Adverse
Land-take and new access road to serve Stevenson & Kelly Roof Trusses not suitable for articulated lorries.	LU24n	n/a	Adverse	Adverse
Land-take at Blackdog Industrial Estate (Ribnort Ltd. and Turiff Contractors Ltd.).	LU24n	n/a	Adverse	Adverse
Access arrangements to Businesses where minor modifications/diversions (SAC, Mills of Dyce Blockworks, Parkhill Nursery, Annfield Quarry, Blackdog Industrial Estate - Ribnort Ltd and Turiff Contractors Ltd, and Tarbott Hill Landfill Site).	LU25n	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, Wester Hatton Landfill Site and Stevenson & Kelly Roof Trusses Ltd.).	LU25n	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).	LU24n	n/a	Neutral	Neutral

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			Magnitude	Significance
Loss of buildings with planning permission for conversion to dwellings at Sunnybank, Craibstone (Chainage 316550.00).	LU24n	n/a	Adverse	Adverse
AWPR has a beneficial impact on development plans and planning applications e.g. improved access (OP2N/P5N, OP3N/P6N, P7N, P10N, P20N, P28N, P29N, FNC Dubford, FNC Whitestripes).	n/a	n/a	Beneficial	Beneficial
No change to development plans and planning applications due to AWPR (OP1N/P1N, P3N, P8N, P9N, P11N- P13N, P14N /OP5N, P15N-P17N, P21N-P27N, P30N, P33N-P34N, P39N-P40N, P42N).	n/a	n/a	n/a	Neutral Impact
AWPR has an adverse impact on the development plans and planning applications (P2N, P18N, P41N) e.g. land-take.	LU24n	n/a	n/a	Adverse Impact
AWPR has both beneficial and adverse impacts on the development plans and planning applications (Land for Transport within OP2N, P4N /OP2N, P31N).	LU24n	n/a	n/a	Beneficial & Adverse Impacts
Loss of Community Land – 0.35 ha Craibstone Golf Course.	LU24n	Low	Negligible	Neutral
Loss of 0.45ha at Brimmond Hill (Community Land).	LU24n	Low	Negligible	Negligible
Loss of 8.33ha of woodland (Community Land) at Craibstone/West Woods with severance. Proposed planting resulting in a net gain of woodland although with severance.	LU24n, LU26n (also refer to landscape/ecology)	Medium	Low	Negligible
Loss of 10.73ha of woodland (Community Land) at Kirkhill Forest.	LU24n, LU26n (also refer to landscape/ecology)	Medium	Low	Slight
Loss of 5.09ha of woodland (Community Land) at East Woodlands (4.42ha of which is commercial).	LU24n, LU26 (also refer to landscape/ecology)	Medium	Negligible	Negligible/Slight
Loss of 4.34ha of woodland (Community Land) at Monument Wood (Chainages 321200.00-321800.00). Proposed planting resulting in a net gain of woodland.	LU24, LU26n (also refer to landscape/ecology)	Low	Negligible	Negligible
Loss of 4.42ha and severance of woodland (Community Land) at Littlejohn's Wood.	LU24n, LU26n (also refer to landscape/ecology)	Low	Medium	Slight/Moderate
Loss of 2.55ha of various wooded areas (Community Land) at Goval (Chainages 324400.00-325100.00). Proposed planting resulting in a net gain of woodland.	LU24n, LU 26n (also refer to landscape/ecology)	Low	Negligible	Negligible
Loss of 1.49ha of woodland (Community Land) around B977 overbridge (east).	LU24n, LU26n (also refer to landscape/ecology)	Low	Low	Negligible/Slight

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			Magnitude	Significance
Loss of 1.34ha of woodland (Community Land) at Blackdog Community Woodland.	LU24n, LU26n (also refer to landscape/ecology)	Low	Low	Negligible/Slight
Loss of 0.06ha of woodland north of the A96 on SAC land (not significant in terms of community land due to size).	LU24n	Low	Negligible	Negligible
Geology, Contaminated Land and Groundwater (Chapter 8)				
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
Impact of blasting on the rock mass and risks to increase potentially contaminated groundwater towards private water supplies	G1n	High-Low	Medium	Moderate-Slight/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.	G2n-G4n	n/a	n/a	Slight Beneficial
Impact on groundwater quality caused by accidental spillages and road drainage system	G5n	Low-High	None-Negligible	Slight
Impact of cuttings on groundwater flow.	G6n-G7n	Low - High	None-Negligible	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.	G8n	Low to high	None-Negligible	Negligible
Impact on water balance at Corby and Lily Lochs	G9n	High	Low	Slight-Moderate
Water Environment (Chapter 9)				
Generic Construction Impacts				
<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.	W1n, W15n, W19n, W25n, W27n	n/a	n/a	n/a
<u>Fluvial Geomorphology</u> <ul style="list-style-type: none"> Release of suspended solids into watercourses during construction of culverts, realignments, bridges, or proposed road. Vegetation Clearance. 	W16n, W10n-W17n, W23n, W25n, W27n, W33n, W34n, W37n, W38n, W41n	n/a	n/a	n/a

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			Magnitude	Significance
<u>Water Quality</u> <ul style="list-style-type: none"> • Pollutant spillage as a result of construction for watercourse / drain crossings and diversions, realignment of watercourses. • Spillage or leakage of oils, fuels and chemicals from mobile or stationary plant. • Accidental release into watercourses of concrete, cement and admixtures or contaminants from washing of plant and machinery or spillage during concrete pour. • Accidental / uncontrolled release of sewage from sewers through damage to pipelines during service diversions. • Disturbance of contaminated land and sediment. 	W1n-W19n, W23n, W25n, W27n, W33n, W34n, W37n, W38n, W41n	n/a	n/a	n/a
Generic Operational Impacts - Road Drainage				
<u>Surface Water Hydrology</u> <ul style="list-style-type: none"> • New impermeable areas would increase volume of water and road runoff reaching a watercourse. • Road run off may also reach the receiving watercourse more quickly than previously, resulting in the flood response of the catchment becoming more 'flashy'. • Water movement within and between catchments may be altered. 	W20n, W21n, W25n	n/a	n/a	n/a
<u>Fluvial Geomorphology</u> Increased flow in watercourse may cause: <ul style="list-style-type: none"> • an increase in turbidity and a greater competence to entrain and transport sediment. • an increase of erosion in the channel bed and banks which may reduce or improve morphological diversity depending on sediment movement • a period of adjustment to different flow and sediment regimes Increased sediment may cause channel sedimentation, increased turbidity and sedimentation, and reduced morphology.	W20n, W24n, W25n, W26n, W37n, W38n, W41n, W42n	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.	W20n, W21n, W22n, W24n, W25n, W39n			
Generic Operational Impacts - Watercourse Crossing Impacts				
<u>Surface Water Hydrology</u> Potential increase to local flood risk due to watercourse crossings and alterations to hydrological pathways.	W20n, W25n	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.	W20n, W25n	n/a	n/a	n/a

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Note: these are potential environmental impacts (i.e. <i>before</i> specific mitigation)					
<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.		W20n, W25n			
Generic Operational Impacts - Watercourse Realignment Impacts					
<u>Surface Water Hydrology</u> – The surface water hydrology will be altered if the realignment significantly changes the catchment of the affected watercourse.		W26n, W32n	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.		W26n, W32n			
<u>Water Quality</u> – Sediment released as a result of the realignment, may include contamination.		W26n, W32n			
Specific Environmental Impacts					
Kepplehill Burn	Construction		Low	Negligible	Negligible
	<u>Hydrology</u> – Change to the discharge regime as a result of extent and duration of the works.	W1n, W15n, W19n			
	<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.	W1n-W6n, W10n-W12n, W14n, W15n-W17n, W27n, W33n, W41n, W42n			
	<u>Water Quality</u> - Risk of accidental spillage of pollutants during construction	W1n-W19n, W27n, W33n, W41n, W42n			
	Operation				
	<u>Hydrology</u> – Culverting and realignment will impact flow paths and potential flood risk.	W20n			
	<u>Geomorphology</u> - Proposed culvert and realignment: decrease to morphological diversity due to culverting and realignment of channel.	W20n, W26n			
<u>Water Quality</u> – No outfall planned therefore only impacted as a result of diffuse pollution. Length of culvert may impact upon water quality.	W20n, W26n				
Gough Burn	Construction		High	Low	Moderate
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1n, W15n, W19n			
	<u>Geomorphology</u> - Culverting and realignments will involve major earthworks resulting in sediment release and loss of morphological diversity.	W1n-W6n, W10n-W12n, W14n, W15n-W17n, W27n, W33n, W38n, W41n, W42n			
<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.	W1n-W19n, W27n, W33n, W41n, W42n				

