



Cloud Hill Wind Farm

Technical Appendix 13.1: Abnormal Load Route Assessment

August 2023

Project No.: 0669769

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EXPERTS IN MOTION



Route Access Survey
360700 Rev 0.1

Cloud Hill Wind Farm – Routes A & B

Cloud Hill Wind Farm
September 2021

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Contents

REPORT DETAILS.....	3
1. EXECUTIVE SUMMARY	5
2. INTRODUCTION.....	7
3. CANDIDATE ABNORMAL LOADS.....	7
4. ABNORMAL INDIVISIBLE LOAD PROFILES	7
6. ROUTE ASSESSMENT OVERVIEW	9
7. IMPORTANT NOTES	100
APPENDIX 1 – LOADED CONFIGURATION DRAWINGS	
APPENDIX 2 – SWEPT PATH DRWINGS	
APPENDIX 3 – RESPONSES FROM STRUCTURAL CONSULTEES	

Report Details**Report for**

Blue Energy
10 West Street
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SK9 7EG

Attendees of Survey

Robert Webster & Spencer Budgen

Time / Date of Survey: 21st September 2021

General weather conditions: Mixed

Issued by

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Document Revisions

No	Date	Details
0.0	Not issued – 07/12/21	From A76
0.1	17/01/2022	Gretna to Mennock added

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1. Executive Summary

- 1.1. This report comprises of a study of the road route as detailed here in for the road transport of Abnormal Load Loads to the Cloud Hill Wind Farm, Sanquhar, Dumfries & Galloway, Scotland.
- 1.2. Routes has been assessed from the A75 from near Menzies and near Ardoch, Dumfries & Galloway, Scotland. There are a high number of modifications required to the route in order to make it suitable for deliveries.
- 1.3. At present, structural modifications to the embankment on the northern side of the A76 are prohibited to prevent undermining the integrity of the existing road and rail services.

Third party land

- 1.4. Third party land has been identified by the assessment.

NX 90153 88311	- Offside of right bend on A76 near Auldgirth
NX 87008 98032	- Nearside of left bend on A76, Carronbridge
NS 85987 00349	- Offside or right bend on A76
NS 86136 03572	- Nearside left bend on A76
NS 85485 04314	- Nearside of right bend on A76 (Boundary is not defined in aerial imagery)
NS 85284 04636	- Nearside of right bend on A76
NS 80386 08301	- Both sides of unnamed road, off A76 Eliock Bridge
NS 80402 08233	- Nearside of unnamed road
NS 79349 07851	- Offside of unnamed road
NS 79004 08100	- Nearside of unnamed road
NS 83572 05645	- Both sides of unnamed road, off A76 Glenairlie Bridge

Visual Inspection indicates the following locations will require third party land. Topographical survey & Swept Path Analysis is recommended to confirm.

NS 80136 08188
NS 79930 08092
NS 79641 08095
NS 79589 07973

Route B

NS 83278 05917
NS 83220 06089
NS 83222 06053
NS 83187 06200
NS 83105 06297
NS 82967 06396
NS 82809 06552
NS 82597 06667
NS 82060 06938
NS 81861 07002
NS 81792 07001
NS 81406 07103
NS 81247 07274
NS 81167 07454
NS 80952 07660
NS 80679 07848
NS 80499 08098

Road widening

- 1.5. Road widening within highways' owned land is required at numerous locations on the route.

NX 99786 77170	- Offside of A75, Dumfries
NX 98296 77998	- Nearside of A75, Dumfries

NX 96305 77208	- Splitter island junction of A75 & A76, Cuckoo Bridge Roundabout, Dumfries
NX 90153 88311	- Offside of right bend on A76 near Auldgirth
NX 87008 98032	- Nearside of left bend, Carronbridge
NX 86876 98402	- Splitter island on A76, Carronbridge
NS 85987 00349	- Offside of right bend on A76
NS 86136 03572	- Nearside of left bend on A76
NS 80386 08301	- Nearside of unnamed road near Eliock Bridge
NS 80402 08233	- Nearside of unnamed road
NS 79349 07851	- Offside of unnamed road
NS 79004 08100	- Nearside of unnamed road
NS 78520 08162	- Nearside of unnamed road
NS 77938 08529	- Nearside of unnamed road
NS 83572 05645	- Nearside of unnamed road

Visual Inspection indicates the following locations will require road widening. Topographical survey & Swept Path Analysis is recommended to confirm the full extents.

NS 80244 08169
NS 79930 08092
NS 79641 08095
NS 78061 08455

Route B

NS 83572 05645
NS 83449 05635
NS 83220 06089
NS 83187 06200
NS 83105 06297
NS 82967 06396
NS 82809 06552
NS 82060 06938
NS 81861 07002
NS 81792 07001
NS 81406 07103
NS 81247 07274
NS 81167 07454
NS 80952 07660
NS 80608 08050

The widening is required to single lane roads to the south of the River Nith. It is recommended that where widening is required, any visible underground services are protected with metal sheeting for the duration of the works.

Modifications to street furniture

- 1.6. Modifications to street furniture will be required along the route at a number of locations. The nature of the street furniture to be removed ranges from electricity/ telegraph poles and road signs and has been detailed in the report body.

Vertical Alignment and Height Clearances

- 1.7. Due to the length and nature of the route there are a high number of overhead utility lines. The heights of these lines have not been assessed as part of this survey and further investigation is required with the utility companies to determine their cable heights and any remedial measures that may be required.

Structural Assessment

- 1.8. The proposed route A begins where the load will leave the A76 and cross the Eliock Bridge. There are two other smaller bridges. The statutory body has been contacted for their comments as for the suitability of this route.
- 1.9. The proposed route B begins where the load will leave the A76 and cross the Glenairlie Bridge. There are two other smaller bridges (as per Route A). The statutory body has been contacted for their comments as for the suitability of this route.

Other areas of note

- 1.10. Tree removal and pruning is required throughout the routes.

2. Introduction

- 2.1 Collett & Sons Ltd. were commissioned by Cloud Hill Wind Farm to undertake an abnormal loads route access study to assess the transportation of Blade components to the Cloud Hill Wind Farm, Sanquhar.
- 2.2 The road routes as detailed herein are for the road transport of the blade components identified in Section 4.

3. Candidate Abnormal Loads

- 3.1. The specification of this vessel was supplied by Blue Energy can be found in appendix 1.

4. Abnormal Indivisible Load Profiles

- 4.1. The abnormal load components are assessed based on weight, length, width and height and loaded to the most appropriate vehicle the weights and dimensions of these are detailed below. The loading diagrams are detailed in Appendix 1.

4.2.	
75m Generic Blade	
	Loaded vehicle dimensions
Overall vehicle Length	77.47m
Rigid Length	53.75m
Width	4.20m
Height	4.45m (+/-300mm)
Gross Vehicle Weight	63.0Te
Maximum axle weight	14.0Te

5. Responses from Statutory Consultees (Structures Suitability)

5.1. The loading information for this a generic 75m blade has been sent to the following Authorities to ascertain if there are any issues with weights and structures within the areas of the Authorities jurisdiction.

5.2. For the purposes of the responses below, the route referred to is as follows

Route A Taken from notification (may be different to the routes in your report)
• Continue on A75 to Cuckoo Bridge Roundabout in Dumfries • Take the 5th exit onto the A76 • Exit the A76, reversing on the left over Eliock Bridge onto an unnamed road until tractor unit is approx. 50m from the bridge. • Continue forward to junction prior to entering the bridge. • At the junction turn left, onto unnamed single lane road. • Continue on road for approx. 2.0 miles to T-Junction until a T-junction at Ulzieside farm. • Continue on road around the North of the farm (Not constructed, at present) • Continue to Site road.
Route B Taken from notification (may be different to the routes in your report)
• Continue on A75 to Cuckoo Bridge Roundabout in Dumfries • Take the 5th exit onto the A76 • Exit the A76 on the left onto Glenairlie Bridge • Immediately turn right onto unnamed single lane road • Continue on road for approx. 2.6 miles to T-Junction • At Junction turn right onto unnamed road for approx. 0.1 mile • At junction, before bridge, turn left onto unnamed single lane road for approx. 2.0 miles until a T-junction at Ulzieside farm. • Continue on road around the North of the farm (Not constructed, at present) • Continue to Site road.

5.3. The following summarises the correspondence between the relevant authorities. The detailed responses can be viewed in APPENDIX 3.

County Council Highways	Issues?	Contact Name	Email Address	Phone Number
Dumfries & Galloway Council	Not responded	Noureddine Zenad	esdal@dumgal.gov.uk	01387 271143

Summary of Structural Issues

5.4. Consultation with the relevant authorities. We are still awaiting a reply regarding any structural issues on the route.

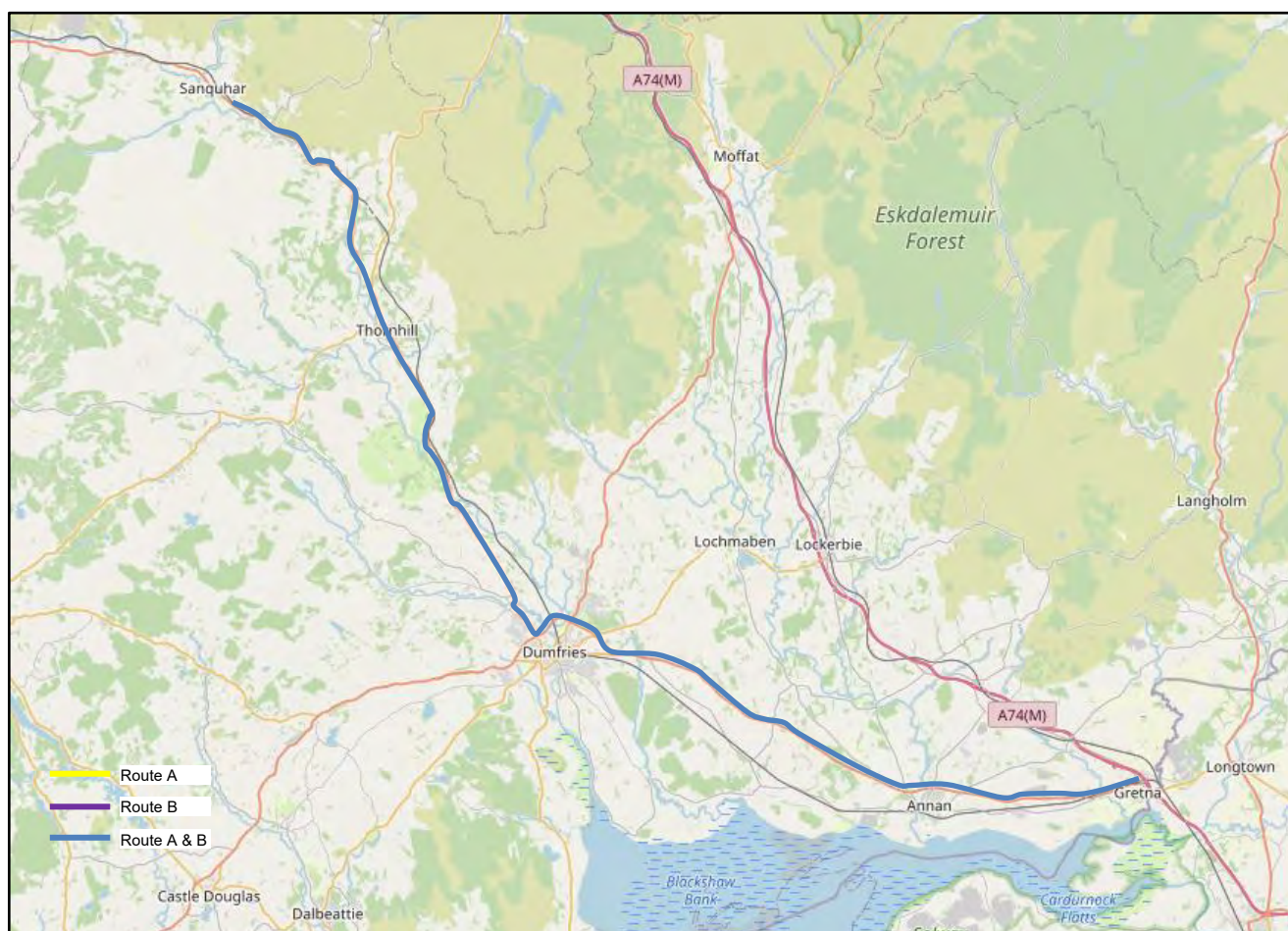
6. Route Assessment Overview

- 6.1. This section of the report illustrates the route assessed for the delivery of the wind turbine blade from the A76 near Ardoch.
- 6.2. For the purpose of this report, one route to the site was surveyed. All the routes surveyed in this report have been identified by Blue-energy Co Consulting.

6.3. Route A

Start Location	A75 Gretna	Distance of Route	km	Miles
Via:	Ulzieside Farm		80.7	50.1
- Continue on A75 to Cuckoo Bridge Roundabout in Dumfries - Take the 5th exit onto the A76 - Exit the A76 on the left onto Glenairlie Bridge - Immediately turn right onto unnamed single lane road - Continue on road for approx. 2.6 miles to T-Junction - At Junction turn right onto unnamed road for approx. 0.1 mile - At junction, before bridge, turn left onto unnamed single lane road for approx. 2.0 miles until a T-junction at Ulzieside farm. - Continue on road around the North of the farm (Not constructed, at present) - Continue to Site road.				

6.4. Map Overview





6.5. Amendment Categorisation

For the purposes of this report, the route amendments have been identified into 3 categories.

Major Amendments – Third Party Land, Road Widening

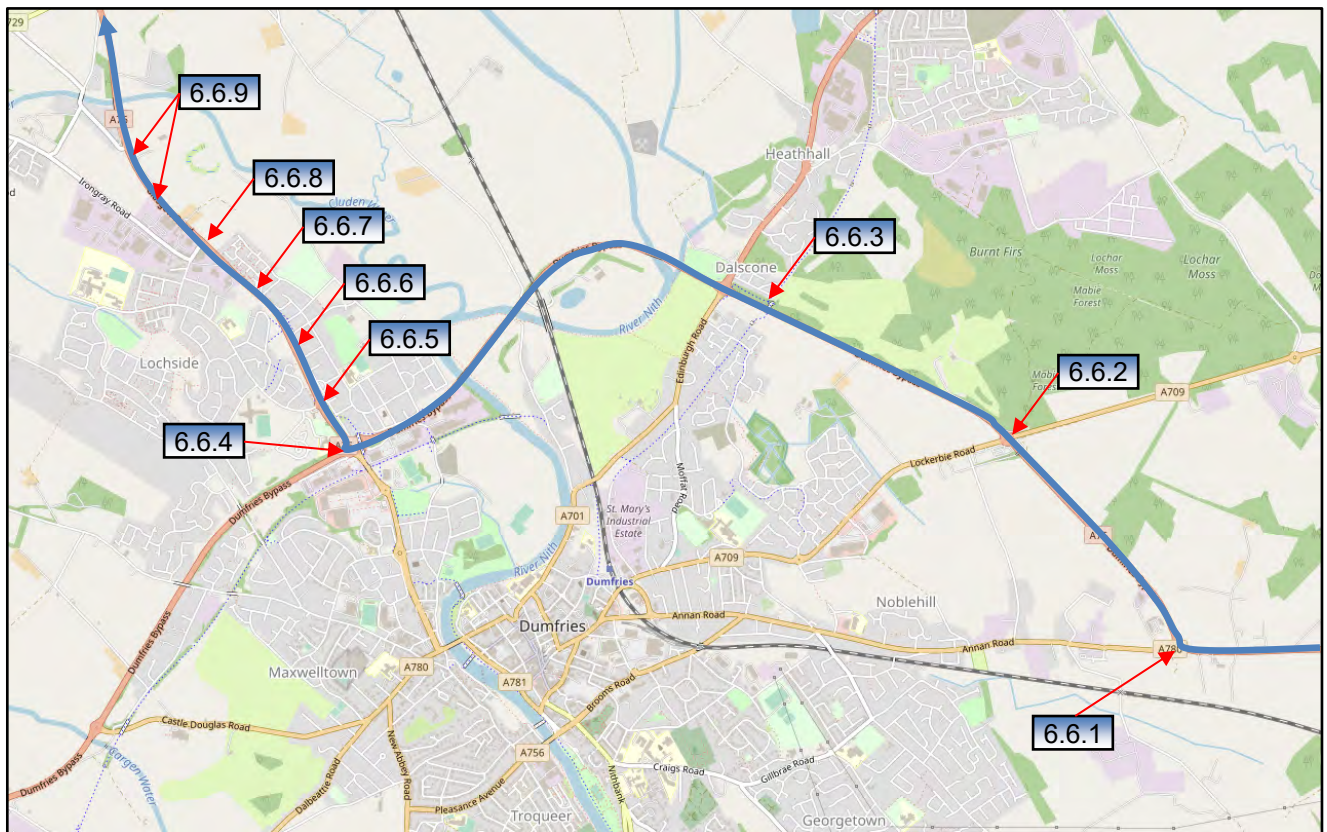
Minor Amendments – Modifications to Street Furniture, Pruning, Contraflow Manoeuvre, Manual Steering

