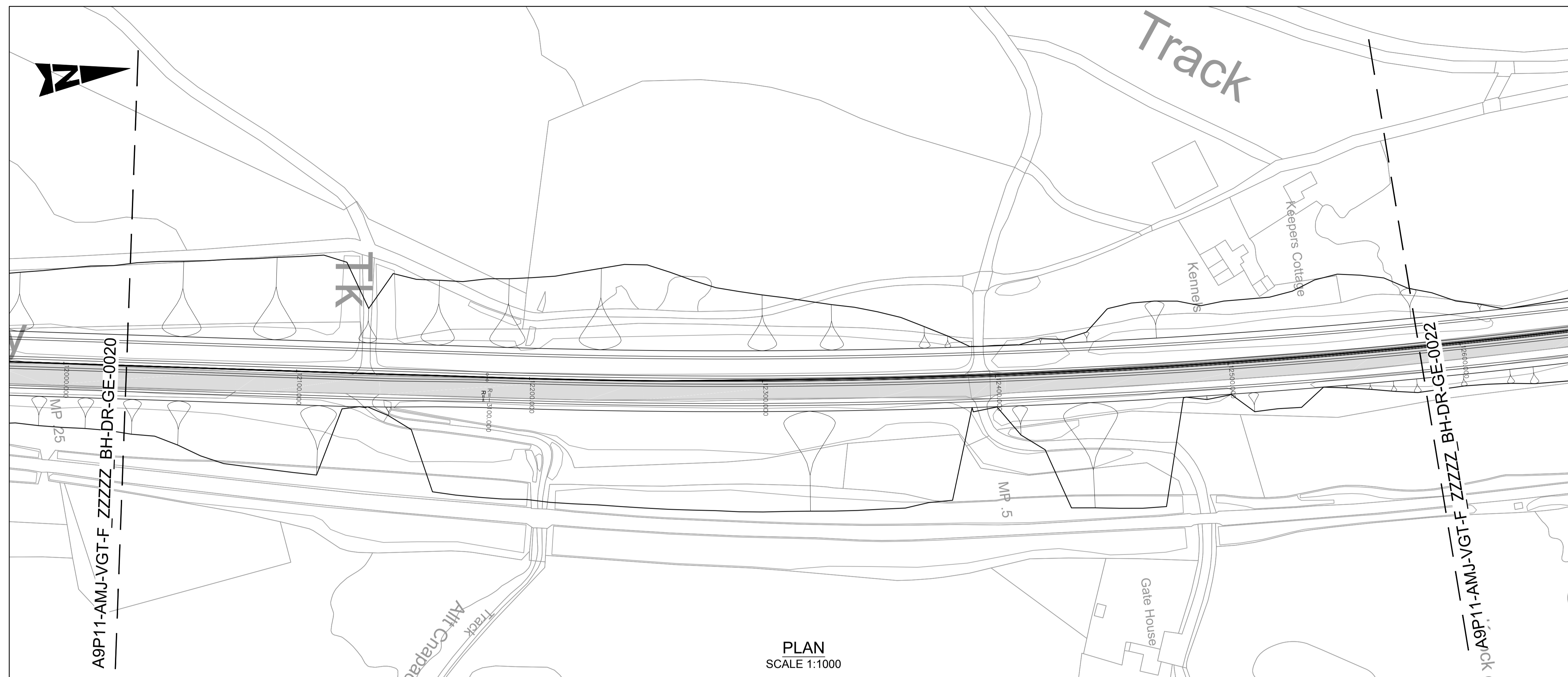


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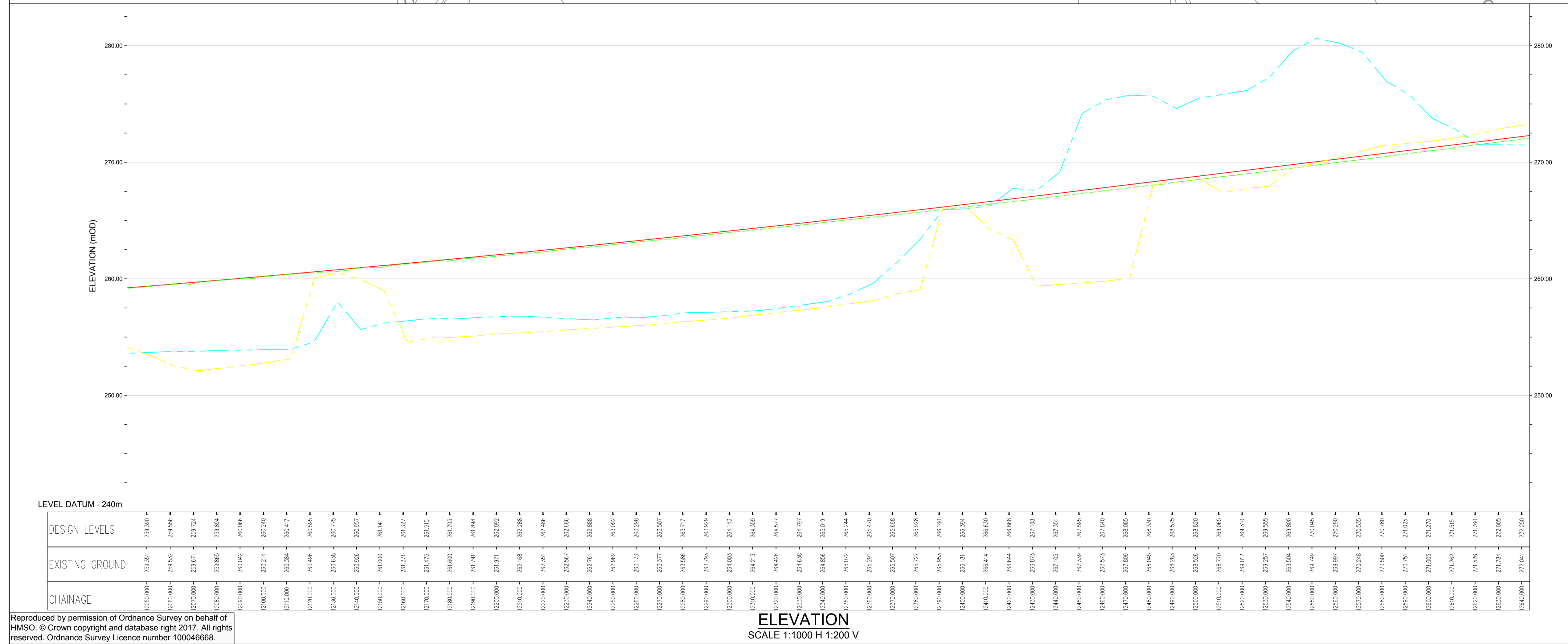


PLAN
SCALE 1:1000

- NOTES:**
- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
 - ALL DEPTHS SHOWN ARE IN METRES.
 - HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.
- KEY:**
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:**
- | | |
|-----------------------|-----------------------|
| NH82NW 1973 BOREHOLE | NH80NE 1978 BOREHOLE |
| NH82NW 1973 CORE | NH80NE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH80NE 1978 TRIAL PIT |
| NH91NW 1977 BOREHOLE | NH81SE 2003 BOREHOLE |
| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH82SE 1993 CORE | NH81SE 1999 CORE |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | |
| NH82SE 2008 CORE | |
| NH82SE 2008 TRIAL PIT | |

- GEOTECHNICAL LONG SECTION KEY:**
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |

- NOTE:**
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.
- WATER STRIKE
 - RISE TO IN 20 MINS
 - PROPOSED ROAD LEVEL
 - EXISTING GROUND LEVEL
 - SOUTHBOUND EARTHWORKS LEVEL
 - NORTHBOUND EARTHWORKS LEVEL



