On-line of B979

		Environmental Issues	En	gineering Issues	Econom	ic Issues
	Issue	Comments	Issue	Comments	Issue	Comments
ŀ	luman/Property		Length		Pro-rata Section Cost	Note: Cost estimate is based on
					(compared to lowest cost option)	pro-rata of Murtle Route cost
	Demolition		8.7 km		+ 2.3%	estimate based on length only
	8 No		0.7 1.111		1 2.070	Colimate based of length only
	0 140		Junctions		Factors With Potential	Note: These factors would
	Proximity	Cumulative totals:	durictions		Significant Cost Influence	increase the above costs
	12 0-50m		At grade connection with	Provides access to A90	Significant Cost influence	increase the above costs
	13 50-100m	(12) (25)	Stonehaven slip roads	Frovides access to A90	Structures	See cost factors
			Storieriaveri siip roaus		Structures	See cost factors
	21 100-200m	(46)			Dunant.	Durantina itan tan manana ati ana arang
	12 200-300m	(58)	Horizontal Alignment		Property	Proximity to properties may
						result in increased costs
	Sensitive Sites	Netherley School (<500m)	No sub-standard elements			No. of demolitions will
		Lairhillock School (<500m)				result in increased costs
			Vertical Alignment			
L	and Use	Less than 40m east of Netherly Village			Utilities	Runs close to BP and Shell
		Severance and loss of some woodland (community land) near	No sub-standard elements			pieplines for 1.5km and
		Forrester's Croft				crosses each twice
1		Mill Inn and Lairhillock School within 500m				
			Local Routes		Other	Requires extensive
h	andscape	Medium sensitivity				improvement work to upgrade
Г		Open Farmland for 4.7km; Wooded farmland for 4.0km.	12 Side Road Crossings			B979 and also requires
		Route comes close to the settlement of Netherley.	5 Diverted/Stopped Up			provision of parallel
		Route follows a line close to the existing route through the Hill	o Biverted/Gtopped op			all-purpose route
		of Megray and has a good landscape fit throughout.				all purpose route
			Earthworks			
				1,231,942 m ³		
L			Acceptable Cut			
٧	Vater Quality		Bulk Fill	1,297,443 m ³		
	SAC - High impact	6 watercourses associated with the SAC with potential for high	Balance	- 65,501 m ³ (Deficit)		
		impact				
	SAC - Medium impact	none				
	Non SAC - High Impact	3 other watercourses with potential for high impact				
			Structures			
]].	Foology			Cost significant factors		
٦	Ecology	Pure of Monautich approinted with burdening of De 1841 and	3 No of overbridges	Cost significant factors		
		Burn of Monquich, associated with hydrology of Red Moss of	_	for structures:		
1		Netherly SAC, also tributary of River Dee SAC. Route would	7 No of underpasses	1. Skew (> 30°);		
		result in disturbance and habitat fragmentation, potential to	6 cost significant factors	AWPR Curvature (Straight, Curved);		
		affect hydrology of moss. Potential to affect integrity of SACs.	affecting overbridges	3. Earthworks (OB>10m, UB>9m);		
			9 cost significant factors	4. Slip Roads (Y,N);		
			affecting underbridges	5. Side Road Realignment (Y,N).		
		Close to or through 5 areas of ancient woodland.	12 cost significant factors	6. Pipeline Structure (Y,N).		
		Close to or through 1 area of woodland.	affecting underpasses			
		The state of the s				
I						
C	Cultural Heritage	Direct - Direct Impact on 9 sites in total. 2 Sites of Regional				
	_	Importance. One of these is a Category B Listed Building (Ury	Utilities			
		House Gate Lodge). 3 other sites are of Local Importance, 4	Significant impacts on:			
1		sites are of Unknown Importance	2 Oil Pipelines			
		Proximity - 10 sites lie with 250m. 1 of Regional Importance,	2 Natural Gas Pipelines			
		8 of Local Importance, 1 Unknown importance. Netherley	1 High Voltage O/H Elec	Route in fill		
		Bridge is a Category C(s) Listed Building	High Voltage O/H Elec High Pressure Gas	Trode Willing		
		Driuge is a Category C(s) Listed Building	2 Fibreoptics			
			2 Fibreoptics 0 Trunk Water Main			
			U Trunk Water Main			

Off-line from B979, west of Red Moss

	Environmental Issues		gineering Issues		ic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost (compared to lowest cost option)	Note: Cost estimate is based or pro-rata of Murtle Route cost
Demolition 0 No		8.9 km		+ 4.7%	estimate based on length only
	Cumulative totals:	Junctions		Factors With Potential Significant Cost Influence	Note: These factors would increase the above costs
		At avada savasatias with	Drawidas assess to AOO	Significant Cost influence	increase the above costs
0 0-50m	(0)	At grade connection with	Provides access to A90	0	
	(11)	Stonehaven slip roads		Structures	See cost factors
14 100-200m	(25)				
	(53)	Horizontal Alignment		Utilities	Runs close to BP and Shell pieplines for 1.5km and
Sensitive Sites	Lairhillock School (<100m)	No sub-standard elements			crosses each twice
	Less than 100m east of Netherly Village Severance and loss of some woodland (community land) near	Vertical Alignment		Earthworks	Passes through peat and would entail excavation and replacement / or
	Forrester's Croft Lairhillock Inn and School within 100m	5% grade on mainline			piled raft with associated additional cost.
Landscape	Medium sensitivity.				Substantial deficit of material
	Open Farmland for 4.1km; Wooded farmland for 4.8km.	Local Routes			
	Route will sever the higher open farmlands of the Hill of				
	Megray.	8 Side Road Crossings			
	The route follows lower ground with a reasonable landscape	0 Diverted/Stopped Up			
	fit. The hillside cuttings will be prominent in views from the town of Stonehaven.				
	or Storieriaven.	Earthworks			
Water Quality		Acceptable Cut	801,202 m ³		
	7	Bulk Fill	2,204,543 m ³		
• '	7 watercourses associated with SAC with potential for high				
	impact	Balance	- 1,403,341 m ³ (Deficit)		
	none 4 other watercourses with potential for high impact				
Ecology	Limpet Ancient Woodland, Limpet Burn. Route will result in habitat loss, fragmentation and disturbance.	Structures			
	, 0	3 No of overbridges	Cost significant factors		
	Burn of Monquich, associated with hydrology of Red Moss of	4 No of underbridges	for structures:		
	Netherly SAC, also tributary of River Dee SAC. Route would	10 No of underpasses	1. Skew (> 30°);		
	result in disturbance and habitat fragmentation, potential to	·	AWPR Curvature (Straight, Curved);		
	affect hydrology of moss. Potential to affect integrity of SACs.	4 cost significant factors			
	Red Moss of Netherly SAC, route would result in loss of bog	affecting overbridges	3. Earthworks (OB>10m, UB>9m);		
	habitat adjacent to western boundary of SAC (similar to that	4 cost significant factors	4. Slip Roads (Y,N);		
	found in SAC). Potential to affect hydrology of SAC. Potential	affecting underbridges	5. Side Road Realignment (Y,N).		
	to affect integrity of site.	20 cost significant factors	Pipeline Structure (Y,N).		
		affecting underpasses			
	Close to or through 1 other area of ancient woodland.				
					1
	Close to or through 2 areas of woodland.				
		Utilities			
	Close to or through 2 areas of woodland.	Significant impacts on:			
Cultural Heritage	Close to or through 2 areas of woodland. Direct - Direct impact on 4 sites of Regional Importance, 3	Significant impacts on: 2 Oil Pipelines			
Cultural Heritage	Close to or through 2 areas of woodland. Direct - Direct impact on 4 sites of Regional Importance, 3 sites Local Importance, 3 sites Local Importance.	Significant impacts on: 2 Oil Pipelines 2 Natural Gas Pipelines			
Cultural Heritage	Close to or through 2 areas of woodland. Direct - Direct impact on 4 sites of Regional Importance, 3 sites Local Importance, 3 sites of Unknown Importance. Lairhillock Bridge is a Category C(s) Listed Building	Significant impacts on: 2 Oil Pipelines 2 Natural Gas Pipelines 1 High Voltage O/H Elec	Route in fill		
Cultural Heritage	Close to or through 2 areas of woodland. Direct - Direct impact on 4 sites of Regional Importance, 3 sites Local Importance, 3 sites of Unknown Importance. Lairhillock Bridge is a Category C(s) Listed Building Proximity - 17 sites located within 250m. Of these 15 are of	Significant impacts on: 2 Oil Pipelines 2 Natural Gas Pipelines 1 High Voltage O/H Elec 0 High Pressure Gas	Route in fill		
Cultural Heritage	Close to or through 2 areas of woodland. Direct - Direct impact on 4 sites of Regional Importance, 3 sites Local Importance, 3 sites of Unknown Importance. Lairhillock Bridge is a Category C(s) Listed Building	Significant impacts on: 2 Oil Pipelines 2 Natural Gas Pipelines 1 High Voltage O/H Elec	Route in fill		
Cultural Heritage	Close to or through 2 areas of woodland. Direct - Direct impact on 4 sites of Regional Importance, 3 sites Local Importance, 3 sites of Unknown Importance. Lairhillock Bridge is a Category C(s) Listed Building Proximity - 17 sites located within 250m. Of these 15 are of	Significant impacts on: 2 Oil Pipelines 2 Natural Gas Pipelines 1 High Voltage O/H Elec 0 High Pressure Gas	Route in fill		