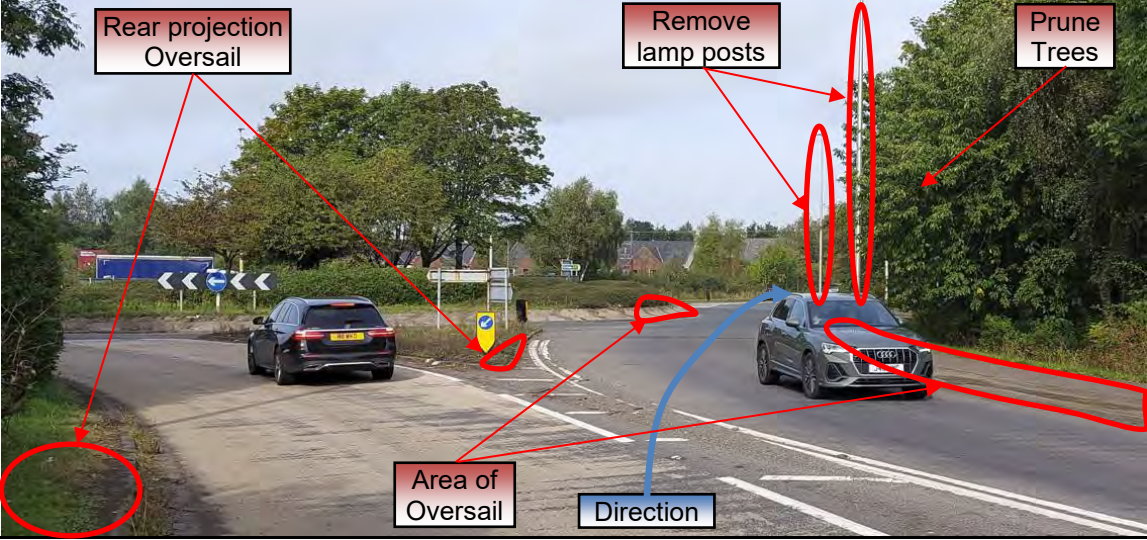
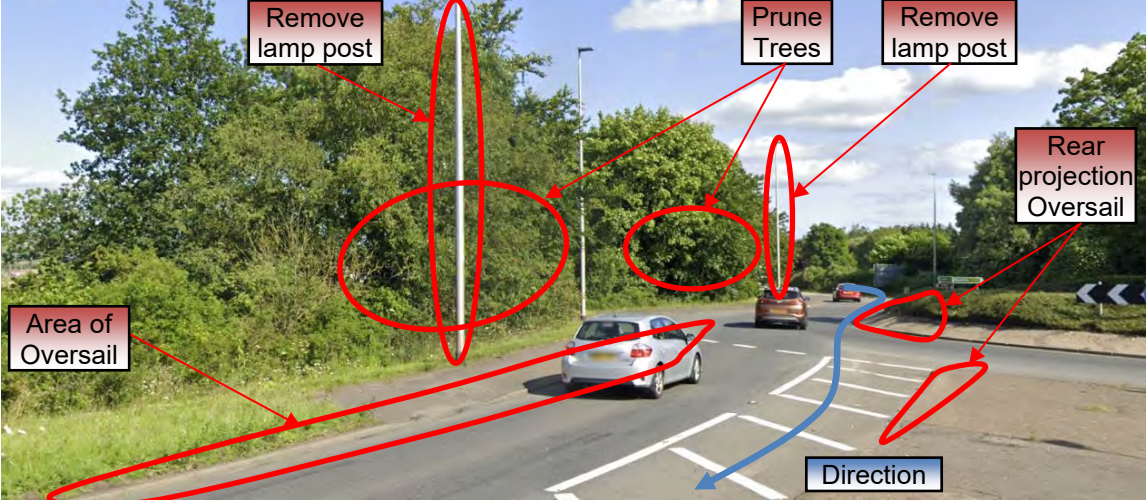
No Amendments - Location is suitable as assessed during this survey

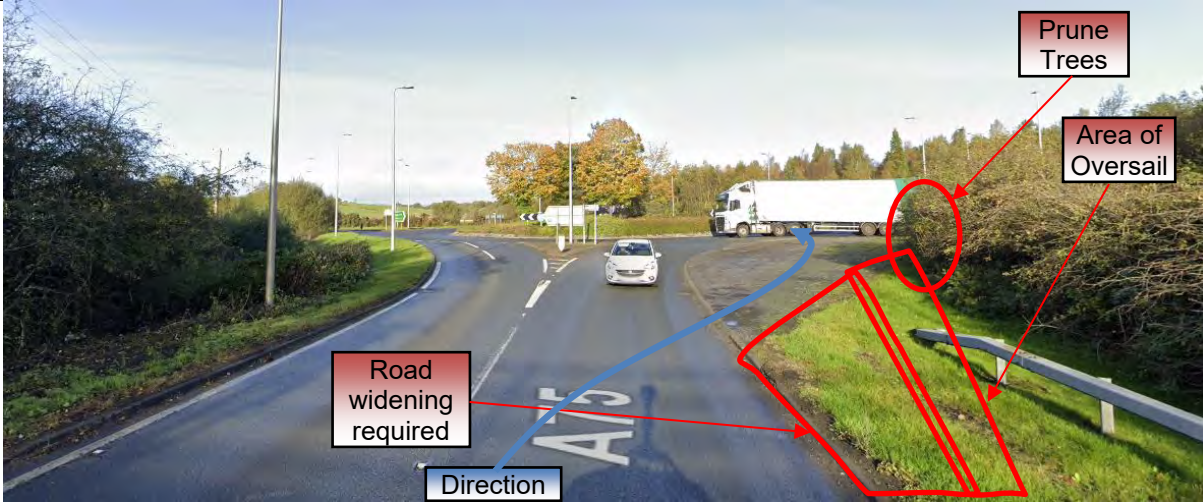
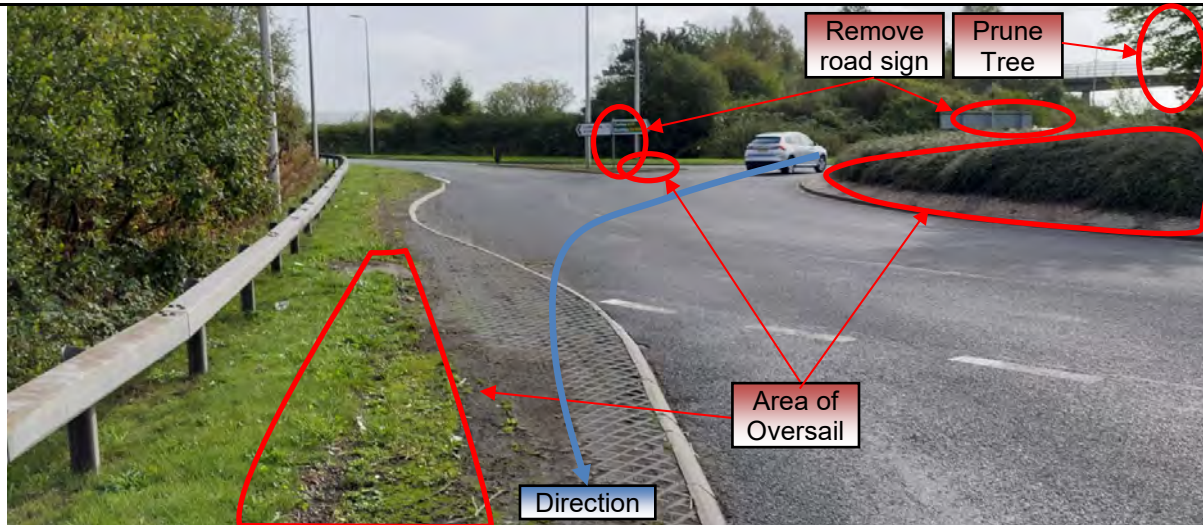
The categories have been colour coded for each report item as per the below key.

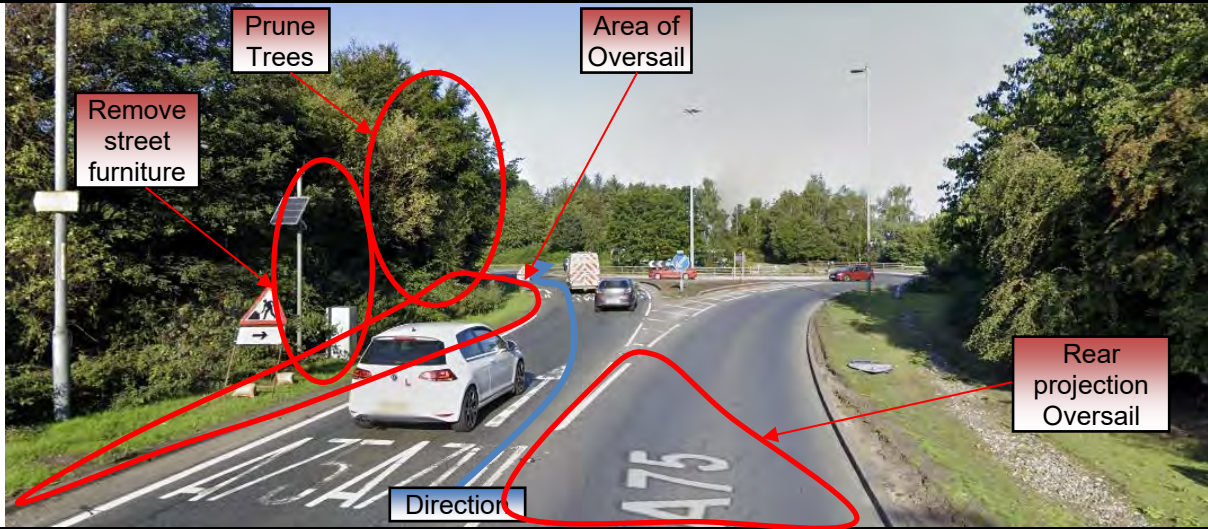
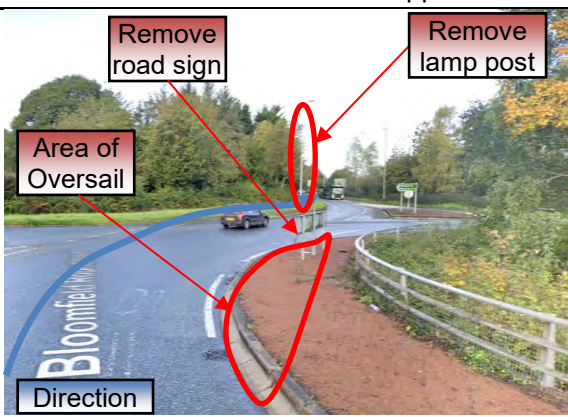
KEY			
	Major Amendments		Minor Amendments
			No Amendments

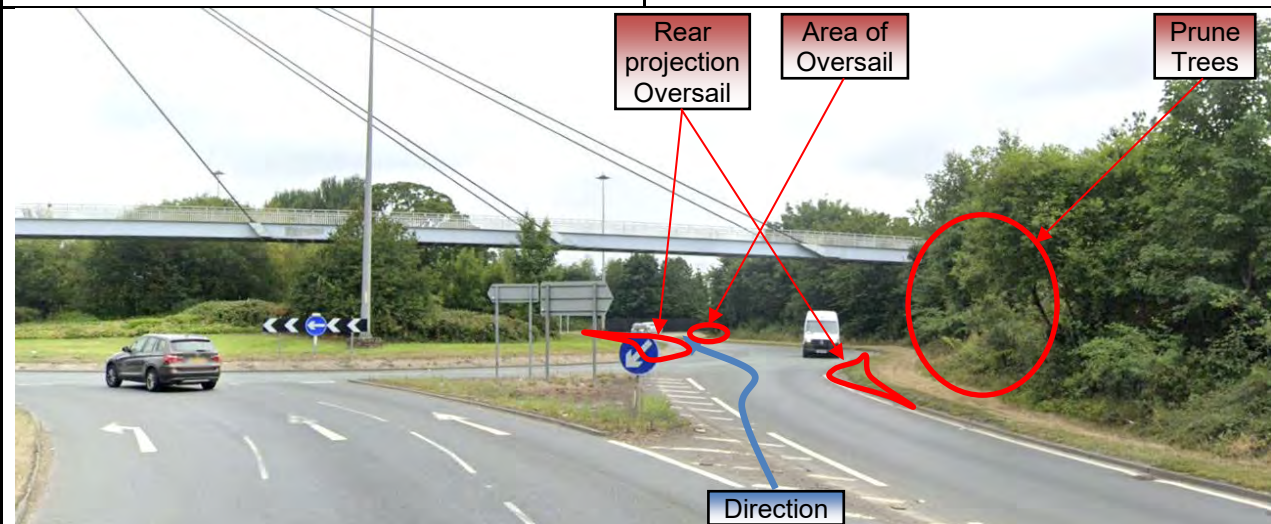
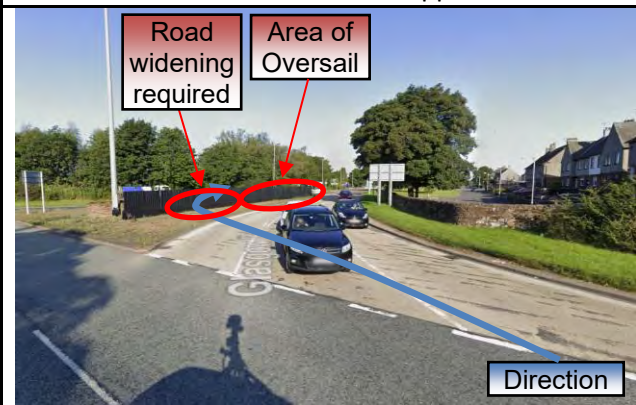
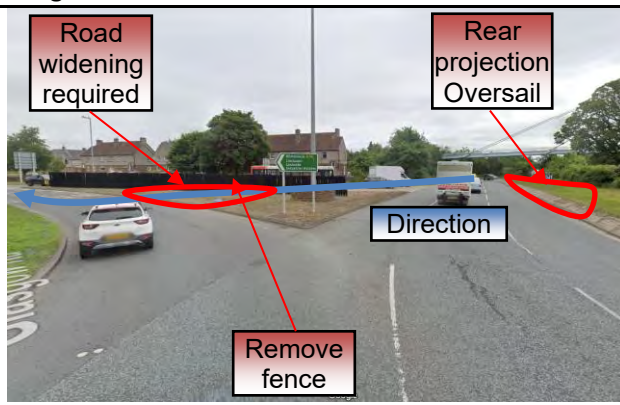
6.6. Map Overview – Route A

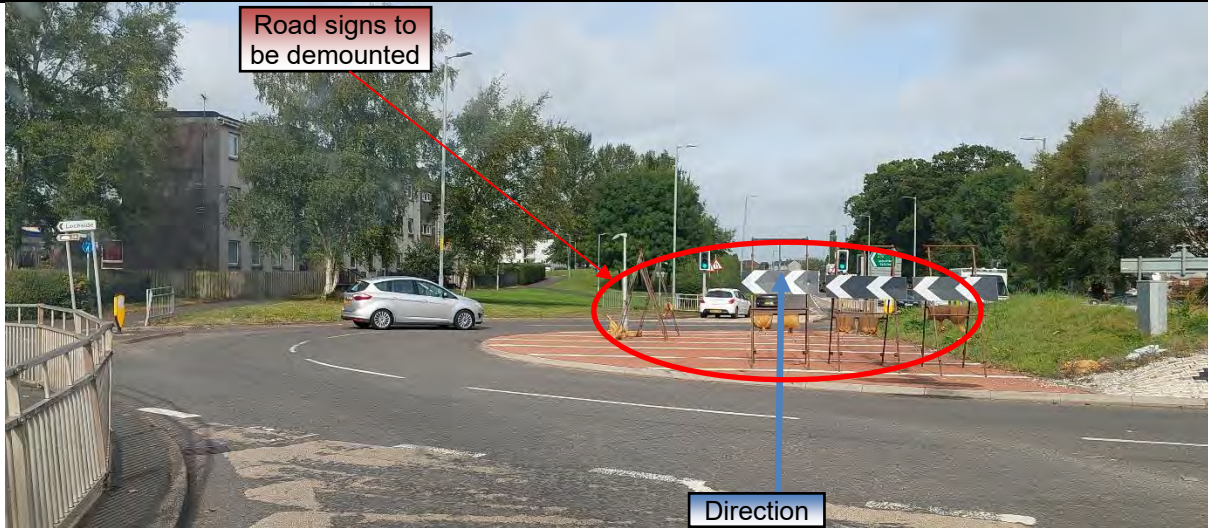


ITEM NUMBER	6.6.1	LOCATION	ROUNDAABOUT - A75/ A780, DUMFRIES BY PASS
DIRECTION	Contraflow the roundabout, continuing on the A75		
GRID REFERENCE	NY 00677 76051		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates that the loaded vehicle will oversail on both sides of the road whilst negotiating the roundabout. The load will oversail on the offside. Two lamp posts are to be removed and trees will require pruning. The rear projection will oversail the nearside prior to the roundabout. Trees will require pruning. The entry and exit splitter islands and the island will incur rear projection oversail. Manual steering and utilisation of the full extents of the road are required to execute the manoeuvre at this location.		 Direction Aerial View of Location	
 Rear projection Oversail Remove lamp posts Prune Trees Area of Oversail Direction Approach to Roundabout		 Remove lamp post Prune Trees Remove lamp post Rear projection Oversail Area of Oversail Direction Reverse View of Roundabout Exit	
FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS	360700-005A1.1		