ELEVATION
SCALE 1:1000 H 1:200 V

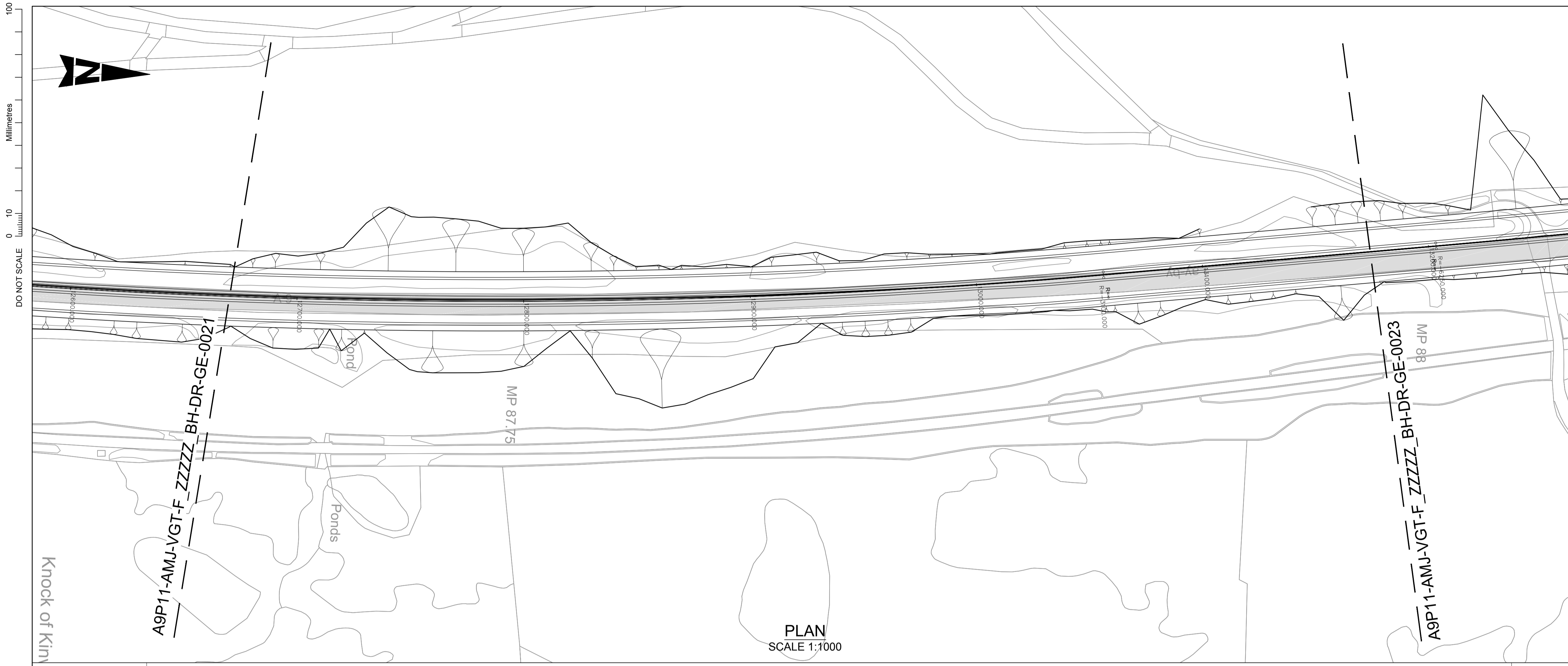
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FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Subtability
FINAL				B

Client				
 An agency of The Scottish Government				
 Dalraddy to Slouch				

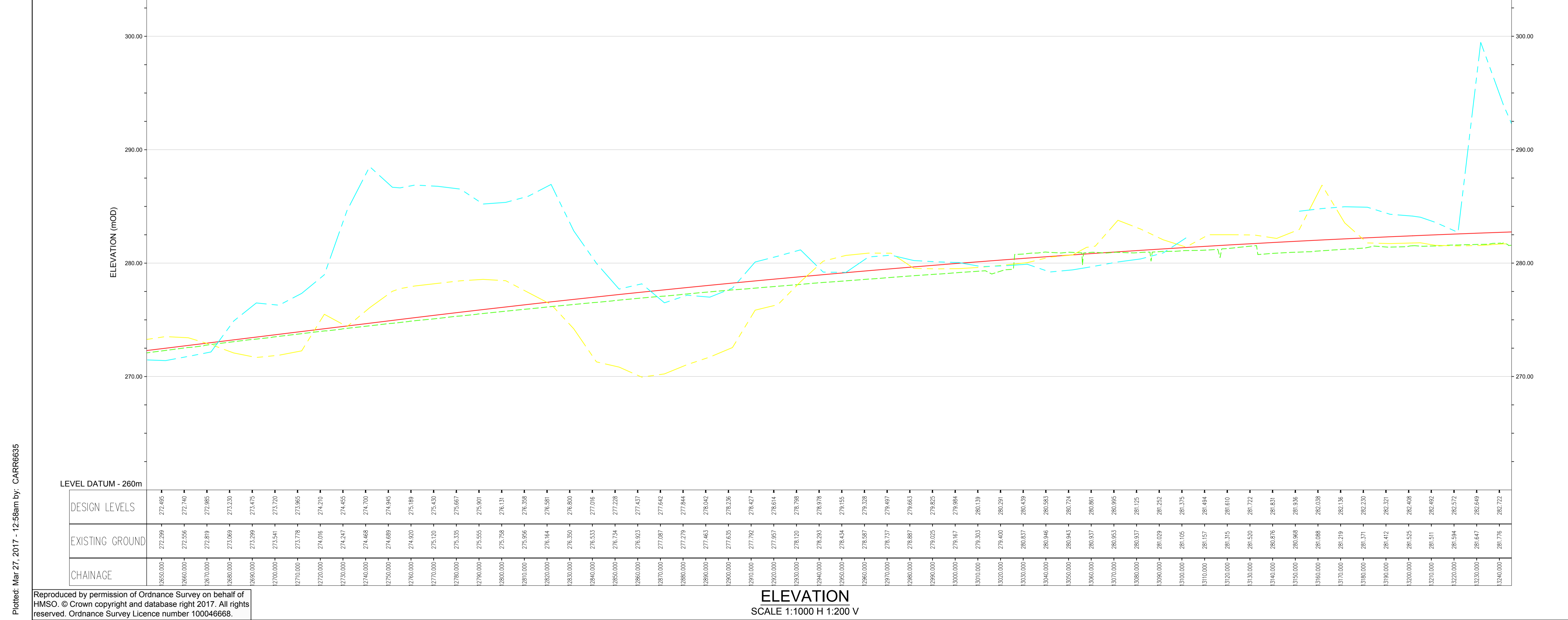
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FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 21 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
Drawing Number				
Project	Originator	Volume	Revision	
A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0021			P01	
Location	Type	Role	Number	