Off-line from B979, east of Red Moss, west of Cookney, west of Berry Top

		Environmental Issues	l En	gineering Issues	Econom	nic Issues
l	Issue	Comments	Issue	Comments	Issue	Comments
	10000	Comments	13340	Comments	13340	Comments
l	Human/Property		Length		Pro-rata Section Cost	Note: Cost estimate is based on
	Demolition		9.0 km		(compared to lowest cost option) + 5.9%	estimate based on length only
	3 No		Junctions		Factors With Potential	Note: These factors would
		Cumulative totals:			Significant Cost Influence	increase the above costs
	9 50-100m	(2) (11)	At grade connection with Stonehaven slip roads	Provides access to A90	Structures	See cost factors
		(42) (70)	Horizontal Alignment		Earthworks	Surplus of acceptable material
	Sensitive Sites	Lairhillock School (<200m)	No sub-standard elements			would benefit remainder of route
		Less than 50m west of Cookney Village Severance of Blackhill Community (west of Cookney) Mill Inn and Lairhillock School within 100m	Vertical Alignment 5% grade on mainline			
		Medium sensitivity	o /o grado on manimo			
	·	Open Farmland for 4.2km; Hill for 1.5km; Wooded farmland for 3.0km; Valley for approx. 0.3km. Route will sever the higher open farmlands of the Hill of	Local Routes 13 Side Road Crossings			
		Regray and sever the higher open rannands of the hill of Muchalls. Route cuts around the hill on which the small settlement of Cookney is located.	4 Diverted/Stopped Up			
		The route follows higher ground with a poor landscape fit.	Earthworks	2		
		The hillside cuttings will be prominent in views from the town of Stonehaven		2,166,783 m ³		
		Storieriaveri	Bulk Fill Balance	574,733 m ³ 1,592,049 m ³ (Surplus)		
			Dalarice	11,552,045 III (Guipius)		
١.	Nater Quality					
	SAC - High impact	4 Watercourses associated with SAC with potential for high				
		impact 2 watercourses associated with SAC with potential for medium	Structures			
		impact 2 other watercourses with potential for high impact	6 No of overbridges2 No of underbridges	Cost significant factors for structures:		
			7 No of underpasses 14 cost significant factors	Skew (> 30°); AWPR Curvature (Straight,Curved);		
E		Limpet Ancient Woodland, Limpet Burn. Route will result in habitat loss western edge of wood, fragmentation and	affecting overbridges 3 cost significant factors	3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N);		
		disturbance. Burn of Muchalls , drains from Red Moss SAC, high value	affecting underbridges 7 cost significant factors	Side Road Realignment (Y,N). Pipeline Structure (Y,N).		
		burn with riparian woodland. Route will result in habitat loss, disturbance and increased fragmentation.	affecting underpasses	o. Pipeline Structure (1,14).		
		Green Burn, route will result in habitat loss, disturbance and fragmentation.	Utilities			
		Red Moss of Netherly SAC. Potential to affect hydrology of SAC. Potential to affect integrity of site.	Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines			
		Close to or through 3 areas of woodland.	High Voltage O/H Elec High Pressure Gas Fibreoptics Trunk Water Main			
		Direct - Direct Impact on 7 sites. 3 of Local Importance, 4 of Unknown Importance.				
		Proximity - 10 sites in total located with 250m. 2 sites				
		Regional Importance, 7 sites of Local Importance, including				
		Netherley Road Bridge a Category C(s) Listed Building, 1 site Unknown importance.				
		pro con co				

Off-line of B979, east of Red Moss, east of Cookney, east of Berry Top

	Environmental Issues	Er	ngineering Issues	Econom	nic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost	Note: Cost estimate is based on
				(compared to lowest cost option)	pro-rata of Murtle Route cost
Demolition		8.5 km		+ 0.0%	estimate based on length only
1 No		0.0 1		1 0.070	ocimate bases on longin only
		Junctions		Factors With Potential	Note: These factors would
Proximity	Cumulative totals:	Canonionio		Significant Cost Influence	increase the above costs
1 0-50m	(1)	At grade connection with	Provides access to A90	o.gcant cost iiii.asiiss	meredee the above code
6 50-100m	(7)	Stonehaven slip roads	1 1011400 400000 10 7100	Structures	See cost factors
21 100-200m	(28)	Grondina on one roddo		ou dotaile	000 0001 1401010
18 200-300m	(46)	Horizontal Alignment		Earthworks	Surplus of acceptable material
.0 200 000	(13)				would benefit remainder of route
Sensitive Sites	none	No sub-standard elements			Would belief terrialities of route
denember energy		The cas clandard croments			
1					
Land Use	Less than 50m east of Cookney Village	Vertical Alignment			
	Severance and loss of some woodland (community land) near	· · · · · · · · · · · · · · · · · · ·			
	Forrester's Croft				
		5% grade on mainline			
Landscape	Medium sensitivity	grade on manning			
	Open Farmland for approx. 3.4m; Hill for approx. 2.6km;				
	Wooded Farmland for approx. 1.9km; Valley for approx. 0.6km.				
	Route will sever the higher open farmlands of the Hill of	Local Routes			
	Megray and severs the narrow valley of the Burn of Muchalls.				
	Route cuts around the hill on which the small settlement of	13 Side Road Crossings			
	Cookney is located.	3 Diverted/Stopped Up			
	The route follows higher ground with a poor landscape fit.	o Biverted/etopped op			
	The hillside cuttings will be prominent in views from the town of				
	Stonehaven	Earthworks			
		Acceptable Cut	1.259.807 m ³		
Water Ovality		Bulk Fill	669,627 m ³		
Water Quality SAC - High impact	A		· ·		
SAC - High Impact	1 watercourse associated with SAC with potential for high	Balance	509,180 m ³ (Surplus)		
040 44 5	impact				
SAC - Medium impact	none				
Non SAC - High Impact	1 other watercourse with potential for high impact				
		Ctt			
Ecology	Burn of Muchalls, drains from Red Moss SAC, high value	Structures 8 No of overbridges	Cost significant factors		
LCOIOGY					
	burn with riparian woodland. Route would result in habitat loss, disturbance and increased fragmentation.	2 No of underbridges 3 No of underpasses	for structures: 1. Skew (> 30°);		
	Limpet Ancient Woodland, Limpet Burn. Route will result in	16 cost significant factors	2. AWPR Curvature (Straight, Curved);		
	habitat loss, fragmentation and disturbance.	affecting overbridges	3. Earthworks (OB>10m, UB>9m);		
	madical 1055, irayinentation and disturbance.	4 cost significant factors	4. Slip Roads (Y,N);		
	Close to or through 1 area of ancient woodland.	affecting underbridges	Silp Roads (Y,N); Side Road Realignment (Y,N).		
	Close to or through 1 area of ancient woodland. Close to or through 2 areas of woodland.				
	Close to or through 2 areas of woodiand.	4 cost significant factors	6. Pipeline Structure (Y,N).		
Cultural Horitage	Direct Direct impact on 6 sites 1 is of Decisional Impact on	affecting underpasses			
Cultural Heritage	Direct - Direct impact on 6 sites. 1 is of Regional Importance,				
	3 of Local Importance and 3 are of Unknown Importance.				
	Proximity - 6 sites within 250m. 5 of Local Importance, 1 of	Littilition			
	Unknown Importance.	Utilities Significant impacts on:			
		0 Oil Pipelines			
		Natural Gas Pipelines Natural Gas Pipelines			
1		1 High Voltage O/H Elec			
		0 High Pressure Gas			
1		2 Fibreoptics			
1		0 Trunk Water Main			
_II					

