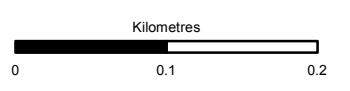


- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Artesian Water
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Disused Quarry/Gravelpit
- Peat
- Bedrock at - Close to Ground Level



Status: FINAL      Safety: B

Client: **TRANSPORT SCOTLAND**  
COMHDHAIL ALBA



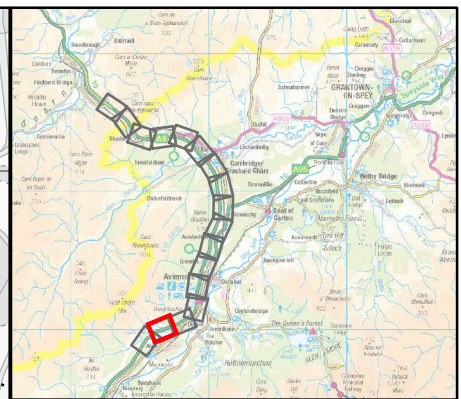
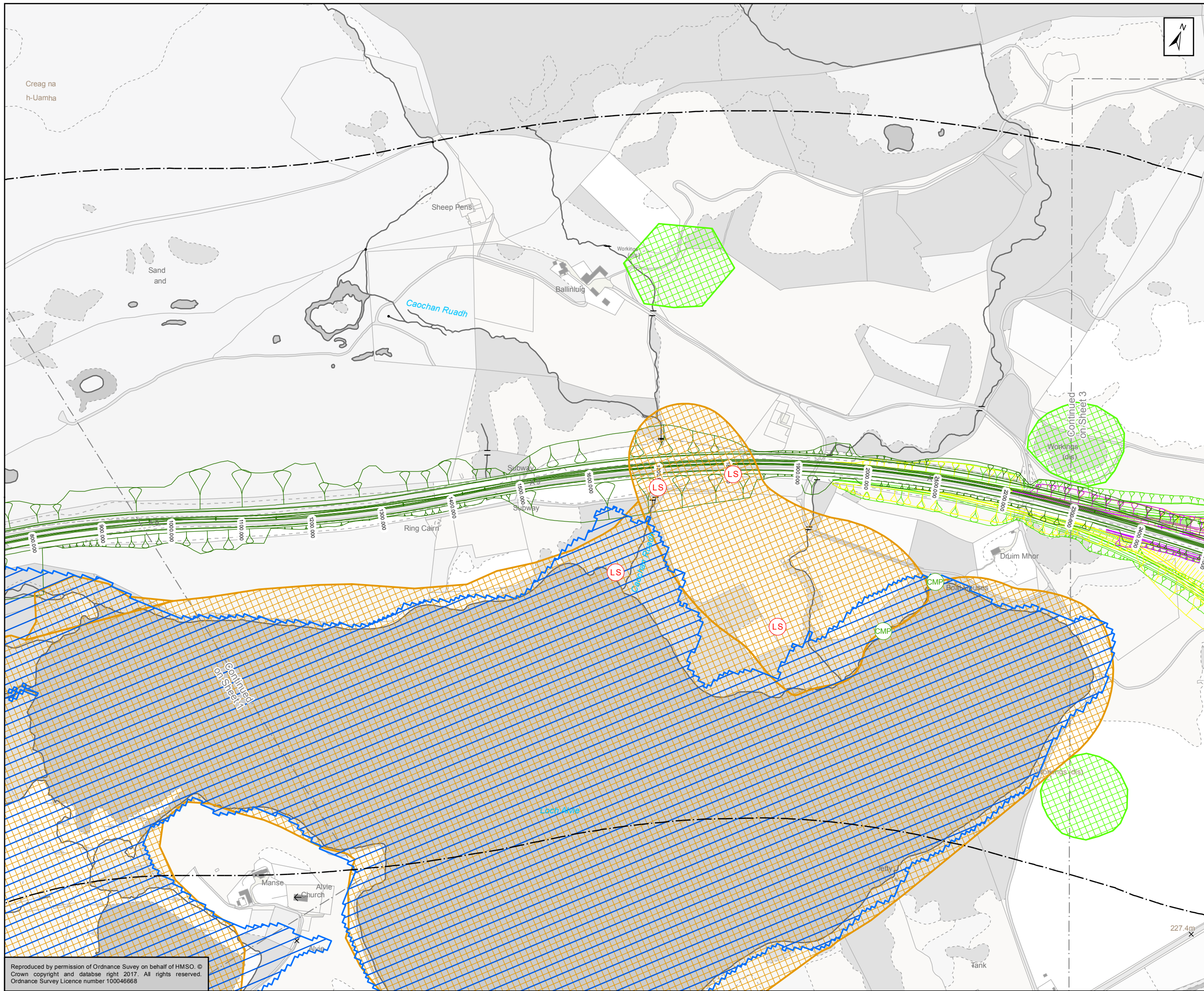
ATKINS mouchel

Figure 5.30a  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 1 of 17

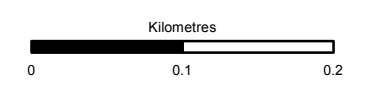
Scale: 1:5,000	Drawn: JD	Checked: KP	Approved: MD	Authorised: RG
Document Number: A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0037	Project: A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0037	Originator: A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0037	Volume: A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0037	Revision: P03
Location:	Type:	Role:	Number:	

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- Aviemore South Junction Options (Southbound Widening)**
- A02 - Half Cloverleaf - Quadrants 1 & 4
- A09 - Diamond Left Right with Ghost Island
- A18 - Left Right Stagger with B9152 Realigned
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Disused Quarry/Gravelpit



Status: FINAL      Substage: B

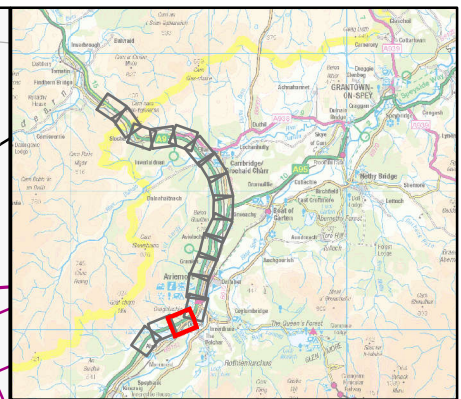
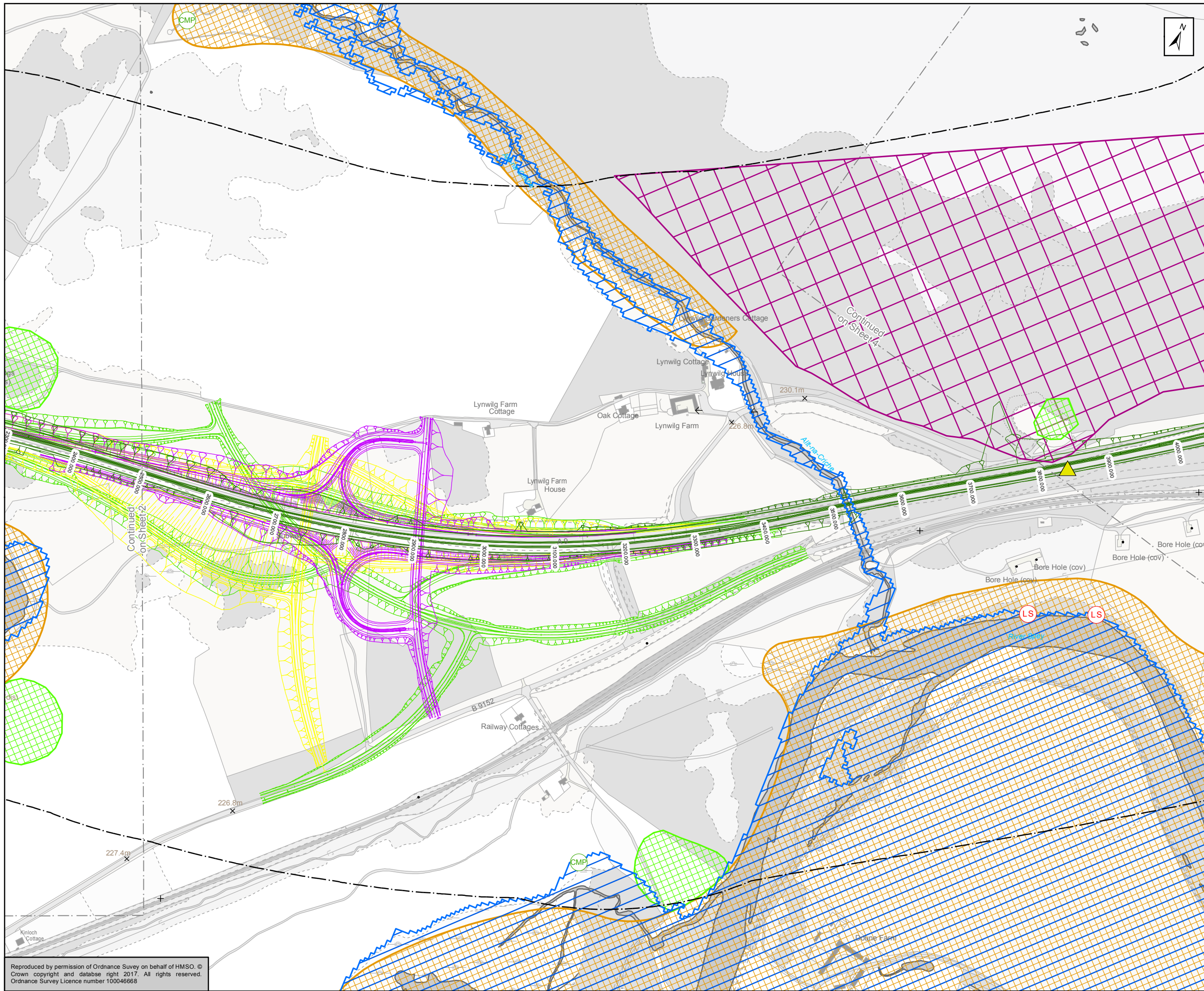