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Gough burn [cont'd]	Operation		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.	W20n				
	<u>Geomorphology</u> - Proposed culvert and realignment: 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 and excessive erosion/deposition	W20n, W26n				
	<u>Water Quality</u> - No outfall planned therefore only impacted as a result of diffuse pollution. Length of culvert may impact upon water quality.	W20n, W26n				
Parkhead Burn & Ditch	Construction		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.	W1n-W18n				
	Operation			Negligible	Negligible	
<u>Overall</u> - Section of the watercourse downstream of road will be lost.	N/A					
Craibstone Burn	Construction		High	Low	Moderate	
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1n, W15n, W19n				
	<u>Geomorphology</u> - Culverting and realignment will involve major earthworks resulting in sediment release and loss of morphological diversity.	W1n-W6n, W10n-W12n, W14n, W15n-W17n, W27n, W33n, W38n, W41n, W42n				
	<u>Water Quality</u> - Potential risk of accidental pollutant spillage during construction due to proximity and extent of works.	W1n-W19n, W27n, W33n, W41n, W42n				
	Operation			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.	W20n				
<u>Geomorphology</u> - Proposed culvert and realignment: 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.	W20n, W26n					
	<u>Water Quality</u> - No outfall planned therefore only impacted as a result of diffuse pollution. Length of culvert may impact upon water quality.	W20n, W26n				

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Green Burn [cont'd]	Construction				
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1n, W11n, W15n, W19n, W20n	Medium	Negligible	Negligible
	<u>Geomorphology</u> - 3 proposed culverts and realignments 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.	W1n-W6n, W10n-W12n, W14n-W17n, W23n, W27n, W33n, W38n, W40n-W42n	Medium	Negligible	Negligible
	<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.	W1n-W19n, W23n, W27n, W28n, W33n, W41n, W42n			
	Operation				
	<u>Hydrology</u> - Culverting and realignments will impact flow paths and potential flood risk. Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn.	W20n, W21n, W22n, W28n			
	<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.	W20n, W22n, W24n, W26n, W28n	Medium	Low	Slight
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff from proposed drainage outfall. Increased accidental spillage risk. Number and length of culverts may impact upon water quality due to lack of light.	W20n-W22n, W24n, W28n				
Walton Field Ditch	Construction				
	<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 pollution during construction may occur.	W1n-W18n	Low	Negligible	Negligible
	Operation				
<u>Overall</u> - Section of the watercourse downstream of road will be lost.	n/a				
Howemoss Spring	Construction				
	<u>Overall</u> - Construction works may have an impact on the functioning of the spring.	W1n-W19n, W27n			
	Operation				
<u>Overall</u> - Part of surface water catchment severed and 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 may occur as a result of embankment construction.	W20n, W26n	Medium	Negligible	Negligible	

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Howemoss Burn	Construction		Low	Negligible	Negligible	
	<u>Overall</u> – Watercourse catchment would be severed, therefore a section of watercourse downstream of road may be lost.	W1n-W18n				
	Operation			Low	Negligible	
	<u>Overall</u> – Section of watercourse downstream of the road may be lost.	n/a				
Bogenjoss Burn	Construction		High	Medium	Moderate/Substantial	
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1n, W15n, W19n, W29n, W32n, W33n				
	<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.	W1n-W6n, W10n-W17n, W23n, W29n, W32n, W33n, W38n, W41n, W42n				
	<u>Water Quality</u> - Construction of six culverts may increase risk of accidental spills/pollution due to amount of major construction activity near watercourse.	W1n-W19n, W23n, W27n, W29n, W32n, W33n, W38n, W40n-W42n				
	Operation			High	High	Substantial
	<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.	W20n, W26n, W21n, W29n				
	<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.	W20n, W23n, W24n, W26n, W29n, W32n				
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff from proposed drainage outfall. Increased accidental spillage risk. Number and length of culverts impact upon water quality.	W20n-W22n, W24n, W26n, W29n, W32n					
River Don	Construction		High	Negligible	Slight/Negligible	
	<u>Hydrology</u> – Impact due to amount and duration of works required on floodplain.	W1n, W15n, W30n				
	<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.	W1n-W6n, W10n-W17n, W23n, W25n, W30n, W34n, W35n, W37n, W40n				

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				Magnitude	Significance	
River Don [cont'd]	<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).	W1n-W18n, W23n-W25n, W30n, W34n, W35n, W37n, W40n				
	Operation					
	<u>Hydrology</u> - Potential long-term impact upon flood risk. Changes to flow regime likely as a result of increased input from road runoff.	W21n, W25n, W30n		Negligible	Slight/Negligible	
	<u>Geomorphology</u> - Increasing turbidity and change to current morphological diversity possible as a result of bridging.	W21n, W24n, W25n, W30n				
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff from proposed outfall. Increased accidental spillage risk.	W21n, W24n, W25n, W30n					
Goval Burn	Construction		High	Negligible	Slight/Negligible	
	<u>Hydrology</u> - Bridging could have short term impact on surface water and flood risk.	W1n, W15n, W25n, W31n				
	<u>Geomorphology</u> - Bridging at three locations: limited earthworks, sediment release will increase suspended sediment loading in the water column.	W1n-W6n, W10n-W17n, W23n, W25n, W31n, W34n, W40n				
	<u>Water Quality</u> - Potential for spillage of pollutants	W1n-W18n, W23n, W25n, W31n, W34n, W35n				
	Operation			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.	W21n, W31n				
	<u>Geomorphology</u> - Change to current morphological diversity possible as a result of bridging.	W22n, W24n, W25n, W31n				
<u>Water Quality</u> - Decrease to water quality resulting from untreated road runoff from proposed outfall. Increased accidental spillage risk.	W22n, W24n, W25n, W31n					
Mill Lade	Construction		Low	Low	Negligible	
	<u>Hydrology</u> - Temporary realignment and storage of water during aqueduct construction may impact on flow regime.	W1n, W36n				
	<u>Geomorphology</u> - Bridging: limited earthworks, sediment release will increase suspended sediment loading in the water column.	W1n-W6n, W10n-W17n, W25n, W34n				
	<u>Water Quality</u> - Construction activities close to watercourse may result in accidental spillage of construction-sourced pollutants such as concrete, oils etc.	W1n-W18n, W25n, W35n				

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				Magnitude	Significance	
Mill Lade [cont'd]	Operation			Negligible	Negligible	
	<u>Hydrology</u> - Changes to flow regime likely where new aqueduct is proposed.	W25n				
	<u>Hydrology</u> - Impact sediment regime expected due to bridging of watercourse.	W25n				
	<u>Water Quality</u> - No outfall planned therefore only impacted due to diffuse pollution.	W25n				
Corsehill Burn	Construction		Medium	Negligible	Negligible	
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1n, W11n, W15n, W19n, W21n, W31n				
	<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.	W1n-W6n, W10n-W17n, W23n, W27n, W31n, W33n, W38n, W40n-W42n				
	<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.	W1n-W19n, W23n, W27n, W31n, W33n, W40n-W42n				
	Operation		Medium	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.	W20n, W21n, W31n				
	<u>Geomorphology</u> - 3 proposed culverts and realignment, therefore decreased morphological diversity, straightening of the channel reduction in sinuosity.	W24n, W26n, W31n				
<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.	W22n, W24n, W26n, W31n					
Red Moss Burn	Construction		Medium	Negligible	Negligible	
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1n, W15n, W19n, W27n, W31n, W39n				
	<u>Geomorphology</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.	W1n-W6n, W10n-W17n, W23n, W27n, W31n, W33n, W38n, W39n, W40n-W42n				
<u>Water Quality</u> - Proximity of construction works to watercourse poses a risk of pollution from accidental spillage i.e. concrete, oil etc.	W1n-W19n, W23n, W27n, W31n, W33n, W39n, W40n, W41n, W42n					

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				Magnitude	Significance
Red Moss Burn [cont'd]	Operation				
	<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.	W20n, W21n, W31n, W39n		Low	Slight
	<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.	W24n, W26n, W31n, W39n			
	<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.	W22n, W24n, W26n, W31n, W39n	Medium	Low	Slight
Corby and Lily Lochs	Construction				
	<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.	W1n, W15n, W31n			
	<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.	W1n-W6n, W10n-W17n, W23n, W27n, W31n, W33n, W34n			
	<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.	W1n-W19n, W23n, W27n, W31n, W33n, W34n, W41n, W42n		High	
	Operation				
	<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.	W20n, W26n, W31n			
	<u>Geomorphology</u> - Indirect impacts if sediment is transported downstream Red Moss Burn as a result of drainage outfall.	W20n, W22n, W24n, W26n, W31n, W39n			
	<u>Water Quality</u> - Indirect impacts upon water quality if pollutants are transported downstream Red Moss Burn as a result of drainage outfall.	W20n, W22n, W24n, W26n, W31n, W39n			
Blackdog Ditch	Construction				
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1n, W15n, W19n, W27n, W31n	Medium		
	<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	W1n-W6n, W10n-W17n, W23n, W27n, W31n, W33n, W40n-W42n			
	<u>Water Quality</u> - Potential for small-scale spillage of potential pollutants.	W1n-W19n, W23n, W27n, W31n, W33n, W40n, W41n, W42n		Negligible	Negligible