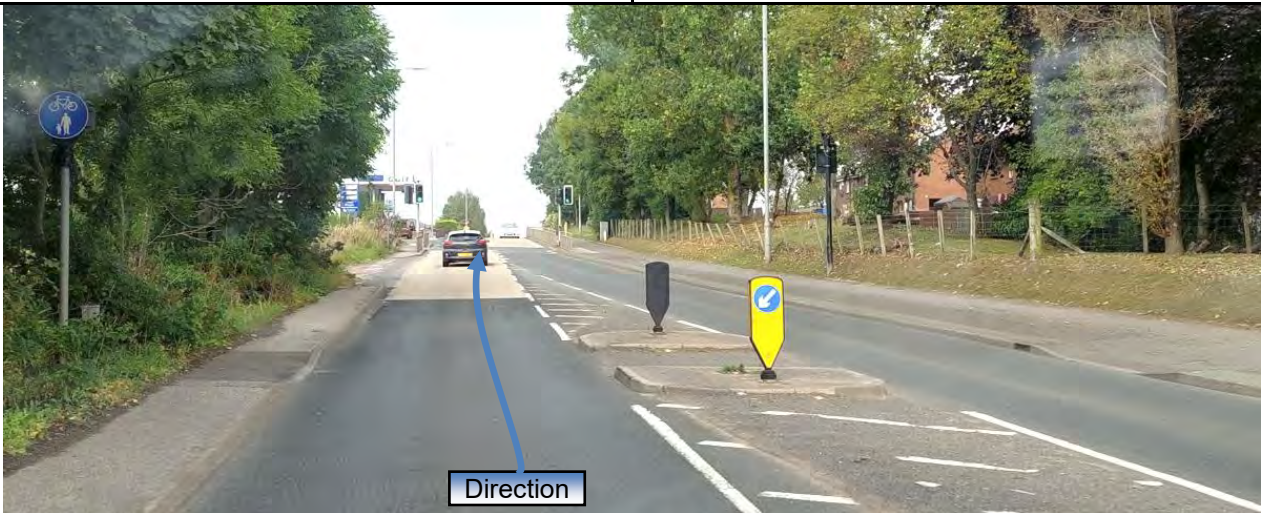
ITEM NUMBER	6.6.2	LOCATION	BROWNRIGG ROUNDABOUT - A75/ A709, DUMFRIES BY PASS
DIRECTION	Continue on A75. Contraflow roundabout, continuing on A75		
GRID REFERENCE	NX 99786 77170		
MODIFICATION AND DESCRIPTION	Swept path analysis indicates that road widening is required on the offside of the roundabout entry to avoid a rear projection clash with the bridge prior to the roundabout. Oversail will occur on the offside of the entry and exits, the eastern splitter island and the roundabout island. Trees are to be pruned on the offside of the entry and the roundabout island. A road sign on the roundabout and the eastern splitter island are to be removed. Manual steering and utilisation of the full extents of the road are required to execute the manoeuvre at this location.		
	 Aerial View of Location		
	 Approach to Brownrigg Roundabout		
	 Reverse View from Exit		
FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS	360700-010A1.1		

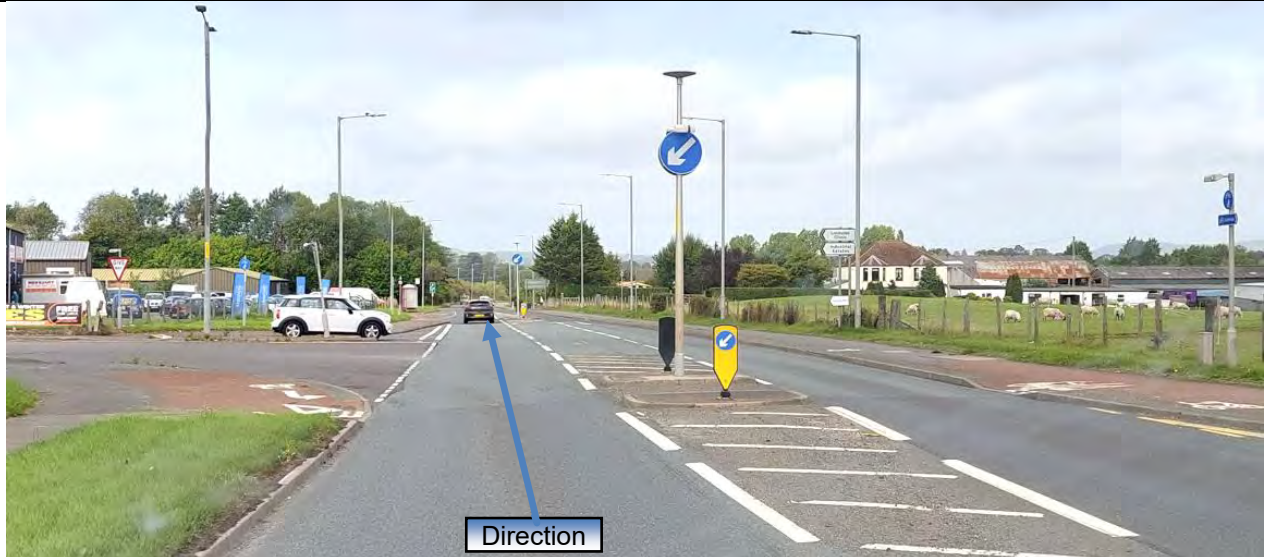
ITEM NUMBER	6.6.3		LOCATION	BLOOMFIELD ROUNDABOUT - A75/ A701, DUMFRIES BY PASS	
DIRECTION	Continue on A75. At roundabout, continue across the roundabout onto A75				
GRID REFERENCE	NX 98296 77998				
MODIFICATION AND DESCRIPTION			PHOTOGRAPH OF LOCATION		
Swept path analysis indicates that road widening will be required on the nearside of the roundabout exit. A lamp post is required to be removed. Oversail occurs on the nearside of the entry and exits and the on the offside of the roundabout. A solar panel column, junction box on the nearside entry and a road sign on the roundabout are to be removed. Trees on the nearside entry are to be pruned. Manual steering and utilisation of the full extents of the road are required to execute the manoeuvre at this location.			 Aerial View of Location		
 Approach to Bloomfield Roundabout			 Bloomfield Roundabout		
FURTHER INVESTIGATION UNDERTAKEN?			YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS			360700-015A1.1		

ITEM NUMBER	6.6.4	LOCATION	CUCKOO BRIDGE ROUNDABOUT - A75/ A76, DUMFRIES BY PASS	
DIRECTION	Take 5 th exit on the right onto the A76			
GRID REFERENCE	NX 96305 77208			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Swept path analysis indicates that road widening is required on the exit splitter island to allow the vehicle to join the left hand carriageway. The fence on the splitter island is to be removed. The load will oversail the offside of the entry and exits of the roundabout and exit splitter island. The rear projection will oversail the roundabout island prior to the exit. Trees are to be pruned on the offside entry of the roundabout. Manual steering and utilisation of the full extents of the road are required to execute the manoeuvre at this location.		 Direction Aerial View of Location		
 Rear projection Oversail Area of Oversail Prune Trees Direction Approach to Cuckoo Bridge Roundabout		 Road widening required Area of Oversail Direction Contraflow Exit		
 Road widening required Rear projection Oversail Remove fence Direction Reverse View of Exit				
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS		360700-020A1.1		

ITEM NUMBER	6.6.5	LOCATION	LOCHSIDE ROAD ROUNDABOUT - A76
DIRECTION	Continue on A76. At the roundabout continue straight ahead on A76		
GRID REFERENCE	NX 96125 77436		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates that the load will oversail the splitter island after the roundabout. Road signs on the widened area of the roundabout are to be demounted. Manual steering is required to execute the manoeuvre at this location.		 Aerial View of Location	
 View over Eliock Bridge from A76			
 Eliock Bridge			
FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS	360700-025A1.1		

ITEM NUMBER	6.6.6	LOCATION	SPLITTER ISLANDS 1 & 2 - A76, DUMFRIES	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX9602677671 & NX9595377834			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that there are no issues at this location.		 Direction Aerial View of Location		
 Direction Splitter Island 1				
 Direction Splitter Island 2				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS				

ITEM NUMBER	6.6.7	LOCATION	SPLITTER ISLANDS 3 & 4 - A76, DUMFRIES	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX9578978037 & NX9566878153			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that there are no issues at this location.				
		Aerial View of Location		
				
Splitter Island 3				
				
Splitter Island 4				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS				

ITEM NUMBER	6.6.8	LOCATION	SPLITTER ISLANDS 5 & 6 - A76, DUMFRIES	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX9553878290 & NX9548278346			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that there are no issues at this location.		 Direction Aerial View of Location		
 Direction Splitter Island 5				
 Direction Splitter Island 6				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS				

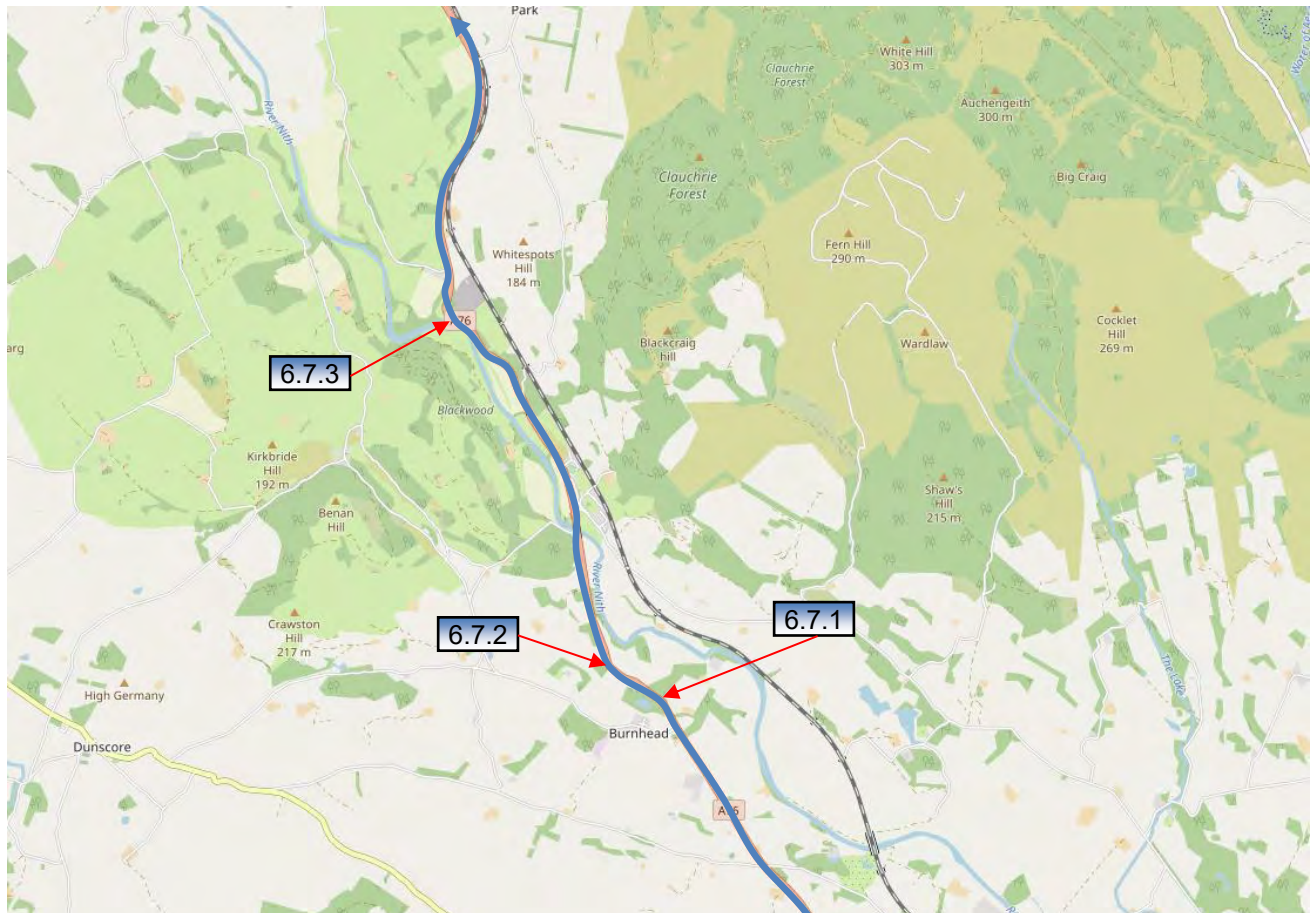
ITEM NUMBER	6.6.9	LOCATION	SPLITTER ISLANDS 7, 8 & 9 - A76, DUMFRIES
DIRECTION	Continue on A76.		
GRID REFERENCE	NX9528778542 , NX9514678788 & NX9510478885		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Visual inspection indicates that there are no issues at this location.			
		Aerial View of Location	
			
Splitter Island 7			
			
Splitter Island 8			

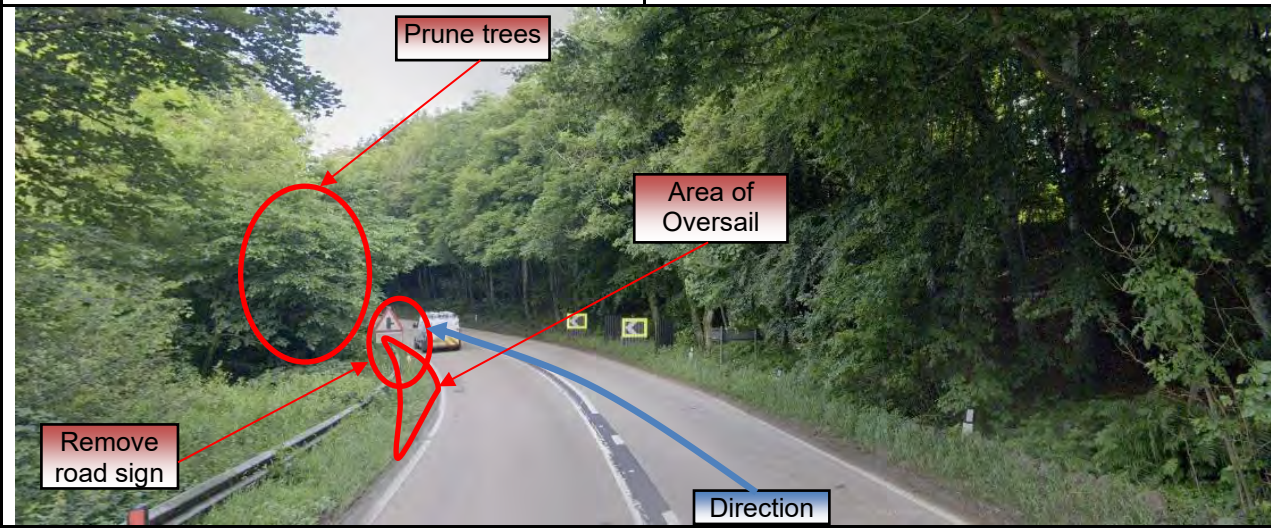


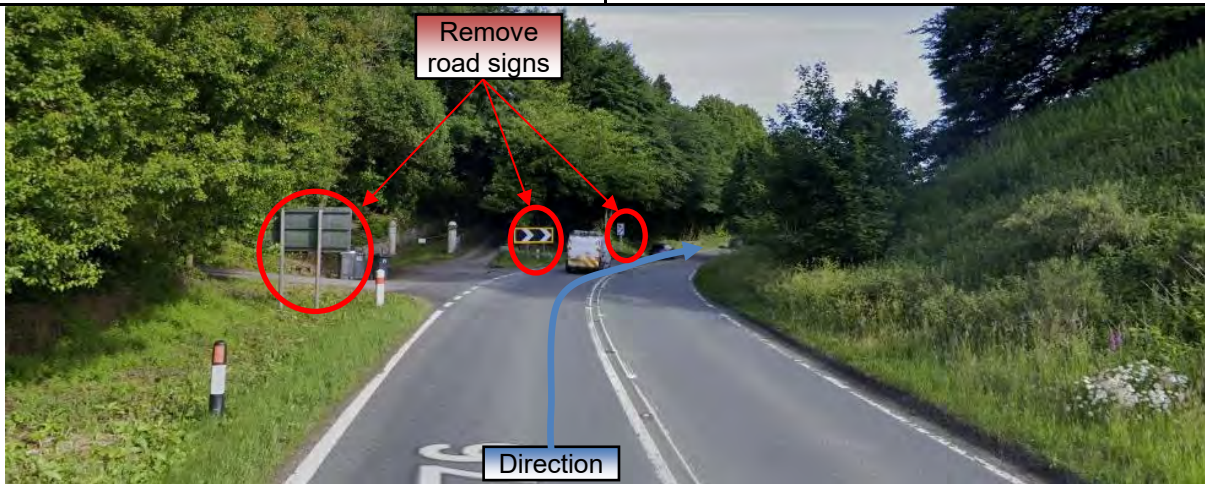
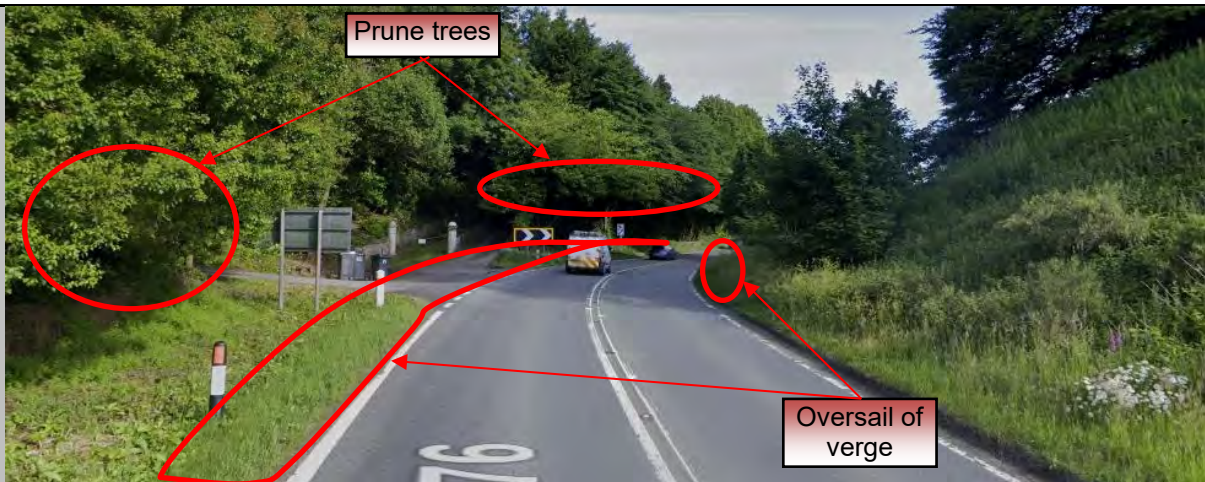
Splitter Island 9