Figure 5.30b  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 2 of 17

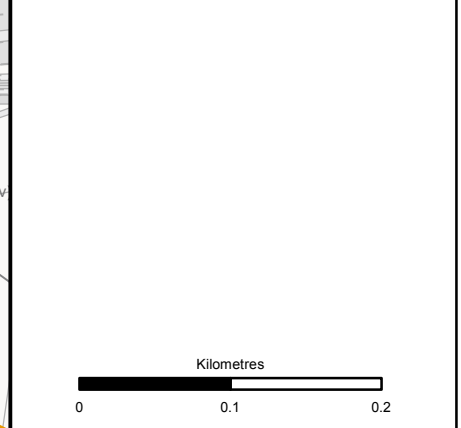
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0038							Revision	P03
Project	Originator	Volume							
Location	Type	Role	Number						

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- Aviemore South Junction Options (Southbound Widening)**
- A02 - Half Cloverleaf - Quadrants 1 & 4
- A09 - Diamond Left Right with Ghost Island
- A18 - Left Right Stagger with B9152 Realigned
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- Rock Cuts
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Disused Quarry/Gravelpit
- Bedrock at - Close to Ground Level



Status: FINAL      Substage: B

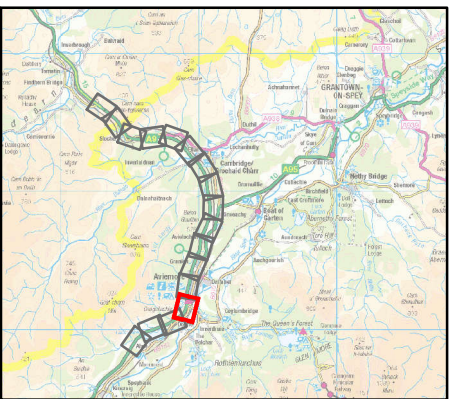
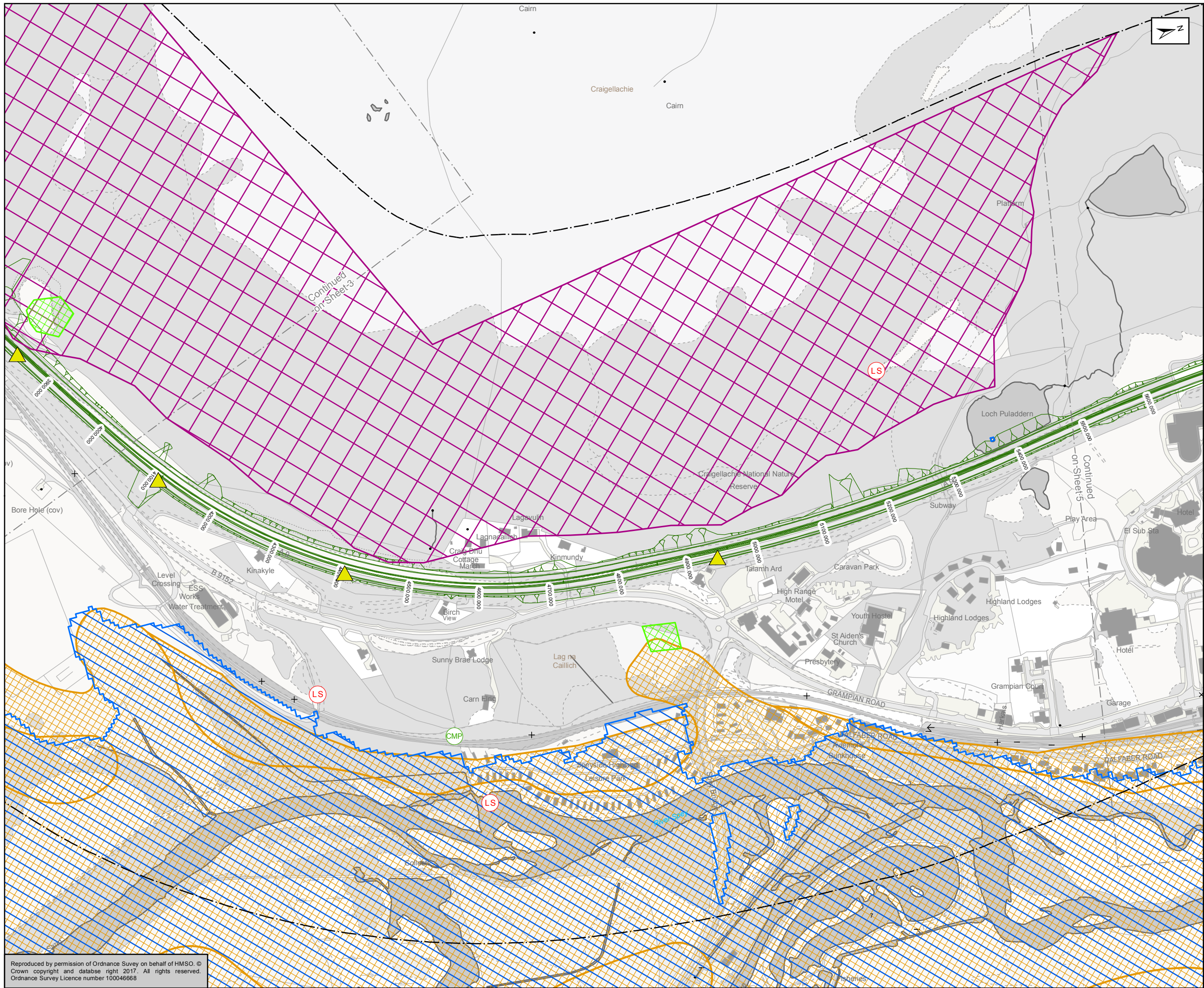


Figure 5.30c  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 3 of 17

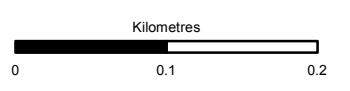
Scale: 1:5,000	Drawn: JD	Checked: KP	Approved: MD	Authorised: RG
Document Number: A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0039	Project: A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0039	Originator: A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0039	Volume: A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0039	Revision: P03
Location:	Type:	Role:	Number:	

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- Rock Cuts
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Disused Quarry/Gravelpit
- Bedrock at - Close to Ground Level



Status: FINAL      Substage: B

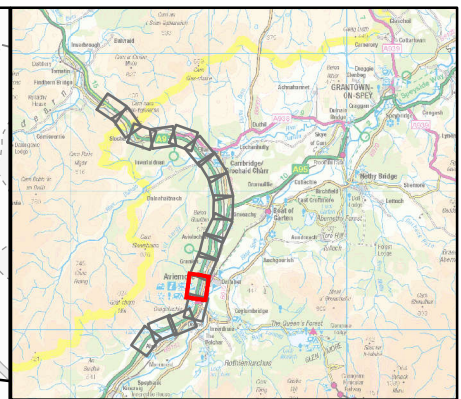
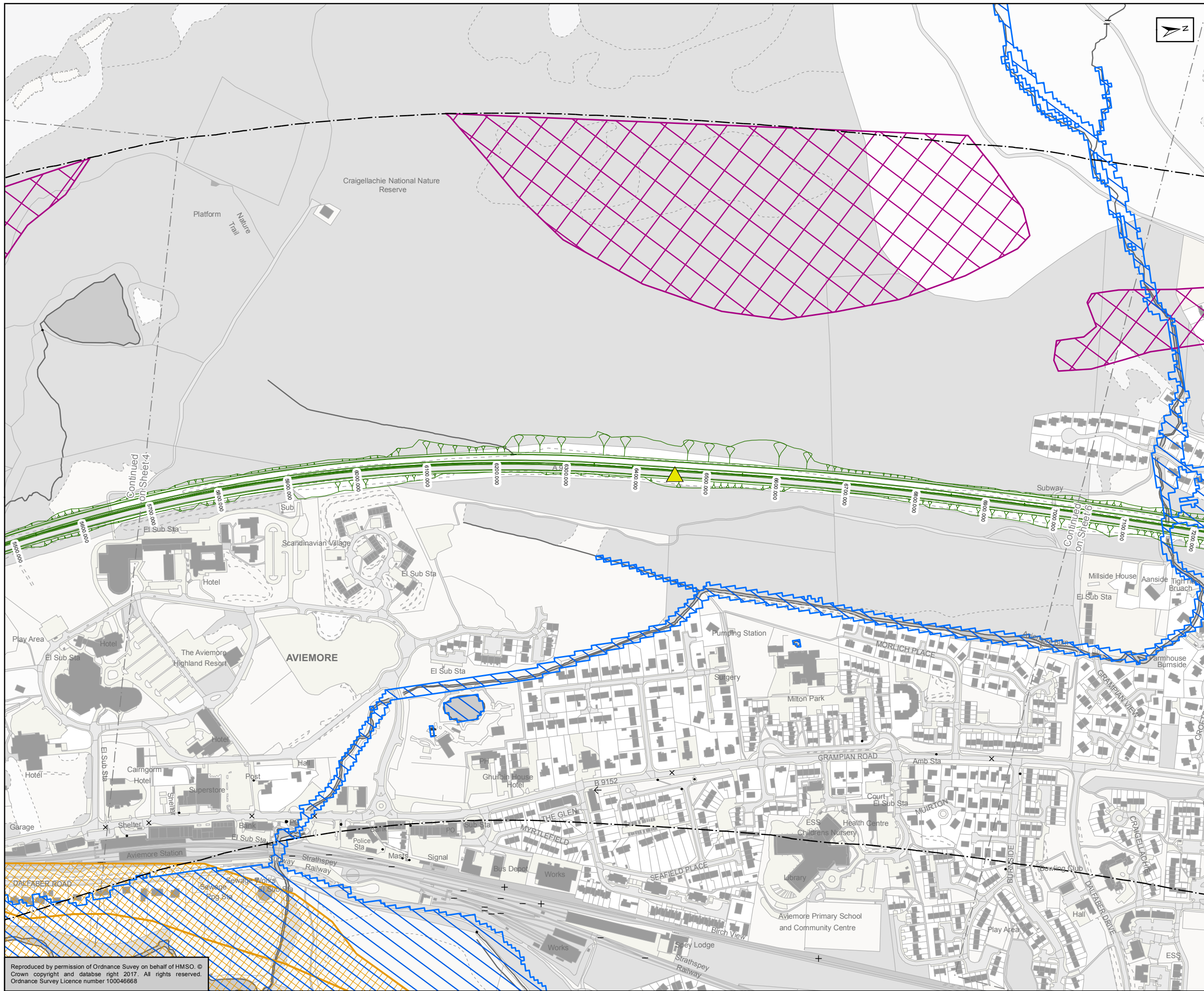