Off-line of B979, east of Red Moss, east of Cookney, west of Berry Top

	Environmental Issues	Er	igineering Issues	Econom	nic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost	Note: Cost estimate is based o
				(compared to lowest cost option)	I [*]
Demolition		9.5 km		+ 11.7%	estimate based on length only
0 No					
		Junctions		Factors With Potential	Note: These factors would
	Cumulative totals:			Significant Cost Influence	increase the above costs
0 0-50m	(0)	At grade connection with	Provides access to A90	_	
6 50-100m	(6)	Stonehaven slip roads		Structures	See cost factors
29 100-200m	(35)				
21 200-300m	(56)	Horizontal Alignment		Earthworks	Surplus of acceptable materia
Sensitive Sites	Lairhillock School (<200m)	No sub-standard elements			would benefit remainder of rou
Land Use	Less than 50m east of Cookney Village	Vertical Alignment			
	Mill Inn and Lairhillock School within 100m				
l .		5% grade on mainline			
Landscape	Medium sensitivity				
	Open Farmland for 3.2km; Hill for 3.0km; Wooded farmland for	Local Routes			
	2.1km and Valley for 1.2km Route will sever the higher open farmlands of the Hill of	Local noules			
	Megray and severs the narrow valley of the Burn of Muchalls.	14 Side Road Crossings			
	Route cuts around the hill on which the small settlement of	5 Diverted/Stopped Up			
	Cookney is located.	5 Diverted/Stopped op			
	The route follows higher ground with a poor landscape fit				
		Earthworks			
	of Stonehaven	Acceptable Cut	1.594.447 m ³		
		Bulk Fill	285,755 m ³		
		Balance	1,308,692 m³ (Surplus)		
Water Quality		Daranoo	(ourpido)		
	2 Watercourses associated with SAC with potential for high				
,	impact				
	none				
	1 other watercourse with potential for high impact	Structures			
J	, , , , , , , , , , , , , , , , , , , ,	9 No of overbridges	Cost significant factors		
		1 No of underbridges	for structures:		
Ecology	Limpet Ancient Woodland, Limpet Burn. Route will result in	3 No of underpasses	1. Skew (> 30°);		
	habitat loss at western edge of wood as well as fragmentation	19 cost significant factors	2. AWPR Curvature (Straight, Curved);		
	and disturbance.	affecting overbridges	3. Earthworks (OB>10m, UB>9m);		
	Burn of Muchalls, drains from Red Moss SAC, high value	2 cost significant factors	4. Slip Roads (Y,N);		
	burn with riparian woodland. Route will result in habitat loss,	affecting underbridges	5. Side Road Realignment (Y,N).		
	disturbance and increased fragmentation.	4 cost significant factors	6. Pipeline Structure (Y,N).		
	Red Moss of Netherly SAC. Potential to affect hydrology of	affecting underpasses			
	ICAO Detendiel to effect intermite of eite	II			
	SAC. Potential to affect integrity of site.				
	SAC. Potential to affect integrity of site.	Utilities			
	Close to or through 2 areas of woodland.	Significant impacts on:			
		Significant impacts on: 0 Oil Pipelines			
		Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines			
	Close to or through 2 areas of woodland.	Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec			
Cultural Heritage	Close to or through 2 areas of woodland. Direct impact on 6 sites identified. 2 are of Local Importance,	Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 0 High Pressure Gas			
	Close to or through 2 areas of woodland. Direct impact on 6 sites identified. 2 are of Local Importance, 4 of Unknown Importance.	Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 0 High Pressure Gas 2 Fibreoptics			
	Close to or through 2 areas of woodland. Direct impact on 6 sites identified. 2 are of Local Importance,	Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 0 High Pressure Gas			

From Westside, junction at Burnside, west of Kirkton of Maryculter, crosses River Dee west of Maryculter Bridge, connects to A90 at Charleston passing south of Hare Moss.

	Environmental Issues		ngineering Issues		nic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost	Note: Cost estimate is based of
numan/Property		Length			pro-rata of Murtle Route cost
				(compared to lowest cost option)	·
Demolition		13.1 km		+ 15.0%	estimate based on length only
18 No					L
		Junctions		Factors With Potential	Note: These factors would
	Cumulative totals:		(Commences at Charleston Jcn)	Significant Cost Influence	increase the above costs
	(5)	1 Grade separated	Priority to Stonehaven		
	(25)	at Mains of Altries	Roundabout elevated above mainline	Structures	See cost factors
	(61)				
45 200-300m	(106)	Horizontal Alignment		Property	Proximity to properties may
Sensitive Sites	Maryculter School (<300m)	No sub-standard elements			result in increased costs No. of demolitions will
Sensitive Sites	Marycuiter School (<300m)	No sub-standard elements			result in increased costs
					result in increased costs
				Earthworks	Deficit of accountable marketic
				Earthworks	Deficit of acceptable material likely to result in inceased
Land Use	Road and junction within 50m of School at Standing Stones	Vertical Alignment			costs for scheme as a whole
	Within ~ 50m of Caravan/Camp Site	vertical Alignment			costs for scheme as a whole
	within ~ 50m or Garavan/Gamp Site	No sub-standard elements			
		ino sub-standard elements			
1				ĺ	
Landscape	Cuts through 2.0km High sensitivity; through 7.5km of medium	Local Boutes			
	sensitivity	Local noutes			
	2.5km in Area of Landscape Significance.	20 Side Road Crossings			
	Cuts through small scale, exposed upland landscape of	5 Diverted/Stopped Up			
	Merchants Croft.	o Bivertea/Gtopped Gp			
	Passes through Open Farmland for approx. 9.2km; Wooded				
		Earthworks			
	Good landscape fit between Mill of Monquich and Altries	Acceptable Cut	1,420,476 m ³		
	(approx. 2.4km). Reasonable fit between Mill of Monguich and	Bulk Fill	3,346,613 m ³		
	River Dee (approx. 4.2km); poor landscape fit between Altries	Balance	- 1,926,138 m ³ (Deficit)		
	and Greenloaning (approx. 2.7km); reasonable fit between	Balarioo	1,,==,,== (==)		
	Greenloaning and Charleston (approx. 3.8km).				
	Impacts on open farmland and views from scattered dwellings.				
	,				
i					
		Structures			
			Cost significant factors		
Water Quality		8 No of overbridges	Cost significant factors		
Water Quality	1 watercourse associated with SAC with notential for high	8 No of overbridges 7 No of underbridges	for structures:		
SAC - High impact	watercourse associated with SAC with potential for high impact	8 No of overbridges 7 No of underbridges 2 No of underpasses	for structures: 1. Skew (> 30°);		
SAC - High impact	impact	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved);		
SAC - High impact SAC - Medium impact	impact 1 watercourse associated with SAC with potential for medium	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge	for structures: 1. Skew (> 30*); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m);		
SAC - High impact SAC - Medium impact	impact 1 watercourse associated with SAC with potential for medium impact	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors	for structures: 1. Skew (> 30"); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N);		
SAC - High impact SAC - Medium impact	impact 1 watercourse associated with SAC with potential for medium impact	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
SAC - High impact SAC - Medium impact	impact 1 watercourse associated with SAC with potential for medium impact	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors	for structures: 1. Skew (> 30"); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N);		
SAC - High impact SAC - Medium impact Non SAC - High Impact	impact 1 watercourse associated with SAC with potential for medium impact	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact	impact 1 watercourse associated with SAC with potential for medium impact none	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC.	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underbridge	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underbridge Willities Significant impacts on:	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss,	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpasses Utilities Significant impacts on: 0 Oil Pipelines	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation	8 No of overbridges 7 No of underbridges 2 No of underbridges 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpridge the cost significant factors affecting underpridge Utilities Significant impacts on: 0 Oil Pipelines Natural Gas Pipelines	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation Hare Moss, route will result in habitat loss along southern	8 No of overbridges 7 No of underbridges 2 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpridge Willities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec	for structures: 1. Skew (> 30'); 2. AWPR Curvature (Straight, Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N). 6. Pipeline Structure (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of	8 No of overbridges 7 No of underbridges 2 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpasses Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 2 High Pressure Gas	for structures: 1. Skew (> 30°); 2. AWPR Curvature (Straight,Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 2 areas of ancient woodland.	8 No of overbridges 7 No of underbridges 2 No of underbridges 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpasses Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 2 High Pressure Gas 2 Fibreoptics	for structures: 1. Skew (> 30'); 2. AWPR Curvature (Straight, Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N). 6. Pipeline Structure (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of	8 No of overbridges 7 No of underbridges 2 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpasses Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 2 High Pressure Gas	for structures: 1. Skew (> 30'); 2. AWPR Curvature (Straight, Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N). 6. Pipeline Structure (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 2 areas of ancient woodland. Close to or through 7 areas of woodland.	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpasses Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 2 High Pressure Gas 2 Fibreoptics 1 Trunk Water Main	for structures: 1. Skew (> 30'); 2. AWPR Curvature (Straight, Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N). 6. Pipeline Structure (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology Cultural Heritage	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 2 areas of ancient woodland. Close to or through 7 areas of woodland. Direct - Direct impact on 8 sites. 1 is of Regional Importance, 5	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpasses Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 2 High Pressure Gas 2 Fibreoptics 1 Trunk Water Main	for structures: 1. Skew (> 30'); 2. AWPR Curvature (Straight, Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N). 6. Pipeline Structure (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology Cultural Heritage	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 2 areas of ancient woodland. Close to or through 7 areas of woodland. Direct - Direct impact on 8 sites. 1 is of Regional Importance, 5 of Local Importance, 1 is of Unknown Importance.	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpasses Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 2 High Pressure Gas 2 Fibreoptics 1 Trunk Water Main	for structures: 1. Skew (> 30'); 2. AWPR Curvature (Straight, Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N). 6. Pipeline Structure (Y,N).		
SAC - High impact SAC - Medium impact Non SAC - High Impact Ecology Cultural Heritage	impact 1 watercourse associated with SAC with potential for medium impact none Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 2 areas of ancient woodland. Close to or through 7 areas of woodland. Direct - Direct impact on 8 sites. 1 is of Regional Importance, 5	8 No of overbridges 7 No of underbridges 2 No of underpasses 10 Cost significant factors affecting overbridge 9 Cost significant factors affecting underbridge 2 Cost significant factors affecting underpasses Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 2 High Pressure Gas 2 Fibreoptics 1 Trunk Water Main	for structures: 1. Skew (> 30'); 2. AWPR Curvature (Straight, Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N). 6. Pipeline Structure (Y,N).		