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- NOTES:**
- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
 - ALL DEPTHS SHOWN ARE IN METRES.
 - HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.
- KEY:**
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:**
- | | |
|-------------------------|-------------------------|
| ⊕ NH82NW 1973 BOREHOLE | ⊕ NH80NE 1978 BOREHOLE |
| ⊕ NH82NW 1973 CORE | ⊕ NH80NE 1978 CORE |
| ⊕ NH82NW 1973 TRIAL PIT | ⊕ NH80SE 1978 TRIAL PIT |
| ⊕ NH91NW 1977 BOREHOLE | ⊕ NH81SE 2003 BOREHOLE |
| ⊕ NH91NW 1977 CORE | ⊕ NH81SE 2003 CORE |
| ⊕ NH91NW 1977 TRIAL PIT | ⊕ NH81SE 2003 TRIAL PIT |
| ⊕ NH81SE 1964 BOREHOLE | ⊕ NH81SE 1999 BOREHOLE |
| ⊕ NH81SE 1964 CORE | ⊕ NH81SE 1999 CORE |
| ⊕ NH81SE 1964 TRIAL PIT | ⊕ NH81SE 1999 TRIAL PIT |
| ⊕ NH82SE 1993 BOREHOLE | ⊕ NH81SE 1999 BOREHOLE |
| ⊕ NH82SE 1993 CORE | ⊕ NH81SE 1999 CORE |
| ⊕ NH82SE 1993 TRIAL PIT | ⊕ NH81SE 1999 TRIAL PIT |
| ⊕ NH82SE 2008 BOREHOLE | ⊕ NH81SE 1999 TRIAL PIT |
| ⊕ NH82SE 2008 CORE | |
| ⊕ NH82SE 2008 TRIAL PIT | |
- GEOTECHNICAL LONG SECTION KEY:**
- | | |
|-----------------------------------|---------------|
| ■ TOPSOIL | ■ TOPSOIL |
| ■ MADE GROUND | ■ MADE GROUND |
| ■ PEAT | ■ SAND |
| ■ ALLUVIUM GRANULAR | ■ GRAVEL |
| ■ RIVER TERRACE DEPOSITS COHESIVE | ■ SILT |
| ■ RIVER TERRACE DEPOSITS GRANULAR | ■ CLAY |
| ■ GLACIAL FLUVIAL GRANULAR | ■ BOULDERS |
| ■ GLACIAL TILL COHESIVE | ■ BEDROCK |
| ■ GLACIAL TILL GRANULAR | |
| ■ ROCK | |
- NOTE:**
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. ■ SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.
- ▲ WATER STRIKE
 ▼ RISE TO IN 20 MINS
 — PROPOSED ROAD LEVEL
 - - - EXISTING GROUND LEVEL
 - - - SOUTHBOUND EARTHWORKS LEVEL
 - - - NORTHBOUND EARTHWORKS LEVEL



P01	CC	KP	KP	05/08/16
FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status	FINAL			Suitability
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Drawing Title

FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 22 OF 41)

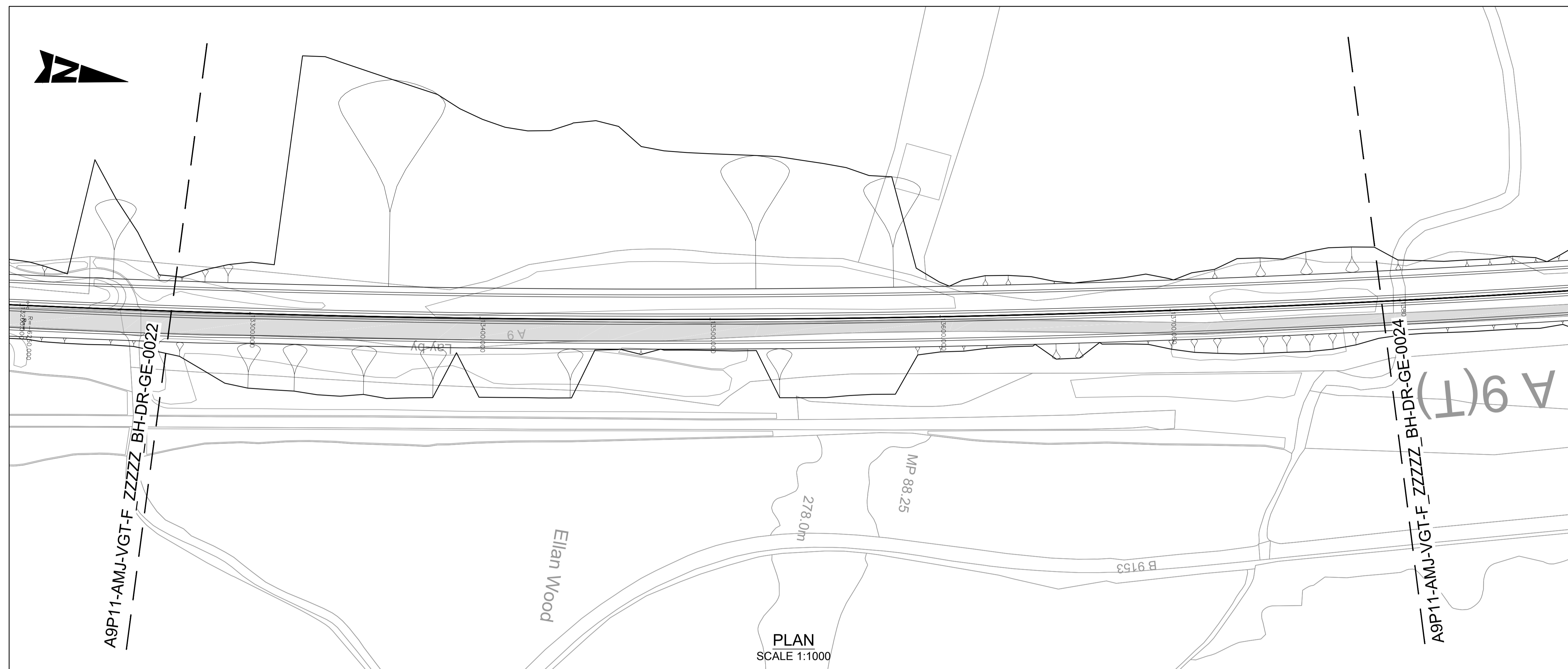
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Location	Type	Role	Number	

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ELEVATION
SCALE 1:1000 H 1:200 V

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Millimetres
DO NOT SCALE



NOTES:

- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- ALL DEPTHS SHOWN ARE IN METRES.
- HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

KEY:

EXISTING A9

BGS HISTORICAL GROUND INVESTIGATION:

NH82NW 1973 BOREHOLE	NH80NE 1978 BOREHOLE
NH82NW 1973 CORE	NH80NE 1978 CORE
NH82NW 1973 TRIAL PIT	NH80NE 1978 TRIAL PIT
NH91NW 1977 BOREHOLE	NH81SE 2003 BOREHOLE
NH91NW 1977 CORE	NH81SE 2003 CORE
NH91NW 1977 TRIAL PIT	NH81SE 2003 TRIAL PIT
NH81SE 1964 BOREHOLE	NH81SE 1999 BOREHOLE
NH81SE 1964 CORE	NH81SE 1999 CORE
NH81SE 1964 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 1993 BOREHOLE	NH81SE 1999 BOREHOLE
NH82SE 1993 CORE	NH81SE 1999 CORE
NH82SE 1993 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 2008 BOREHOLE	
NH82SE 2008 CORE	
NH82SE 2008 TRIAL PIT	

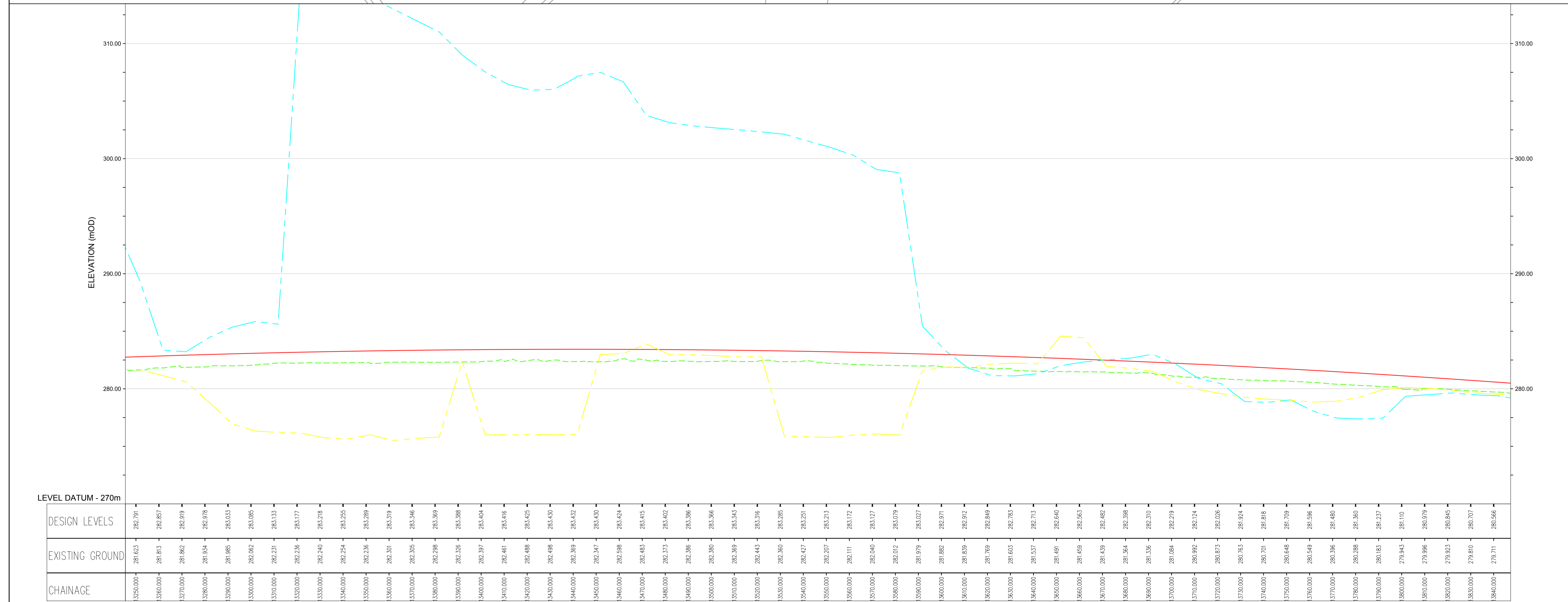
GEOTECHNICAL LONG SECTION KEY:

TOPSOIL	TOPSOIL
MADE GROUND	MADE GROUND
PEAT	SAND
ALLUVIUM GRANULAR	GRAVEL
RIVER TERRACE DEPOSITS COHESIVE	SILT
RIVER TERRACE DEPOSITS GRANULAR	CLAY
GLACIAL FLUVIAL GRANULAR	BOULDERS
GLACIAL TILL COHESIVE	BEDROCK
GLACIAL TILL GRANULAR	
ROCK	

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

WATER STRIKE
 RISE TO IN 20 MINS
 PROPOSED ROAD LEVEL
 EXISTING GROUND LEVEL
 SOUTHBOUND EARTHWORKS LEVEL
 NORTHBOUND EARTHWORKS LEVEL

PLAN
SCALE 1:1000



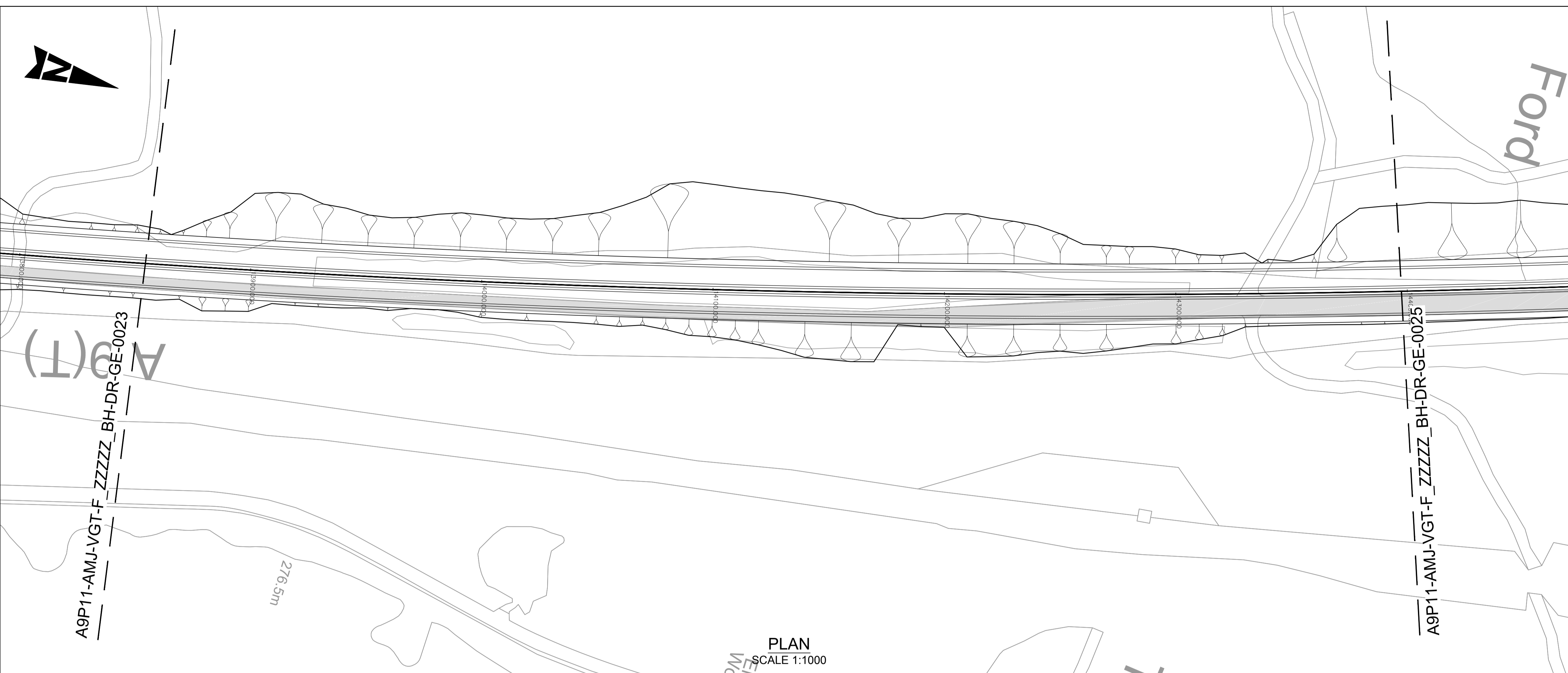
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FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				Subtality
Drawing Status				B
Client				
 TRANSPORT SCOTLAND <small>An agency of The Scottish Government</small>				
 A9 DUALLING PERTH TO INVERNESS Dalraddy to Slochd				
 ATKINS mouchel				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 23 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
Drawing Number				
Project	Originator	Volume	Revision	
A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0023			P01	
Location	Type	Role	Number	

Plotted: Mar 27, 2017 - 10:06am by: CARR6635

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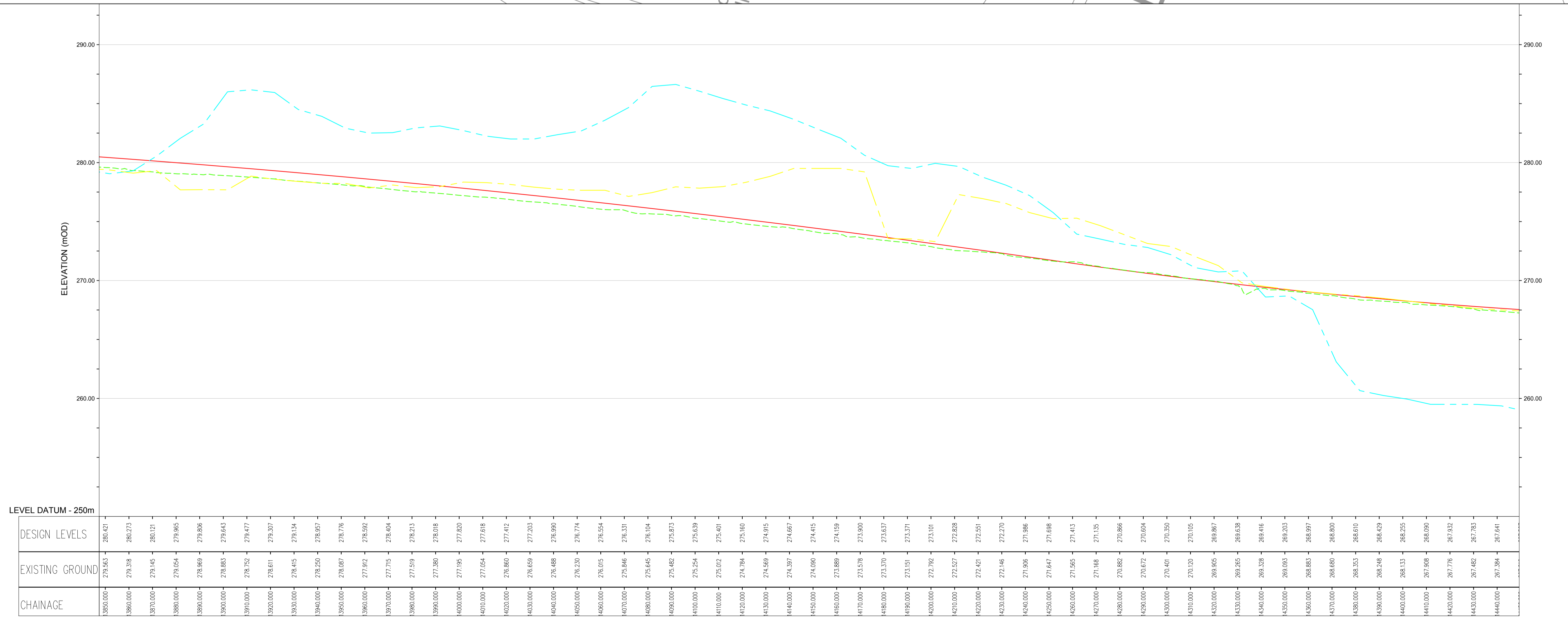
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Millimetres
DO NOT SCALE