Figure 5.30d  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 4 of 17

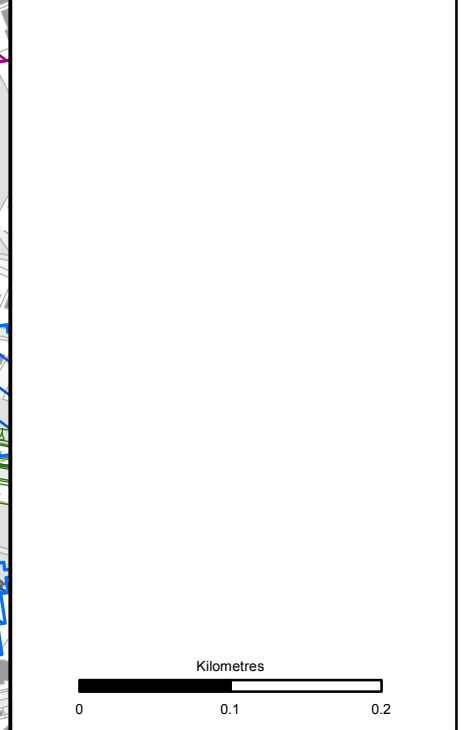
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG	
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0040								Revision	P03
Project	Originator	Volume								
Location	Type	Role	Number							

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Rock Cuts
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Bedrock at - Close to Ground Level



FINAL B

**TRANSPORT SCOTLAND**  
COMHDHAIL ALBA



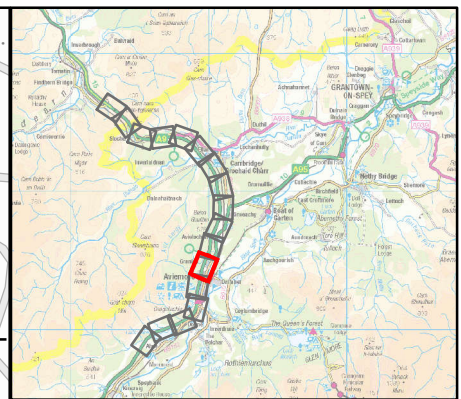
**ATKINS mouchel**

Figure 5.30e  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 5 of 17

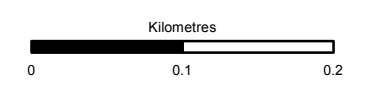
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG	
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0041								Revision	P03
Project	Originator	Volume								
Location	Type	Role	Number							

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- Granish Junction Options (Northbound Widening)**
- C18 - Diamond
- C21 - Half Dumbbell / Cloverleaf
- 500m Buffer of existing A9
- ▲ Rock Cuts
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Disused Quarry/Gravelpit
- Bedrock at - Close to Ground Level



Status	Subsidiary
FINAL	B

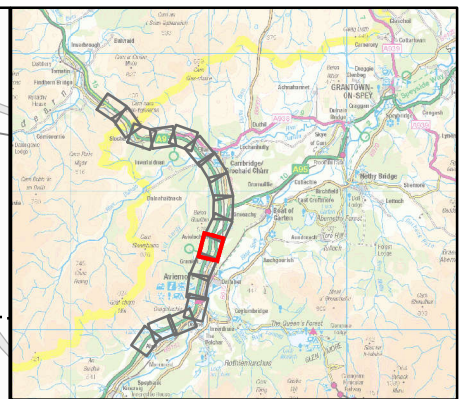
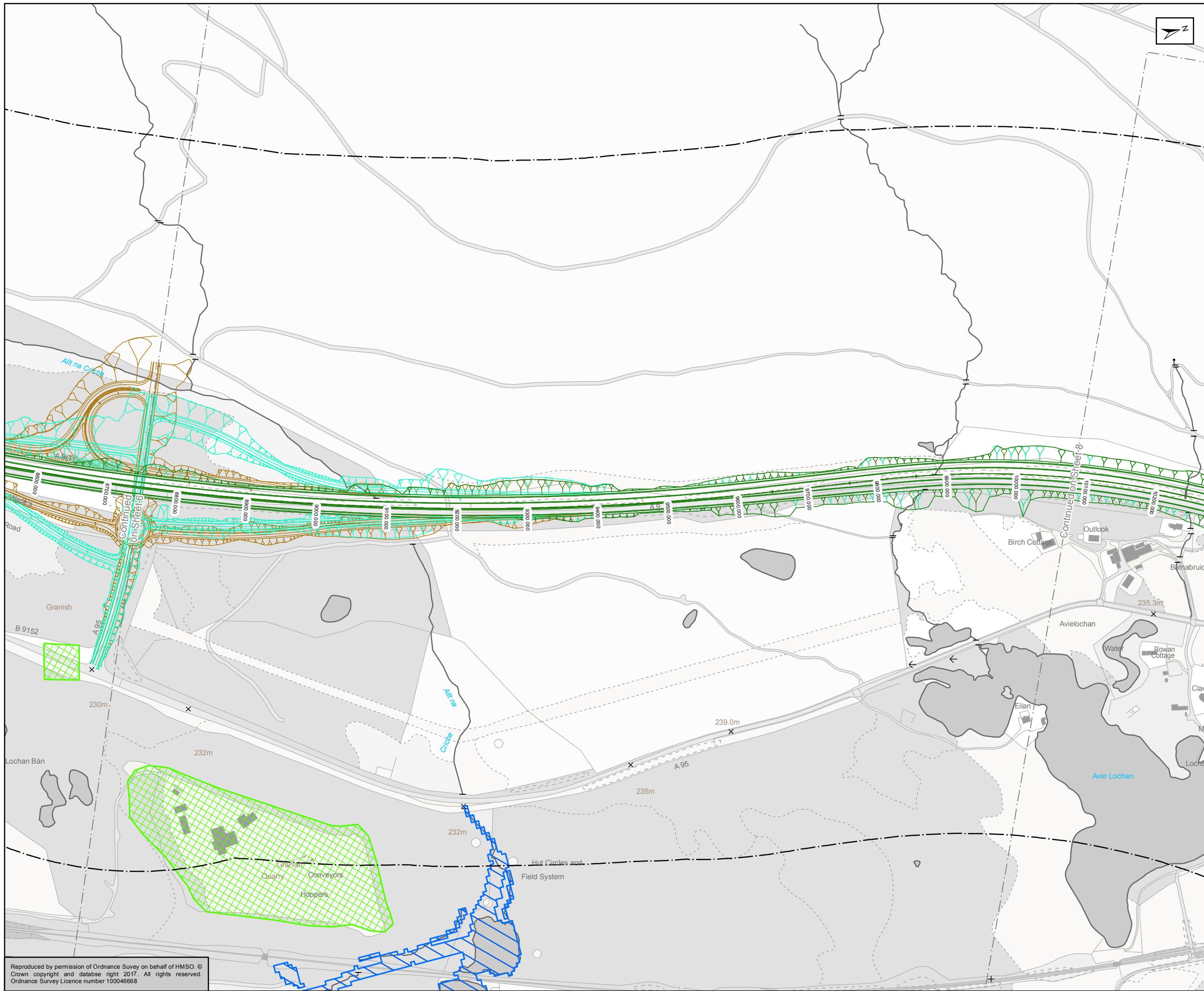


**Figure 5.30f**  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 6 of 17

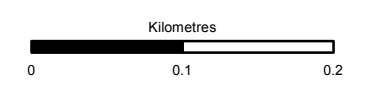
Scale	Drawn	Checked	Approved	Authorised
1:5,000	JD	KP	MD	RG
Document Number	Project	Originator	Volume	Revision
A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0042				P03
Location	Type	Role	Number	

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- Granish Junction Options (Northbound Widening)**
- C18 - Diamond
- C21 - Half Dumbbell / Cloverleaf
- 500m Buffer of existing A9
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Disused Quarry/Gravelpit