From Westside, west of Kirkton of Maryculter, junction at Kingcausie, crosses River Dee east of Maryculter Bridge, connects to A90 at Charleston passing south of Hare Moss.

T	Environmental Issues	Er	ngineering Issues	Econon	nic Issues
Issue	Comments	Issue	Comments	Issue	Comments
l					.
Human/Property		Length		Pro-rata Section Cost	Note: Cost estimate is based on
B 133		40.0		(compared to lowest cost option)	
Demolition		12.6 km		+ 10.5%	estimate based on length only
10 No		lumations		Factors With Detential	Note: Those feeters would
Diit-	0	Junctions	(O	Factors With Potential Significant Cost Influence	Note: These factors would increase the above costs
Proximity 3 0-50m	Cumulative totals: (3)	1 At arada raundahaut	(Commences at Charleston Jcn) 100m ICD	Significant Cost influence	increase the above costs
23 50-100m	(26)	 At-grade roundabout at Kingcausie 	Charleston Priority	Structures	See cost factors
44 100-200m	(70)	at Kingcausie	Chaneston Frionty	Structures	See cost factors
62 200-300m	(132)	Horizontal Alignment		Property	Proximity to properties may
	(/	g		· · · · · · · · · · · · · · · · · · ·	result in increased costs
Sensitive Sites	Maryculter School (<300m)	No sub-standard elements			No. of demolitions will
	.,,				result in increased costs
				Earthworks	Surplus of acceptable material
					would benefit remainder of route
Land Use	Maryculter School (<300m)	Vertical Alignment			
	Within 20m of Village Kirkton of Maryculter				
	Loss of woodland (community land)	6% grade on mainline	On southern leg approach to roundabout		
	Within 50m of Storybook Glen Theme Park.				
		Local Routes			
Landscape	Junction in Area of Landscape Significance (ALS); 2.8km of	Local Houtes			
Lanuscape	route in ALS	20 Side Road Crossings			
	Passes through 4.1km Hill; 6.2km of Open Farmland; 2.2km of				
	Wooded Farmland; 0.1km of Valley.	o biverted/Stopped op			
	Cuts through 2.8km High sensitivity; 10.5km of medium				
	sensitivity.				
	Reasonable landscape fit between Mill of Monquich and				
	Kirkton of Maryculter (4km); poor landscape fit between	Earthworks			
	Kirkton of Maryculter and River Dee (1.1km); poor landscape	Acceptable Cut	2,547,524 m ³		
	fit between River Dee and Merchants Croft (2.5km);	Bulk Fill	1,055,570 m ³		
	reasonable landscape fit between Merchants Croft and	Balance	1,491,954 m ³ (Surplus)		
	Impacts on views from Peterculter and Milltimber as cuttings				
	through Storybook Glen and past Maryculter will be visible;				
	Will sever forestry on crest of ridgeline above Dee Valley;				
	junction will be prominent in cutting				
w . o ::		Structures			
Water Quality	1 watercourse accominted with CAC with natestial for high	8 No of overbridges	Cost significant factors		
SAC - High impact	1 watercourse associated with SAC with potential for high impact	6 No of underbridges 1 No of underpasses	for structures:		
SAC - Medium impact	none	16 Cost significant factors	 Skew (> 30°); AWPR Curvature (Straight, Curved); 		
	2 watercourses with potential for high impact	affecting overbridge	3. Earthworks (OB>10m, UB>9m);		
14011 0710 - Friight impact	2 materiology with potential for high impact	6 Cost significant factors	4. Slip Roads (Y,N);		
Ecology	1				1
	Berry Top Hill, direct impact on wet heath/ acid grassland	affecting underbridge	Side Road Realignment (Y.N).		
			Side Road Realignment (Y,N). Pipeline Structure (Y,N).		
	Berry Top Hill, direct impact on wet heath/ acid grassland and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new	1 Cost significant factors	Side Road Realignment (Y,N). Pipeline Structure (Y,N).		
	and scrub resulting in habitat loss and severe fragmentation.				
o,	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC.	Cost significant factors affecting underpasses			
	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaikiewell Burn, drains to River Dee SAC. Route will result	Cost significant factors affecting underpasses Utilities			
S.	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaikiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to	Cost significant factors affecting underpasses Utilities Significant impacts on:			
·	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaikiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC.	Cost significant factors affecting underpasses Utilities Significant impacts on: O Oil Pipelines			
u.	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaikiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and	Cost significant factors affecting underpasses Utilities Significant impacts on: O Oil Pipelines Natural Gas Pipelines			
u.	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaikiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland.	Cost significant factors affecting underpasses Utilities Significant impacts on: Oil Pipelines Natural Gas Pipelines High Voltage O'H Elec	6. Pipeline Structure (Y,N).		
	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaiklewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland. Hare Moss, route will result in habitat loss along southern	Cost significant factors affecting underpasses Utilities Significant impacts on: Oil Pipelines Natural Gas Pipelines High Voltage O/H Elec High Pressure Gas			
	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaikiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland.	Cost significant factors affecting underpasses Utilities Significant impacts on: O il Pipelines Natural Gas Pipelines High Voltage O'H Elec High Pressure Gas Fibreoptics	6. Pipeline Structure (Y,N).		
·	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blakiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland. Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of	Cost significant factors affecting underpasses Utilities Significant impacts on: Oil Pipelines Natural Gas Pipelines High Voltage O/H Elec High Pressure Gas	6. Pipeline Structure (Y,N).		
u.	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaiklewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland. Hare Moss, route will result in habitat loss along southern	Cost significant factors affecting underpasses Utilities Significant impacts on: O il Pipelines Natural Gas Pipelines High Voltage O'H Elec High Pressure Gas Fibreoptics	6. Pipeline Structure (Y,N).		
·	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaikiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland. Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 11 areas of woodland.	Cost significant factors affecting underpasses Utilities Significant impacts on: O oil Pipelines Natural Gas Pipelines High Voltage O/H Elec High Pressure Gas Fibreoptics Trunk Water Main	6. Pipeline Structure (Y,N).		
Cultural Heritage	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blakiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland. Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 11 areas of woodland. Direct - Direct Impact on 13 sites. 3 of Regional Importance, 9	Cost significant factors affecting underpasses Utilities Significant impacts on: O oil Pipelines Natural Gas Pipelines High Voltage O/H Elec High Pressure Gas Fibreoptics Trunk Water Main	6. Pipeline Structure (Y,N).		
Cultural Heritage	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaiklewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland. Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 11 areas of woodland. Direct - Direct Impact on 13 sites. 3 of Regional Importance, 9 of Local Importance, 1 Unknown Importance	Cost significant factors affecting underpasses Utilities Significant impacts on: O oil Pipelines Natural Gas Pipelines High Voltage O/H Elec High Pressure Gas Fibreoptics Trunk Water Main	6. Pipeline Structure (Y,N).		
Cultural Heritage	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaikiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland. Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 11 areas of woodland. Direct - Direct Impact on 13 sites. 3 of Regional Importance, 9 of Local Importance, 1 Unknown Importance.	Cost significant factors affecting underpasses Utilities Significant impacts on: O oil Pipelines Natural Gas Pipelines High Voltage O/H Elec High Pressure Gas Fibreoptics Trunk Water Main	6. Pipeline Structure (Y,N).		
Cultural Heritage	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaiklewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland. Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 11 areas of woodland. Direct - Direct Impact on 13 sites. 3 of Regional Importance, 9 of Local Importance, 1 Unknown Importance	Cost significant factors affecting underpasses Utilities Significant impacts on: O oil Pipelines Natural Gas Pipelines High Voltage O/H Elec High Pressure Gas Fibreoptics Trunk Water Main	6. Pipeline Structure (Y,N).		

As per Blue Route but passing north of Hare Moss.