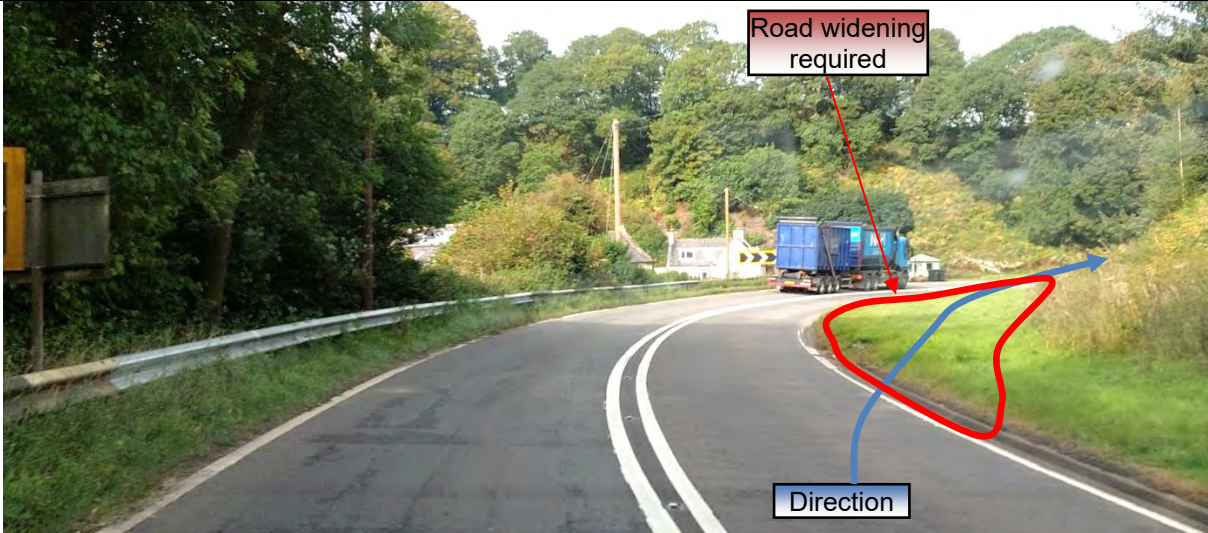
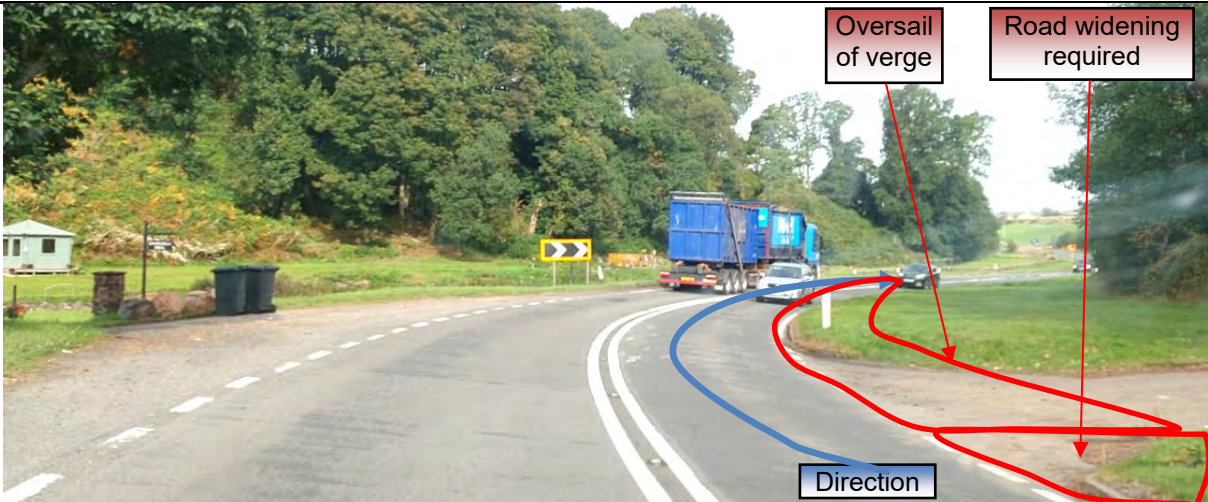
FURTHER INVESTIGATION UNDERTAKEN?	NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS			

6.7. Map extract of survey locations – Route A & B

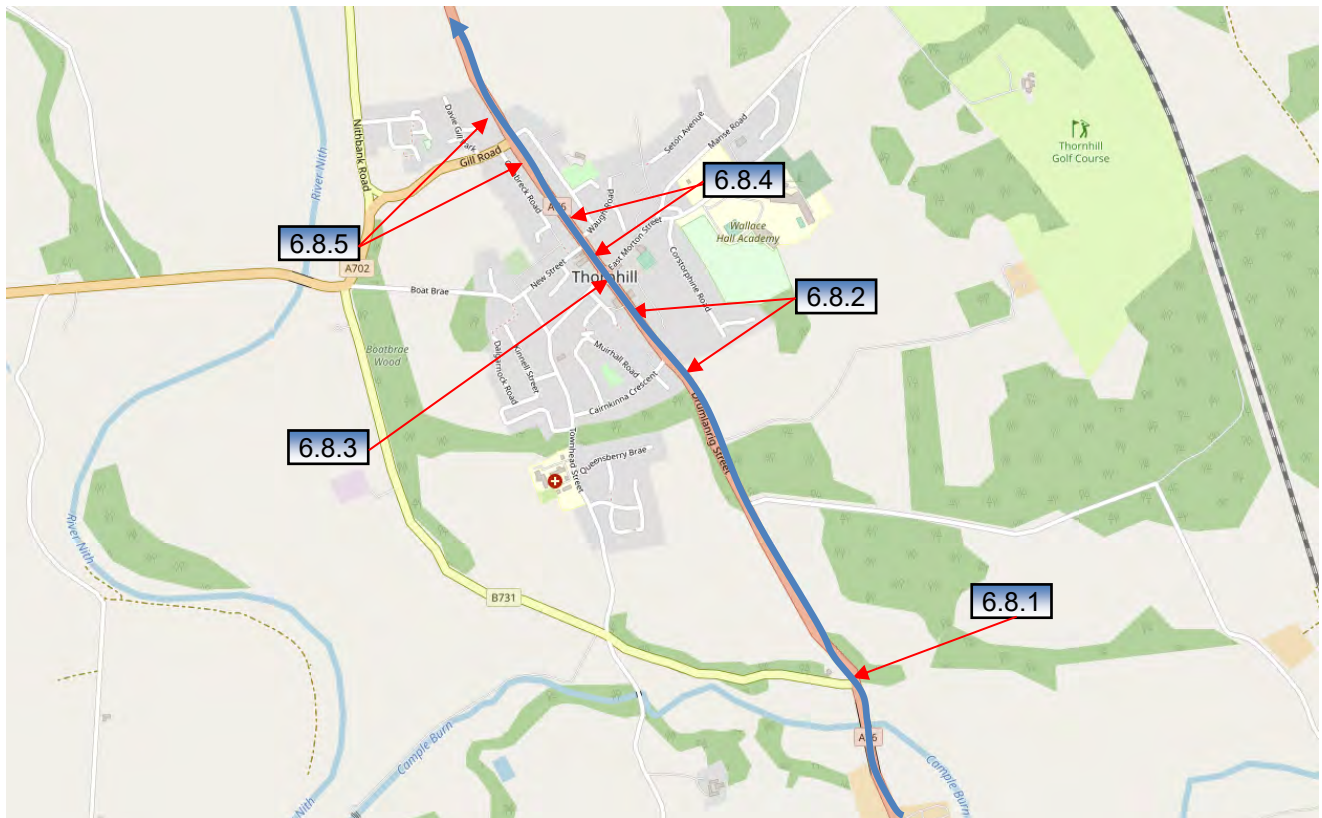


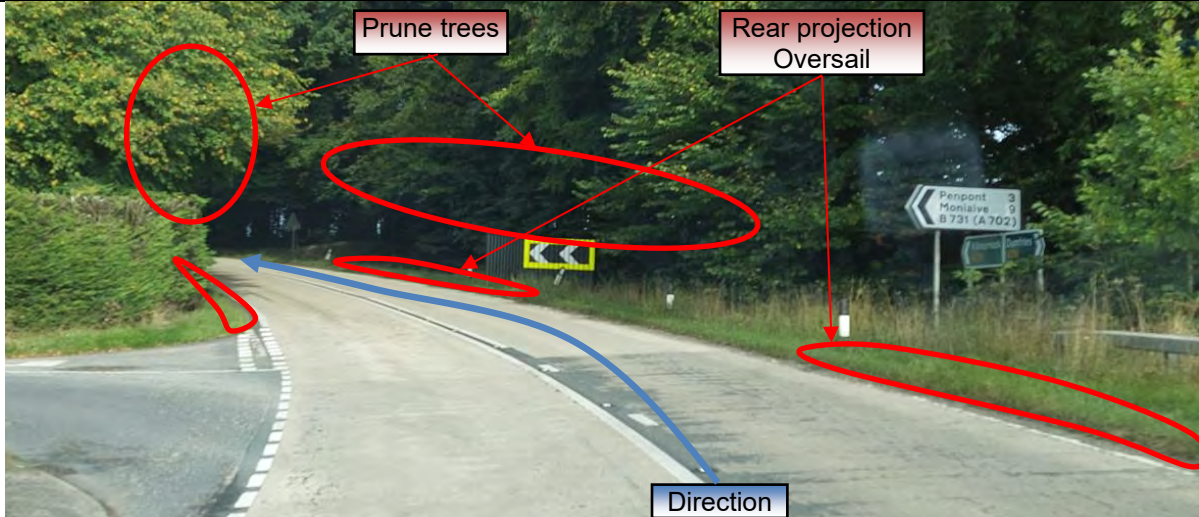
ITEM NUMBER	6.7.1	LOCATION	LEFT BEND - A76, nr AULDGIRTH	
DIRECTION	Continue on A76			
GRID REFERENCE	NX9206984635			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Swept path analysis indicates that the load will oversail both sides of the bend. There are no third party issues raised at this location. Trees/ vegetation are to be pruned on both sides of the bend. Manual steering and utilisation of the full extents of the road are required at this location. A topographical survey is recommended to confirm the extents of any modifications required at this location.				
		Aerial View of Location		
				
Approach to Left Bend				
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS		360700-030A1.1		

ITEM NUMBER	6.7.2	LOCATION	RIGHT BEND - A76, nr AULDGIRTH	
DIRECTION	Continue on A76			
NX9155685032	NX9155685032			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Swept path analysis indicates that the load will oversail both sides of the bend. There are no third party issues raised at this location. Three road signs on the nearside to be removed. Trees/ vegetation are to be pruned on the nearside of the bend. Manual steering and utilisation of the full extents of the road are required at this location.		 Direction Aerial View of Location		
 Remove road signs Direction Right Bend				
 Prune trees Oversail of verge				
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS		360700-035A1.1		

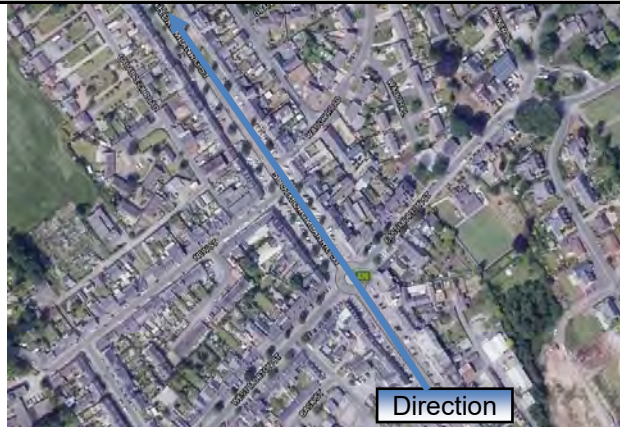
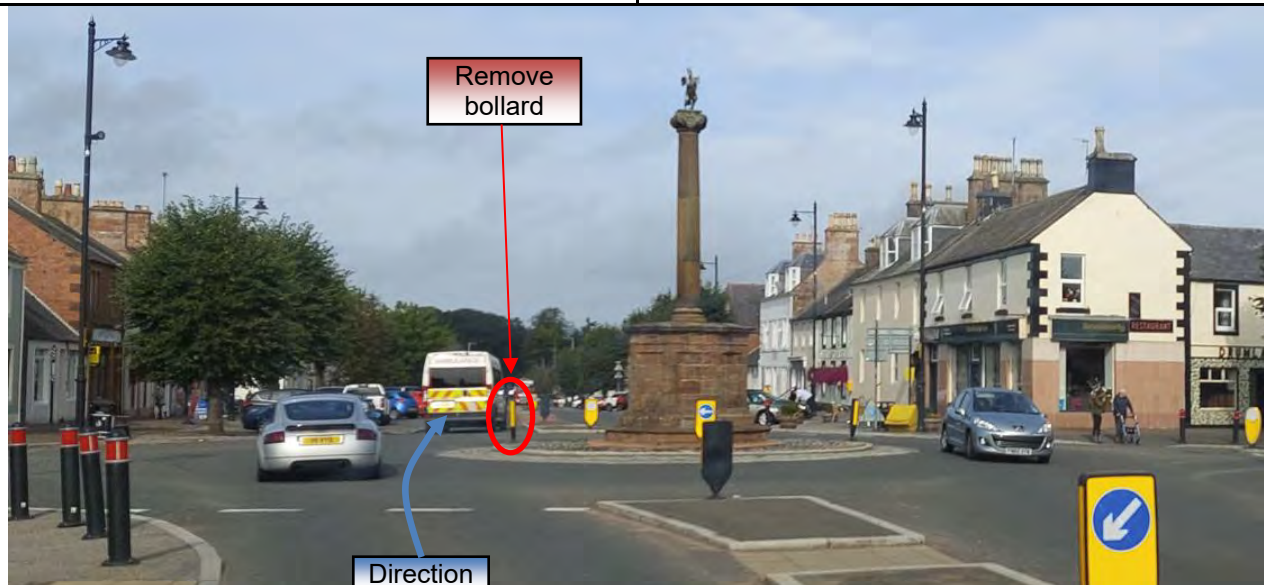
ITEM NUMBER	6.7.3	LOCATION	LEFT BEND - A76, THORNHILL
DIRECTION	Continue on A76.		
GRID REFERENCE	NX9045987981		
MODIFICATION AND DESCRIPTION	Swept path analysis indicates that road widening is required of the offside of the bend to avoid rear projection oversail/ third party issues on the nearside whilst negotiating the bend. The loaded component will continue to oversail the verge on the offside. Manual steering and utilisation of the full extents of the road are required at this location.		
		 Direction Aerial View of Location	
		 Road widening required Direction Approach to Left Bend	
		 Oversail of verge Road widening required Direction Exit of Bend	
FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS	360700-040A1.1		

6.8. Map extract of survey locations – Route A & B



ITEM NUMBER	6.8.1	LOCATION	LEFT BEND - A76, THORNHILL
DIRECTION	Continue on A76.		
GRID REFERENCE	NX8850194405		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates that the load will oversail both sides of the bend. There are no third party issues raised at this location. Trees/ vegetation are to be pruned on both sides of the bend. Manual steering and utilisation of the full extents of the road are required at this location.		 Aerial View of Location	
 Approach to Left Bend		 Exit of Bend	
FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS	360700-045A1.1		