Status: FINAL      Substage: B

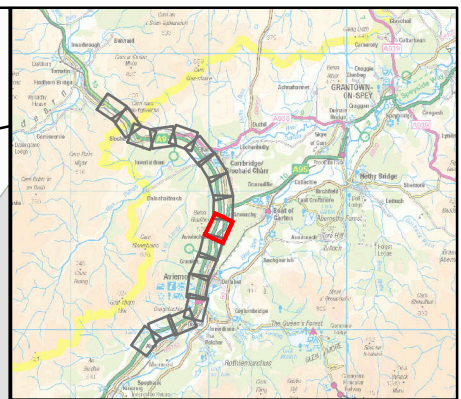
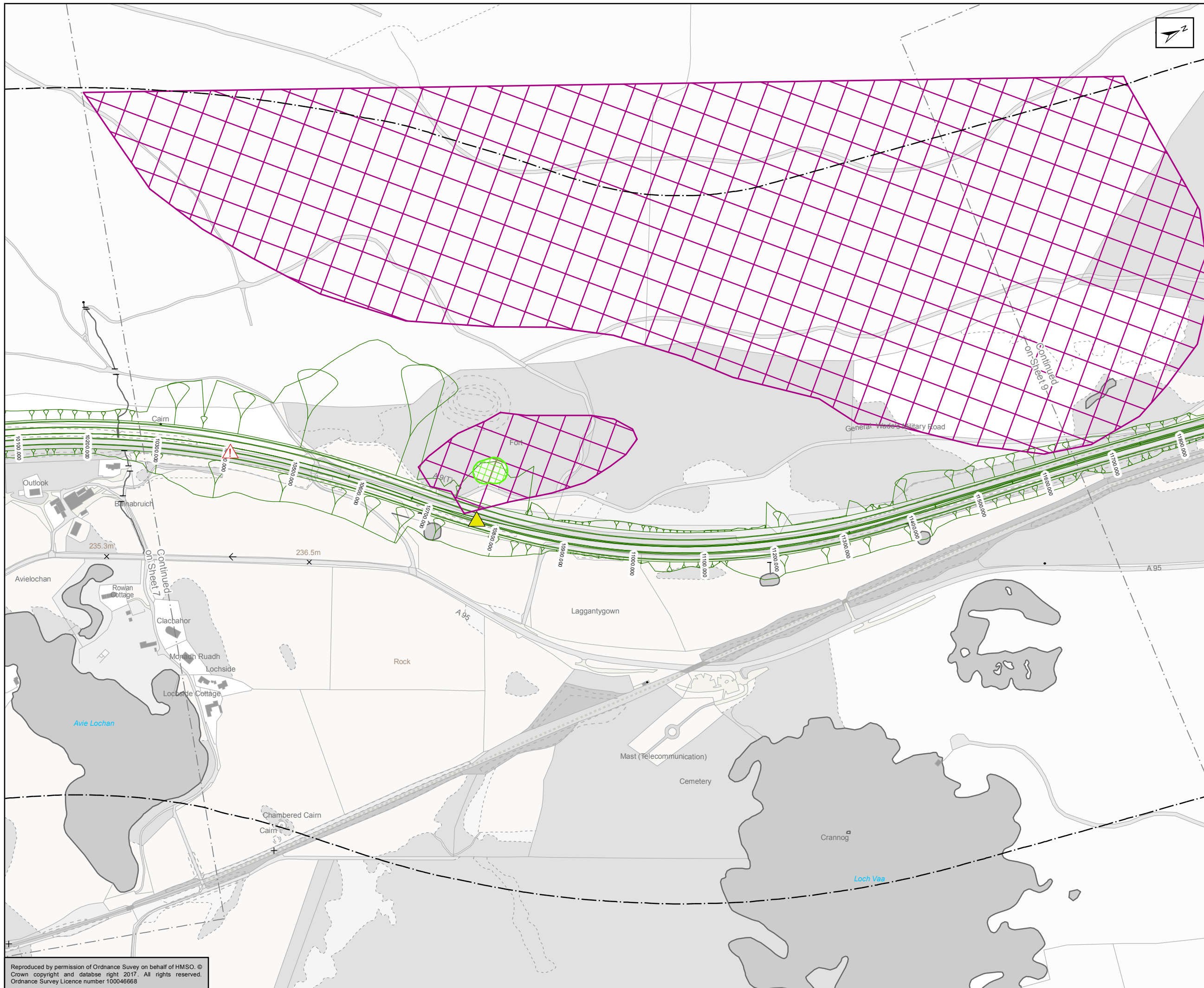


Figure 5.30g  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 7 of 17

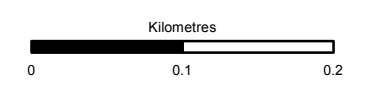
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0043							Revision	P03
Project	Originator	Volume							
Location	Type	Role	Number						

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Existing Geotechnical Problem
- Rock Cuts
- PSSR Key Constraints**
- Disused Quarry/Gravelpit
- Bedrock at - Close to Ground Level



Status	FINAL	Safety	B
--------	-------	--------	---

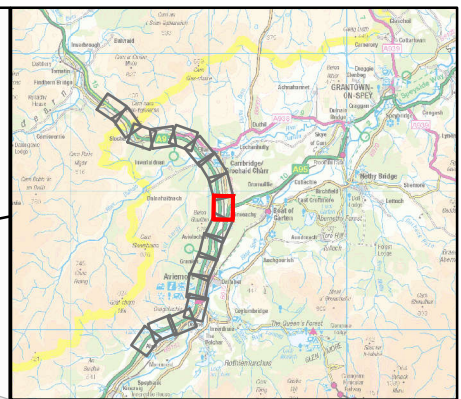
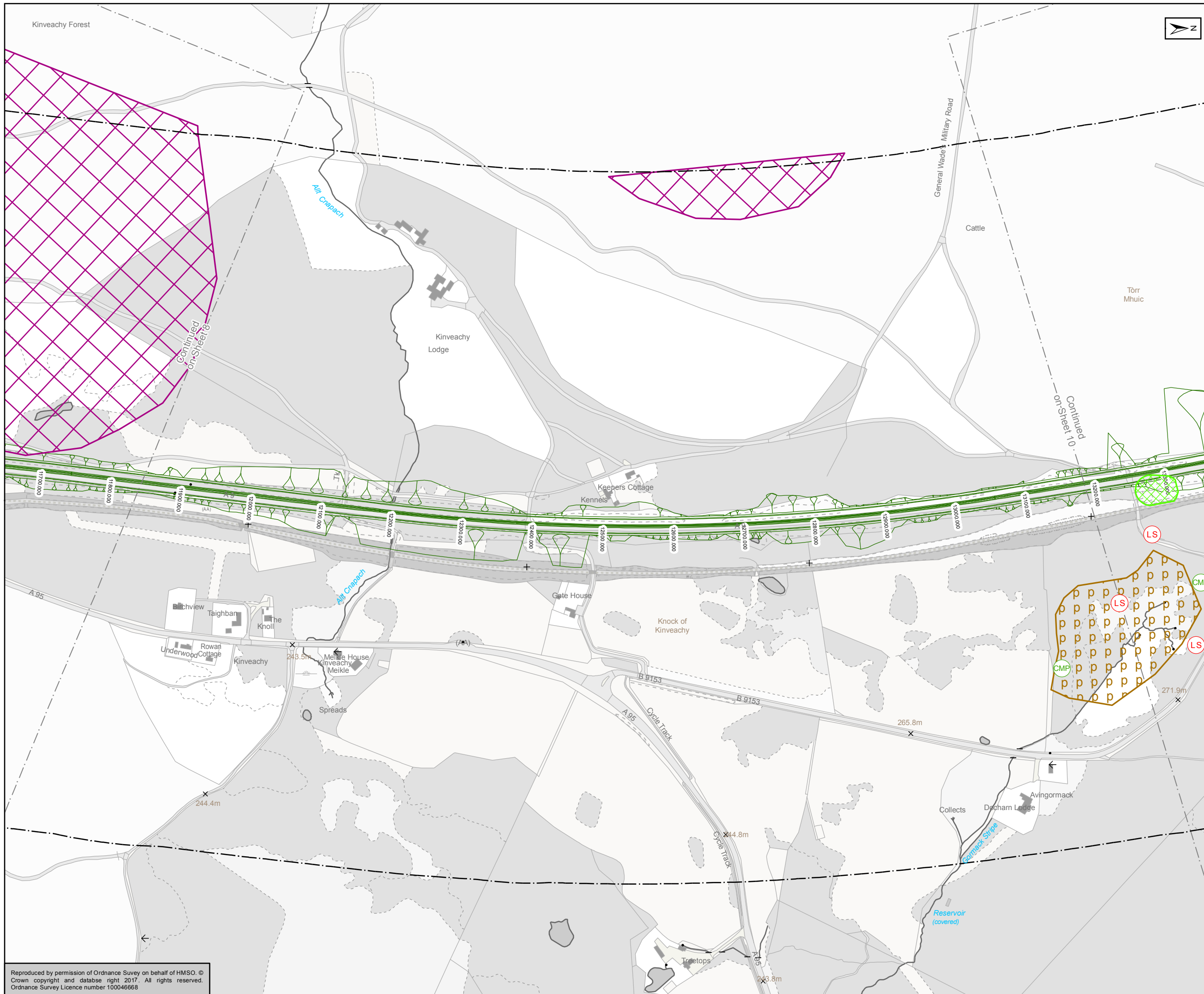


Figure 5.30h  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 8 of 17

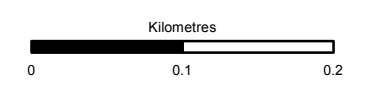
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZX-DR-GI-0044							Revision	P03
Project	Originator	Volume							
Location	Type	Role	Number						

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- PSSR Key Constraints**
- Disused Quarry/Gravelpit
- Peat
- Bedrock at - Close to Ground Level