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				Magnitude	Significance
Blackdog Ditch [cont'd]	Operation			Negligible	Negligible
	<u>Hydrology</u> - Change to flow regime as a result of culverting.	W20n, W21n, W31n			
	<u>Geomorphology</u> - Change to sediment regime as a result of culvert.	W22n, W24n, W26n, W31n			
	<u>Water Quality</u> - No outfall planned but impact as a result of diffuse pollution. Length of culvert may impact upon water quality.	W22n, W24n, W26n, W31n			
Blackdog Burn	Construction		Medium	Negligible	Negligible
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1n, W15n, W19n, W27n, W31n			
	<u>Geomorphology</u> - 2 proposed culverts and realignment: major earthworks, sediment release changes to suspended sediment loads and erosion and depositional patterns.	W1n-W6n, W10n-W17n, W23n, W27n, W31n, W33n, W40n-W42n			
	<u>Construction</u> - Proximity of construction works to watercourse poses a risk of pollution from accidental spillage i.e. concrete, oil etc.	W1n-W19n, W23n, W27n, W31n, W33n, W40n-W42n		Negligible	Negligible
	Operation		Medium	Low	Slight
	<u>Hydrology</u> - Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn.	W20n, W21n, W31n			
<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.	W22n, W24n, W26n, W31n				
	<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.	W22n, W24n, W26n, W31n			
Middlefield Burn	Construction		Low	Negligible	Negligible
	<u>Hydrology</u> - Change to the discharge regime as a result of extent and duration of the works.	W1n, W15n, W19n, W23n, W31n			
	<u>Geomorphology</u> - 3 proposed culverts and realignment: major earthworks, sediment release changes to suspended sediment loads and erosion and depositional patterns.	W1n-W6n, W10n-W12n, W14n-W17n, W23n, W27n, W31n, W33n, W38n, W40n-W42n			
	<u>Water Quality</u> - Proximity of construction works to watercourse poses a risk of pollution from accidental spillage i.e. concrete, oil etc.	W1n-W19n, W23n, W27n, W31n, W33n, W38n, W40n, W41n			

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				Magnitude	Significance
Middlefield Burn [cont'd]	Operation				
	<u>Hydrology</u> - Change to discharge regime due to lengthening, realignment and road runoff discharge to the burn.	W20n, W21n, W31n		Negligible	Negligible
	<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.	W20n, W24n, W26n, W31n, W38n			
	<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.	W20n, W21n, W22n, W24n, W26n, W31n	Low	Negligible	Negligible
Green/ Craibstone/ Gough Burn (catchment impacts)	Construction				
	<u>Overall</u> - Accumulation of direct impacts from culverting and realigning of the burns.	W1n-W19n		Low	Moderate
	Operation				
	<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.	W22n, W24n-W26n, W28n-W32n, W38n, W40n-W42n	High		
	<u>Overall</u> - Impact on geomorphology on overall catchment	W22n, W24n-W26n, W28-W32n, W38n, W40n-W42n		High	Substantial
Ecology and Nature Conservation (Chapter 10)		<i>N.B only pre-mitigation impacts of moderate or above significance are presented for ecology.</i>			
Section NL1 Predicted Construction Impacts on Habitats and Species					
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)	E1n, E2n, E6n, E7n, E11n, E16n, E17n, E73n-E75n	County	Negligible	Negligible
Bat	Disturbance to one historical roost and roost habitats and foraging corridors (Newton Farm N11)	E1n, E2n, E6n, E11n-E13n, E22n-E24n	Regional	Low	Minor
	Disturbance of roost habitats and foraging corridors (Kepplestone Farm N12, Newhills Woods N16)	E1n, E2n, E6n, E11n-E13n, E22n-E24n	County	Negligible - Low	Negligible - Minor
	Potential pollution of aquifers in Kepplehill Burn (N12)	refer to Water Environment		Negligible	Negligible
Section NL1 Predicted Operational Impacts on Habitats and Species					
Badger	Risk of direct mortality due to RTAs (Agricultural land to the east of Brimmond Hill N2, N8 and N13)	E6n, E7n, E16n, E73n-E77n	County	Negligible	Negligible

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				Magnitude	Significance
Badger [cont'd]	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)	E16n, E17n, E48n-E50n, E52n, E54n, E56n, E59n, E60n-E65n, E68n-E69n, E76n, E77n	County	Low	Minor
Bat	Risk of direct mortality due to RTAs between roost and foraging sites (Newton Farm N11 and Newhills Wood N16)	E6n, E18n, E19n, E22n, E24n, E76n, E77n	Regional	Low	Minor
	Disturbance due to lighting, fragmentation of foraging corridors (Newton Farm N11)	E1n, E2n, E6n, E11n-E13n, E22-E24n	Regional	Negligible - Low	Negligible - Minor
	Fragmentation of roost habitats and commuting routes at Keppleston Farm, Kepplehill Burn, Gough Burn, Newhills Woods (N12-N14, N16)	E6n, E10n, E13n, E22n-E24n, E50n-E68n, E70n-E72n, E75n-E77n	County	Low	Minor
	Potential pollution of aquifers due to runoff and particulates into aquifers and adjacent land Kepplehill Burn and Gough Burn, (N12, N14)	refer to Water Environment	County	Negligible	Negligible
Wintering Birds	Risk of direct mortality due to RTAs between foraging sites at Kepplestone Farm, Newhead Woods and Gough Burn (N11-N17)	E27n, E28n	County	Low	Minor
	Fragmentation, disturbance at Kepplestone Farm and Gough Burn, N11-N17.	E29n, E30n, E48n-E72n	County	Low	Minor
	Permanent habitat loss and and potential pollution of aquifers from runoff at Kepplestone Farm, Newhead Woods and Gough Burn N11-N17.	refer to Water Environment	County	Low - Negligible	Minor - Negligible
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)	E14n, E32n, E73n-E77n	County	Negligible	Negligible
	Fragmentation of habitat (Kepplehill Burn N11-N13)	E13n, E14n, E34n, E53n, E57n, E58n, E63n, E65n, E66n, E71n, E72n, E75n-E77n	County	Low	Minor
Section NL2 Predicted Construction Impacts on Habitats and Species					
Terrestrial Habitats	Temporary habitat loss, of riparian habitats. (Craibstone Burn N24)	E1n, E2n, E4n	County	Low	Minor
	Temporary habitat loss, disturbance and fragmentation and potential pollution of habitat due to runoff/particulates into aquifers and adjacent land (Gough Burn and Craibstone Campus N24 - N26).	E3n, E4n, E8n-E10n, E15n		Low	Minor
Badger	Risk of direct mortality due to clearance of outlier sett (NC6) (Craibstone N26-N28)	E1n, E2n, E6n, E7n, E16n, E17n, E73n-E76n		Negligible	Negligible

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				Magnitude	Significance
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 N24, Craibstone Campus N25, Craibstone Burn and Pond N26, Green Burn N27, Craibstone Campus N28)	E1n, E2n, E6n, E11n-E13n, E18n-E21n	County	Negligible	Negligible
	Disturbance and fragmentation of roost habitats and foraging corridors along Gough Burn N18 and N24, Craibstone golf course N19, Woodland north of Parkhead N23, Craibstone Campus N25, Craibstone Burn and Pond N26, Green Burn N27, Craibstone Campus N28	E1n, E2n, E6n, E11-E13n, E22n-E24n, E77n		Negligible - Low	Negligible - 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 - Low	Negligible - Minor
Breeding Birds	Risk of direct mortality during clearance for construction.	E1n, E2n, E5n, E8n, E25n-E30n	County	Negligible	Negligible
	Temporary fragmentation, disturbance to Parkhead Burn (N25), Craibstone Burn and Craibstone Pond (N26) and Green Burn (N27)	E1n, E2n, E12n, E14n, E25n-E30n		Low	Minor
	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)	refer to Water Environment		Negligible	Negligible
Otter	Risk of direct mortality due to habitat clearance around Gough Burn, Craibstone Burn and Green Burn (N14, N15, N17, N18, N21, N23 – N26, N28 and N30) of riparian habitat and wildlife corridors.	E1n, E2n, E5n-E8n, E11n-E14n, E31n-E33n, E73n- E76n	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)	E1n, E2n, E5n-E8n, E11n-E14n, E33n, E34n, E46n		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)	E1n, E2n, E6n, E7n, E11n, E35n	Regional	Negligible	Negligible
	Temporary disturbance in Craibstone Wood South (N24, woodland 2) and Craibstone Wood North (N25, woodland 3)			Low	Minor