	Environmental Issues	Er	gineering Issues	Econom	nic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost (compared to lowest cost option)	l'
Demolition 10 No		12.6 km		+ 10.5%	estimate based on length only
10 100		Junctions		Factors With Potential	Note: These factors would
Proximity	Cumulative totals:		(Commences at Charleston Jcn)	Significant Cost Influence	increase the above costs
2 0-50m 17 50-100m	(2) (19)	 At-grade roundabout at Kingcausie 	100m ICD Charleston Priority	Structures	See cost factors
44 100-200m	(63)	at Ningcausie	Onaneston Filonty	Structures	See cost factors
64 200-300m	(127)	Horizontal Alignment		Property	Proximity to properties may
Sensitive Sites	Maryculter School (<300m)	1 x1 step below des min	(720m radius)		result in increased costs No. of demolitions will result in increased costs
Land Use	Maryculter School (<300m) Within 20m of Village Kirkton of Maryculter	Vertical Alignment		Earthworks	Surplus of acceptable material would benefit remainder of rou
	Loss of woodland (community land) Within 50m of Storybook Glen Theme Park.	5% grade on mainline			
1 d	hunding in Association design Circles and (ALC), O Charles	Local Routes			
Landscape	Junction in Area of Landscape Significance (ALS); 2.8km of route in ALS	10 Side Road Crossings			
	Passes through 4.4km Hill; 4.9km of Open Farmland; 3.2km of Wooded Farmland; 0.1km of Valley. Cuts through 2.8km High sensitivity; 10.5km of medium	9 Diverted/Stopped Up			
	sensitivity.	Earthworks			
	Reasonable landscape fit between Mill of Monquich and	Acceptable Cut	2,644,844 m ³		
	Kirkton of Maryculter (3.9km); poor landscape fit between Kirkton of Maryculter and River Dee (0.9km); poor landscape	Bulk Fill	992,524 m ³		
	fit between River Dee and Greenloaning (3.9km); reasonable landscape fit between Greenloaning and Charleston (3.9km).	Balance	1,652,320 m ³ (Surplus)		
	Impacts on views from Peterculter and Milltimber as cuttings				
	through Storybook Glen and past Maryculter will be visible; Will sever forestry on crest of ridgeline above Dee Valley;	Structures			
	junction will be prominent in cutting at base of slope.	8 No of overbridges	Cost significant factors		
		5 No of underbridges	for structures:		
Water Quality SAC - High impact	1 watercourse associated with SAC with potential for high	 No of underpasses 17 Cost significant factors 	1. Skew (> 30°); 2. AWPR Curvature (Straight, Curved);		
O/10 Tright impact	impact	affecting overbridge	3. Earthworks (OB>10m, UB>9m);		
SAC - Medium impact	none	12 Cost significant factors	4. Slip Roads (Y,N);		
Non SAC - High Impact	2 watercourses with potential for high impact	affecting underbridge - Cost significant factors	Side Road Realignment (Y,N). Pipeline Structure (Y,N).		
Ecology	Berry Top Hill, direct impact on wet heath/ acid grassland	affecting underpasses	o. Pipeline Structure (1,14).		
	and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new				
	crossing resulting in habitat loss, fragmentation, potential to				
	affect integrity of the SAC.	Utilities			
	Blaikiewell Burn, drains to River Dee SAC. Route will result	Significant impacts on: 0 Oil Pipelines			
	in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC.	Oil Pipelines Natural Gas Pipelines			
	Cleanhill Wood, SESA. Route will result in habitat loss and	1 High Voltage O/H Elec			
	severe fragmentation of Long Established Woodland.	2 High Pressure Gas			
	Hare Moss, route will result in habitat loss along northern edge, habitat fragmentation, potential to affect hydrology of	2 Fibreoptics 1 Trunk Water Main			
	Close to or through 11 areas of woodland.				
Cultural Heritage	Direct - Direct Impact on a total of 13 sites. Of these 3 are of Regional Importance, 9 of Local Importance, 1 of unknown				
	Importance Proximity - 24 sites located within 250m. Of these 4 are of				
	Regional Importance, including 3 Category B Listed Buildings,				
	and 20 are of Local Importance, including 2 Category C(s)				
	Listed Buildings				
_				11	L

As per Blue Route but connecting to junction on A90 at Schoolhill.

	Environmental Issues	Er	ngineering Issues	Econom	ic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost (compared to lowest cost option)	Note: Cost estimate is based on pro-rata of Murtle Route cost
Demolition 10 No		11.8 km		+ 3.6%	estimate based on length only
Proximity	Cumulative totals:	Junctions		Factors With Potential Significant Cost Influence	Note: These factors would increase the above costs
5 0-50m 22 50-100m 40 100-200m	(5) (27) (67)	At-grade roundabout at Kingcausie	100m ICD NOTE - Alignment ties into Schoolhill Junction on A90	Structures	See cost factors
54 200-300m	(121)		Junction on Ago	Property	Proximity to properties may result in increased costs
Sensitive Sites	Maryculter School (<300m)	Horizontal Alignment			No. of demolitions will result in increased costs
		No sub-standard elements		Earthworks	Surplus of acceptable material would benefit remainder of route
Land Use	Within 60m of School at Standing Stones Within 20m of Village Kirkton of Maryculter	Vertical Alignment		Other	Impact on Schoolhill
	Loss of woodland (community land) Within 50m of Storybook Glen Theme Park.	No sub-standard elements			development may result in increased costs
		Local Routes			
Landscape	Cuts through 2.8km High sensitivity; 9.0km of medium sensitivity.	12 Side Road Crossings			
	Junction in Area of Landscape Significance (ALS); 2.8km in ALS Open Farmland for 5.4km; Hill for 4.1km; Valley for 0.1km;	5 Diverted/Stopped Up			
	Wooded Farmland for 2.2km. Reasonable landscape fit between Mill of Monquich and	Earthworks	0.505.070 3		
	Kirkton of Maryculter (3.8km); poor landscape fit between Kirkton of Maryculter and River Dee (0.9km); poor landscape fit between River Dee and Merchants Croft (2.3km);	Acceptable Cut Bulk Fill Balance	2,565,378 m ³ 1,277,284 m ³ 1,288,094 m ³ (Surplus)		
	reasonable landscape fit between Merchants Croft and Charleston (4.8km).				
	Impacts on views from Peterculter and Millitimber as cuttings through Storybook Glen and past Maryculter will be visible; Will sever forestry on crest of ridgeline above Dee Valley; junction will be prominent in cutting at base of slope.	Structures 8 No of overbridges	Cost significant factors		
Water Quality		6 No of underbridges 1 No of underpasses	for structures: 1. Skew (> 30°);		
SAC - High impact	1 watercourse associated with SAC with potential for high impact	16 Cost significant factors affecting overbridge	2. AWPR Curvature (Straight, Curved); 3. Earthworks (OB>10m, UB>9m);		
SAC - Medium impact Non SAC - High Impact	none 2 watercourses with potential for high impact	6 Cost significant factors affecting underbridge	4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
Ecology		 Cost significant factors affecting underpasses 	Pipeline Structure (Y,N).		
	Berry Top Hill, direct impact on wet heath/ acid grassland and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new				
	crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC.	Utilities Significant impacts on:			
	Blaikiewell Burn , drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC.	Oil Pipelines Natural Gas Pipelines High Voltage O/H Elec			
	Cleanhill Wood, SESA. Route will result in habitat loss and	2 High Pressure Gas	Route in cut at 1 crossing		
	severe fragmentation of Long Established Woodland. Hare Moss , route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of	2 Fibreoptics 1 Trunk Water Main			
	Close to or through 10 areas of woodland.				
Cultural Heritage	Direct - Direct impact on 2 sites of Regional Importance and 2 sites of Local Importance. Proximity - 12 sites located within 250m. 3 are of Regional Importance (All Category B Listed Buildings). 9 are of Local				
	Importance (All Category B Listed Buildings). 9 are of Local Importance, including 3 Category C(s) Listed Buildings.				

From Westside, junction at Burnhead, east of Kirkton of Maryculter, crosses River Dee east of Maryculter Bridge, connects to A90 at Charleston passing south of Hare Moss.

	Environmental Issues		ngineering Issues		nic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property Demolition 6 No		Length 11.8 km Junctions		Pro-rata Section Cost (compared to lowest cost option) + 3.6% Factors With Potential	Note: Cost estimate is based on pro-rata of Murtle Route cost estimate based on length only Note: These factors would
Proximity 1 0-50m 25 50-100m 40 100-200m	Cumulative totals: (1) (26) (66)	Grade separated at Burnhead	(Commences at Charleston Jcn) Priority to Stonehaven Roundabout elevated above mainline	Significant Cost Influence Structures	increase the above costs See cost factors
39 200-300m Sensitive Sites	(105) none	Horizontal Alignment No sub-standard elements		Property	Proximity to properties may result in increased costs No. of demolitions will
Land Use	Severance of Cleanhill Wood (community land) Impact on Storybook Clen Themepark Severance of Cleanhill Wood (community land)	Vertical Alignment No sub-standard elements			result in increased costs
Landscape	Cuts through 1.2km High sensitivity; 6.5km of medium sensitivity. 1.2km in Area of Landscape Signficance. Cuts through small scale, exposed upland landscape of Merchants Croft.	Local Routes 19 Side Road Crossings 3 Diverted/Stopped Up			
		Earthworks Acceptable Cut Bulk Fill Balance	1,751,341 m ³ 1,779,702 m ³ - 28,361 m ³ (Deficit)		
Water Quality SAC - High impact SAC - Medium impact Non SAC - High Impact	junction will be prominent in cutting 1 watercourse associated with SAC with potential for high impact none	Structures 8 No of overbridges 10 No of underbridges 1 No of underpasses 11 Cost significant factors affecting overbridge 17 Cost significant factors affecting underbridge 1 Cost significant factors	Cost significant factors for structures: 1. Skew (> 30'); 2. AWPR Curvature (Straight, Curved); 3. Earthworks (OB>10m, UB>9m); 4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N). 6. Pipeline Structure (Y,N).		
		affecting underpasses			
Ecology Cultural Heritage	Berry Top Hill, direct impact on wet heath/ acid grassland and scrub resulting in habitat loss and severe fragmentation. Crynoch Burn, River Dee SAC. Direct impact from new crossing resulting in habitat loss, fragmentation, potential to affect integrity of the SAC. Blaikiewell Burn, drains to River Dee SAC. Route will result in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC. Cleanhill Wood, SESA. Route will result in habitat loss and severe fragmentation of Long Established Woodland. Long Established Woodland at Greenhowe, habitat loss, disturbance and fragmentation Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of Close to or through 10 areas of woodland. Direct - Direct Impact on 10 sites. 2 are of Regional	Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec	Route in cut at 1 crossing		
omaia nemage	Importance, 7 are of Local Importance, 1 is of Unknown Importance. Proximity - 24 sites within 250m. 4 sites of Regional Importance, including 1 Category B Listed Buildings, and 20 of Local Importance				