Status	FINAL	Subsidiary	B
--------	-------	------------	---

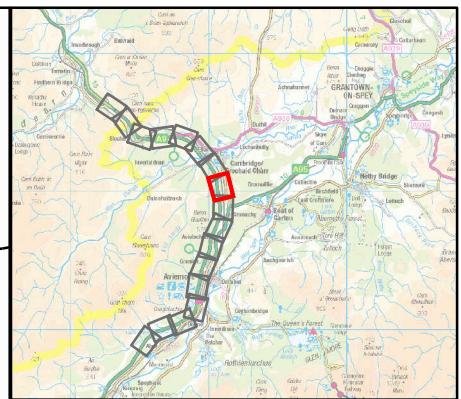
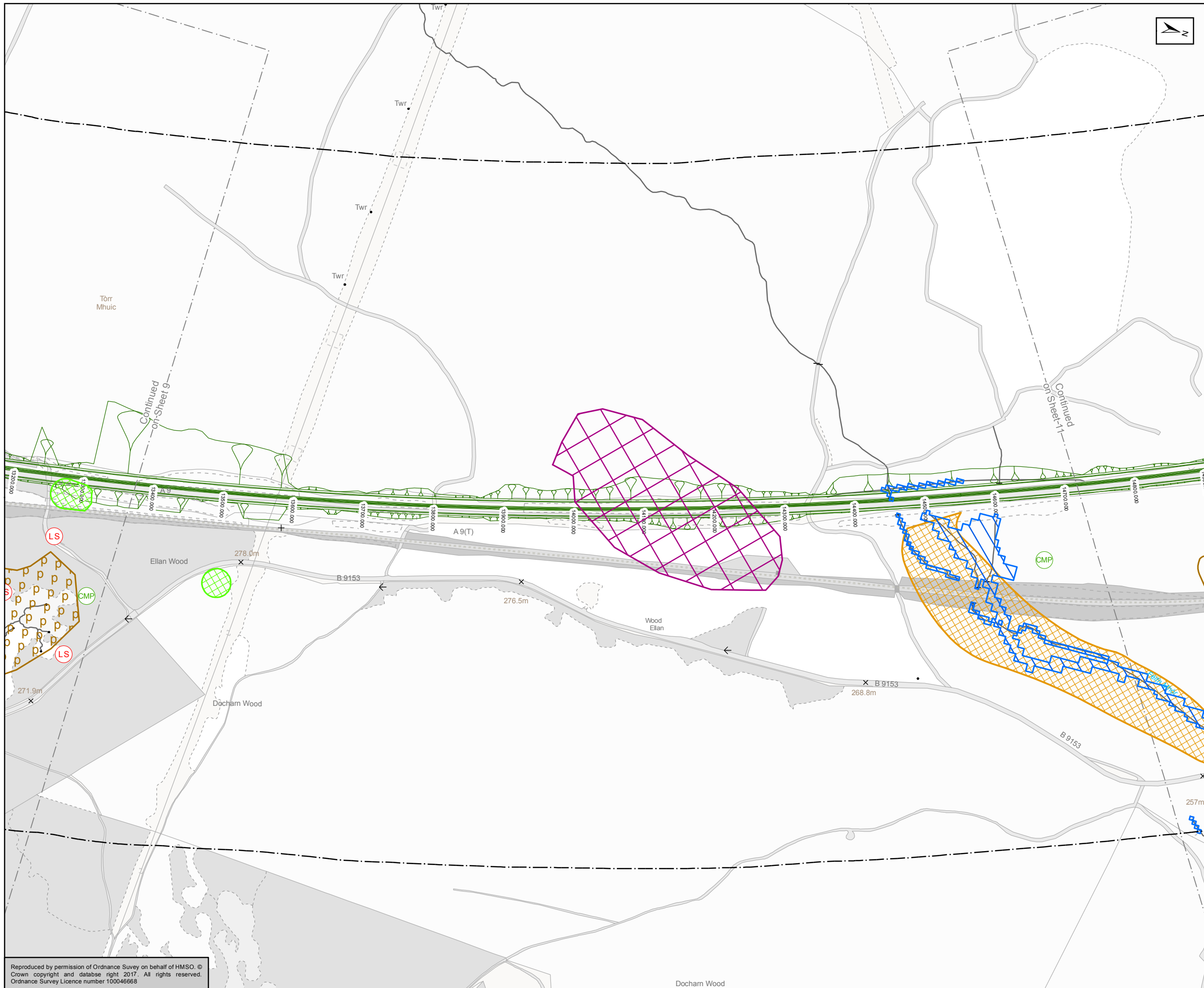


Figure 5.30i  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 9 of 17

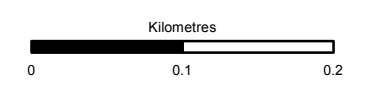
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0045							Revision	P03
Project	Originator	Volume							
Location	Type	Role	Number						

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Disused Quarry/Gravelpit
- Peat
- Bedrock at - Close to Ground Level



Status	FINAL	Suitability	B
--------	-------	-------------	---

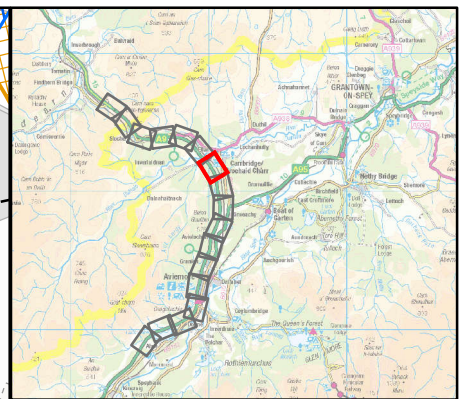
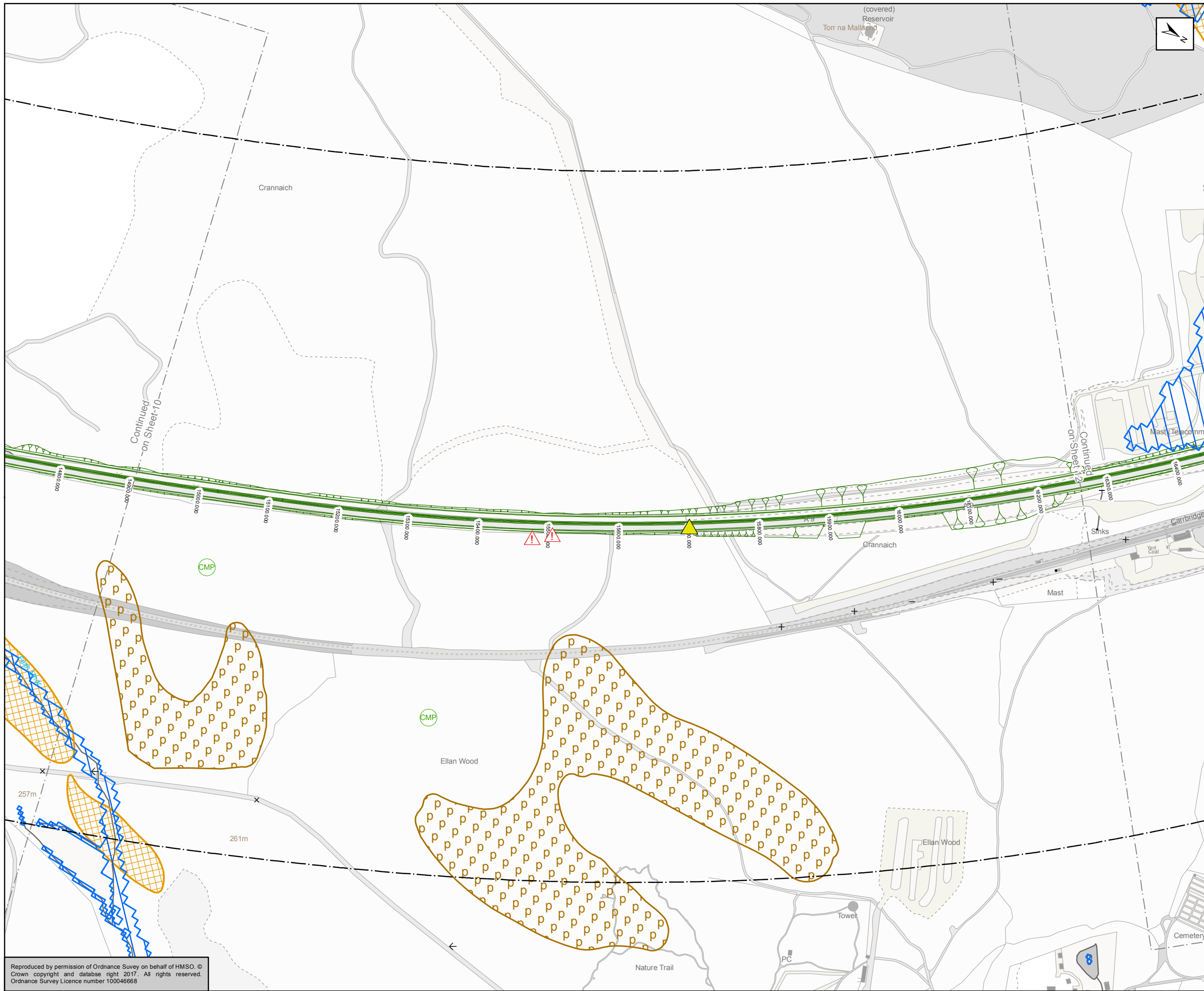


Figure 5.30j  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 10 of 17

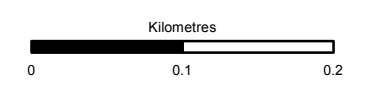
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0046							Revision	P03
Project	Originator	Volume							
Location	Type	Role							

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Existing Geotechnical Problem
- Rock Cuts
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Peat