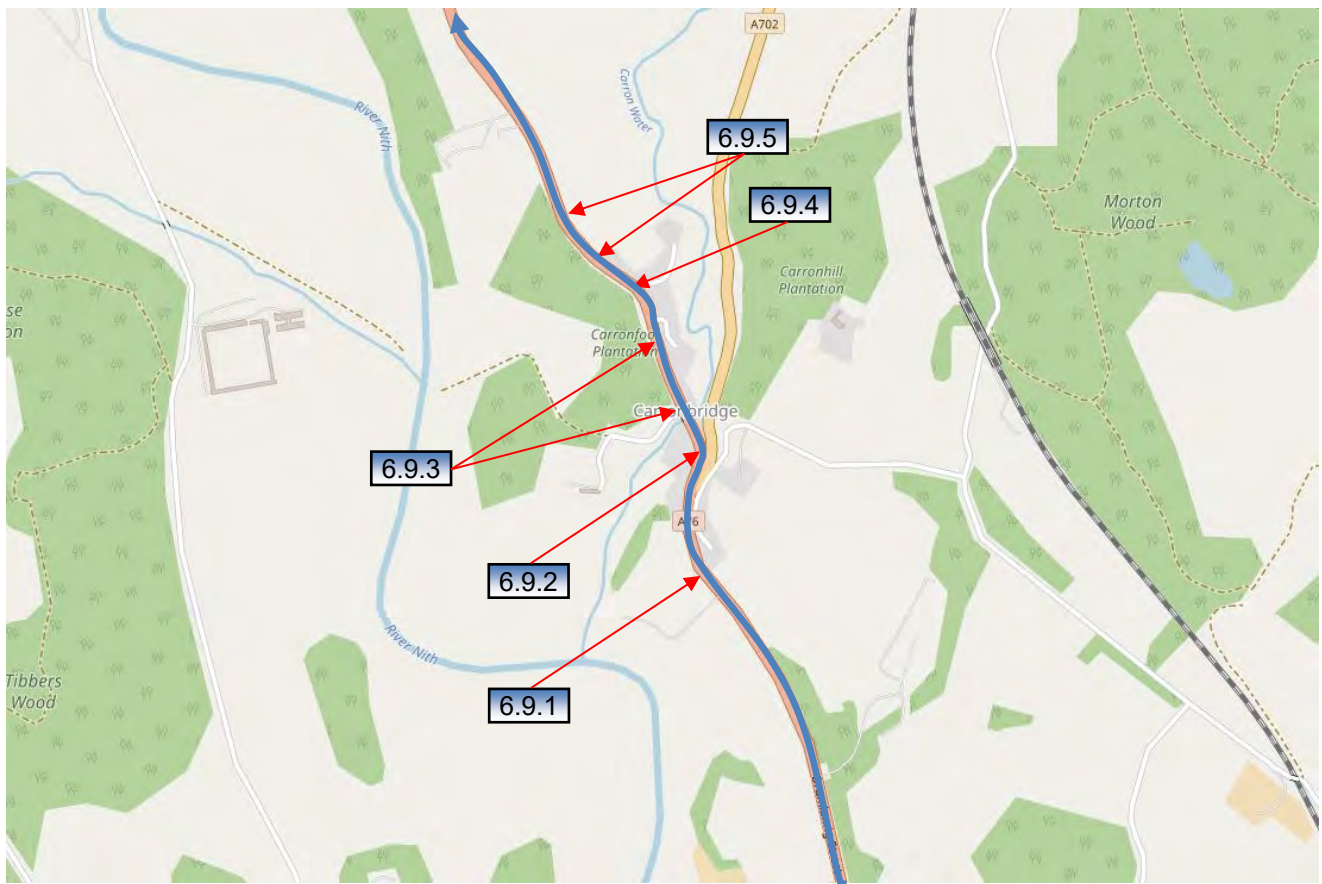
ITEM NUMBER	6.8.2	LOCATION	SPLITTER ISLANDS 10 & 11 - A76, THORNHILL	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX8805195231 & NX8791495424			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that there are no issues at this location.		 Direction		
		Aerial View of Location		
 Direction				
Splitter Island 10				
 Direction				
Splitter Island 11				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS				

ITEM NUMBER	6.8.3	LOCATION	ROUNDAABOUT - A76, THORNHILL
DIRECTION	Continue on A76.		
GRID REFERENCE	NX8788195475		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates that the bollard on the offside is to be removed.		 Direction Aerial View of Location	
 Remove bollard Direction Roundabout			
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE
RELATED DOCUMENT NUMBERS		Swept Path Analysis	
		360700-050A1.1	

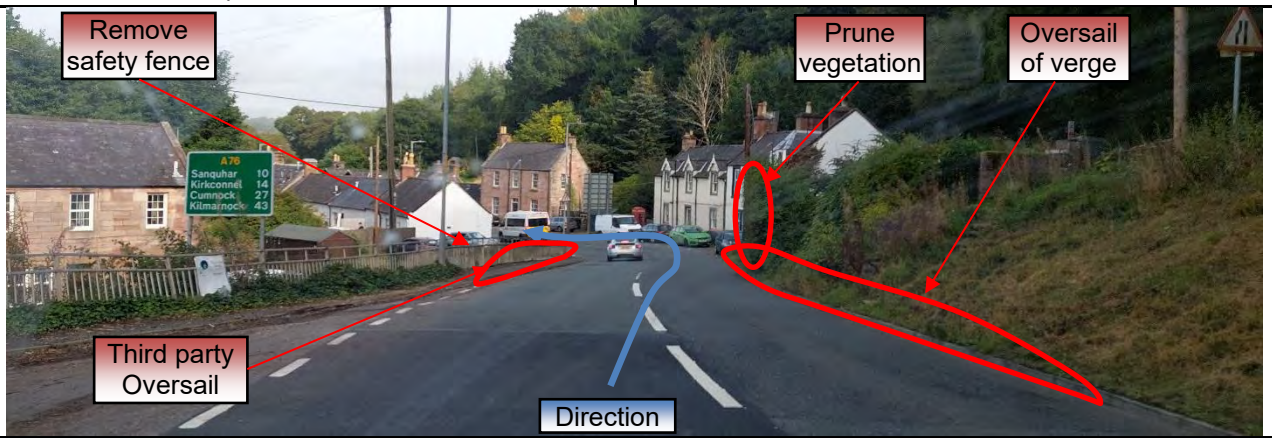
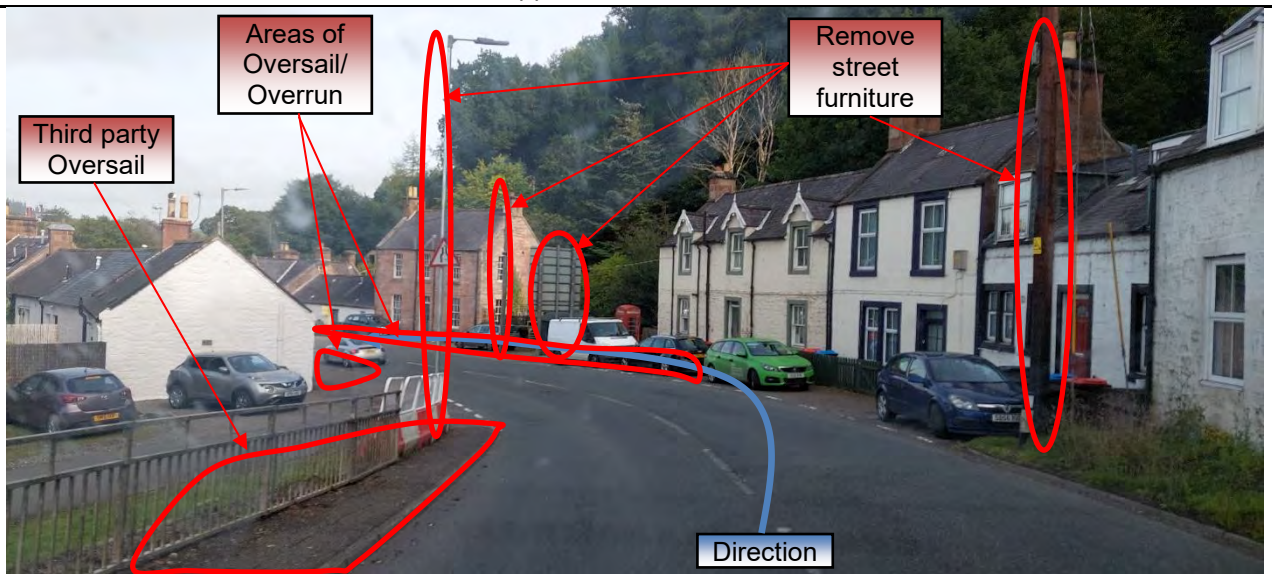
ITEM NUMBER	6.8.4	LOCATION	SPLITTER ISLANDS 12 & 13 - A76, THORNHILL	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX8805195231 & NX8791495424			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that there are no issues at this location.				
		Aerial View of Location		
				
Splitter Island 12				
				
Splitter Island 13				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS				

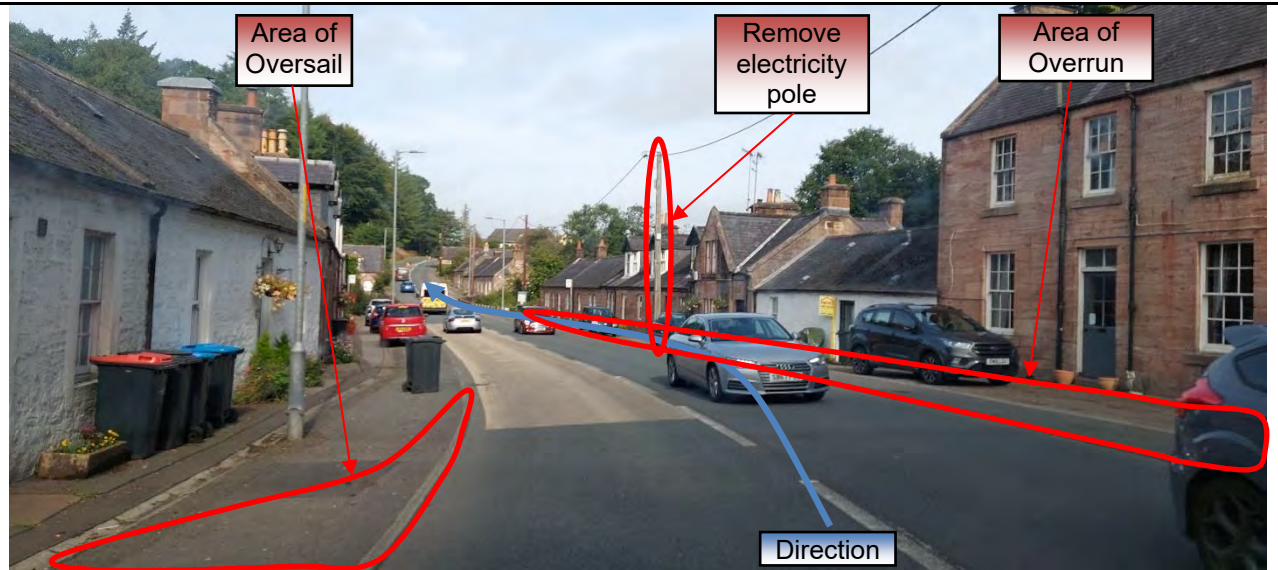
ITEM NUMBER	6.8.5	LOCATION	SPLITTER ISLANDS 14 & 15 - A76, THORNHILL	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX8805195231 & NX8791495424			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that there are no issues at this location.		 Direction Aerial View of Location		
 Direction Splitter Island 14				
 Direction Splitter Island 15				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS				

6.9. Map extract of survey locations – Route A & B



ITEM NUMBER	6.9.1	LOCATION	SPLITTER ISLAND 16 - A76, CARRONBRIDGE	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX8701697752			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that there are no issues at this location.				
		Aerial View of Location		
				
Splitter Island 16				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS				

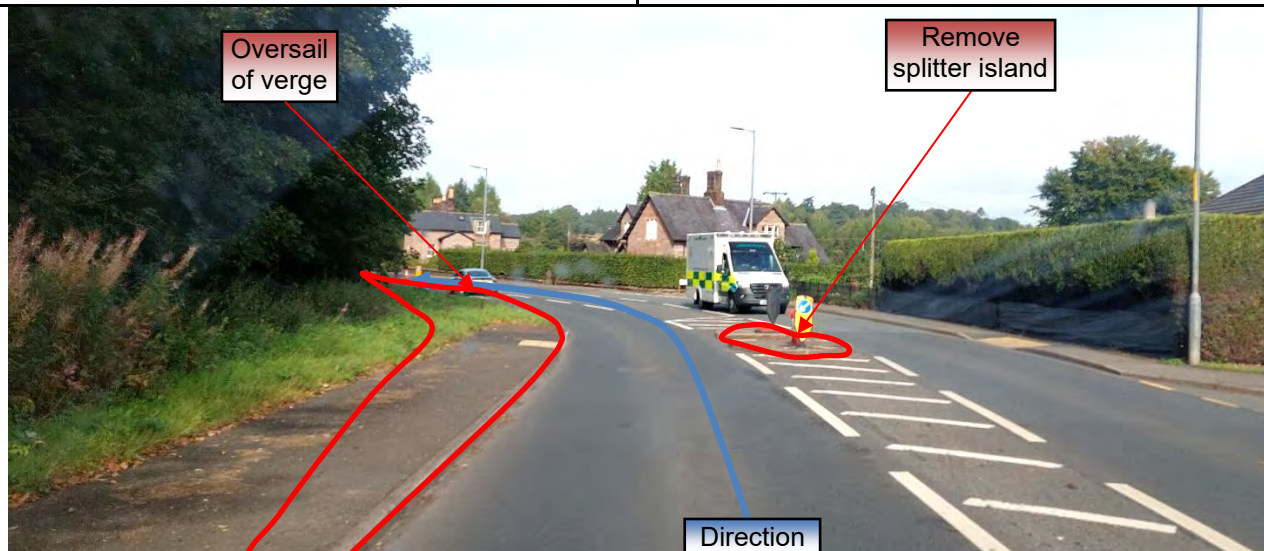
ITEM NUMBER	6.9.2	LOCATION	LEFT BEND 16 - A76, CARRONBRIDGE
DIRECTION	Continue on A76.		
GRID REFERENCE	NX8700898032		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates that third party land is required on the nearside to allow the load to oversail on the approach to the left bend. A lamp post and safety fence are required to be removed. Oversail will occur on both sides of the bend. Street furniture is required to be removed where indicated. Vegetation is to be removed on the offside prior to the bend. Parking restrictions are required both sides after the bend. Manual steering and utilisation of the full extents of the road are required at this location.		 Direction Aerial View of Location	
 Remove safety fence Third party Oversail Prune vegetation Oversail of verge Direction Approach to Left Bend		 Third party Oversail Areas of Oversail/Overrun Remove street furniture Direction Left Bend	