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				Magnitude	Significance
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)	E1n, E2n, E5n, E8n, E9n, E14n, E41n, E42n, E46n-E47n	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)	E1n, E2n, E40n-E42n		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
Section NL2 Predicted Operational Impacts on Habitats and Species		refer to Water Environment	County	Low	Minor
Terrestrial Habitats	Potential pollution due to runoff and particulates into aquifers and adjacent land (Craibstone Burn N24, Gough Burn and Craibstone Campus N24 - N26). Permanent loss of pond and stream riparian habitats, disturbance, fragmentation (Craibstone Burn N24, Gough Burn and Craibstone Campus N24 - N26)				
Badger	Potential Risk of direct mortality due to RTAs. (Craibstone N26-N28)	E6n, E7n, E16n, E73n-E77n	County	Negligible	Negligible
	Fragmentation of territory of social group NC. (Craibstone N26-N28)	E16n, E17n, E48n-E50n, E52n, E54n, E56n, E59n, E60n-E65n, E68n-E69n, E76n, E77n		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 N24, Craibstone Campus N25, Craibstone Burn and Pond N26, Green Burn N27, Craibstone Campus N28)	E6n, E18n, E19n, E22n, E24n, E76n, E77n	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 N28 and Woodland north of Parkhead N23)	E6n, E10n, E13n, E22n-E24n, E50n- E68n, E70n-E72n, E75n-E77n		Negligible - Low	Negligible - Minor
	Pollution of aquifers due to runoff particularly 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

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				Magnitude	Significance
Breeding Birds	Risk of direct mortality due to RTAs between foraging sites (Craibstone Burn N25, Craibstone Pond N26, Green Burn N28)	E27n, E28n	County	Low	Minor
	Habitat loss and disturbance due to fragmentation of habitat and foraging corridors (Craibstone Burn N25, Craibstone Pond N26, Green Burn N28)	E29n, E30n, E48n-E72n		Low	Minor
	Pollution of Craibstone Burn N25, Craibstone Pond N26, Green Burn N27 N28	refer to Water Environment		Negligible	Negligible
Wintering Birds	Risk of direct mortality due to RTAs between foraging sites (Craibstone Burn, Craibstone Pond and Green Burn, N18-N20, N23-N26 and N28.	E27n, E28n	County	Low	Minor
	Habitat loss and disturbance due to fragmentation of habitat and foraging corridors and at Craibstone Burn, Craibstone Pond and Green Burn N18-N20, N23-N26 and N28	E29n, E30n, E48n-E72n		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		Negligible	Negligible
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)	E14n, E32n, E73n-E77n	Regional	Negligible	Negligible
	Habitat loss and disturbance at Craibstone Burn (N26) and Green Burn (N23, N28 and N30)	E13n, E14n, E34n, E53n, E57n, E58n, E63n, E65, E66, E71, E72n, E75n-E77n		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))	E77n	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))	E36n, E37n, E50n-E52n, E54n-E56n, E59n, E61n, E62n, E68n, E77n	Regional	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))	E36n, E37n, E50n-E52n, E54n-E56n, E59n, E61n, E62n, E68n, E77n		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

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				Magnitude	Significance
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).	E14n, E15n, E45n, E46n, E47n refer to Water Environment	Regional	Low	Minor
Section NL3 Predicted Construction Impacts on Habitats and Species					
Terrestrial Habitats	Temporary habitat loss, disturbance and fragmentation and potential pollution of woodlands at Kirkhill Forest and Standingstones Wood (N35, N37 and N38) and agricultural land surrounding Hare Moss (N32 and N33).	refer to Water Environment	County	Low	Minor
	Temporary habitat loss, disturbance and fragmentation and potential pollution of riparian habitat Hydrological impacts upon wetland habitat surrounding the area of Bogenjoss Burn (N38, N42 and N45)				
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)	E1n, E2n, E6n, E7n, E16n, E17n, E73n-E76n	Regional	Negligible	Negligible
Bat	No known roosts to be destroyed but there is potential risk of direct mortality during clearance for construction at Standingstones Wood, Kirkhill Forest North, East Wood, Monument Wood and Bogenjoss Burn N35, N37, N42-N43, N47)	E1n, E2n, E6n, E11n-E13n, E18n- E21n	County	Negligible	Negligible
	Disturbance of potential roosts and foraging corridors. (Standingstones Wood, Kirkhill Forest North, East Wood, Monument Wood and Bogenjoss Burn N35, N37-39, N41-N43, N45, N47)	E1n, E2n, E6n, E11n-E13n, E22n-E24n		Negligible - Low	Negligible – Minor
	Pollution due to particulates at Bogenjoss Burn (N38, N42, N45).	refer to Water Environment		Low	Minor
Breeding Birds	Potential pollution to Howemoss Burn and Bogenjoss Burn due to accidental spills. (N32, N33 & N37)	refer to Water Environment	County	Negligible	Negligible
	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.	E1n, E2n, E5n, E8n, E14n, E25n, E26n, E29n, E30n			
Otter	Risk of direct mortality along Bogenjoss Burn (N37-N45)	E1n, E2n, E5n-E8n, E11n-E14n, E31n-E33n, E73n-E76n	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)	E1n, E2n, E5n-E8n, E11n-E14n, E33n, E34n, E46n,		Low	Minor

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				Magnitude	Significance
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)	E1n, E2n, E6n, E7n, E11n, E35n-E37n	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)	E1n, E2n, E6n, E7n, E11n	Regional	Negligible	Negligible
Brown Hare	Temporary habitat loss, disturbance and fragmentation (Agricultural land surrounding Howemoss N33)	E1n, E2n, E5n, E7n, E12n	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)	E1n, E2n, E5n, E8n, E9n, E14n, E41n, E42n, E46n, E47n	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)
Section NL3 Predicted Operational Impacts on Habitats and Species					
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 & N38, Bogenjoss Burn downstream of Kirkhill Forest N42).	E54n, E56n-E59n, E62n refer to Water Environment	County	Low	Minor
	Permanent habitat loss, fragmentation and potential pollution of riparian habitat due to runoff (Bogenjoss Burn N38, N42).				
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).	E6n, E7n, E16n, E73n-E77n	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).	E16n, E17n, E48n-E50n, E52n, E54n, E56n, E59n, E60n-E65n, E68n- E69n, E76n, E77n		Low	Minor

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				Magnitude	Significance
Bat	Risk of direct mortality due to RTAs caused by severance of flight lines (N35-N37, N42-N43, N45, N47).	E6n, E18n, E19n, E22n, E24n, E76n, E77n	County	Low	Minor
	Habitat loss of potential roosts and foraging corridors, disturbance and fragmentation of potential roosts and foraging corridors (Standingstones Wood, Kirkhill Forest North, East Wood, Monument Wood and Bogenjoss Burn N35, N37-N38, N42-N45).	E6n, E10n, E13n, E22n-E24n, E50n-E68n, E70n-E72n, E75n-E77n		Negligible - Low	Negligible - Minor
	Fragmentation of foraging corridors (Farburn Wood (DWS) N36).			Low	Minor
	Potential pollution to Howemoss Burn and Bogenjoss Burn (N38, N42, N45).	refer to Water Environment		Negligible	Negligible
Breeding Birds	Potential pollution to Howiemoss Burn due to run off (N32, N33) potential pollution to Bogenjoss Burn due to accidental spills (Bogenjoss Burn, Monument Woods and East Woodlands N41 & 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).	E27n, E28n		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).	E29n, E30n, E48n-E72n		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).	E27n, E28n	County (N41-N48 Regional)	Low	Minor
	Habitat loss, fragmentation and disturbance around Bogenjoss Burn, Kirkhill Lower Overton Wood, Standingstones Wood and Howemoss (HA N30-N35 and N37-N48).	E29n, E30n, E48n-E72n		Low	Minor
	Potential pollution of aquifers at Bogenjoss Burn (N37, N38 & N40) and Howemoss (N32-N33)	refer to Water Environment		Negligible	Negligible
Otter	Risk of direct mortality due to RTAs and/or drowning where culverted between foraging sites (Bogenjoss Burn N37, N38, N40-N42, N45)	E14n, E32n, E73n-E77n	Regional	Negligible	Negligible
	Loss of habitat due to realignment of Bogenjoss Burn			Negligible	Negligible
	Fragmentation of habitat and Potential pollution of aquifers (Bogenjoss Burn N37, N38, N40-N42, N45)	E13n, E14n, E34n, E53n, E57n, E58n, E63n, E65n, E66n, E71n, E72n, E75n-E77n		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)	E14n, E32n, E73n-E77n	County	Negligible	Negligible