Status	FINAL	Subsidiary	B
--------	-------	------------	---

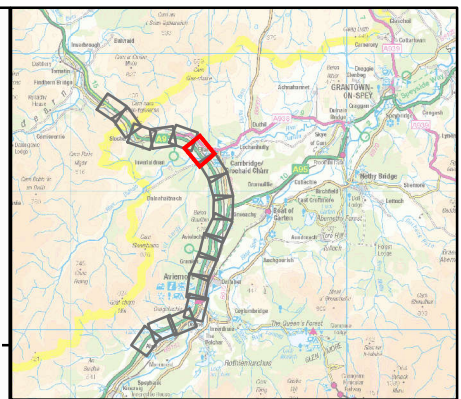
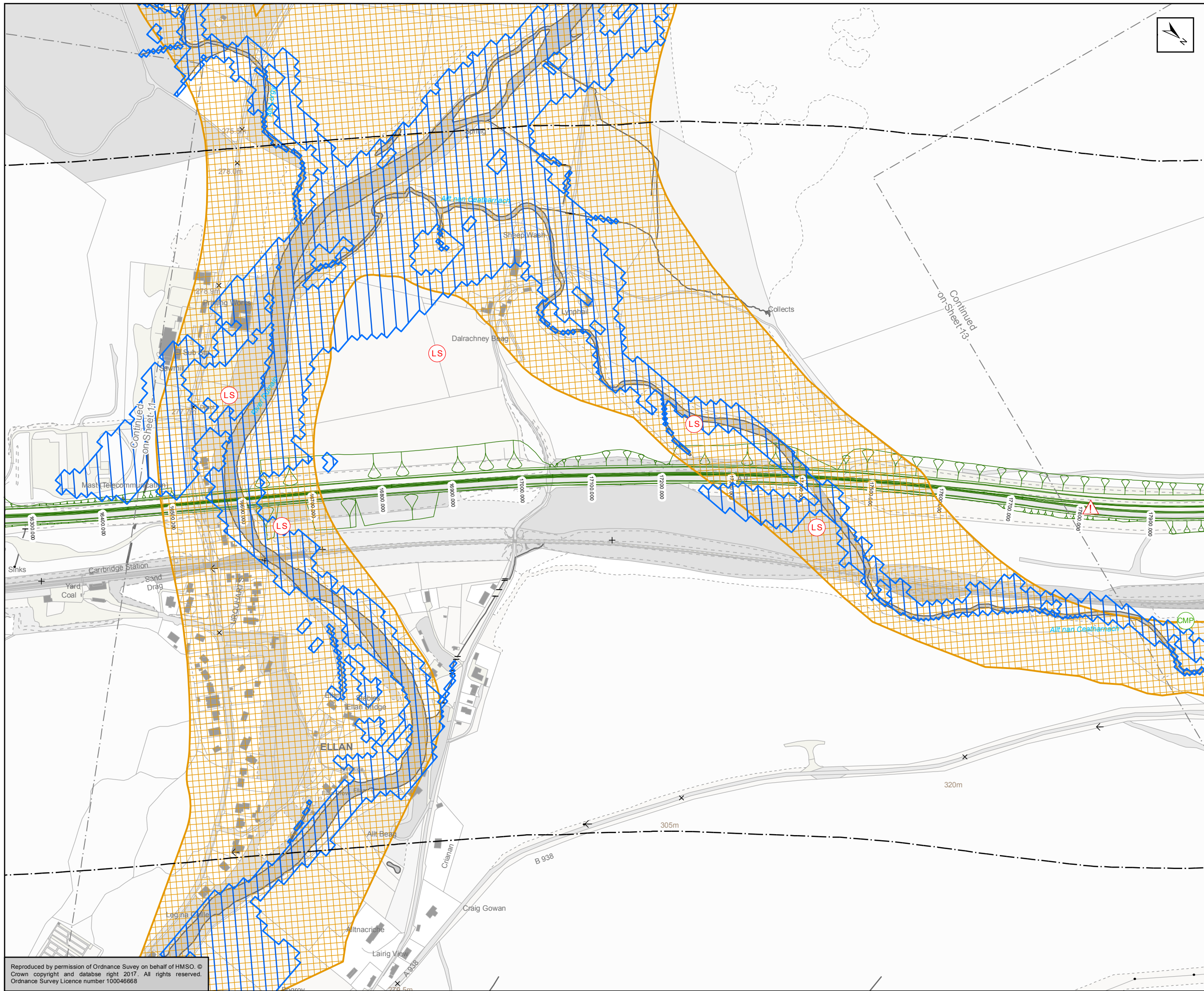


Figure 5.30k  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 11 of 17

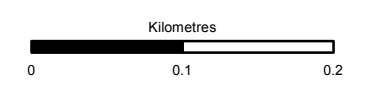
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0047							Revision	P03
Project	Originator	Volume							
Location	Type	Role	Number						

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- Existing Geotechnical Problem
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium



Status	FINAL	Safety	B
--------	-------	--------	---

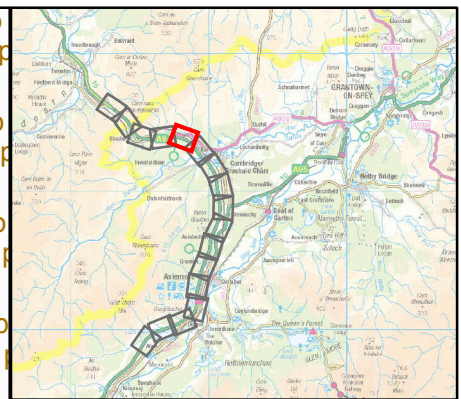
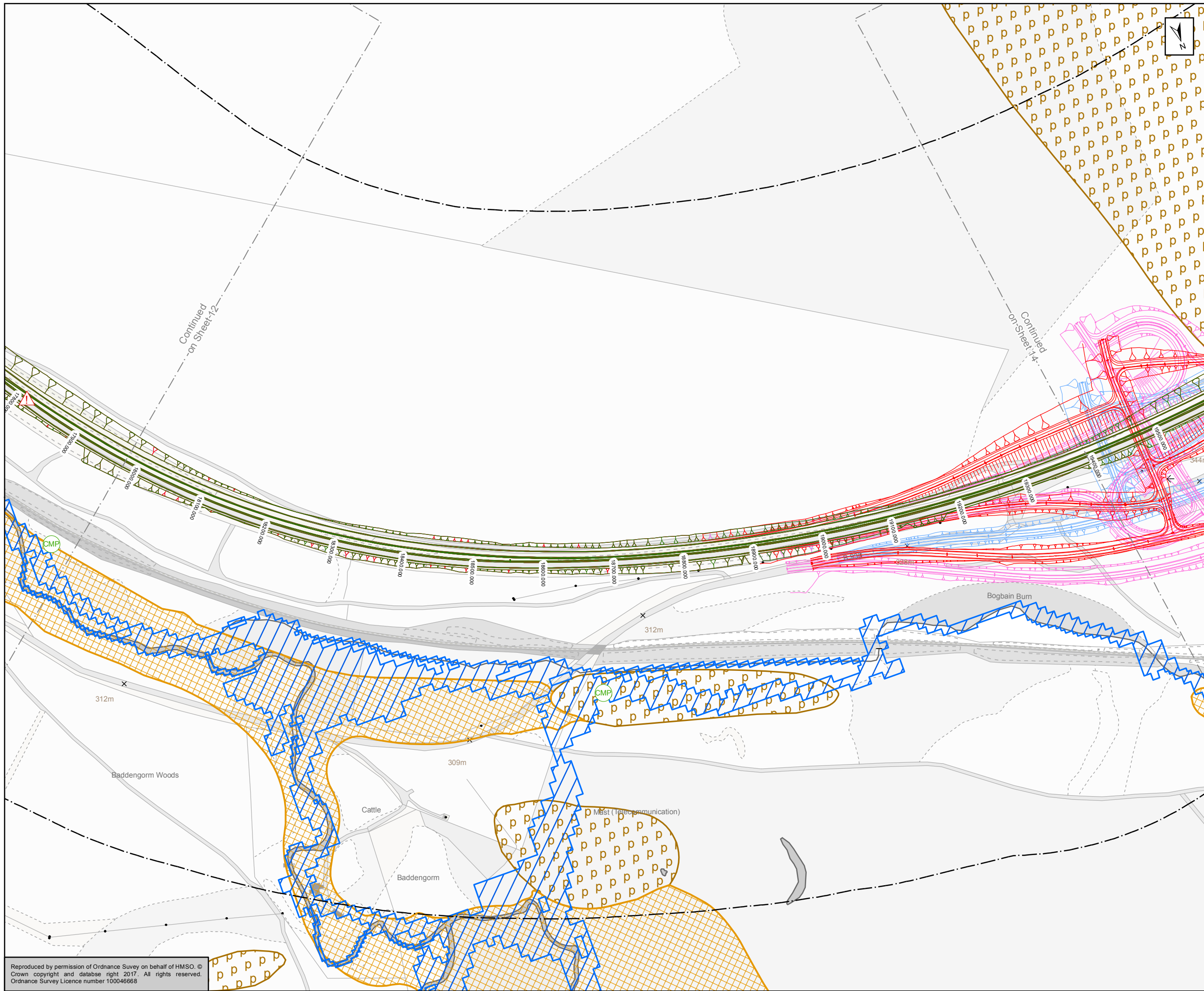


Figure 5.301  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 12 of 17

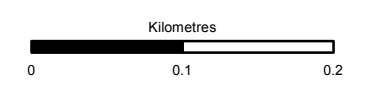
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0048							Revision	P03
Project	Originator	Volume							
Location	Type	Role	Number						

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- Black Mount Junction Options (Northbound Widening)**
- D02 - Diamond with Left-Right Stagger
- D07 - Half Cloverleaf - Quadrants 2 & 4
- D13 - Restricted Movements Diamond
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Existing Geotechnical Problem
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Peat