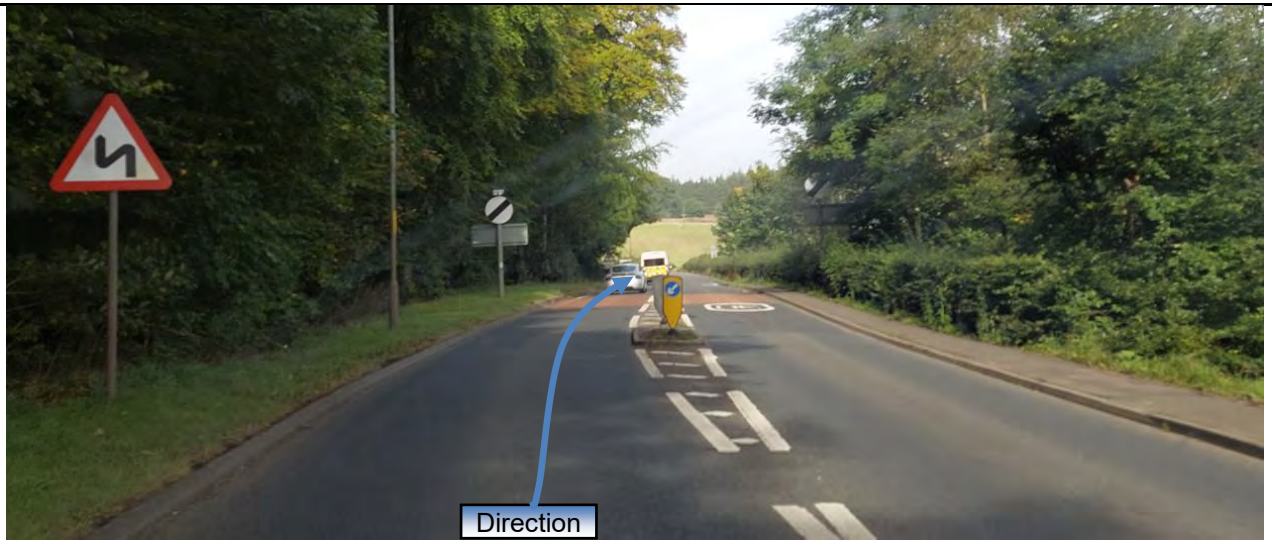


Exit of Left Bend

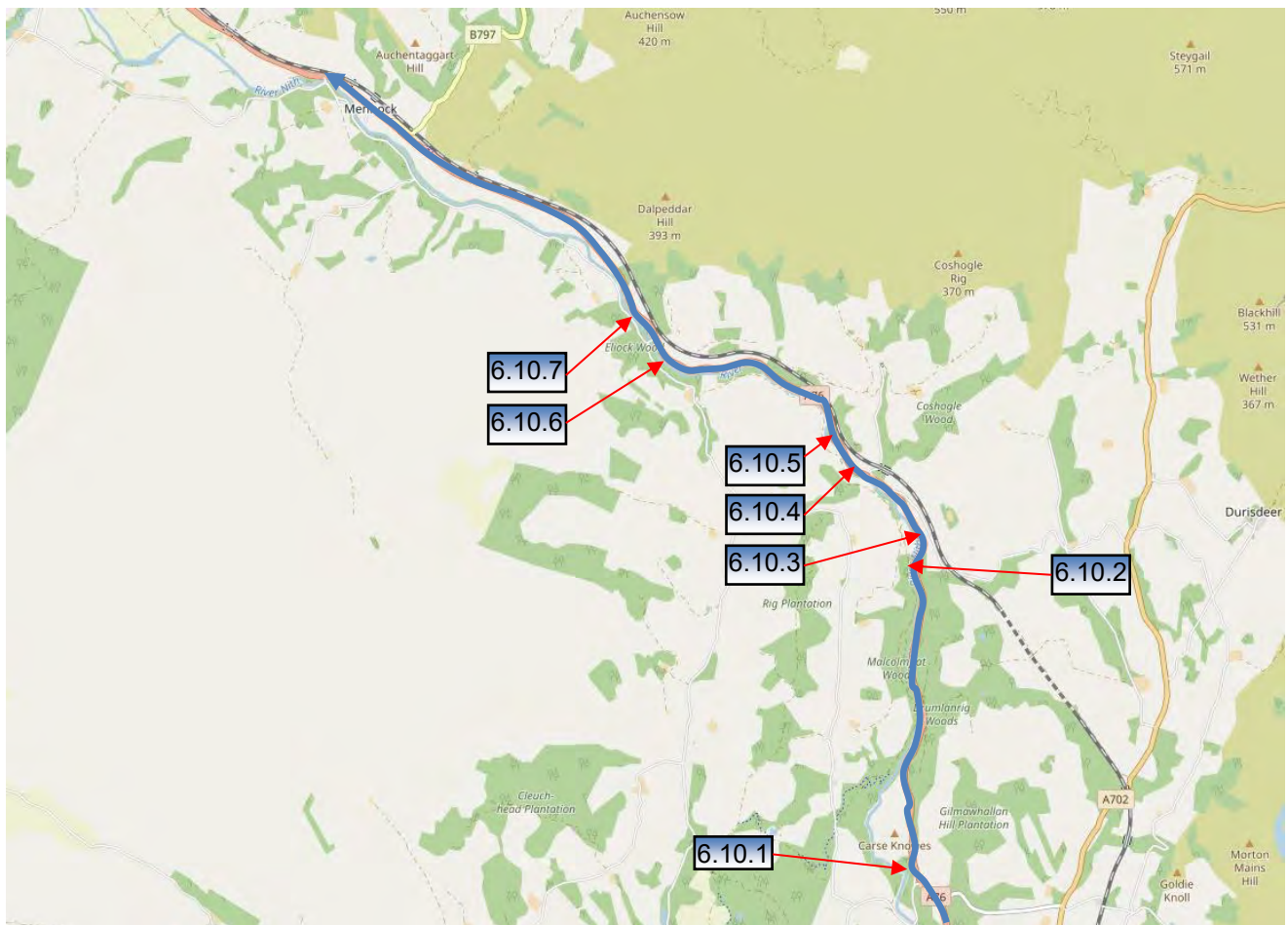
FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS	360700-055A0.1		

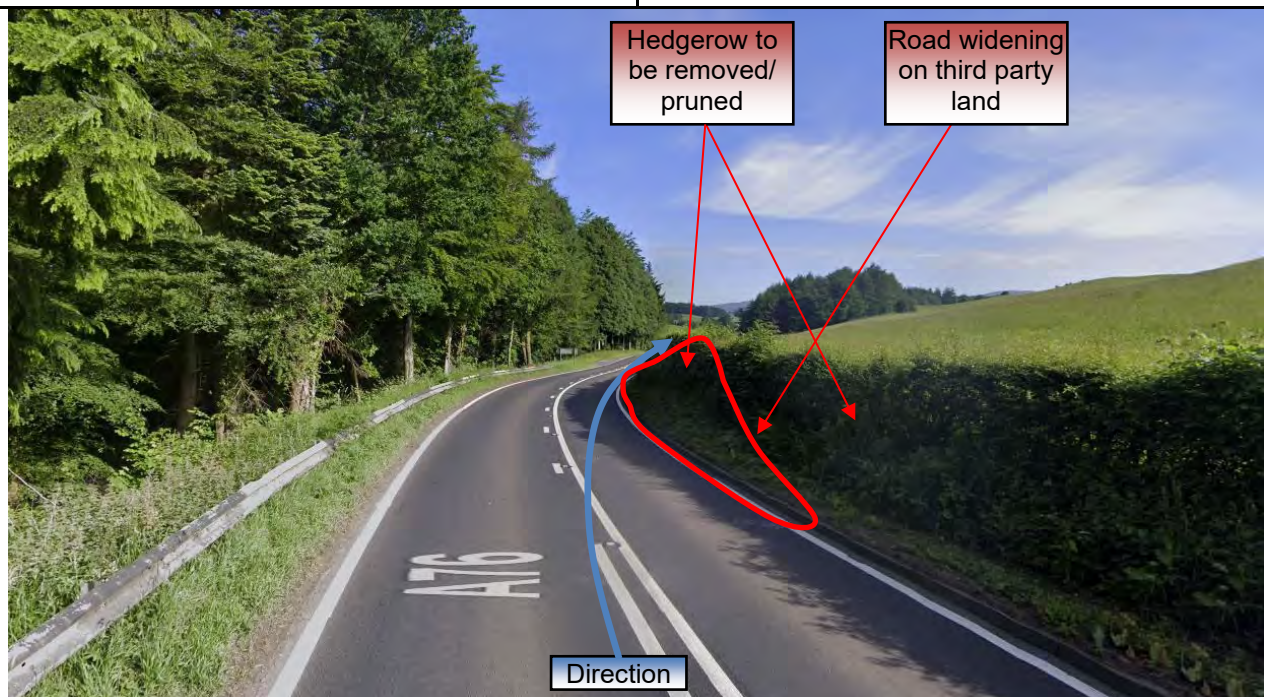
ITEM NUMBER	6.9.3	LOCATION	SPLITTER ISLANDS 17 & 18 - A76, CARRONBRIDGE	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX8701697752			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that there are no issues at this location.		 Direction Aerial View of Location		
 Direction Splitter Island 17				
 Direction Splitter Island 18				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS				

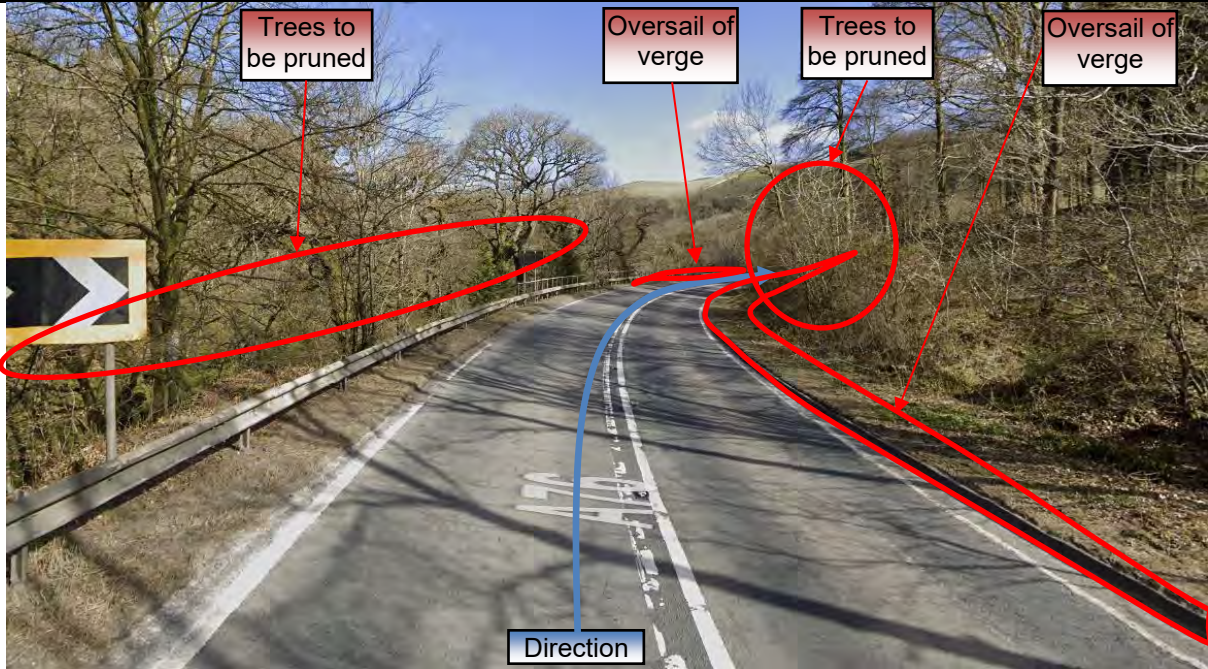
ITEM NUMBER	6.9.4	LOCATION	LEFT BEND & SPLITTER ISLANDS 19 & 20 - A76, CARRONBRIDGE	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX8687698402			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Swept path analysis indicates that the splitter island before the bend is to be removed to avoid more extensive road widening on the nearside. The load will oversail the verge on the nearside and the rear projection will oversail the footpath on the offside. No third party issues are raised at this location. Manual steering & utilisation of the full extents of the road will be required to navigate at this location.		 Direction Aerial View of Location		
 Oversail of verge Remove splitter island Direction Approach to Left Bend				
 Oversail of verge Direction Splitter Island 20				
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS		360700-060A1.1		

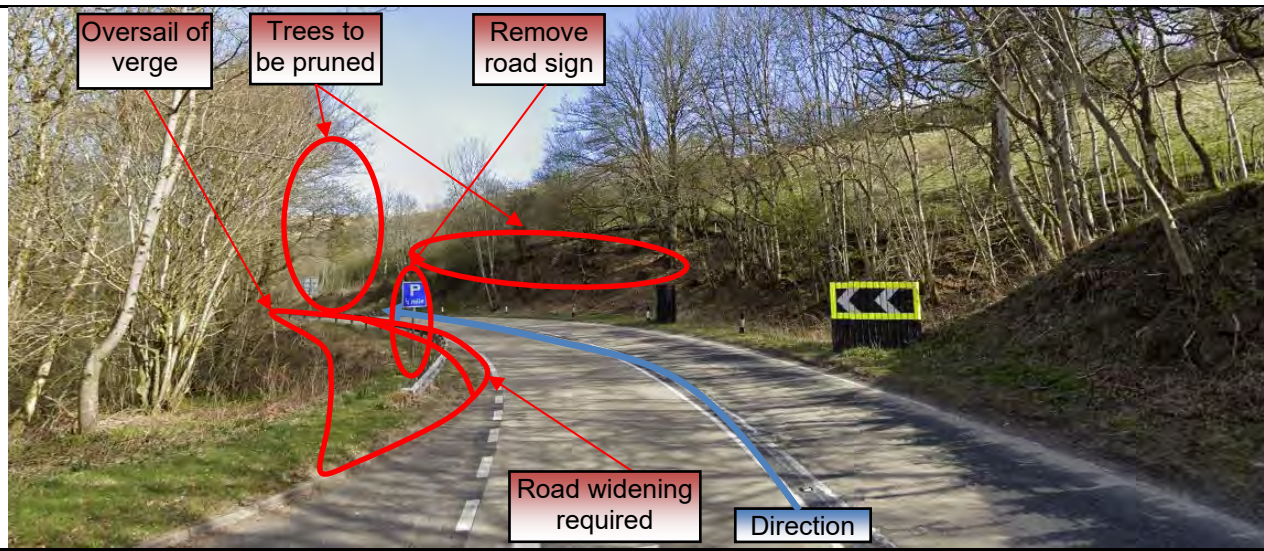
ITEM NUMBER	6.9.5	LOCATION	SPLITTER ISLANDS 21 & 22 - A76, CARRONBRIDGE	
DIRECTION	Continue on A76.			
GRID REFERENCE	NX 86737 98521 & NX 86695 98591			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that there are no issues at this location.		 Aerial View of Location		
 Splitter Island 21				
 Splitter Island 22				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS				

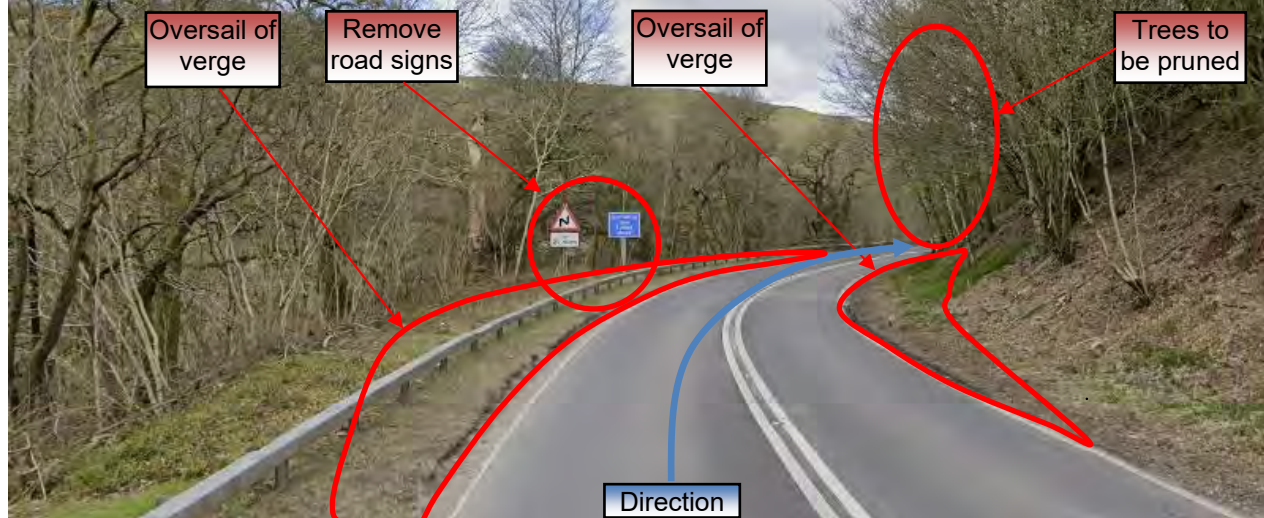
6.10. Map extract of survey locations – Route A & B

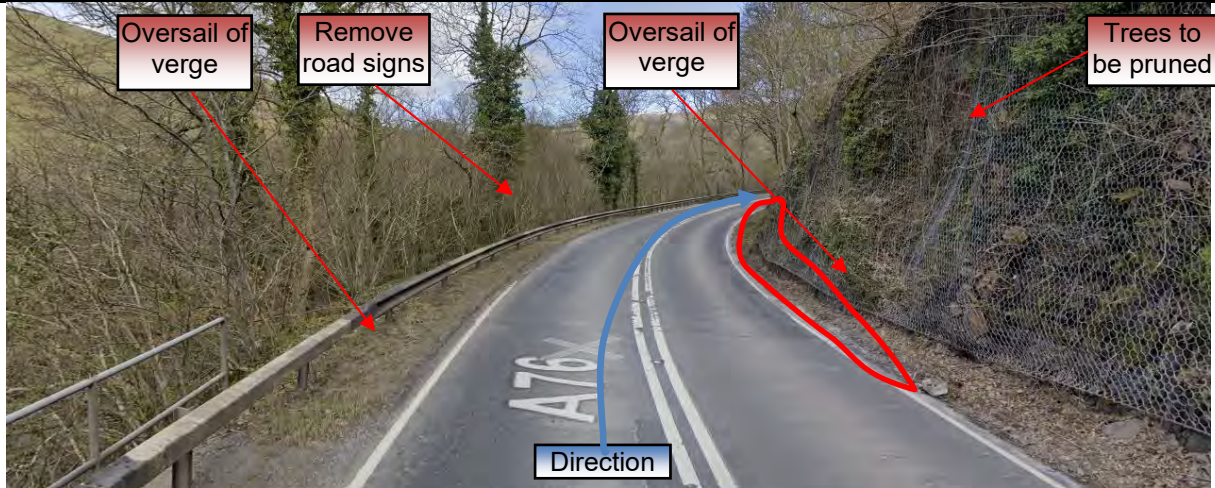


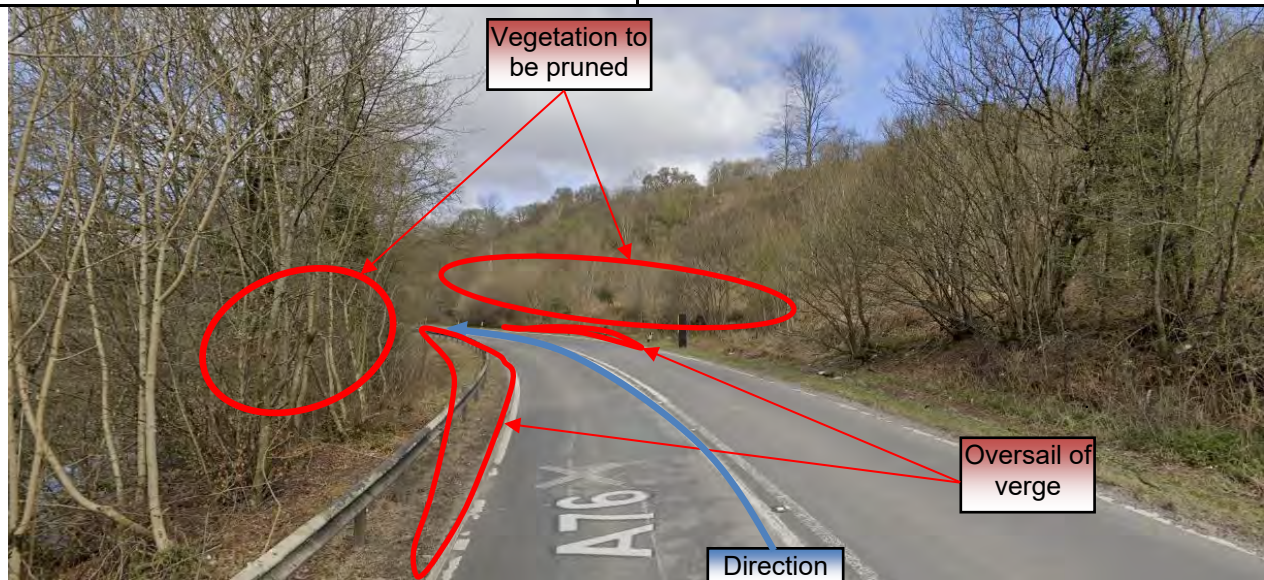
ITEM NUMBER	6.10.1	LOCATION	RIGHT BEND - A76
DIRECTION	Continue on A76.		
GRID REFERENCE	NS8598700349		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates that third party land is required on the offside to widen the road to avoid rear projection oversail in the wood on the nearside. The hedgerow on the offside is to be removed/ pruned where necessary. Manual steering & utilisation of the full extents of the road will be required to navigate at this location.		 Direction Aerial View of Location	
 Hedgerow to be removed/ pruned Road widening on third party land Direction Right Bend			
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE
RELATED DOCUMENT NUMBERS		Swept Path Analysis	
		360700-065A1.1	