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				Magnitude	Significance
Red Squirrel	Risk of direct mortality due to RTAs between foraging sites (Kirkhill Forest North N37 (woodland 5))	E77n	National	Low	Moderate
	Risk of direct mortality due to RTAs between foraging sites and East Woodlands N43 (woodland 6) Standingstones Wood N35 (woodland 12)	E77n		Medium - East Woodlands Low - Standingstones Wood	Major at East Woodlands Moderate at Standingstones Wood
	Fragmentation potentially affecting the viability of the population at Kirkhill Forest North N37 (woodland 5)	E36n, E37n, E50-E52n, E54n-E56n, E59n, E61n, E62n, E68n, E77n		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))	E77n	Regional	Low	Moderate
	Risk of direct mortality due to RTAs between foraging sites (Monument Wood N47 (woodland 7))	E77n		High	Major
	Fragmentation potentially affecting the viability of the population (Monument Wood N47 (woodland 7))	E36n, E37n, E50-E52n, E54n-E56n, E59n, E61n, E62n, E68n, E77n		Medium	Moderate
Disturbance may cause squirrels to abandon habitat (Monument Wood N47 (woodland 7)).	No specific mitigation		Medium	Moderate	
Brown Hare	Permanent habitat loss, disturbance and fragmentation (Agricultural land surrounding Howemoss N33)	No specific mitigation	County	Low	Minor
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)	E14n, E15n, E45n, E46n, E47n		Medium	Moderate
Freshwater	Pollution due to runoff and change in discharge regime carrying sediment and heavy metals may cause long-term decreased habitat complexity leading to localised changes in invertebrate distributions (Bogenjoss Burn N37, N38, N40-N42, N45)	E14n, E15n, E45n, E46n, E47n refer to Water Environment	Regional	Medium	Moderate
Section NL4 Predicted Construction Impacts on Habitats and Species					
Terrestrial Habitats	Disturbance and fragmentation of wildlife corridors of the River Don N52	E1n, E2n, E4n	Regional	Low	Minor
	Potential pollution of the River Don (N52)			Low	Minor
	Disturbance and fragmentation of wildlife corridors Goval Burn and the Mill Lade (N61), Formartine and Buchan Way (DWS) (N62)		County	Low	Minor
Terrestrial Habitats	Potential pollution of the Goval Burn and the Mill Lade (N61), Formartine and Buchan Way (DWS) (N62)	refer to Water Environment	County	Low	Minor

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				Magnitude	Significance
Badger	Risk of direct mortality during clearance of two sets (group NK) for construction (Goval Burn and Goval Mill Lade N54, N60, N62 and N67)	E1n, E2n, E6n, E7n, E16n, E17n, E73n-E76n	County	Negligible	Negligible
Bat	Risk of direct mortality during clearance for construction and pollution due to particulates of the River Don (N52)	E1n, E2n, E6n, E11n-E13n E18n-E21n refer to Water Environment	National	Negligible	Negligible
	Fragmentation and disturbance at the Banks of the River Don (N52)	E1n, E2n, E6n, E11n-E13n, E22n-E24n		Negligible	Negligible
	Risk of direct mortality during clearance for construction of existing roost at Parkhill Pumping Station at Goval Burn/Mill Lade (N61)	E1n, E2n, E6n, E18n-E20n, E24n	Regional	Negligible	Negligible
	Fragmentation and disturbance of existing roost at Parkhill Pumping Station at Goval Burn and the Mill Lade (N61)	E1n, E2n, E6n, E11n-E13n, E18n-E23n		Low	Minor
	Habitat loss, disturbance and fragmentation of roosts, foraging and commuting corridors at Goval Burn and the Mill Lade (N61)	E1n, E2n, E6n, E11n-E13n, E22n-E24n		Low	Minor
	No known roosts to be felled but potential Risk of direct mortality during clearance at Goval Farm, Goval Wood, Goval Belt and surrounding agricultural fields (N54, N58, N60) and Parkhill Estate (N63)	E1n, E2n, E6n, E18n-E20n, E2n4	County	Negligible	Negligible
	Disturbance and fragmentation of roosts, foraging and commuting corridors in agricultural land surrounding railway (N50), fields south of Govel Belt (N60), 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)	E1n, E2n, E6n, E11n-E13n, E22n-E24n	County	Low	Minor
Disturbance and fragmentation of foraging corridors at Skate Wood (N65) and fields north of Meadowhill Burn (N69).	E1n, E2n, E6n, E11n-E13n, E22n-E24n	Negligible		Negligible	
Breeding Birds	Risk of direct mortality during clearance for construction to the River Don (N52)	E1n, E2n, E5n, E8n, E14n, E25n-E28n	County	Negligible	Negligible
	Temporary habitat loss, fragmentation and disturbance of the River Don (N52)	E1n, E2n, E4n, E12n, E13n		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 of direct mortality during clearance for construction in the area of Nether Kirkton surrounding the River Don (N50, N51 and N52)	E1n, E2n, E5n, E8n	Regional	Low	Minor
	Temporary habitat loss, disturbance and fragmentation in the area of Nether Kirkton surrounding the River Don (N50, N51 and N52)	E1n, E2n, E4n, E12n, E13n		Low	Minor
	Potential pollution in the area of Nether Kirkton surrounding the River Don (N50, N51 and N52)	refer to Water Environment		Low	Minor

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Otter	Risk of direct mortality during clearance for construction; habitat fragmentation and disturbance of a holt during construction (River Don N52)	E1n, E2n, E4n, E6n, E11n- E13n	National	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)	E1n, E2n, E5n-E8n, E11n-E14n, E73n-E76n	National	Negligible	Negligible
	Risk of direct mortality at the Mill Lade (N55)	E1n, E2n, E5n-E8n, E11n-E14n, E74n, E76n	Regional	Negligible	Negligible
	Temporary disturbance and habitat fragmentation at the Mill Lade (N55)	E1n, E2n, E5n-E8n, E11n-E14n, E33n, E34n, E46n, E73n-E76n		Low	Minor
	Risk of direct mortality temporary disturbance, including loss of prey at Corsehill Burn (N64, N66, N68, N70)	E1n, E2n, E5n-E8n, E11n-E14n, E33n, E34n, E46n, E73n-E76n	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)	E1n, E2n, E5n, E8n, E9n, E14n, E41n, E42n, E44n, E46n	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)	E1n, E2n, E5n, E8n, E9n, E14n, E41n, E42n, E46n		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)	E1n, E2n, E5n, E8n, E9n, E14n, E41n, E42n, E46n	Regional	Negligible	Negligible
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)		County	Low	Minor
Section NL4 Predicted Operational Impacts on Habitats and Species					
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)	E10n, E15n, E48n-E72n	County Regional N52	Low	Minor
	Potential pollution of riparian habitats along the River Don (N52), Goval Burn and the Mill Lade N61, Formartine and Buchan Way (DWS) N62	refer to Water Environment		Low	Minor
	Fragmentation (Skate Wood (Important Local wildlife Site under the Scottish Wildlife Action Project N65)	E10n, E15n, E48n-E72n		Negligible	Negligible

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				Magnitude	Significance
Badger	Risk of direct mortality due to RTAs (Goval Burn and Goval Mill Lade N54, N60, N62, N67)	E6n, E7n, E16n, E73n-E77n	County	Negligible	Negligible
	Loss of setting and foraging habitat and disturbance to social groups NI, NJ, NK and NL and riparian commuting habitat along Goval Burn impact (Goval Burn and Goval Mill Lade N54, N60, N62 and N67)	E16n, E17n, E48n-E50n, E52n, E54n, E56n, E59n, E60n-E65n, E68n-E69n		Low	Minor
	Fragmentation of social groups NI, NJ, NK, NL and riparian commuting habitat along Goval Burn impact (Goval Burn and Goval Mill Lade N54, N60, N62 and N67)	E16n, E17n, E48n-E50n, E52n, E54n, E56n, E59n, E60n-E65n, E68n, E69n		High	Moderate
Bat	Risk of direct mortality due to operational RTAs (Banks of the River Don N52)	E6n, E18n, E19n, E22n, E24n, E76n, E77n	National	Negligible	Negligible
	Fragmentation, Disturbance and Pollution of the River Don due to runoff (Banks of the River Don N52)	E6n, E10n, E13n, E22n-E24n, E50n-E68n, E70n-E72n, E75n-E77n refer to Water Environment		Negligible	Negligible
Bat [cont'd]	Risk of direct mortality due to RTAs (Goval Burn and the Mill Lade N61)	E6n, E18n-E20n, E22n, E24n, E76n, E77n	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)	E6n, E10n, E13n, E22n-E24n, E50n-E68n, E70n-E72n, E75n-E77n		Low	Minor
	Risk of direct mortality due to RTAs (Goval Belt N58)	E6n, E18n, E19n, E22n, E24n, E76n, E77n	County	Low	Minor
	Risk of direct mortality due to RTAs at Agricultural land surrounding railway N50, Agricultural fields to the north of Meadow Head N69, Goval Farm, N60, Parkhill Estate N63)			Negligible	Negligible
	Disturbance and Fragmentation of roosts, foraging and commuting corridors of Mill Lade (Agricultural land surrounding railway N49-N50)			E6, E10, E13, E22- E24, E50- E68, E70- E72, E75- E77	Low
	Disturbance and Fragmentation of roosts, foraging and commuting corridors of Mill Lade (Formartine and Buchan Way (DWS) N62 Goval Farm, Goval Wood N53, farmland near River Don (N54) and Parkhill Estate N63)	E6n, E10n, E13n, E22n-E24n, E50n-E68n, E70n-E72n, E75n-E77n	County	Negligible	Negligible
	Potential Pollution to Goval Burn and the Mill Lade N61	refer to Water Environment		Negligible	Negligible