Scale	FINAL	Subsidiary
		B

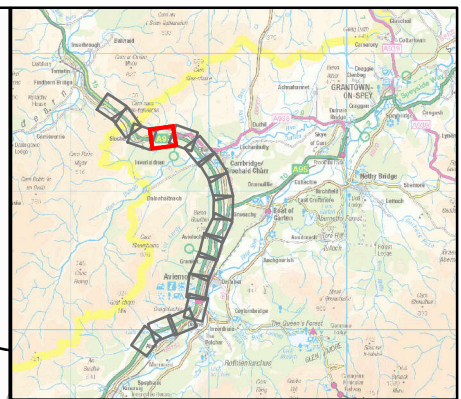
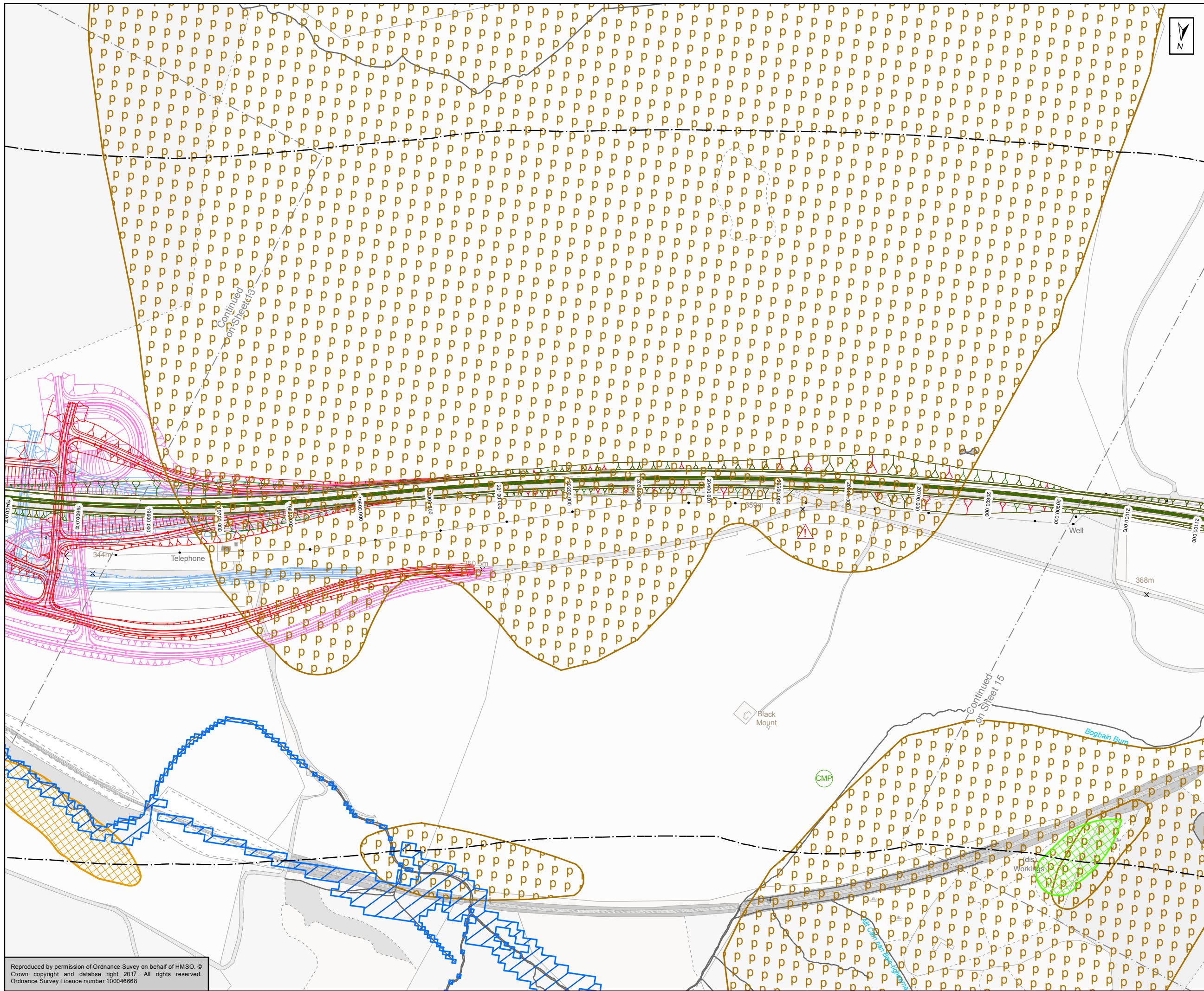


Figure 5.30m  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 13 of 17

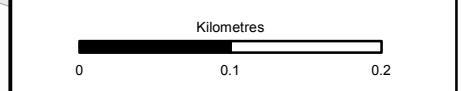
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0049							Revision	P03
Project	Originator	Volume							
Location	Type	Role	Number						

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- Black Mount Junction Options (Northbound Widening)**
- D02 - Diamond with Left-Right Stagger
- D07 - Half Cloverleaf - Quadrants 2 & 4
- D13 - Restricted Movements Diamond
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Existing Geotechnical Problem
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Disused Quarry/Gravelpit
- Peat
- Bedrock at - Close to Ground Level



Status	FINAL	Subsidiary	B
--------	-------	------------	---

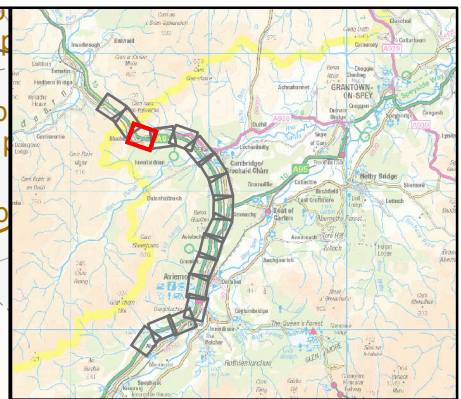
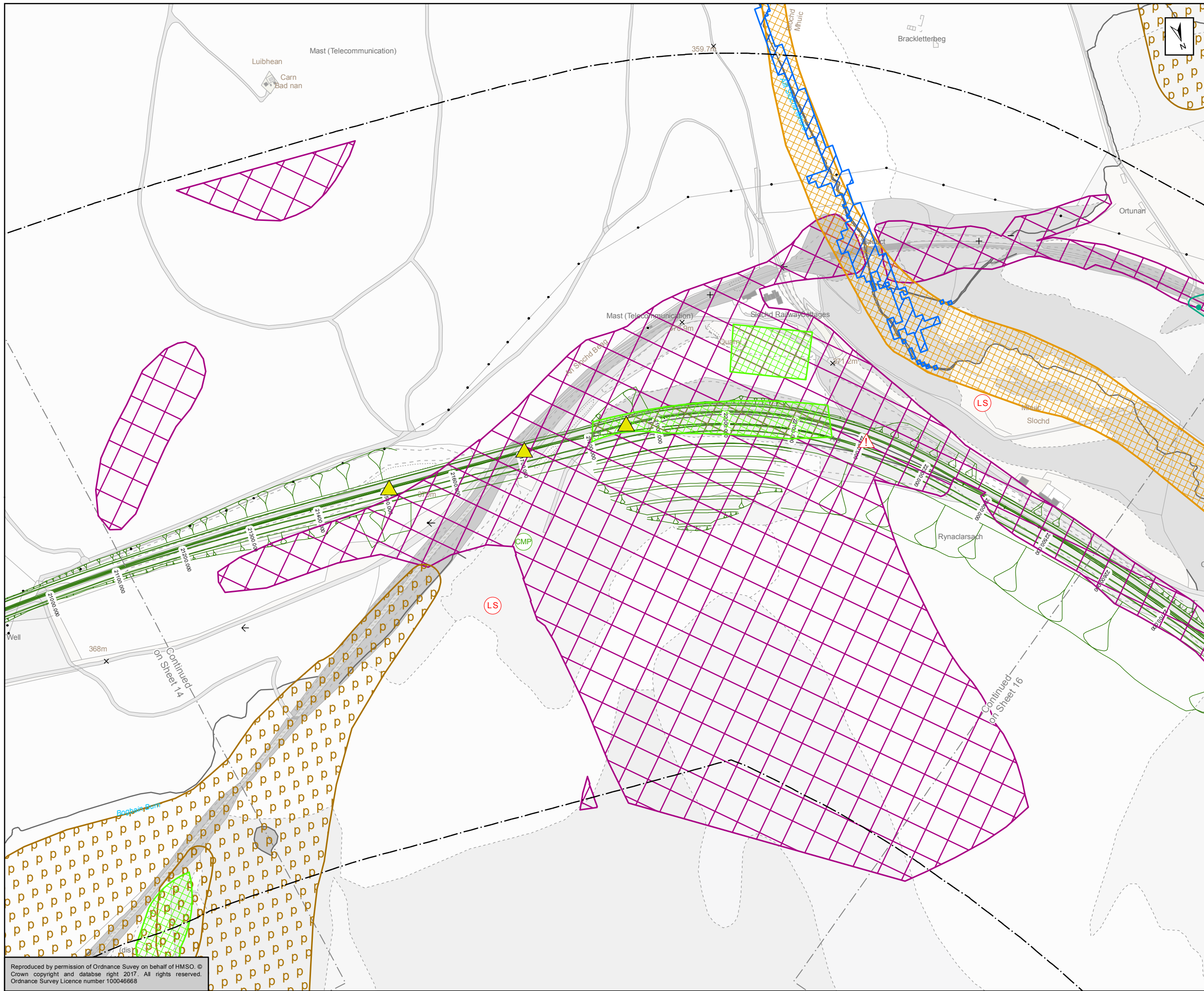


Figure 5.30n  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 14 of 17

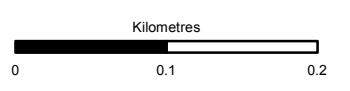
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG	
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0050								Revision	P03
Project	Originator	Volume								
Location	Type	Role								

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- Existing Geotechnical Problem
- Rock Cuts
- Geological Conservation Review Site
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Disused Quarry/Gravelpit
- Peat
- Bedrock at - Close to Ground Level