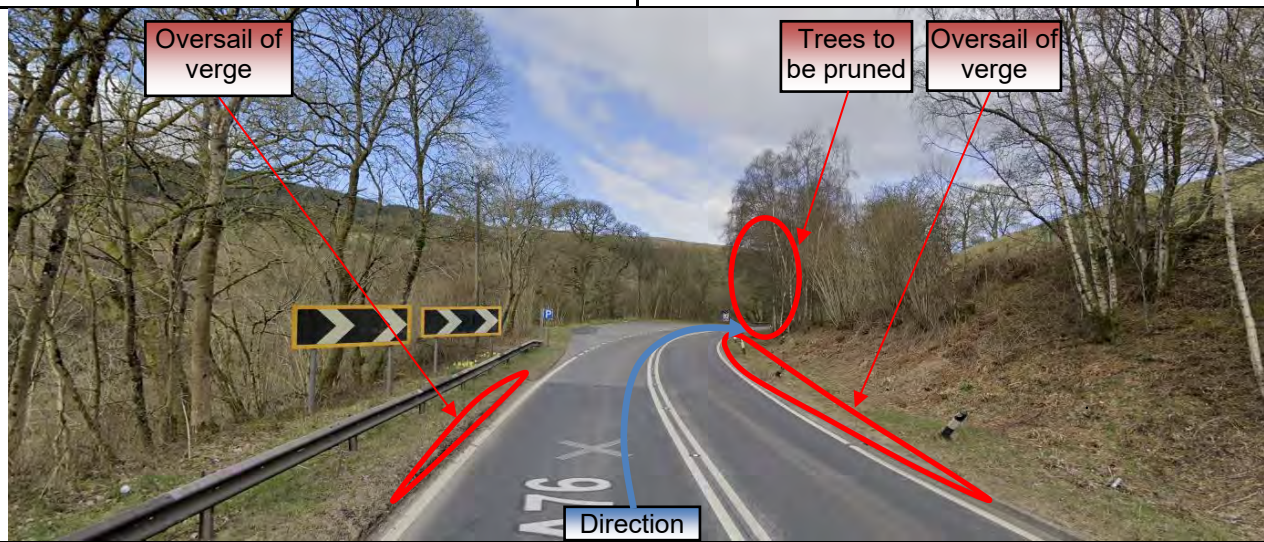
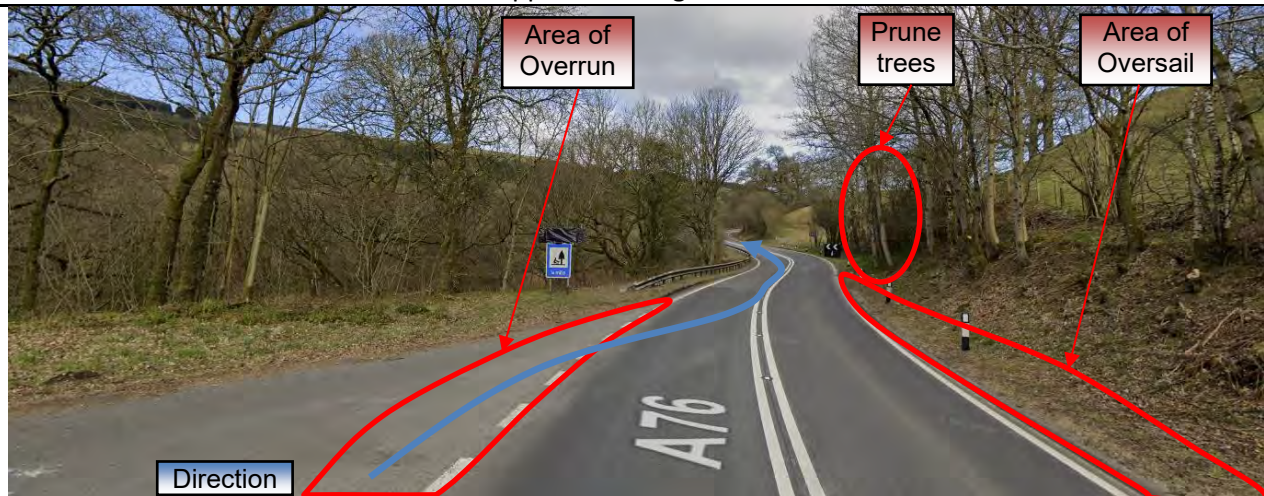
ITEM NUMBER	6.10.2	LOCATION	RIGHT BEND - A76	
DIRECTION	Continue on A76.			
GRID REFERENCE	NS8604303398			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Swept path analysis indicates the loaded component will oversail both sides of the bend. Trees are to be pruned on both sides of the road. Manual steering & utilisation of the full extents of the road will be required to navigate at this location.		 Direction Aerial View of Location		
 Trees to be pruned Oversail of verge Trees to be pruned Oversail of verge Direction Right Bend				
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS		360700-070A1.1		

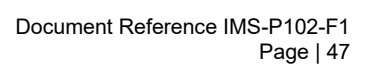
ITEM NUMBER	6.10.3	LOCATION	LEFT BEND - A76
DIRECTION	Continue on A76.		
GRID REFERENCE	NS8613603572		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates the loaded component will oversail both sides of the bend. Trees are to be pruned on both sides of the road. Manual steering & utilisation of the full extents of the road will be required to navigate at this location.		 Direction Aerial View of Location	
 Direction Left Bend			
 Oversail of verge Trees to be pruned Remove road sign Road widening required Direction Left Bend			
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE
RELATED DOCUMENT NUMBERS		Swept Path Analysis	
		360700-075A1.1	

ITEM NUMBER	6.10.4	LOCATION	RIGHT BEND - A76	
DIRECTION	Continue on A76.			
GRID REFERENCE	NS8548504314			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Swept path analysis indicates that the loaded component will oversail both sides of the bend. Two road signs on the nearside are to be removed. Trees are to be pruned/removed on the offside of the road. Manual steering & utilisation of the full extents of the road will be required to navigate at this location.		 Direction		
		Aerial View of Location		
 Oversail of verge Remove road signs Oversail of verge Trees to be pruned Direction				
Right Bend				
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS		360700-075A1.1		

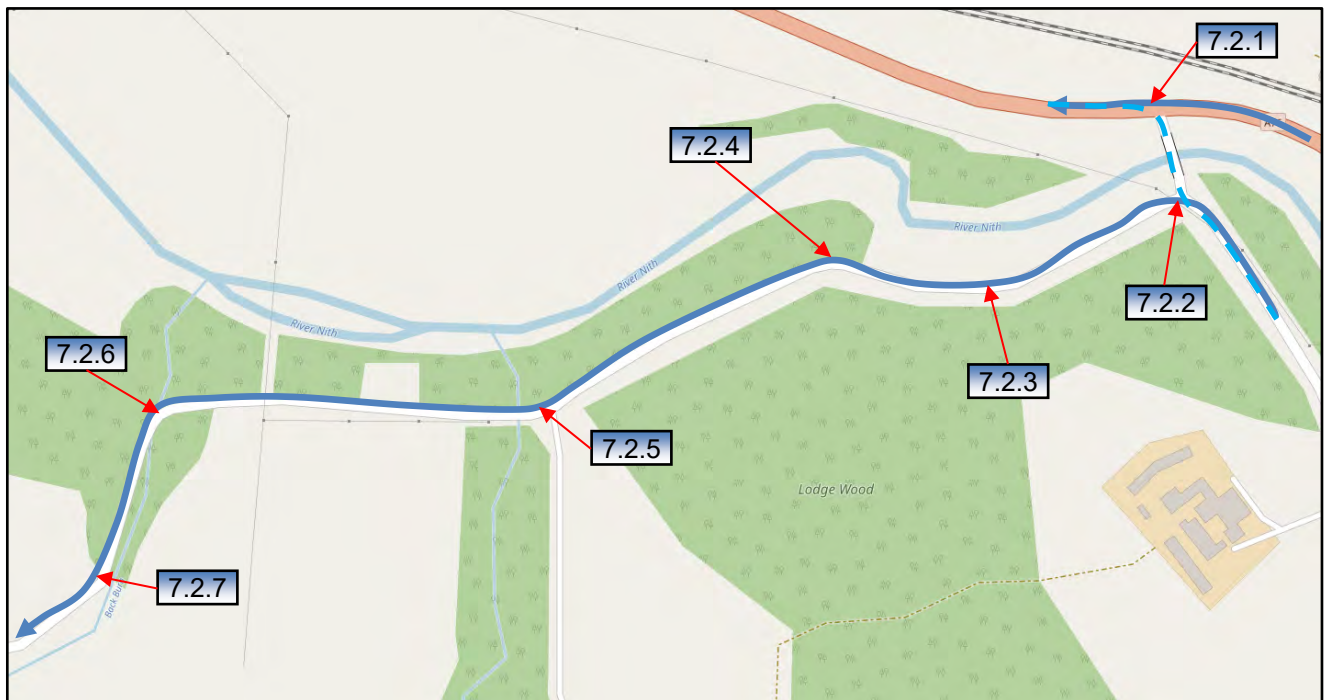
ITEM NUMBER	6.10.5	LOCATION	RIGHT BEND - A76
DIRECTION	Continue on A76.		
GRID REFERENCE	NS8528404636		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates that third party land is required on the nearside to allow the rear projection to oversail. The loaded component will oversail both sides of the bend. Trees are to be topped/ removed on the nearside and pruned on the offside. Manual steering & utilisation of the full extents of the road will be required to navigate at this location. A topographical survey is recommended to confirm the extents of any modifications required at this location.		 Direction Aerial View of Location	
 Direction Right Bend			
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE
RELATED DOCUMENT NUMBERS		Swept Path Analysis	
		360700-085A1.1	

ITEM NUMBER	6.10.6	LOCATION	LEFT BEND - A76	
DIRECTION	Continue on A76.			
GRID REFERENCE	NS8457805379			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Swept path analysis indicates that the loaded component will oversail both sides of the bend. Trees are to be pruned on both sides of the bend. Manual steering & utilisation of the full extents of the road will be required to navigate at this location.				
		Aerial View of Location		
				
Left Bend				
FURTHER INVESTIGATION UNDERTAKEN?		YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS		360700-090A1.1		

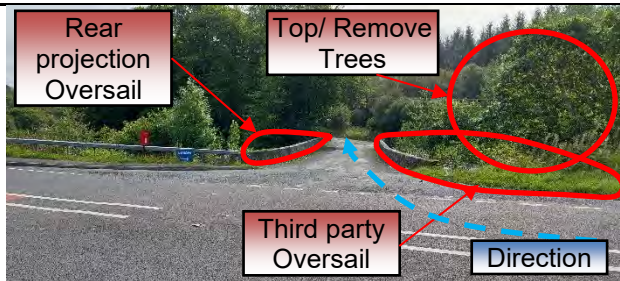
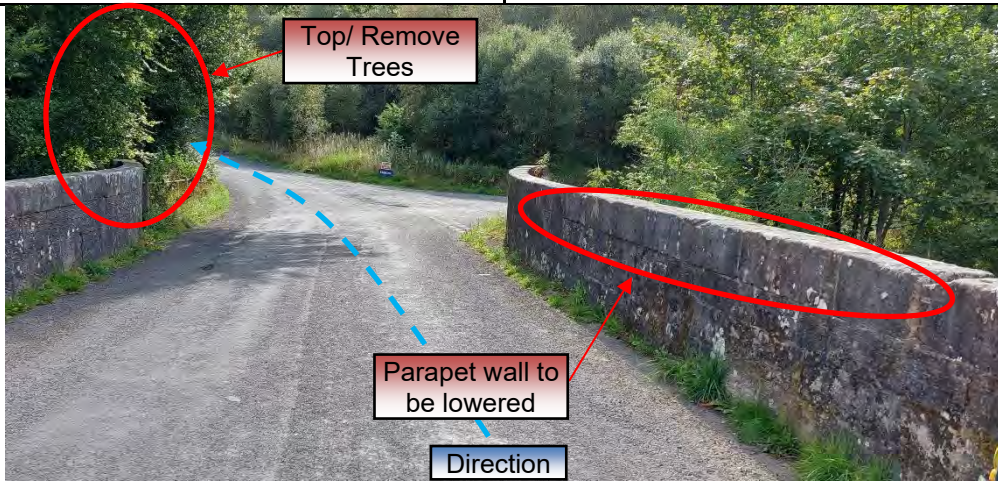
ITEM NUMBER	6.10.7	LOCATION	RIGHT BEND - A76
DIRECTION	Continue on A76.		
GRID REFERENCE	NS8387905333		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates that the loaded component will oversail both sides of the bend. Trees are to be topped/ removed on the nearside and pruned on the offside. Manual steering & utilisation of the full extents of the road will be required to navigate at this location. A topographical survey is recommended to confirm the extents of any modifications required at this location.			
		Aerial View of Location	
			
Approach to Right Bend			
			
Exit of Right Bend			
FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS	360700-095A1.1		

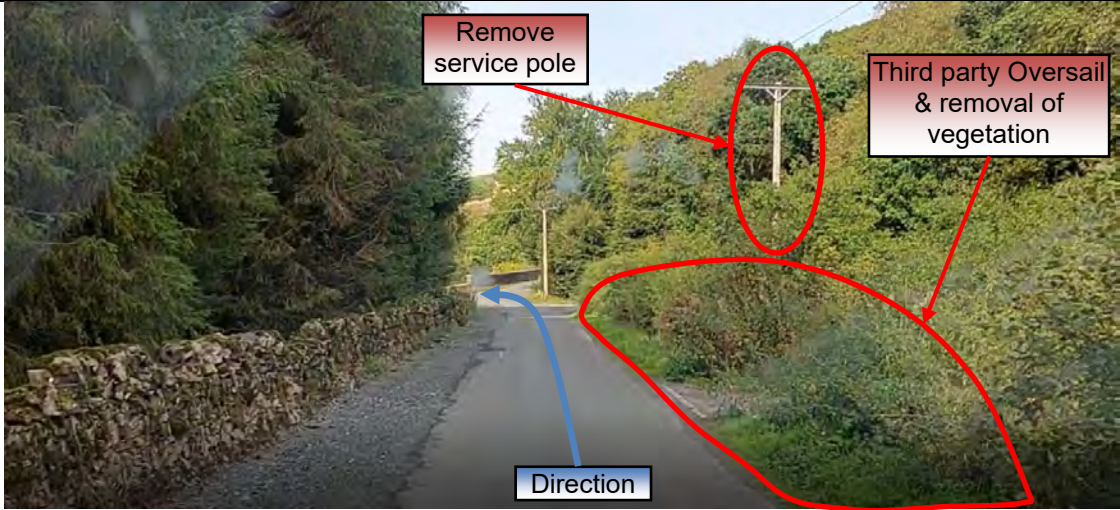
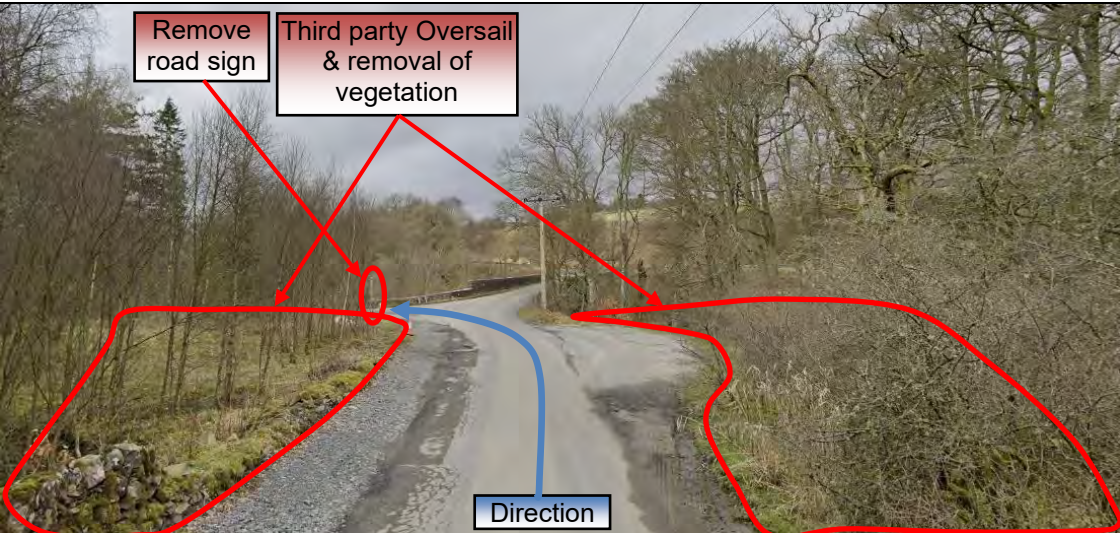