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				Magnitude	Significance
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)	E27n, E28n		Low	Minor
	Permanent Habitat Loss, Disturbance due to Fragmentation of habitat and foraging corridors and Pollution of Goval Burn, (N61)	E29n, E30n, E48n-E72n		Low - Negligible	Minor - Negligible
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)	E27n, E28n	Regional	Low	Minor
	Permanent Habitat Loss, Disturbance due to Fragmentation in Nether Kirkton surrounding the River Don DWS (N49, N50, N51, N52 & N54)	E29n, E30n, E48n-E72n		Low	Minor
	Potential Pollution of the River Don (N52)	refer to Water Environment	County Regional N67-N70	Low	Minor
	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)	E27n, E28n		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)	E29n, E30n, E48n-E72n		Low	Minor
	Potential Pollution of the Goval Burn and the Mill Lade (N63 and N64)	refer to Water Environment		Low	Minor
Otter	Risk of direct mortality due to RTAs between foraging sites (River Don N52)	E14n, E32n, E73n-E77n	National	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)	E14n, E32n, E73n-E77n		Negligible	Negligible
	Fragmentation of key commuting corridor. Potential pollution to Goval Burn (N54, N55, N59-N61)	E13n, E14n, E34n, E53n, E57n, E58n, E63n, E65n, E66n, E71n, E72n, E75n-E77n		Negligible	Negligible
	Habitat Loss of high value riparian and wildlife corridor habitat due to culverting and realignment including loss of lying up sites at Goval Burn (N54, N55, N59-N61)			Low	Minor
	Risk of direct mortality due to RTAs between foraging sites (Mill Lade N55)	E14n, E32n, E73n-E77n	Regional	Negligible	Negligible
	Fragmentation of the major commuting corridor. Disturbance due to junction lighting. Potential pollution to the Mill Lade (Mill Lade N55)	E13n, E14n, E34n, E53n, E57n, E58n, E63n, E65n, E66n, E71n, E72n, E75n-E77n		Negligible	Negligible

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				Magnitude	Significance
Otter [cont'd]	Potential Pollution and Risk of direct mortality due to RTAs between foraging sites (Corsehill Burn N64 and N66)	E14n, E32n, E73n-E77n	County	Negligible	Negligible
	Fragmentation of commuting routes (Corsehill Burn N64 and N66)	E13n, E14n, E34n, E53n, E57n, E58n, E63n, E65n, E66n, E71n, E72n, E75n-E77n		Medium	Moderate
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)	E14n, E15n, E45n, E46n, E47n	Regional	Negligible	Negligible
Freshwater	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
Section NL5 Predicted Construction Impacts on Habitats and Species		refer to Water Environment	National	Negligible	Negligible
Terrestrial Habitats	Fragmentation and disturbance of (Littlejohn's Wood N72) and wetland habitats with hydrological disruption and potential pollution of the lochs (Corby and Lily Lochs (SSSI, DWS, SINS complex with Bishop's Loch) N85)				
Badger	Direct mortality during clearance of outlier sett N06 for construction (Littlejohn's Wood and Harehill N67, N85, N91, N93-N94)	E1n, E2n, E6n, E7n, E16n, E17n, E73n-E75n	County	Negligible	Negligible
Bat	Risk of direct mortality at the roost between Cranfield and Harehill. (Cranfield treelines and treelines surrounding Harehill, N91)	E1n, E2n, E6n, E11n-E13n, E18n-E21n	Regional	Negligible	Negligible
	Disturbance to potential roosts and fragmentation to foraging corridors (Cranfield treelines and treelines surrounding Harehill, N91)	E1n, E2n, E6n, E11n-E13n, E22n-E24n		Low	Minor
	No known roosts to be felled, but Risk of direct mortality at potential roosts during clearance for construction. (Cranfield treelines N90)	E1n, E2n, E6n, E11n-E13n, E18n-E21n		Negligible	Negligible
	Disturbance to potential roosts and fragmentation to foraging corridors (Cranfield treelines N90)	E1n, E2n, E6n, E11n-E13n, E22n-E24n		Low	Minor
	No known roosts to be felled, but Risk of direct mortality at potential roosts during clearance for construction (Littlejohn's Wood, N72).	E1n, E2n, E6n, E11n-E13n, E18n-E21n	County	Negligible	Negligible

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				Magnitude	Significance
Bat [cont'd]	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, N85 N87).	E1n, E2n, E6n, E11n-E13n, E22n-E24n	County	Low	Minor
	Potential pollution of aquifers especially Red Moss, Corby and Lily Lochs (N84) and Blackdog Burn N91	refer to Water Environment	County	Negligible	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.	E1n, E2n, E12n, E14n, E25n-E30n,	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) N85	refer to Water Environment	National	Negligible	Negligible
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)	E1n, E2n, E5n-E8n, E11n-E14n, E33n, E34n, E46n, E73n-E76n	Regional	Negligible	Negligible
Otter [cont'd]	Risk of direct mortality during construction (Red Moss Burn N82-N87)	E1n, E2n, E5n-E8n, E11n-E14n, E74n, E76n	County	Negligible	Negligible
	Temporary fragmentation, and disturbance during construction (Red Moss Burn N82-N87)	E1n, E2n, E5n-E8n, E11n-E14n, E33n, E34n, E46n, E73n-E76n		Low	Minor
Red Squirrel	Risk of direct mortality during construction (Corsehill Wood, Littlejohn's Wood N71, N72)	E1n, E2n, E6n, E7n, E11n, E12n, E35n-E37n	Regional	Negligible	Negligible
	Disturbance due to construction and fragmentation of habitat (Corsehill Wood, Littlejohn's Wood N71, N72)	E1n, E2n, E6n, E7n, E11n, E35n-E37n, E54n-E56n, E59n, E61n, E62n, E68n		Negligible	Negligible
Terrestrial Inverts	Potential hydrological disruption and pollution (Red Moss and Corby Loch N82 and N85)	E78n and refer to Water Environment	County - Regional	Negligible	Negligible
Section NL5 Predicted Operational Impacts on Habitats and Species					
Terrestrial Habitats	Fragmentation and Disturbance of Littlejohn's Wood N72 and wetland habitats and potential Pollution of aquifers due to runoff (Corby and Lily Lochs (DWS, SINS comple with Bishop's Loch) N85)	E10n, E15n, E48n refer to Water Environment	National	Negligible	Negligible

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				Magnitude	Significance
Badger	Risk of direct mortality due to RTAs (Littlejohn's Wood and Harehill N67, N85, N91, N93,N94)	E6n, E7n, E16n, E73n-E77n	County	Negligible - Low	Negligible - Minor
	Loss of setting and foraging Habitat. Fragmentation and Disturbance to social groups NL,NM and NN and NO (Littlejohn's Wood and Harehill N67, N85, N91 and N93-N94)	E16n, E17n, E48n-E50n, E52n, E54n, E56n, E59n, E60n-E65n, E68n-E69n, E76n, E77n			
Bat	Risk of direct mortality due to RTAs (Cranfield treelines and treelines surrounding Harehill Cranfield treelines N91 N90)	E6n, E18n, E19n, E22n, E24n, E76n, E77n	Regional	Low	Minor
	Disturbance and Fragmentation of roosting habitat and foraging corridors and habitat loss (Cranfield treelines and treelines surrounding Harehill Cranfield treelines N91 N90).	E6n, E10n, E13n, E22n-E24n, E50n-E68n, E70-E72n, E75n-E77n			
	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)	E6n, E18n, E19n, E22n, E24n, E76n, E77n	County	Low	Minor
	Permanent Habitat Loss (including Loch Greens Pond). Disturbance and Fragmentation of roosts and foraging / commuting corridors at Corsehill Wood (N71), Moss Belt Plantation (N80),Loch Hills Quarry (N84), Fields between Red Moss and Newtonhill Farm (N86) and Fields surrounding Loch Greens Farm (N87), and Newton of Shielhill (N88)	E6n, E10n, E13n, E22n-E24n, E50n-E68n, E70-E72n, E75n-E77n		Negligible	Negligible
	Pollution of aquifers especially Red Moss Burn and Corby and Lily Loch (N84, N85) and Blackdog Burn (N91).	refer to Water Environment	County	Negligible	Negligible
	Fragmentation of commuting corridors at Littlejohn's Wood (N72) Woodland at Red Moss (N74) and Corby and Lily Loch (N85)	E6n, E10n, E13n, E22n-E24n, E50n-E68n, E70-E72n, E75n-E77n		Low	Minor
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)	E27n, E28n	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