PLAN
SCALE 1:1000

- NOTES:**
1. ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
 2. ALL DEPTHS SHOWN ARE IN METRES.
 3. HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.
- KEY:**
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:**
- | | |
|-----------------------|-----------------------|
| NH82NW 1973 BOREHOLE | NH81SE 1978 BOREHOLE |
| NH82NW 1973 CORE | NH81SE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH81SE 1978 TRIAL PIT |
| NH91NW 1977 BOREHOLE | NH81SE 2003 BOREHOLE |
| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH82SE 1993 CORE | NH81SE 1999 CORE |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 CORE | |
| NH82SE 2008 TRIAL PIT | |

- GEOTECHNICAL LONG SECTION KEY:**
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |
- NOTE:**
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
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- WATER STRIKE
 - RISE TO IN 20 MINS
 - PROPOSED ROAD LEVEL
 - EXISTING GROUND LEVEL
 - SOUTHBOUND EARTHWORKS LEVEL
 - NORTHBOUND EARTHWORKS LEVEL



LEVEL DATUM - 250m	DESIGN LEVELS	EXISTING GROUND	CHAINAGE
286.421	286.421	275.963	1380.000
286.273	286.273	275.918	1390.000
280.121	280.121	275.945	13970.000
279.965	279.965	275.954	13980.000
279.806	279.806	275.960	13990.000
279.643	279.643	275.983	13990.000
279.477	279.477	275.976	13990.000
279.307	279.307	275.989	13990.000
279.144	279.144	275.975	13990.000
278.957	278.957	275.950	13990.000
278.776	278.776	275.987	13990.000
278.592	278.592	275.912	13960.000
278.404	278.404	277.715	13970.000
278.215	278.215	277.519	13980.000
278.018	278.018	277.380	13960.000
277.820	277.820	277.195	14000.000
277.618	277.618	277.054	14010.000
277.412	277.412	276.860	14020.000
277.203	277.203	276.650	14030.000
276.990	276.990	276.488	14040.000
276.774	276.774	276.326	14050.000
276.554	276.554	276.015	14060.000
276.331	276.331	275.844	14070.000
276.104	276.104	275.645	14080.000
275.873	275.873	275.482	14090.000
275.639	275.639	275.254	14100.000
275.401	275.401	275.012	14110.000
275.160	275.160	274.784	14120.000
274.915	274.915	274.560	14130.000
274.667	274.667	274.397	14140.000
274.415	274.415	274.006	14150.000
274.159	274.159	273.888	14160.000
273.900	273.900	273.570	14170.000
273.637	273.637	273.370	14180.000
273.371	273.371	273.151	14190.000
272.912	272.912	272.792	14200.000
272.828	272.828	272.527	14210.000
272.551	272.551	272.421	14220.000
272.270	272.270	272.148	14230.000
271.986	271.986	271.906	14240.000
271.698	271.698	271.647	14250.000
271.413	271.413	271.565	14260.000
271.125	271.125	271.168	14270.000
270.986	270.986	270.986	14280.000
270.684	270.684	270.672	14290.000
270.350	270.350	270.407	14300.000
270.105	270.105	270.120	14310.000
269.867	269.867	269.905	14320.000
269.638	269.638	269.265	14330.000
269.416	269.416	269.328	14340.000
269.203	269.203	269.093	14350.000
268.897	268.897	268.883	14360.000
268.800	268.800	268.800	14370.000
268.610	268.610	268.353	14380.000
268.429	268.429	268.248	14390.000
268.255	268.255	268.133	14400.000
268.090	268.090	267.908	14410.000
267.832	267.832	267.778	14420.000
267.783	267.783	267.482	14430.000
267.641	267.641	267.384	14440.000

ELEVATION
SCALE 1:1000 H 1:200 V

P01	CC	KP	KP	05/08/16
FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status	FINAL			Suitability
				B

Client				
TRANSPORT SCOTLAND <small>An agency of The Scottish Government</small>				
ATKINS mouchel				

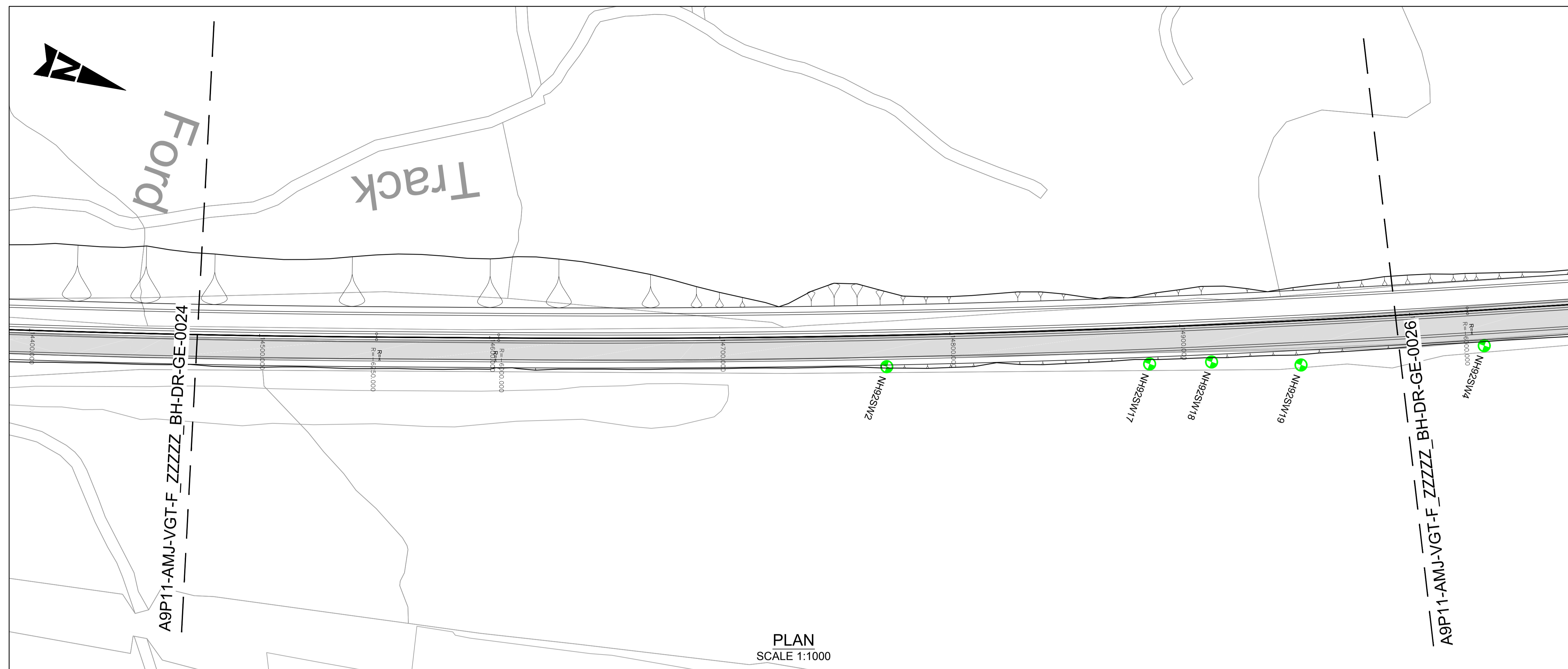
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 24 OF 41)

Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
Drawing Number	Project	Originator	Volume	Revision
	A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0024			P01
Location	Type	Role	Number	

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NOTES:

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- ALL DEPTHS SHOWN ARE IN METRES.
- HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

KEY:

EXISTING A9

BGS HISTORICAL GROUND INVESTIGATION:

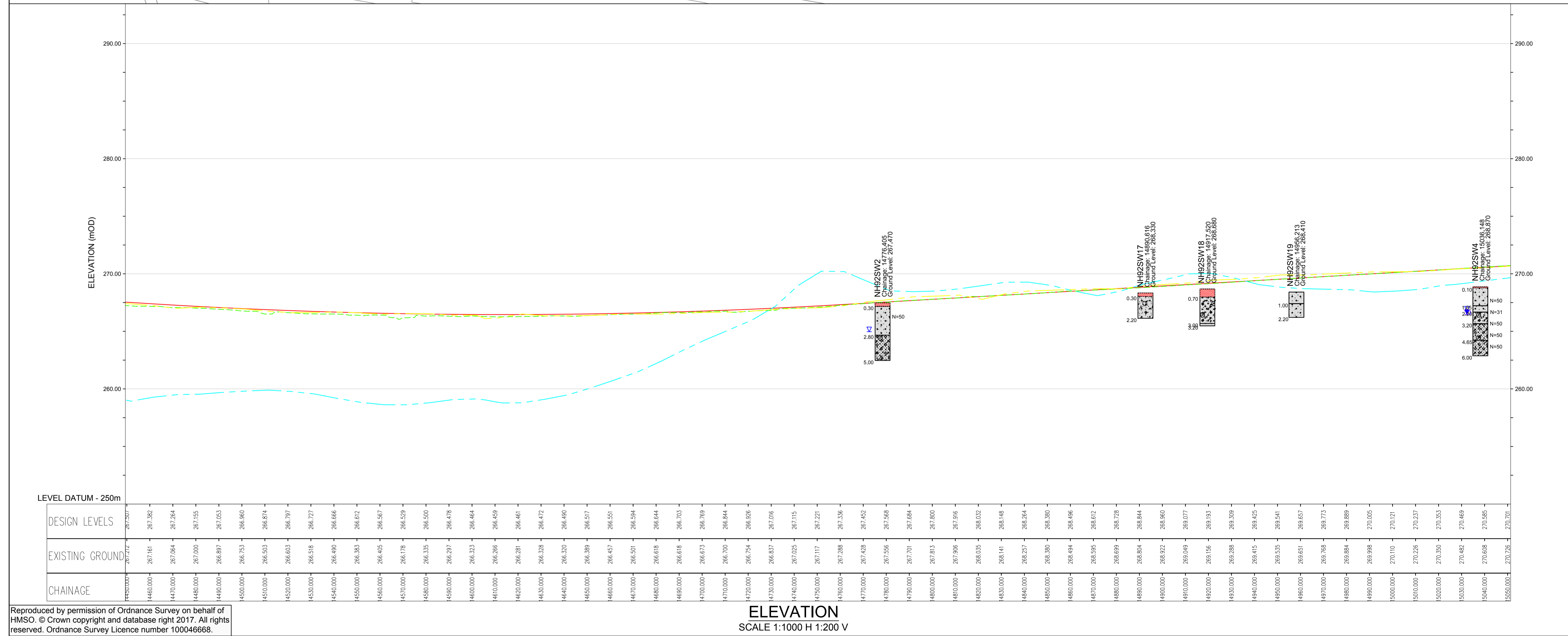
NH82NW 1973 BOREHOLE	NH80NE 1978 BOREHOLE
NH82NW 1973 CORE	NH80NE 1978 CORE
NH82NW 1973 TRIAL PIT	NH80NE 1978 TRIAL PIT
NH91NW 1977 BOREHOLE	NH81SE 2003 BOREHOLE
NH91NW 1977 CORE	NH81SE 2003 CORE
NH91NW 1977 TRIAL PIT	NH81SE 2003 TRIAL PIT
NH81SE 1964 BOREHOLE	NH81SE 1999 BOREHOLE
NH81SE 1964 CORE	NH81SE 1999 CORE
NH81SE 1964 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 1993 BOREHOLE	NH81SE 1999 BOREHOLE
NH82SE 1993 CORE	NH81SE 1999 CORE
NH82SE 1993 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 2008 BOREHOLE	
NH82SE 2008 CORE	
NH82SE 2008 TRIAL PIT	

GEOTECHNICAL LONG SECTION KEY:

TOPSOIL	TOPSOIL
MADE GROUND	MADE GROUND
PEAT	SAND
ALLUVIUM GRANULAR	GRAVEL
RIVER TERRACE DEPOSITS COHESIVE	SILT
RIVER TERRACE DEPOSITS GRANULAR	CLAY
GLACIAL FLUVIAL GRANULAR	BOULDERS
GLACIAL TILL COHESIVE	BEDROCK
GLACIAL TILL GRANULAR	
ROCK	

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

WATER STRIKE
 RISE TO IN 20 MINS
 PROPOSED ROAD LEVEL
 EXISTING GROUND LEVEL
 SOUTHBOUND EARTHWORKS LEVEL
 NORTHBOUND EARTHWORKS LEVEL