From Crossley, junction at Burnhead, east of Kirkton of Maryculter, crosses River Dee east of Maryculter Bridge, connects to A90 at Charleston passing south of Hare Moss.

	Environmental Issues	Er	ngineering Issues	Econom	ic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost (compared to lowest cost option)	Note: Cost estimate is based on pro-rata of Murtle Route cost
Demolition		11.4 km		+ 0.0%	estimate based on length only
2 No		Junctions		Factors With Potential	Note: These factors would
Proximity 0 0-50m	Cumulative totals:	1 Crade constant	(Commences at Charleston Jcn)	Significant Cost Influence	increase the above costs
11 50-100m	(0) (11)	Grade separated at Burnhead	Priority to Stonehaven Roundabout elevated above mainline	Structures	See cost factors
41 100-200m	(52)				
32 200-300m	(84)	Horizontal Alignment		Property	Proximity to properties may result in increased costs
Sensitive Sites	none	No sub standard elements		Earthworks	Deficit of acceptable material
Land Use	Impact on Storybook Glen Themepark	Vertical Alignment		Larimono	likely to result in inceased costs for scheme as a whole
	Loss of woodland (community land) around Kingcausie				socio ici conomo do a imicio
		No sub standard elements			
Landscape	Cuts through 1.2km High sensitivity; 6.5km of medium	Local Routes			
	sensitivity.	40 Oids Band Oussians			
	Passes through Hill for 3.6km; Open Farmland for 6.9km; Wooded Farmland for 0.7km; Valley for 0.2km.	19 Side Road Crossings 7 Diverted/Stopped Up			
	Cuts through the higher exposed open landscape around	, strottom otoppou op			
	Stranog Hill; Cuts through small scale, exposed upland landscape of Merchants Croft.				
		Earthworks			
	poor landscape fit between Blaikiewell and Greenloaning	Acceptable Cut	1,764,175 m ³		
	Impacts on the open exposed hill landscape and views from	Bulk Fill	2,218,490 m ³		
	remote scattered properties.	Balance	- 364,315m ³ (Deficit)		
Water Quality					
SAC - High impact	1 watercourse associated with SAC with potential for high				
	impact	Structures			
SAC - Medium impact Non SAC - High Impact	none	7 No of overbridges 6 No of underbridges	Cost significant factors for structures:		
Non SAC - High impact	none	2 No of underpasses	1. Skew (> 30°);		
		11 Cost significant factors	AWPR Curvature (Straight, Curved);		
Ecology	Blaikiewell Burn, drains to River Dee SAC. Route will result	affecting overbridge	3. Earthworks (OB>10m, UB>9m);		
	in habitat loss, disturbance and fragmentation. Potential to affect integrity of SAC.	12 Cost significant factors affecting underbridge	4. Slip Roads (Y,N); 5. Side Road Realignment (Y,N).		
	Long Established Woodland at Greenhowe, habitat loss,	3 Cost significant factors	6. Pipeline Structure (Y,N).		
	disturbance and fragmentation	affecting underpasses	(1,1,1)		
	Hare Moss, route will result in habitat loss along southern edge, habitat fragmentation, potential to affect hydrology of				
	Close to or through 7 areas of woodland.	Utilities			
Cultural Heritage	Direct - 8 sites in total. 1 of Regional Importance, 6 of Local	Significant impacts on:			
	Importance, 1 of Unknown Importance.	0 Oil Pipelines			
			Route in cut at 1 crossing		
	of Local Importance.	2 Fibreoptics			
II .	İ	1 Trunk Water Main	1		I
Cultural Heritage	Importance, 1 of Unknown Importance. Proximity - 27 sites located within 250m. 1 site of National Importance. This site is also a SAM. 1 site of Regional Importance. This site is a Category B Listed Building. 21 sites	Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 1 High Voltage O/H Elec 2 High Pressure Gas 2 Fibreoptics	Route in cut at 1 crossing		

From Westside, junction at Craigend, crosses River Dee east of Maryculter Bridge, connects to A90 at Charleston passing south of Hare Moss.

la	Environmental Issues		ineering Issues		nic Issues
Issue	Comments	Issue	Comments	Issue	Comments
1					
l					
Human/Property		Length		Pro-rata Section Cost	Note: Cost estimate is based
				(compared to lowest cost option)	pro-rata of Murtle Route cos
Demolition		12.0 km		+ 5.3%	estimate based on length or
3 No					
1		Junctions		Factors With Potential	Note: These factors would
B	0 - 1 - 1 - 1 - 1	Julicuons	(0		
Proximity	Cumulative totals:		(Commences at Charleston Jcn)	Significant Cost Influence	increase the above costs
2 0-50m	(2)	 Grade separated junction 			
17 50-100m	(19)	at Craigingles		Structures	See cost factors
38 100-200m	(57)				
42 200-300m	(99)	Horizontal Alignment		Property	Proximity to properties may
	()				result in increased costs
Sensitive Sites	none	No sub-standard elements			result in increased costs
OCTISITIVE OILES	none	140 Sub Standard Cicinents			
Land Use	Impact on Storybook Glen Themepark	Vertical Alignment			
	Loss of woodland (community land) around Kingcausie				
1	Loss of woodland (community land) - Oldman wood	No sub-standard elements			
i	, , ,				
.i					
i		Local Routes			
		Local houles			
1					
Landscape	Cuts through 1.2km of High Sensitivity; 7km of Medium	13 Side Road Crossings			
1	Sensitivity.	5 Diverted/Stopped Up			
	1.2km of route in Area of Landscape Significance; 1.1km of				
1	route in Green Belt.				
	Passes through 1.5km Hill; 9.3km Open Farmland; 1km				
	Wooded Farmland; 0.2km Valley.				
		F			
	Reasonable landscape fit between Mill of Monquich and	Earthworks	_		
	Blaikiewell (3.9km); Poor landscape fit between Blaikiewell and	Acceptable Cut	1,746,115 m ³		
	River Dee (1.4km); Poor landscape fit between Cleanhill Wood	Bulk Fill	1,497,274 m ³		
	and Greenloaning (1.9km); Reasonable landscape fit between	Balance	248,841 m ³ (Surplus)		
	Greenloaning and Charlestown (4.8km).	balarice	240,041 III (Surpius)		
	Crosmodining and Onanodown (mount).				
	Cuts through small scale, exposed upland landscape of				
	Merchant's Croft				
	Impacts on views from Peterculter and Milltimber as cuttings				
	through Storybook Glen will be visible. Will sever forestry on				
	crest of ridgeline above Dee Valley.				
	Junction will be located on relatively high ground and will cut				
	into Cleanhill Wood.	Structures			
		8 No of overbridges	Cost significant factors		
Water Quality	1 watercourse associated with SAC with potential for high	10 No of underbridges	for structures:		
SAC - High impact	impact	- No of underpasses	1. Skew (> 30°);		
SAC - Medium impact		14 Cost significant factors			
	none		AWPR Curvature (Straight, Curved);		
Non SAC - High Impact	none	affecting overbridge	Earthworks (OB>10m, UB>9m);		
		16 Cost significant factors	Slip Roads (Y,N);		
Ecology	Berry Top Hill, direct impact on wet heath/ acid grassland and	affecting underbridge	Side Road Realignment (Y,N).		
	scrub resulting in habitat loss and severe fragmentation.	- Cost significant factors affecting	Pipeline Structure (Y.N).		
	Crynoch Burn, River Dee SAC. Direct impact from new	affecting underpasses			
	crossing resulting in habitat loss, fragmentation, potential to				
	affect integrity of the SAC.				
	Blaikiewell Burn, drains to River Dee SAC. Route will result in	I latitate e			
	habitat loss, disturbance and fragmentation. Potential to affect	Significant impacts on:			
	integrity of SAC.	0 Oil Pipelines			
	Cleanhill Wood, SESA. Route will result in habitat loss and	Natural Gas Pipelines			
	severe fragmentation of Long Established Woodland.	1 High Voltage O/H Elec			
	Durris Forest, Route will result in habitat loss and severe	2 High Pressure Gas	Route in cut at 1 crossing		
	fragmentation of Long Established Woodland.	2 Fibreoptics		I	ĺ
	magnification of Long Established Woodland.				1
1	Hare Moss, route will result in habitat loss along southern	1 Trunk Water Main		I	ĺ
	edge, habitat fragmentation, potential to affect hydrology of site.				
	Long Established Woodland at Greenhowe, habitat loss,				
1	disturbance and fragmentation			I	1
i					
	Close to or through 10 areas of woodland.				
Cultural Heritage	Direct - direct impact on 10 sites. 1 is of Regional Importance,				
Januara Hornago	8 are of Local Importance, 1 is of Unknown Importance.				ĺ
1					ĺ
1	Proximity - A total of 23 sites are located within 250m. 5 are of				ĺ
	Regional Importance, including 2 Category B Listed Buildings,				ĺ
	18 are of Local Importance, including 1 Category C(s) Listed	Ĭ			1
	Building	T .		I	Ī
	Dallang	Ĭ			1
			1		