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				Magnitude	Significance
Wintering Birds	Disturbance due to Fragmentation of habitat and foraging corridors and Pollution of aquifers (Corby and Lily Lochs Area surrounding Lochs N85)	E29n, E30n, E48n-E72n	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)	E27n, E28n	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)	E29n, E30n, E48n-E72n		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
	Risk of direct mortality due to RTAs between foraging sites (Backhill of Cranbog and Fifehill N86, N87 & N88-N90)	E27n, E28n	County Regional N86, N87	Low	Minor
	Habitat Loss, Fragmentation and Disturbance (Backhill of Cranbog and Fifehill N86, N87 & N88-N90)	E29n, E30n, E48n-E72n		Low	Minor
	Potential Pollution of aquifers (Backhill of Cranbog and Fifehill N86, N87 & N88-N90)	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)	E14n, E32n, E73n-E77n	Regional	Negligible	Negligible
	Fragmentation and potential Pollution of Blackdog Burn (N91, N93-N95)	E13n, E14n, E34n, E53n, E57n, E58n, E63n, E65n, E66n, E71n, E72n, E75n-E77n		Negligible	Negligible
	Risk of direct mortality due to RTAs at Red Moss Burn, Middlefield Burn and Blackdog Ditch (N82-N87)	E14n, E32n, E73n-E77n	County	Negligible	Negligible
	Fragmentation at Red Moss Burn	E13n, E14n, E34n, E53n, E57n, E58n, E63n, E65n, E66n, E71n, E72n, E75n-E77n		Negligible	Negligible
	Fragmentation at Middlefield Burn			Low	Minor
	Habitat Loss at Middlefield Burn			Negligible	Negligible
Potential pollution of Red Moss Burn, Middlefield Burn and Blackdog Ditch	Negligible		Negligible		
Red Squirrel	Risk of direct mortality due to RTAs between foraging sites (Corsehill Wood N71 (W8) Littlejohns Wood N72 (W8))	E77n	Regional	Medium	Moderate
	Fragmentation potentially affecting the viability of the population (Corsehill Wood N71 (W8) Littlejohns Wood N72 (W8))	E36n, E37n, E50n-E52n, E54n-E56n, E59n, E61n, E62n, E68n, E77n		Medium	Moderate
	Permanent Habitat Loss and Disturbance to these areas (Corsehill Wood N71 (W8) Littlejohns Wood N72 (W8))	E36n, E37n, E50n-E52n, E54n-E56n, E59n, E61n, E62n, E68n, E77n		Low	Minor

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			Magnitude	Significance
Landscape (Chapter 11)				
Directly Affected Impacts				
<u>Open Farmland: Overhills (chainage 314800-316300)</u> <ul style="list-style-type: none"> Farmland Busy local roads between Kingswell and Bucksburn Newhills scattered settlement 	L1n-L15n	Low/Medium	Medium	Slight
		Low	Low	
		Medium	Low	
<u>Wooded Farmland: Craibstone (chainage 316300 – 317500)</u> <ul style="list-style-type: none"> A96 road corridor Craibstone SAC Estate Woodland and farmland west of SAC Craibstone Estate 	L1n-L10n, L16n-L27n	Low	Low	Substantial
		High	Medium	
		Medium	Low	
<u>Open Farmland: Newton (chainage 317500 – 318900)</u> <ul style="list-style-type: none"> Farmland on eastern slopes of Tyrebagger Hill Minor road between A96 and Kirkhill Industrial Estate 	L1n-L10n, L28-L34n	Medium	Medium	Moderate
		Low	Low	
<u>Hill: Tyrebagger Hill/Kirkhill (chainage 318900-322300)</u> <ul style="list-style-type: none"> Commercial plantations on Tyrebagger Hill Farmland on eastern slopes of Tyrebagger Hill (south of Stone Circle) Farmland on western slopes of Tyrebagger Hill Farmland on north facing slopes of Tyrebagger Hill Pitmedden House estate landscape A96 corridor 	L1n-L10n, L35n-L48n	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"> Farmland north of airport Dyce Drive, railway corridor and industrial edge 	L1n-L10n, L49n -L52n	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"> Farmland south of river Farmland to north of river 	L1n-L10n, L53n-L58n	Low /Medium	Medium	Moderate to Substantial
		High	Medium	
<u>Open Farmland Type: Goval (chainage 324000 – 325350)</u> <ul style="list-style-type: none"> Open farmland north of Goval Belt Open farmland south of Goval Belt Formartine and Buchan Way 	L1n-L10n, L59n-L68n	Medium	Low	Substantial
		High	Medium	
		High	Medium	

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Wooded Farmland: Braes of Don (A947 realignment) <ul style="list-style-type: none"> Northern part of area Southern part of area 	L1n-L10n, L69n-L71n	Medium/High	Low	Slight
		Medium	No change	
Wooded Farmland Type: Red moss (chainage 325350 – 326000) <ul style="list-style-type: none"> Littlejohn's Wood area Wooded Farmland 	L1n-L10n, L72n-L73n	Medium/High	Low	Moderate
		Low /Medium	No change	
Open Farmland Type: Perwinnes (chainage 326000 – 328200) <ul style="list-style-type: none"> Open farmland at Perwinnes Hill, Leuchlands, Lochgreens Lily Loch / Corby Loch Perwinnes Moss / Scotstown Moor 	L1n-L10n, L74n-L82n	Low /Medium	Medium	Moderate
		Medium/High	Low	
		Medium	Low	
Open Farmland Type: Potterton (chainage 328200 – A90 North Junction) <ul style="list-style-type: none"> Open farmland A90 road corridor B999 road corridor 	L1n-L10n, L83n-L94n	Medium	Low	Moderate
		Low	Medium	
		Medium	Low	
Open Farmland Type: Blackdog (A90 North junction) <ul style="list-style-type: none"> Blackdog settlement Blackdog Industrial Estate A90 road corridor Man-made / industrial 	L1n-L10n, L95n-L102n	Low /Medium	Low	Negligible
		Low	Low	
		Low	Low	
		Low	Low	
Indirectly Affected Areas				
Hill: Brimmond Hill	L1n-L10n, L102n	Medium / high	Low	Negligible
Recreation: Craibstone Golf Course	L1n-L10n, L102n	Low / medium	Low	Slight to Negligible
Hill: Elrick Hill	L1n-L10n, L102n	Medium / high	Low	Negligible
Open Farmland: Greenferns	L1n-L10n, L102n	Low / medium	Low	Negligible
Recreation: Auchmill Golf Course	L1n-L10n, L102n	Low / medium	Low	Negligible
Urban: Bucksburn	None	Medium	Low	Negligible
Urban: Kirkhill Industrial Estate	L1n-L10n, L102n	Low	Low	Negligible
Urban: Dyce	L1n-L10n, L102n	Low	Low	Negligible
Valley: Lower Don Valley	None	Medium	No change	No change
Valley: Upper Don Valley	L1n-L10n, L102n	Medium / high	Low	Negligible
Valley: St. Fergus	L1n-L10n, L102n	Low / medium	Low	Slight
Hill: Foresterseat	None	Medium	Low	Negligible
Recreation: Newmacher Golf Course	None	Low / medium	Low	Negligible

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Urban: Potterton	L1n-L10n, L102n	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
Open Farmland: Cloverhill	None	Low / medium	Low	Negligible
Coast: Balgownie Links	None	Low / medium	Low	Negligible
Visual (Chapter 12)				
Overall impact from Northern Leg of the new road across open farmland (at winter year of scheme opening): <ul style="list-style-type: none"> Built receptors 616 (62.0%) moderate or greater adverse impact Outdoor receptors 53 (68.8%) moderate or greater adverse impact 	L1-L10n & V1n, V2n	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
Cultural Heritage (Chapter 13)				
Removal of known and unknown remains of cultural heritage significance	CH1n-CH5n	Less than Local - Regional	Low - Medium	Slight – Moderate
Visual impact on known site of cultural heritage significance	CH6n	Low - High	Negligible - Prominent	Slight – Substantial
Air Quality (Chapter 14)				
Change in the number of exceedences of 50 µg/m ³ as a 24-hour PM ₁₀ concentration at 133 sample properties within 500m of the Northern Leg	n/a	High	Change in number of exceedences: Extremely small increase (9) No change (124)	Negligible (9) No change (124)
Change in annual mean nitrogen dioxide concentrations at 133 sample properties within 500m of the Northern Leg	n/a	High	Increase in NO ₂ (number of sample properties in brackets): Very small (4) Small (9) Medium (15) Large (20) Very large (64)	Negligible (5) Slight (44) Moderate (64)