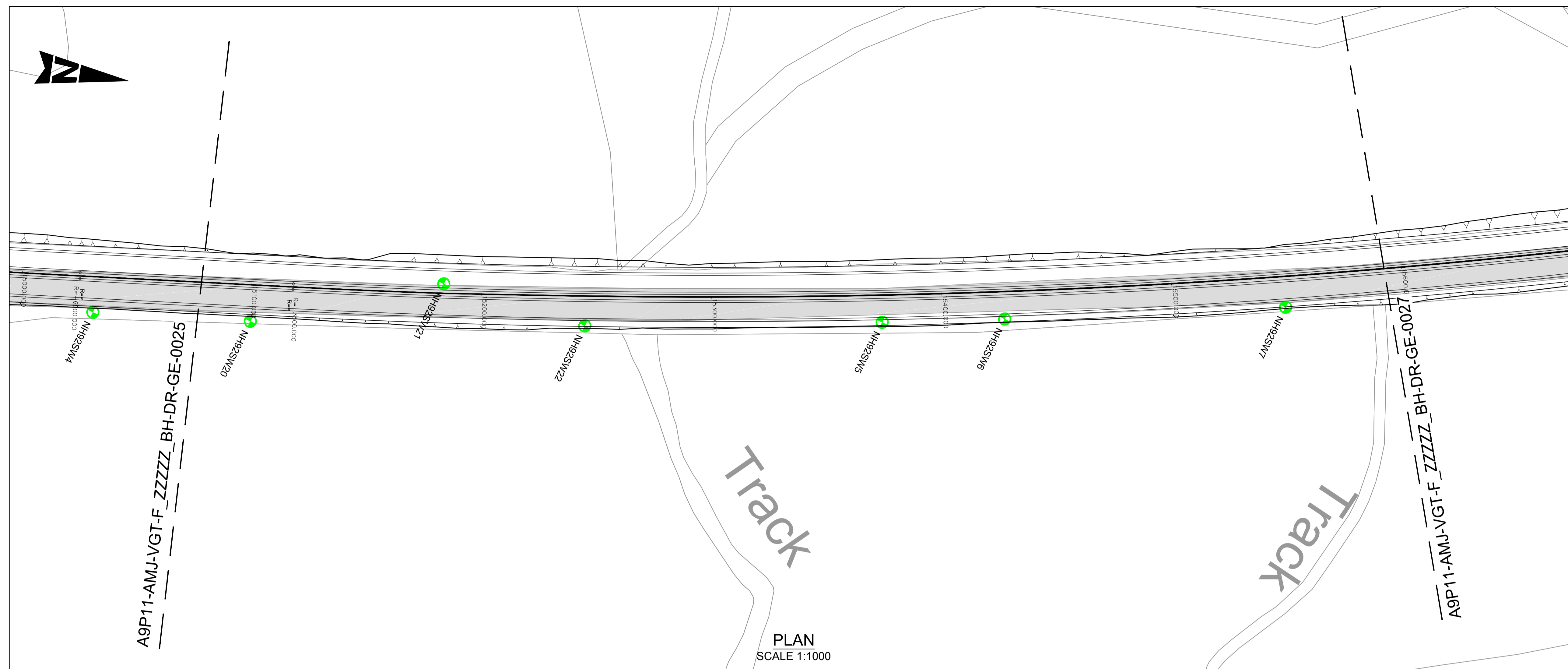


P01	CC	KP	KP	05/08/16
FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Subtability
FINAL				B
Client				
 An agency of The Scottish Government				
 Dalraddy to Stochd				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 25 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
Drawing Number				
Project	Originator	Volume	Revision	
A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0025			P01	
Location	Type	Role	Number	

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DO NOT SCALE



NOTES:

- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- ALL DEPTHS SHOWN ARE IN METRES.
- HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

KEY:

EXISTING A9

BGS HISTORICAL GROUND INVESTIGATION:

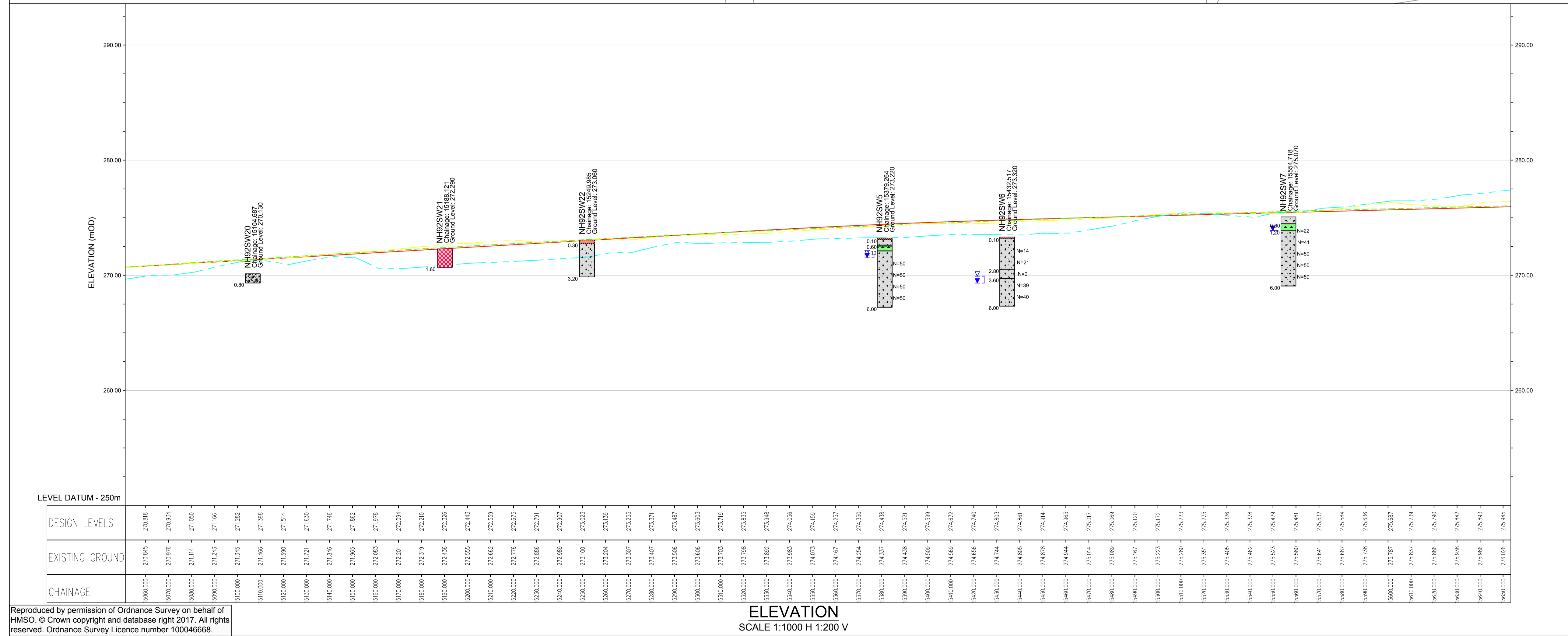
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NH82NW 1973 TRIAL PIT	NH80NE 1978 TRIAL PIT
NH91NW 1977 BOREHOLE	NH81SE 2003 BOREHOLE
NH91NW 1977 CORE	NH81SE 2003 CORE
NH91NW 1977 TRIAL PIT	NH81SE 2003 TRIAL PIT
NH81SE 1964 BOREHOLE	NH81SE 1999 BOREHOLE
NH81SE 1964 CORE	NH81SE 1999 CORE
NH81SE 1964 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 1993 BOREHOLE	NH81SE 1999 BOREHOLE
NH82SE 1993 CORE	NH81SE 1999 CORE
NH82SE 1993 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 2008 BOREHOLE	NH82SE 2008 CORE
NH82SE 2008 CORE	NH82SE 2008 TRIAL PIT
NH82SE 2008 TRIAL PIT	

GEOTECHNICAL LONG SECTION KEY:

TOPSOIL	TOPSOIL
MADE GROUND	MADE GROUND
PEAT	SAND
ALLUVIUM GRANULAR	GRAVEL
RIVER TERRACE DEPOSITS COHESIVE	SILT
RIVER TERRACE DEPOSITS GRANULAR	CLAY
GLACIAL FLUVIAL GRANULAR	BOULDERS
GLACIAL TILL COHESIVE	BEDROCK
GLACIAL TILL GRANULAR	
ROCK	

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

WATER STRIKE
 RISE TO IN 20 MINS
 PROPOSED ROAD LEVEL
 EXISTING GROUND LEVEL
 SOUTHBOUND EARTHWORKS LEVEL
 NORTHBOUND EARTHWORKS LEVEL