Crosses River Dee west of Maryculter Bridge, west of B979, west of Countesswells Woods, connects to Northern Leg at North Kingswells junction

Environmental Issues		Engineering Issues		Economic Issues	
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost	Note: Cost estimate is based on
				(compared to lowest cost option)	pro-rata of Murtle Route cost
Demolition		8.7 km		+ 0.0%	estimate based on length only
23 No					
		Junctions		Factors With Potential	Note: These factors would
Proximity	Cumulative totals:			Significant Cost Influence	increase the above costs
1 0-50m	(1)	2 Grade separated	A93 and A944 priority junctions		
17 50-100m	(18)		(Ties in to Kingswells Jcn)	Structures	See cost factors
50 100-200m	(68)				
56 200-300m	(124)	Horizontal Alignment		Property	Proximity to properties may
					result in increased costs
Sensitive Sites	Camphill (<100m)	No sub-standard elements			No. of demolitions will
	International School (<100m)				result in increased costs
	Albyn School Playing Fields (<100m)				Likely to result in demolition of
L		Vertical Alignment			Kippie Lodge (or Intnl School)
Land Use	Impact on Camphill school				
	Impact on International School	No sub-standard elements		Earthworks	Surplus of acceptable material
	Impact on Kippie Lodge (Petroleum Club)	6% grade on mainline at A93	3		would benefit remainder of route
	Severance of woodland North of Wooland (community land)				
	Within 100m of Albyn School Playing Fields	Local Routes			
	Severance and loss of parts of Milltimber Community				
Landscape	Cuts through 8.75km of high-medium sensitivity.	18 Side Road Crossings			
	0.2km in Area of Landscape Significance.	7 Diverted/Stopped Up			
	Wooded Farmland for approx. 5.3km; Open Farmland for				
	approx. 0.3km; Hill for approx. 2.5km; and, Valley for approx.				
	0.6km.				
	Cuts through wooded Camphill Estate on valley floor; cuts				
	through valley slope; cuts east of summit of Beanshill; cuts	Earthworks			
	across Ord Burn valley; cuts across Cloghill summit.	Acceptable Cut	2,874,819 m ³		
	Reasonable fit between River Dee and Beanshill; poor	Bulk Fill	1,954,930 m ³		
	landscape fit between Beanshill and North Kingswells (as it	Balance	919,889 m3 (Surplus)		
	follows the blue route).				
	Visual impacts associated with river and valley crossing at		(NB: Northern leg balance is deficit of 1.9m3)		
	Milltimber and junction on south of river; significant impacts		(···,		
	as route crosses higher ground and valleys.				
	ac route crosses migner ground and valleye.	Structures			
		7 No of overbridges	Cost significant factors		!
Water Quality		4 No of underbridges	for structures:		
SAC - High impact	none	1 No of underpasses	1. Skew (> 30°);		
SAC - Medium impact	1 watercourse associated with SAC with potential for medium	15 Cost significant factors	AWPR Curvature (Straight,Curved);		
Crito inicalani impact	impact	affecting overbridge	3. Earthworks (OB>10m, UB>9m);		
Non SAC - High Impact		7 Cost significant factors	4. Slip Roads (Y,N);		
Tron Grid Tilgit Impact		affecting underbridge	5. Side Road Realignment (Y,N).		
		Cost significant factors	6. Pipeline Structure (Y,N).		
Ecology	Deeside Railway DWS, route will result in habitat loss,	affecting underpasses	o. r ipomio otractaro (1,11).		
_00.099	disturbance and fragmentation.	arrosting arrastpasses			
	River Dee SAC, route will result in habitat loss, increased				
	fragmentation, potential impacts during construction on water	Utilities			
	quality. Potential to affect integrity of SAC.	Significant impacts on:			
	Milltimber Ancient Woodland, route will result in habitat loss,	0 Oil Pipelines			
	disturbance and severe fragmentation.	Natural Gas Pipelines			
	Rotten o' Gairn DWS, route will sever DWS from adjacent	3 High Voltage O/H Elec	Route in fill at 1 crossing		
	woodland resulting in habitat loss, disturbance, severe	0 High Pressure Gas	Troute in iii at 1 crossing		
	fragmentation.	3 Fibreoptics	Route in cut at 1 crossing		
	Auchlea Moss, DWS, route will sever DWS, resulting in	2 Trunk Water Main	Route in cut at 1 crossing		
I	habitat loss, disturbance and severe fragmentation.	2 Scottish Water Aqueduct	Route in cut at 2 crossings		
I	West Hatton Woods DWS, route will sever DWS, resulting in	_ cocas ator /iqueduct			
I	habitat loss and severe fragmentation.	ĺ			
	and the same of th				
	Close to or through 3 areas of woodland.				
I	o.ccc to or through o areas or woodiand.	ĺ		1	
		ĺ		1	
Cultural Heritage	Direct - Direct Impact on 4 sites of Local Importance.				
Januar Heritage	Proximity - 25 Sites in total within 250m. 2 are of National				
	Importance, 3 are of Regional Importance (including 1	ĺ		1	
	Category B Listed Building), 19 are of Local Importance				
	(including 1 Category C(s) Listed Building), 1 site Unknown				
	Control of the contro	ĺ			
	1	1	1	1	l

Crosses River Dee east of Maryculter Bridge, east of B979, west of Countesswells Woods, connects to Northern Leg at North Kingswells junction