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			Magnitude	Significance
Change in annual mean nitrogen dioxide concentrations [cont'd]			Reduction in NO ₂ (number of sample properties in brackets): Extremely small (2) Very small (6) Small (1) Medium (4) Large (7) Very large (1)	Negligible beneficial (7) Slight beneficial (12) Moderate beneficial (1)
Change in annual mean PM ₁₀ concentrations at 133 sample properties within 500m of the Northern Leg	n/a	High	Increase in Annual Mean PM ₁₀ (number of sample properties in brackets): Extremely small (6) Very small (81) Small (20) Medium (2) Large increase (1)	Negligible (41) Slight (70)
			Reduction in Annual Mean PM ₁₀ (number of sample properties in brackets): Extremely small (7) Very small (13) Small (3)	Negligible beneficial (12) Slight beneficial (10)
Traffic Noise and Vibration (Chapter 15)				
At ground floor level within 300m, 130 properties would experience a residual significance of Moderate adverse or worse at the design year.	N1n (generic) N2n (generic) N3n-N15n (specific receptors)	High	Low-High	Moderate - Substantial
At first floor level within 300m, 126 properties would experience a residual significance of Moderate adverse or worse at the design year.	N1n (generic) N2n (generic) N3n-N15n (specific receptors)	High	Low-High	Moderate - Substantial

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			Magnitude	Significance
<i>Note: All residential properties where predicted pre-mitigation noise levels exceed the mitigation threshold ($L_{A10(18hr)} > 59.5dB$ with \geq Moderate Adverse significance) are listed below (except for those properties listed in paragraphs 15.6.5 to 15.6.7 of Chapter 15).</i>				
Millview, Chapel of Stoneywood	N3n	High	Low Adverse (ground floor)	Moderate Adverse (ground floor)
			Negligible Adverse (first floor)	Moderate Adverse (first floor)
Mill of Craibstone Cottage, Bucksburn	N3n	High	Negligible Adverse (ground & first floor)	Moderate Adverse (ground & first floor)
1 Walton View [Chapter 15 sample receptor]	N4n	High	Medium Adverse (ground floor)	Moderate/ Substantial Adverse (ground floor)
			High Adverse (first floor)	Substantial Adverse (first floor)
2 Walton View	N4n	High	Medium Adverse (ground floor)	Moderate/ Substantial Adverse (ground floor)
			High Adverse (first floor)	Substantial Adverse (first floor)
3 Walton View	N4n	High	Medium Adverse (ground floor)	Moderate/ Substantial Adverse (ground floor)
			High Adverse (first floor)	Substantial Adverse (first floor)
4 Walton View	N4n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)

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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
Greenacres, Chapel of Stoneywood	N4n	High	Low Adverse (ground floor)	Moderate Adverse (ground floor)
			Medium Adverse (first floor)	Moderate/Substantial Adverse (first floor)
2 Bogenjoss [Chapter 15 sample receptor]	N5n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)
Upper Kirkton	N6n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)
Lyndmoor Pitmedden Road [Chapter 15 sample receptor]	N7n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)
Tillybrig Pitmedden Road [Chapter 15 sample receptor]	N7n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)
Nether Kirkton	N8n	High	Low Adverse (ground & first floor)	Moderate Adverse (ground & first floor)
Parkhill Cottage, Parkhill Pumping Station [Chapter 15 sample receptor]	N9n	High	Low Adverse (ground & first floor)	Moderate Adverse (ground & first floor)
Bungalow, Parkhill	N10n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)
Kinnaird, Parkhill	N11n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)
Corsehill House	N12n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)
2 Lochgreens Cottages [Chapter 15 sample receptor]	N13n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)
Middleton Farm Steading East [Chapter 15 sample receptor]	N14n	High	High Adverse (ground & first floor)	Substantial Adverse (ground & first floor)
1-2 Wester Hatton Cottages	N15n	High	Low Adverse (ground & first floor)	Moderate Adverse (ground & first floor)

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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
Pedestrians, Cyclists, Equestrians and Community Effects (Chapter 16)				
Path from north Kingswells to Hillhead of Derbeth severed (C13)	P2n, P6n & P7n	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)	P1n, P2n, P6n & P7n	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	Minor - Moderate	<u>Journey change:</u> Major (V) Slight (NV)
Path from SAC Craibstone campus to Parkhead/ Golf Centre severed (C15)	P1n, P6n & P7n	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)

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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)	P1n, P2n, P6n & P7n	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	Major	<u>Journey change:</u> Severe (V) Major (NV)
Walton Road severed (C17)	P2n, P6n & P7n	High	-	<u>Amenity:</u> Moderate
		High	-	<u>Severance:</u> Moderate/Severe
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Minor	<u>Journey change:</u> Moderate (V) Slight (NV)
Path from Howemoss to Standing Stones Wood severed (C18)	P1n, P5n, P6n & P7n	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)

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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)	P2n, P6n & P7n	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)	Negligible	<u>Journey change:</u> Slight (V) Slight (NV) Negligible (E)
Path to Kirkhill Forest severed (C20)	P2n, P6n & P7n	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)	P1n, P4n, P6n & P7n	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)

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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)	P3n, P6n & P7n	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)	P1n, P2n, P6n & P7n	High	-	<u>Amenity:</u> 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)	P2n, P6n & P7n	Slight	Major	<u>Amenity:</u> Negligible/ Slight
		Slight		<u>Severance:</u> Slight/Moderate
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults		<u>Journey change:</u> Severe (V) Major (NV)

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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
Path within Blackdog community Woodland severed (C26).	P7n	High	-	<u>Amenity:</u> Negligible/ Slight
		High	-	<u>Severance:</u> Negligible
		<u>Vulnerable (V):</u> Children, Elderly, Disabled. <u>Non Vulnerable (NV)</u> Adults	Neutral	<u>Journey change:</u> Negligible for all users
Two bus stops (1. one at Dyce drive junction, 2. bus stop no. 39) on the westbound carriageway of the A96 at Craibstone	None	<u>Non Vulnerable (NV)</u> Adults	Minor (bus stop 1) Moderate (bus stop 2)	<u>Journey change</u> Slight (bus stop 1) Moderate (bus stop 2)
Two bus stops on both sides of the A90	None	<u>Non Vulnerable (NV)</u> Adults	Major (both)	<u>Journey change</u> Major (both)
Chapter 17: Vehicle Travellers				
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.	VT1n	n/a	<u>Significance not assessed. Impacts considered qualitatively as % and type of view:</u> <i>No view:</i> 19.7% of views winter year of opening increasing to 30.7% summer 15 years after opening. <i>Restricted view:</i> 15.5% of views winter year of opening increasing to 21.2% summer 15 years after opening. <i>Intermittent view:</i> 22.9% views at winter year of opening increasing to 28.2% summer 15 years after opening. <i>Open view:</i> 41.9% views winter year of opening decreasing to 19.9% 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.	VT2n	n/a	<u>Key predicted driver stress decreases:</u> <ul style="list-style-type: none"> The A90(T) Murcar Industrial Estate to Balmedie southbound - Low The A96 Blackburn to Craibstone southbound - Low The B999 Aberdeen to Tarves Road westbound - Moderate. 	

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			Magnitude	Significance
Changes to driver stress levels: sections of road network where driver stress levels are predicted to increase due to the proposed scheme.	VT3n	n/a	<u>Key predicted driver stress increases:</u> <ul style="list-style-type: none"> The A96 Blackburn to Craibstone eastbound will change from Low to Moderate; and The A947 Aberdeen - Oldmeldrum - Turriff Road southbound will change from Moderate to High. 	
Disruption due to Construction (Chapter 18)				
Damage to land (e.g. due to movement of machinery, storage of materials, access routes).	D1n	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).	D1n			
Temporary restriction of access to farm buildings and severance of land preventing movement of machinery or livestock.	D2n			
Temporary restriction of access to local business premises.	D3n			
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.	D4n	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.	D4n			
Visual impact of construction works including structures, earthworks, road surfacing and ancillary works, temporary soil storage heaps, night-time working and construction material stockpiles.	D4n			
Generation of dust. A risk of soiling 760 properties within 500m of the Northern Leg without mitigation. A risk of enhanced PM ₁₀ concentrations for 330 properties within 200m of proposed Northern Leg without mitigation.	D5n, D6n	High	Large	Moderate
Construction related vehicle emissions.	D5n, D6n	High	Very Small	Negligible
Increased noise and vibration levels to properties nearby to construction works.	D7n	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.	D8n	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).	D9n, D10n	Not assessed	Not assessed	Not significant
Policies and Plans (Chapter 19)				
Refer to Planning Summary Tables (Tables 19.3 – 19.6)				