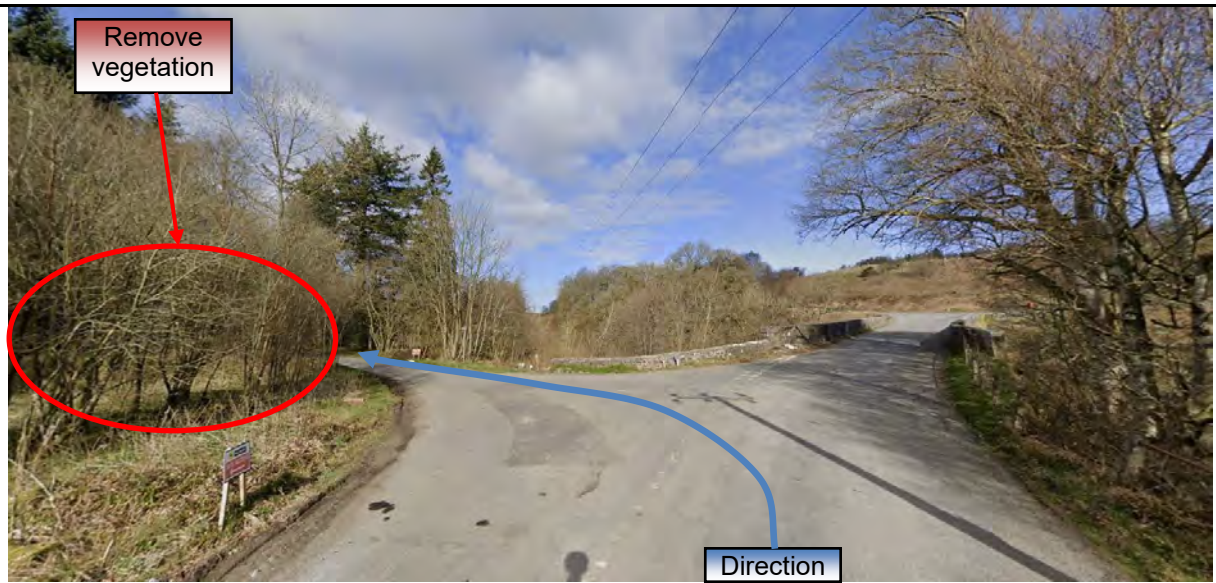
7.2. Map extract of survey locations – Route A/ Route A & B



ITEM NUMBER	7.2.0	LOCATION	GENERAL COMMENTS
DIRECTION			
GRID REFERENCE			
MODIFICATIONS			
Visual inspection indicates that almost whole of the routes A & B will require basic road widening and upgrading to meet the manufacturer's minimum specification requirements. Additional road widening may be required in and around bends to allow the vehicle to manoeuvre safely and cleanly along the route. Telegraph/ Electricity supply services will also require removing. Tree pruning and removal, to both sides of the road is required to allow the loaded vehicle to navigate and oversail. To accurately show the full extents, a full topographical survey and Swept Path Analysis are recommended. Due to the proximity of steep banking, Aerial Imagery would be unsuitable and, in this case, impossible as it is obscured by the foliage.			
'Street View' photos have been included in most locations to give a better indication of the topology and features of the location. Due to the time of year, the current photos obscure most features with foliage and vegetation.			
Aerial View of Location			
FURTHER INVESTIGATION UNDERTAKEN?		TYPE	
RELATED DOCUMENT NUMBERS	N/A		

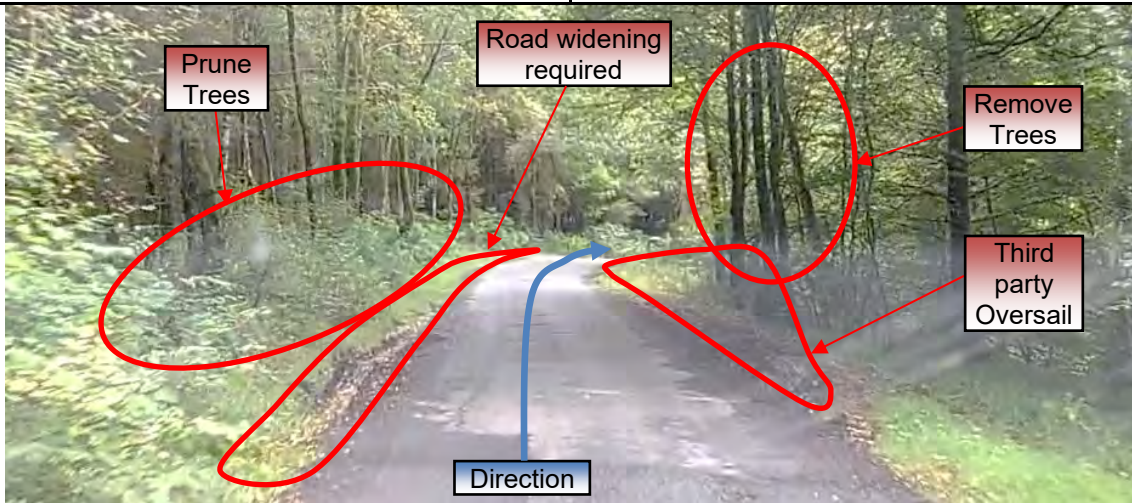
ITEM NUMBER	7.2.1	LOCATION	ELIOCK BRIDGE JUNCTION OFF A76	
DIRECTION	Turn left at this junction via a reverse manoeuvre off A76			
GRID REFERENCE	NS 80386 08301			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Swept path analysis indicates that third party land is required on the nearside of the junction with of the A76 & Eliock Bridge to allow for the loaded component to oversail. Trees on the nearside of the junction are to be topped/ removed. The rear projection will oversail the nearside of the bridge. Trees on both embankments are to be topped or removed. The parapet wall on the offside of the bridge will require lowering to allow the load to oversail. Manual steering and utilisation of the full extents of the road are required to execute the manoeuvre at this location.				
		Aerial View of Location		
 Bridge width = 6.4m Wide Parapet height = 0.66 - 1.36m High				
View over Eliock Bridge from A76		Nearside of A76 junction		
				
Eliock Bridge				
FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis	
RELATED DOCUMENT NUMBERS	360700-100A1.1			

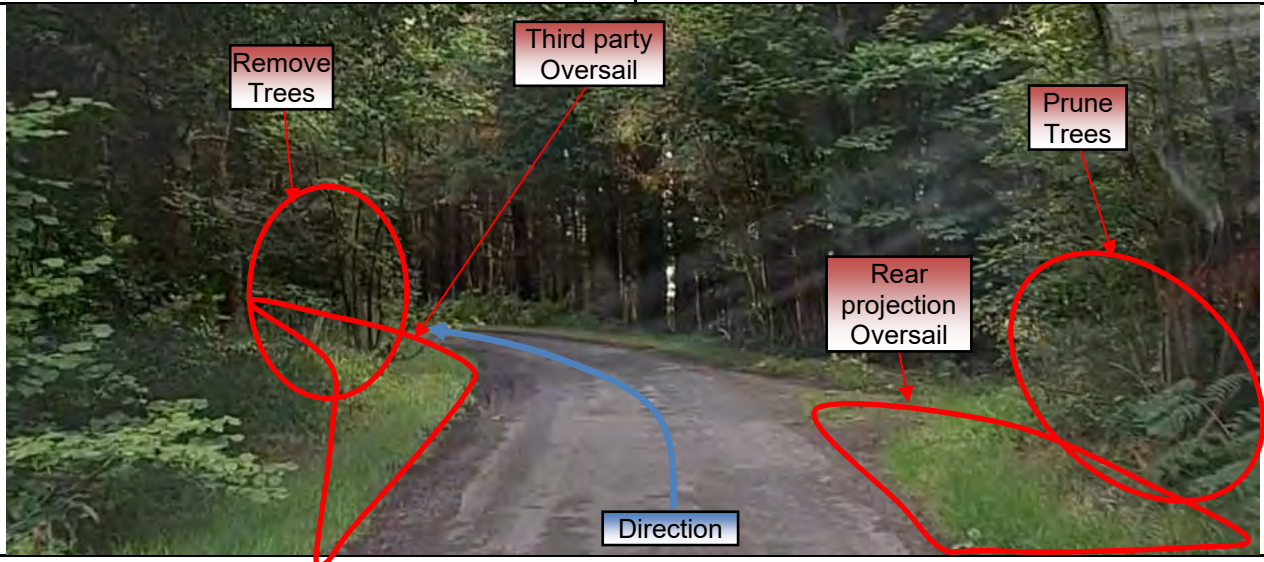
ITEM NUMBER	7.2.2	LOCATION	JUNCTION WITH UNNAMED ROAD nr ELIOCK BRIDGE
DIRECTION	North West on unnamed road		
GRID REFERENCE	NS 80404 08235		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Swept path analysis indicates that third party land is required on both sides of the road to allow for oversailing. Trees/ vegetation are to be removed on both sides of the road. A service pole on the offside of the road and a road sign on the nearside are to be removed. Manual steering is required to navigate the bend at this location. The road is to be upgraded where necessary to meet the manufacturer's specification.		 Direction Aerial View of Location	
 Remove service pole Third party Oversail & removal of vegetation Direction View on Road		 Remove road sign Third party Oversail & removal of vegetation Direction 'Street View' of Left Turn	

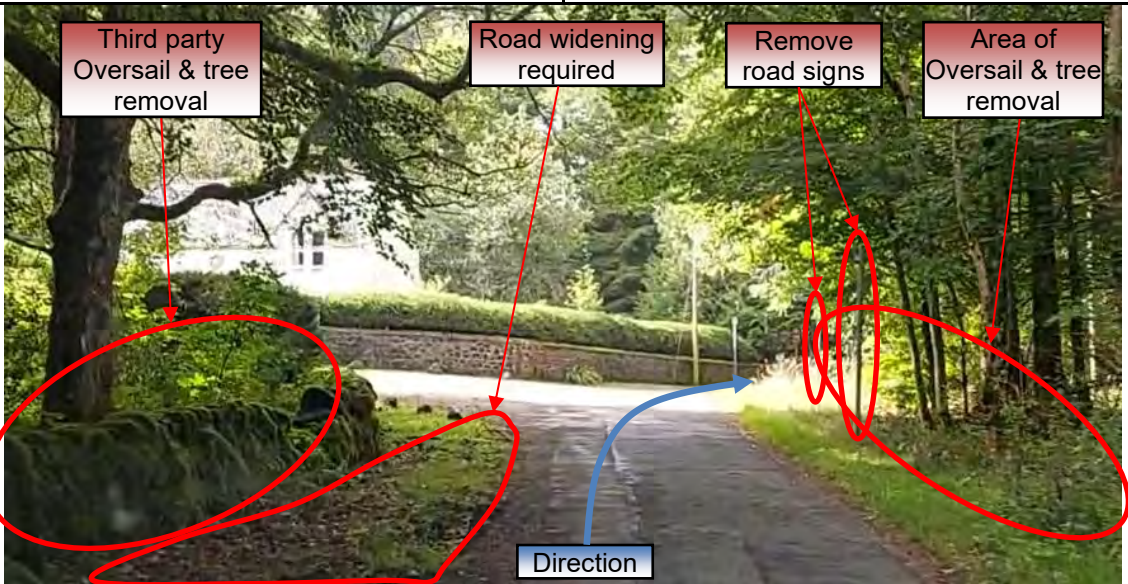


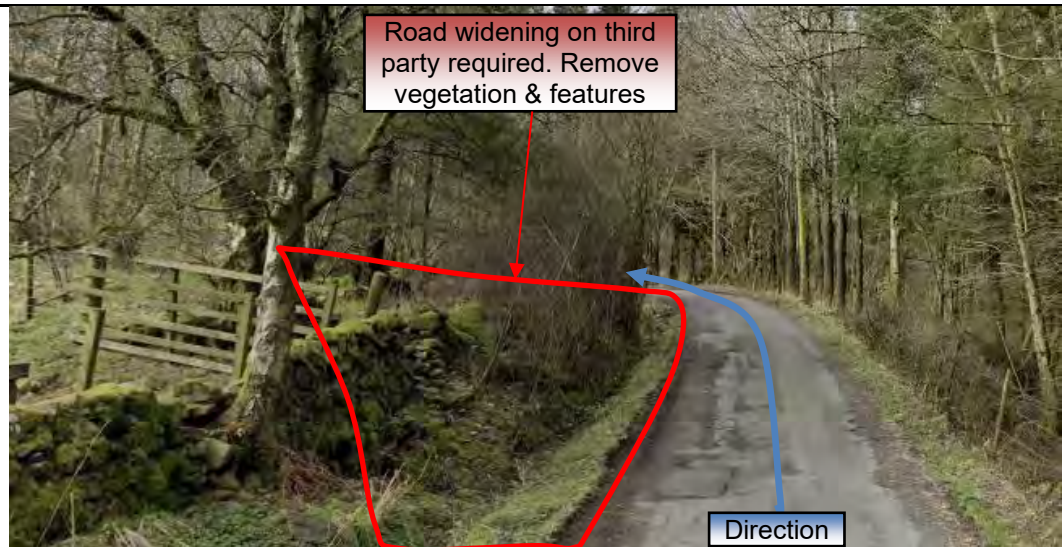
'Street View' of Left Turn

FURTHER INVESTIGATION UNDERTAKEN?	YES	TYPE	Swept Path Analysis
RELATED DOCUMENT NUMBERS	360700-110A1.1		

ITEM NUMBER	7.2.3	LOCATION	RIGHT BEND ON UNNAMED ROAD	
DIRECTION	Continue on unnamed road			
GRID REFERENCE	NS 80244 08169			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that road widening is required on the nearside of the road. Trees on the nearside are to be pruned. Third party Oversail is required on the offside. Trees on the offside of the bend are to be removed to allow the load to oversail. Analysis of the vertical alignment of the crest at this location is required.				
		Aerial View of Location		
				
Right bend on unnamed road				
				
Street View - Right bend on unnamed road		Vertical Crest		
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS		N/A		

ITEM NUMBER	7.2.4	LOCATION	LEFT BEND ON UNNAMED ROAD	
DIRECTION	Continue on unnamed road			
GRID REFERENCE	NS 80136 08188			
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION		
Visual inspection indicates that Third party land is required on the nearside of the bend to allow the load to oversail. Trees on the nearside are to be removed. Tree pruning is required on the offside, prior to the bend to allow the rear projection to oversail. Tree pruning is required on both sides of the road after the bend. Manual steering is required at this location.		 Aerial View of Location		
 Left bend on unnamed road				
 Street View - Left bend on unnamed road				
FURTHER INVESTIGATION UNDERTAKEN?		NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS		N/A		

ITEM NUMBER	7.2.5	LOCATION	RIGHT BEND & BRIDGE ON UNNAMED ROAD
DIRECTION	Continue on unnamed road		
GRID REFERENCE	NS 79930 08092		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Visual inspection indicates that third party land is required on the nearside, prior to the junction on the nearside, to allow the rear projection to oversail. Trees in the area of oversail are to be removed. Road widening is required on the nearside of the road. The load will oversail on the offside of the verge. Trees in this area are to be removed. Two road signs on the offside are to be removed. Manual steering is required at this location.		 Direction Aerial View of Location	
 Third party Oversail & tree removal Road widening required Remove road signs Area of Oversail & tree removal Direction Right bend on unnamed road prior to bridge		 Area of Oversail & tree removal Street View - bridge on unnamed road	
FURTHER INVESTIGATION UNDERTAKEN?	NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS	N/A		

ITEM NUMBER	7.2.6	LOCATION	LEFT BEND ON UNNAMED ROAD
DIRECTION	Continue on unnamed road		
GRID REFERENCE	NS 79641 08095		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Visual inspection indicates that road widening on third party land is required on the nearside of the road to negate tree removal & third party and issues on the offside of the bend. Trees, walls & fences on the nearside are to be removed. Manual steering is required at this location.			
		Aerial View of Location	
			
Left bend on unnamed road			
			
Street View - Left bend on unnamed road			
FURTHER INVESTIGATION UNDERTAKEN?	NO	TYPE	Choose an item.
RELATED DOCUMENT NUMBERS	N/A		

ITEM NUMBER	7.2.7	LOCATION	RIGHT BEND & BRIDGE ON UNNAMED ROAD
DIRECTION	Continue on unnamed road		
GRID REFERENCE	NS 79589 07973		
MODIFICATION AND DESCRIPTION		PHOTOGRAPH OF LOCATION	
Visual inspection indicates that third party land is required on the offside of the bend to allow the loaded component to Oversail. The rear projection will oversail the verge on the nearside of the road prior to the bend. A service pole and a tree on the offside are to be removed. Manual steering is required at this location.		 Direction Aerial View of Location	
 Third party Oversail Remove service pole Remove Tree Direction Right bend onto bridge on unnamed road		 Rear projection Oversail. Remove/prune trees Third party Oversail Direction Right bend onto bridge on unnamed road	