	Environmental Issues	l En	gineering Issues	Econom	ic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost (compared to lowest cost option)	Note: Cost estimate is based on pro-rata of Murtle Route cost
Demolition 25 No		9.1 km		+ 4.7%	estimate based on length only
Proximity	Cumulative totals:	Junctions		Factors With Potential Significant Cost Influence	Note: These factors would increase the above costs
1 0-50m	(1)	2 Grade separated	A93 and A944 priority junctions	olgout. Cookaoile	more described as ever described.
25 50-100m	(26)	· ·	(Ties in to Kingswells Jcn)	Structures	See cost factors
63 100-200m	(89)			_	
50 200-300m	(139)	Horizontal Alignment		Property	Proximity to properties may
Sensitive Sites	Camphill (<100m) International School (<100m) Albyn School Playing Fields (<500m)	No sub-standard elements			result in increased costs No. of demolitions will result in increased costs
Land Use	Within 20m of Camphill school	Vertical Alignment			
	Severance and loss of parts of Milltimber Community Severance of woodland North of Milltimber (community land)	No sub-standard elements			
	Within 50m of the International School	6% grade on mainline at A93	3		
	Within 150m of Kippie Lodge (Petroleum Club) Severance of Beanshill Village at Contlaw Rd.	Local Routes			
	Within 500m of Albyn School playing fields				
Landscape	Cuts through 9.25km of high-medium sensitivity.	17 Side Road Crossings 7 Diverted/Stopped Up			
Lanuscape	Wooded Farmland for approx. 5.4km; Open Farmland for	7 Diverted/Stopped Op			
	approx. 0.4km; Hill for approx. 2.6km; and, Valley for approx.				
	0.7km. Cuts through open valley floor; cuts through valley slope; cuts				
	east of summit of Beanshill; cuts across Ord Burn valley; cuts				
	across Cloghill summit.				
	Poor landscape fit throughout entire route.	Acceptable Cut	2,642,080 m ³		
	Visual impacts associated with river and valley crossing at	Bulk Fill	2,269,556 m ³ 372,524 m ³ (Surplus)		
	Milltimber and junction on south of river; significant impacts as route crosses higher ground and valleys.	Balance	372,524 m* (Surplus)		
			(NB: Northern leg balance is deficit of 1.9m ³)		
		Structures			
Water Quality		5 No of overbridges	Cost significant factors		
SAC - High impact	3 watercourses associated with SAC with potential for high	4 No of underbridges	for structures:		
	impact	3 No of underpasses	1. Skew (> 30°);		
SAC - Medium impact	none 3 other watercourses with potential for high impact	14 Cost significant factors affecting overbridge	AWPR Curvature (Straight,Curved); Earthworks (OB>10m, UB>9m);		
Non SAC - High impac	other watercourses with potential for high impact	9 Cost significant factors	4. Slip Roads (Y,N);		
Ecology	Deeside Railway DWS, route will result in habitat loss,	affecting underbridge	Side Road Realignment (Y,N).		
	disturbance and fragmentation.	4 Cost significant factors	Pipeline Structure (Y,N).		
	River Dee SAC, route will result in habitat loss, increased fragmentation, potential impacts during construction on water	affecting underpasses			
	quality. Potential to affect integrity of SAC.				
		Utilities			
	loss, disturbance and severe fragmentation. Rotten o' Gairn DWS, route will sever DWS from adjacent	Significant impacts on: 0 Oil Pipelines			
	woodland resulting in habitat loss, disturbance, severe	Oli Pipelines Natural Gas Pipelines			
	fragmentation.	3 High Voltage O/H Elec	Route in fill at 1 crossing		
	Auchlea Moss, DWS, route will sever DWS, resulting in	0 High Pressure Gas	L		
	habitat loss, disturbance and severe fragmentation. West Hatton Woods DWS, route will sever DWS, resulting	3 Fibreoptics 2 Trunk Water Main	Route in cut at 1 crossing Route in cut at 1 crossing		
	in habitat loss and severe fragmentation.	2 Scottish Water Aqueduct	Route in cut at 2 crossing		
	Close to or through 3 areas of woodland.				
Cultural Heritage	Direct - Direct impact on 6 sites of Local Importance.				
	Proximity - 29 sites within 250m. 1 of National Importance, 5				
	of Regional Importance, including 1 Category B Listed				
	Building, 21 of Local Importance, including 1 Category C(s) Listed Building and 2 sites of Unknown Importance.				
	mportano.				

Crosses River Dee east of Maryculter Bridge, east of B979, east of Countesswells Woods, connects to Northern Leg at North Kingswells junction

	Environmental Issues		gineering Issues		ic Issues
Issue	Comments	Issue	Comments	Issue	Comments
Human/Property		Length		Pro-rata Section Cost	Note: Cost estimate is based
				(compared to lowest cost option)	pro-rata of Murtle Route cost
Demolition		10.4 km		+ 19.6%	estimate based on length on
21 No				1 10.070	Source Subou on longer on
21 110		Junctions		Factors With Potential	Note: These factors would
B to . to .	0	Junctions			
Proximity	Cumulative totals:	0	AGG and a first and form below made	Significant Cost Influence	increase the above costs
2 0-50m	(2)	2 grade separated	A93 priority junction from blue route		
28 50-100m	(30)		A944 priority junction identical to Murtle	Structures	See cost factors
62 100-200m	(92)		(Ties in to Kingswells Jcn)		
55 200-300m	(147)			Property	Proximity to properties may
		Horizontal Alignment			result in increased costs
Sensitive Sites	Camphill (<100m)	ŭ			No. of demolitions will
	International School (<100m)	1 x1 step below des min	(720m radius)		result in increased costs
	Albyn School Playing Fields (<500m)	2 x2 steps below des min	(510m radii)		rocalt iii iiioi cacca cocic
	Albyti oction i laying i leids (<500iii)	Z XZ steps below des IIIIII	(3101111adii)	Earthworks	Deficit of acceptable materia
I and Has	I are and accordance of according to Committee Was discussed			Earthworks	
Land Use	Loss and severance of access to Community Woodlands -	V			likely to result in inceased
ll .	Countesswells and Foggieton Woods	Vertical Alignment			costs for scheme as a whole
	Within 50m of Camphill school				
	Severance and loss of parts of Milltimber Community	No sub-standard elements			
	Severance of woodland North of Milltimber (community land)	6% grade on mainline at A93			
	Within 50m of the International School				
	Within 150m of Kippie Lodge (Petroleum Club)				
	Within 200m of Albyn School playing fields	Local Routes			
i	Within 200m of Albyn Gonool playing holds	Locui Houtes			
Landacana	Cuts through 10.25km of high-medium sensitivity	15 Side Road Crossings			
Landscape					
	Wooded Farmland for approx. 5.9km; Open Farmland for	4 Diverted/Stopped Up			
	approx. 0.7km; Hill for approx. 3.0km; and, Valley for approx.				
	0.8km.				
	Cuts through valley slope; avoids Beanshill and cuts to east of				
	Fifeshill; cuts across Cloghill summit				
	Poor landscape fit between River Dee and Beanshill;	Earthworks			
	reasonable landscape fit between Beanshill and Cloghill; poor	Acceptable Cut	1.735.177 m ³		
	landscape fit across Cloghill to North Kingswells	Bulk Fill	3,589,979 m ³		
	Visual impacts associated with river and valley crossing at	Balance	- 1,854,802 m ³ (Deficit)		
	Milltimber and junction on south of river; significant visual				
	impact on Kingswells and Cloghill		(NB: Northern leg balance is deficit of 1.9m3)		
Water Quality		Structures			
Water Quality	none		Cook olymiticoust to ostore		
SAC - High impact	none	9 No of overbridges	Cost significant factors		1
SAC - Medium impact	none	2 No of underbridges	for structures:		
Non SAC - High Impact	4 other watercourses with potential for high impact	2 No of underpasses	1. Skew (> 30°);		
		21 Cost significant factors	AWPR Curvature (Straight, Curved);		
		affecting overbridge	Earthworks (OB>10m, UB>9m);		
Ecology	Foggieton Wood DWS, route traverses western edge of wood	4 Cost significant factors	4. Slip Roads (Y,N);		
",	resulting in haibtat loss and severe fragmentation.	affecting underbridge	5. Side Road Realignment (Y,N).		
		2 Cost significant factors	6. Pipeline Structure (Y,N).		
	IWest Hatton Woods DWS route crosses woods twice	- Cost significant factors	o. i ipolino dilucture (1,14).		
	West Hatton Woods DWS, route crosses woods twice,	affecting underpasses	1	i e	1
	resulting in habitat loss and severe fragmentation.	affecting underpasses			
	resulting in habitat loss and severe fragmentation.	affecting underpasses			
		Ū.			
	resulting in habitat loss and severe fragmentation.	Utilities			
	resulting in habitat loss and severe fragmentation. Close to or through 4 areas of woodland.	Utilities Significant impacts on:			
Cultural Heritage	resulting in habitat loss and severe fragmentation.	Utilities			
Cultural Heritage	resulting in habitat loss and severe fragmentation. Close to or through 4 areas of woodland.	Utilities Significant impacts on:			
Cultural Heritage	resulting in habitat loss and severe fragmentation. Close to or through 4 areas of woodland. Direct - Direct impact on 10 sites of Local Importance. Proximity - 37 sites within 250m. Kingswells Consumption	Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines			
Cultural Heritage	resulting in habitat loss and severe fragmentation. Close to or through 4 areas of woodland. Direct - Direct impact on 10 sites of Local Importance. Proximity - 37 sites within 250m. Kingswells Consumption Dyke is a SAM of National Importance. 5 sites are of Regional	Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 3 High Voltage O/H Elec			
Cultural Heritage	resulting in habitat loss and severe fragmentation. Close to or through 4 areas of woodland. Direct - Direct impact on 10 sites of Local Importance. Proximity - 37 sites within 250m. Kingswells Consumption Dyke is a SAM of National Importance. 5 sites are of Regional Importance. 1 of these is a Category B Listed Building. 28 sites	Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 3 High Voltage O/H Elec 0 High Pressure Gas	Route in cut at 1 crossing		
Cultural Heritage	resulting in habitat loss and severe fragmentation. Close to or through 4 areas of woodland. Direct - Direct impact on 10 sites of Local Importance. Proximity - 37 sites within 250m. Kingswells Consumption Dyke is a SAM of National Importance. 5 sites are of Regional	Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 3 High Voltage O/H Elec 0 High Pressure Gas 3 Fibreoptics	Route in cut at 1 crossing		
Cultural Heritage	resulting in habitat loss and severe fragmentation. Close to or through 4 areas of woodland. Direct - Direct impact on 10 sites of Local Importance. Proximity - 37 sites within 250m. Kingswells Consumption Dyke is a SAM of National Importance. 5 sites are of Regional Importance. 1 of these is a Category B Listed Building. 28 sites	Utilities Significant impacts on: 0 Oil Pipelines 0 Natural Gas Pipelines 3 High Voltage O/H Elec 0 High Pressure Gas	Route in cut at 1 crossing Route in cut at 1 crossing Route in cut at 2 crossings		