Scale	FINAL	Subsidiary
		B

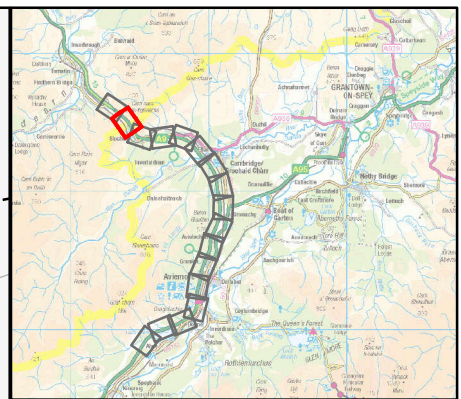
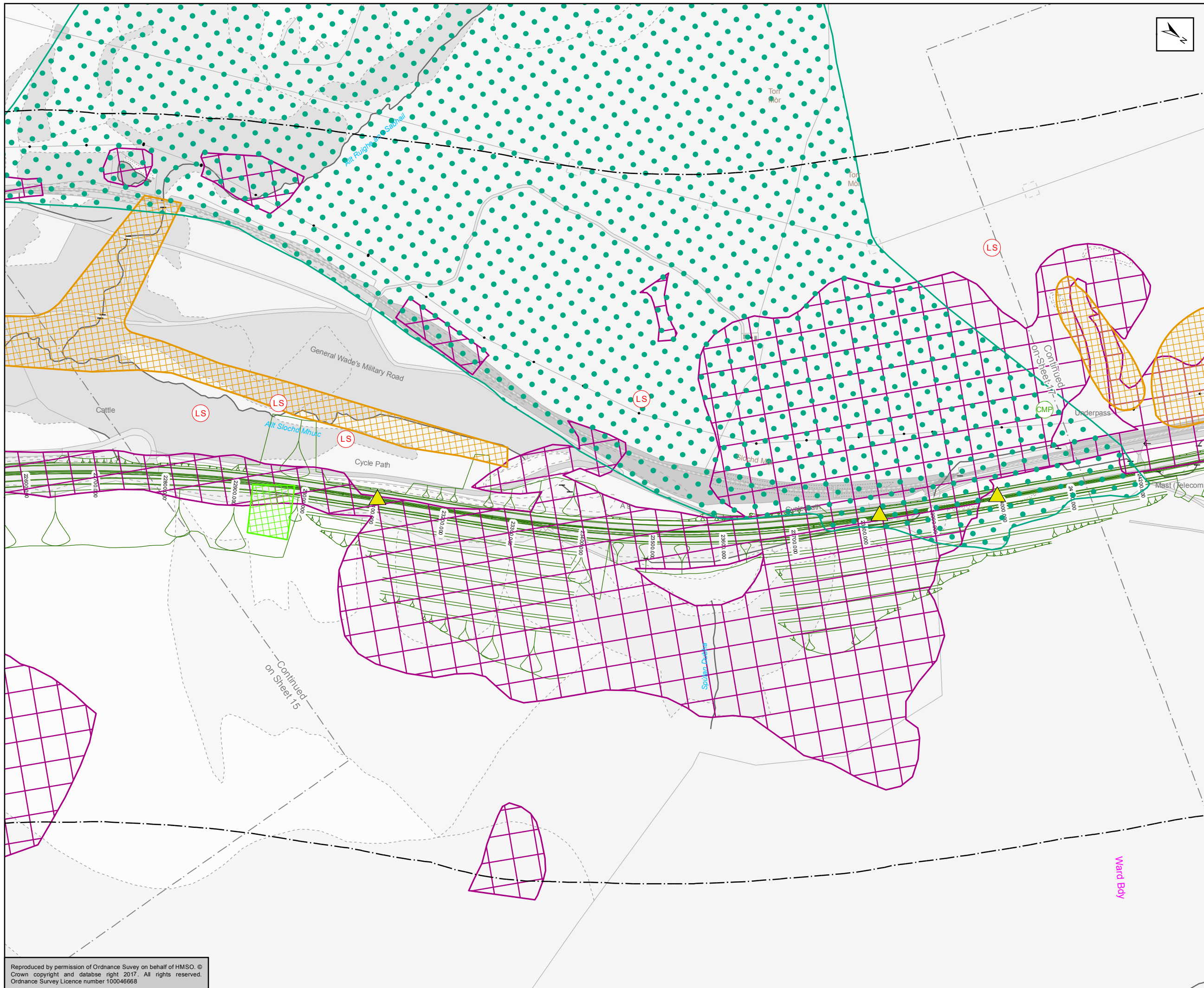


Figure 5.30o  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 15 of 17

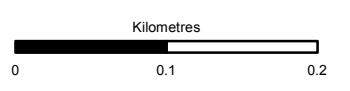
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0051							Revision	P03
Project	Originator	Volume							
Location	Type	Role							

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- Rock Cuts
- Geological Conservation Review Site
- PSSR Key Constraints**
- Alluvium
- Disused Quarry/Gravelpit
- Bedrock at - Close to Ground Level



Status	FINAL	Subsidiary	B
--------	-------	------------	---

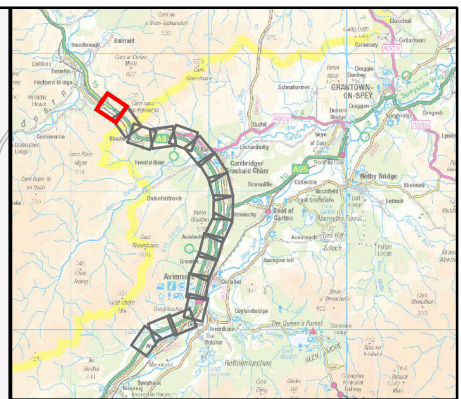
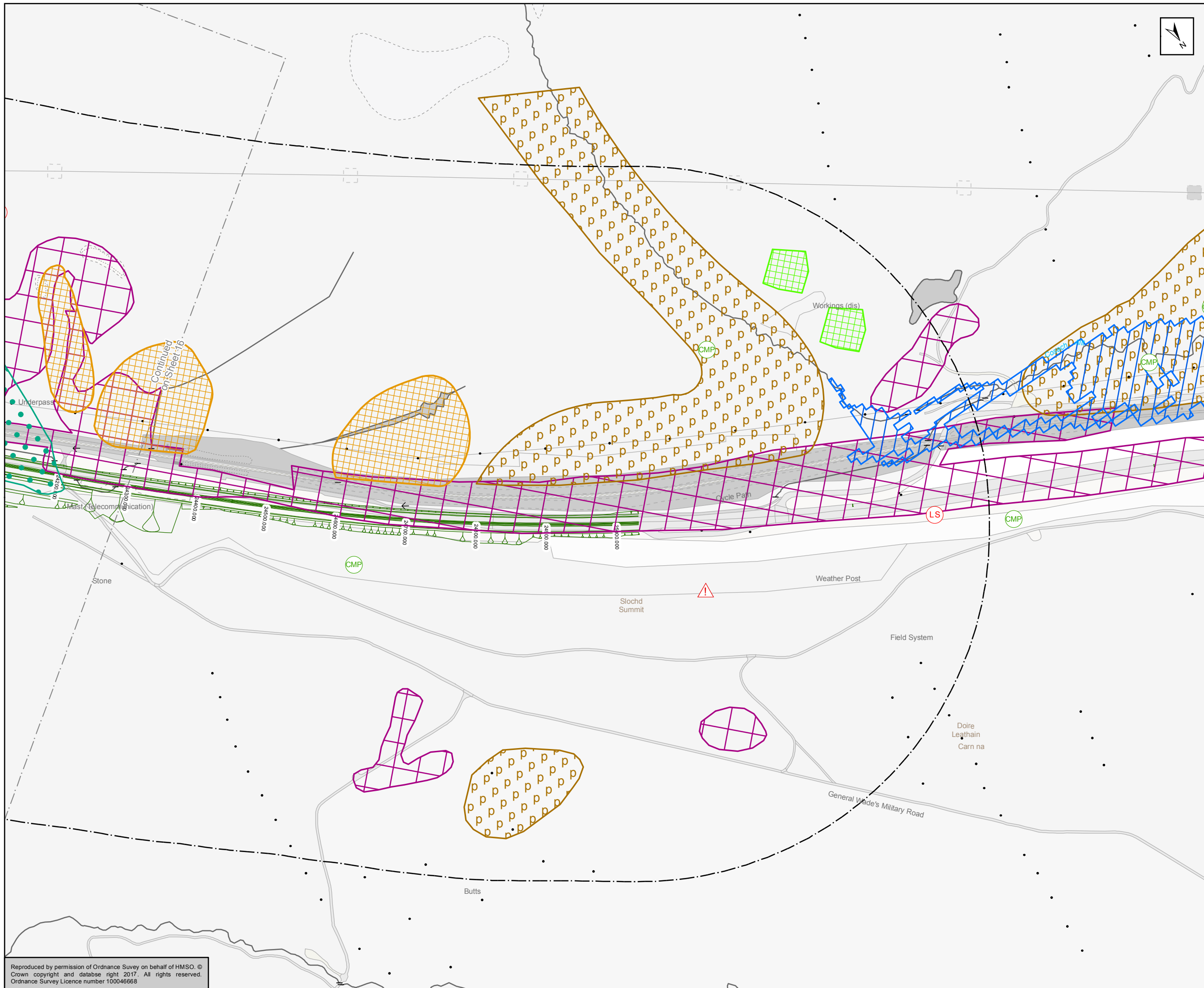


Figure 5.30p  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 16 of 17

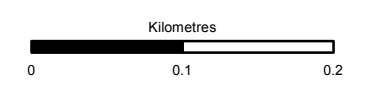
Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZX-DR-GI-0052							Revision	P03
Project	Originator	Volume	Location	Type	Role	Number			

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668





- Mainline Option 2 (Combination of Northbound and Southbound Widening)
- 500m Buffer of existing A9
- Key Constraints**
- Potential for Compressible Ground Stability Hazard
- Potential for Landslide Ground Stability Hazard
- Existing Geotechnical Problem
- Geological Conservation Review Site
- Extents of area at medium risk of flooding from river or watercourse
- PSSR Key Constraints**
- Alluvium
- Disused Quarry/Gravelpit
- Peat
- Bedrock at - Close to Ground Level



Status	FINAL	Suitability	B
--------	-------	-------------	---



Figure 5.30q  
Mainline Alignment Option 2 Geo-technical Constraints and Hazards  
Sheet 17 of 17

Scale	1:5,000	Drawn	JD	Checked	KP	Approved	MD	Authorised	RG
Document Number	A9P11-AMJ-EGT-F_ZZZZZ_XX-DR-GI-0053							Revision	P03
Project	Originator	Volume							
Location	Type	Role	Number						

Reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2017. All rights reserved. Ordnance Survey Licence number 100046668