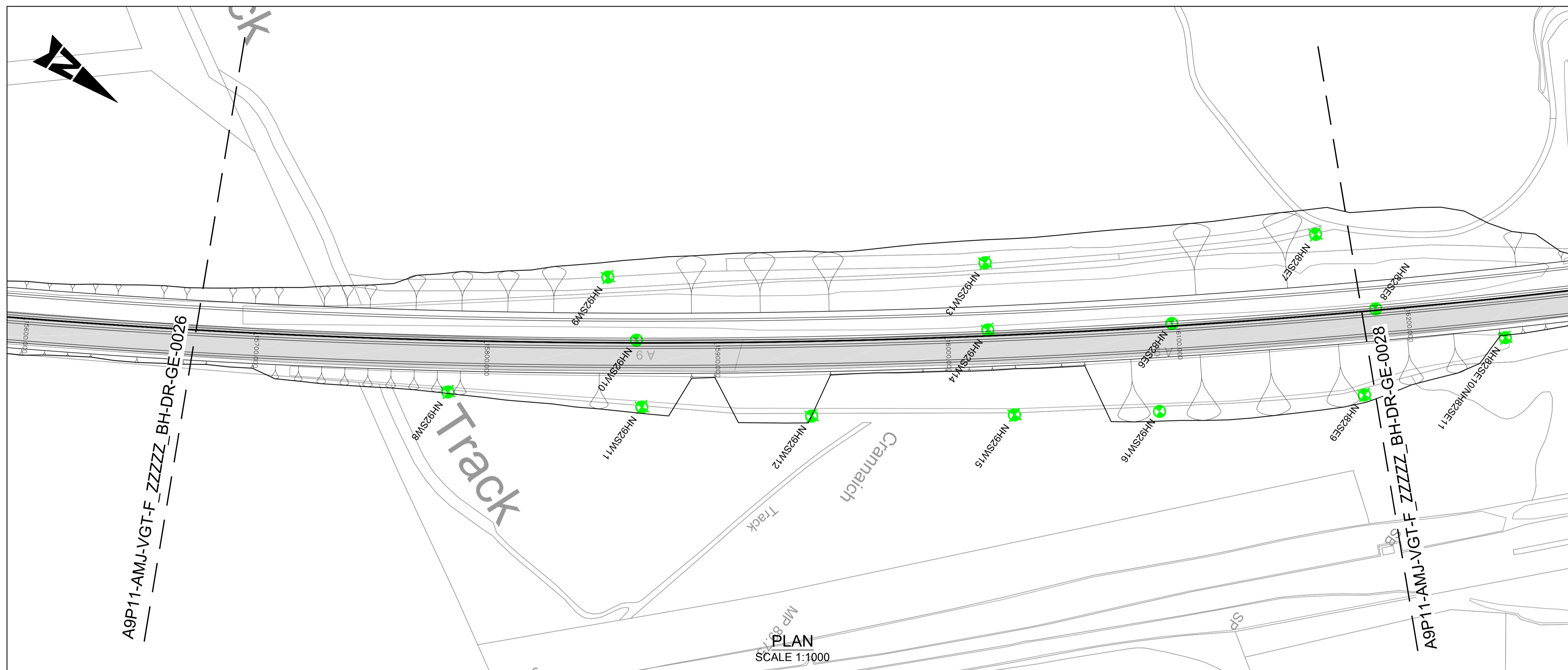
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Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Suitability
FINAL				B
Client				
 An agency of The Scottish Government				
 Dalraddy to Stochd				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 26 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
Drawing Number				
Project	Originator	Volume	Revision	
A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0026			P01	
Location	Type	Role	Number	

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ELEVATION
SCALE 1:1000 H 1:200 V

100
0 10
Millimetres
DO NOT SCALE



NOTES:

- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- ALL DEPTHS SHOWN ARE IN METRES.
- HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

KEY:

- EXISTING A9

BGS HISTORICAL GROUND INVESTIGATION:

NH82NW 1973 BOREHOLE	NH80NE 1978 BOREHOLE
NH82NW 1973 CORE	NH80NE 1978 CORE
NH82NW 1973 TRIAL PIT	NH80NE 1978 TRIAL PIT
NH91NW 1977 BOREHOLE	NH81SE 2003 BOREHOLE
NH91NW 1977 CORE	NH81SE 2003 CORE
NH91NW 1977 TRIAL PIT	NH81SE 2003 TRIAL PIT
NH81SE 1964 BOREHOLE	NH81SE 1999 BOREHOLE
NH81SE 1964 CORE	NH81SE 1999 CORE
NH81SE 1964 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 1993 BOREHOLE	NH81SE 1999 BOREHOLE
NH82SE 1993 CORE	NH81SE 1999 CORE
NH82SE 1993 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 2008 BOREHOLE	NH82SE 2008 CORE
NH82SE 2008 CORE	NH82SE 2008 TRIAL PIT

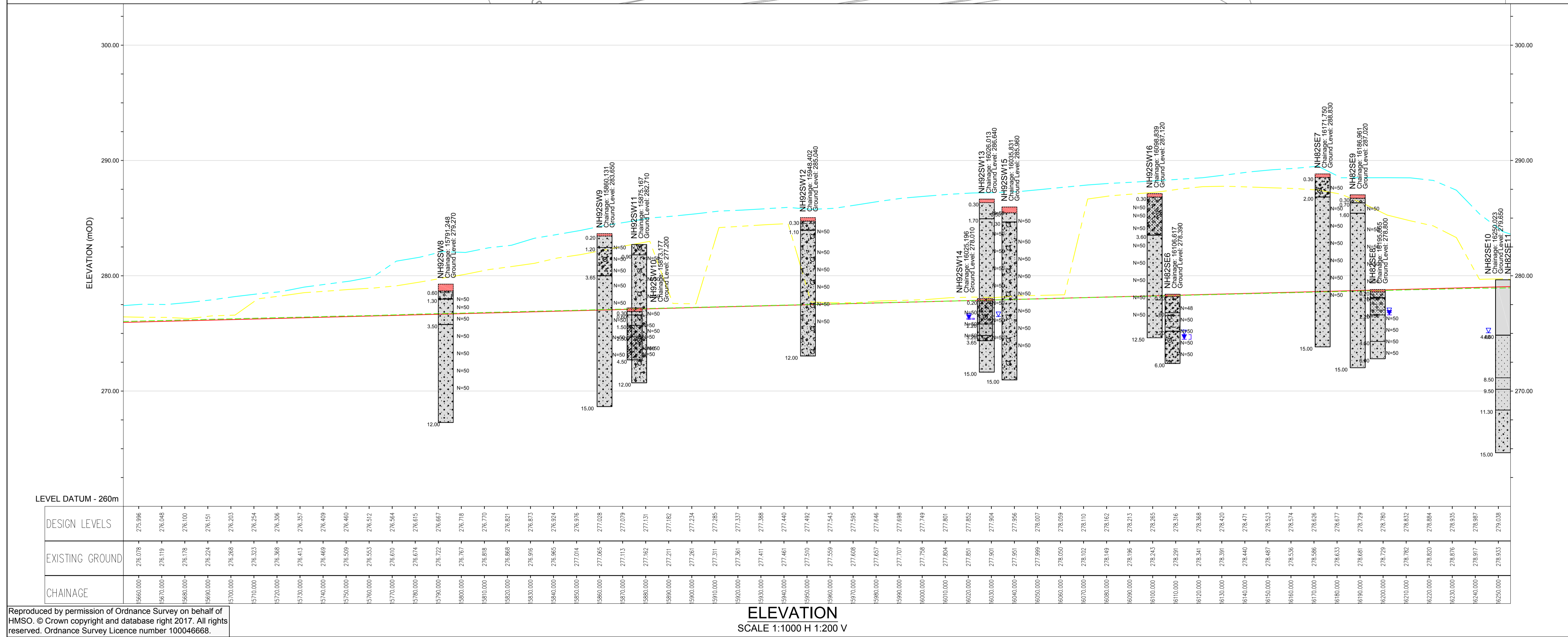
GEOTECHNICAL LONG SECTION KEY:

TOPSOIL	TOPSOIL
MADE GROUND	MADE GROUND
PEAT	SAND
ALLUVIUM GRANULAR	GRAVEL
RIVER TERRACE DEPOSITS COHESIVE	SILT
RIVER TERRACE DEPOSITS GRANULAR	CLAY
GLACIAL FLUVIAL GRANULAR	BOULDERS
GLACIAL TILL COHESIVE	BEDROCK
GLACIAL TILL GRANULAR	
ROCK	

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

LEGEND:

- WATER STRIKE
- RISE TO IN 20 MINS
- PROPOSED ROAD LEVEL
- EXISTING GROUND LEVEL
- SOUTHBOUND EARTHWORKS LEVEL
- NORTHBOUND EARTHWORKS LEVEL

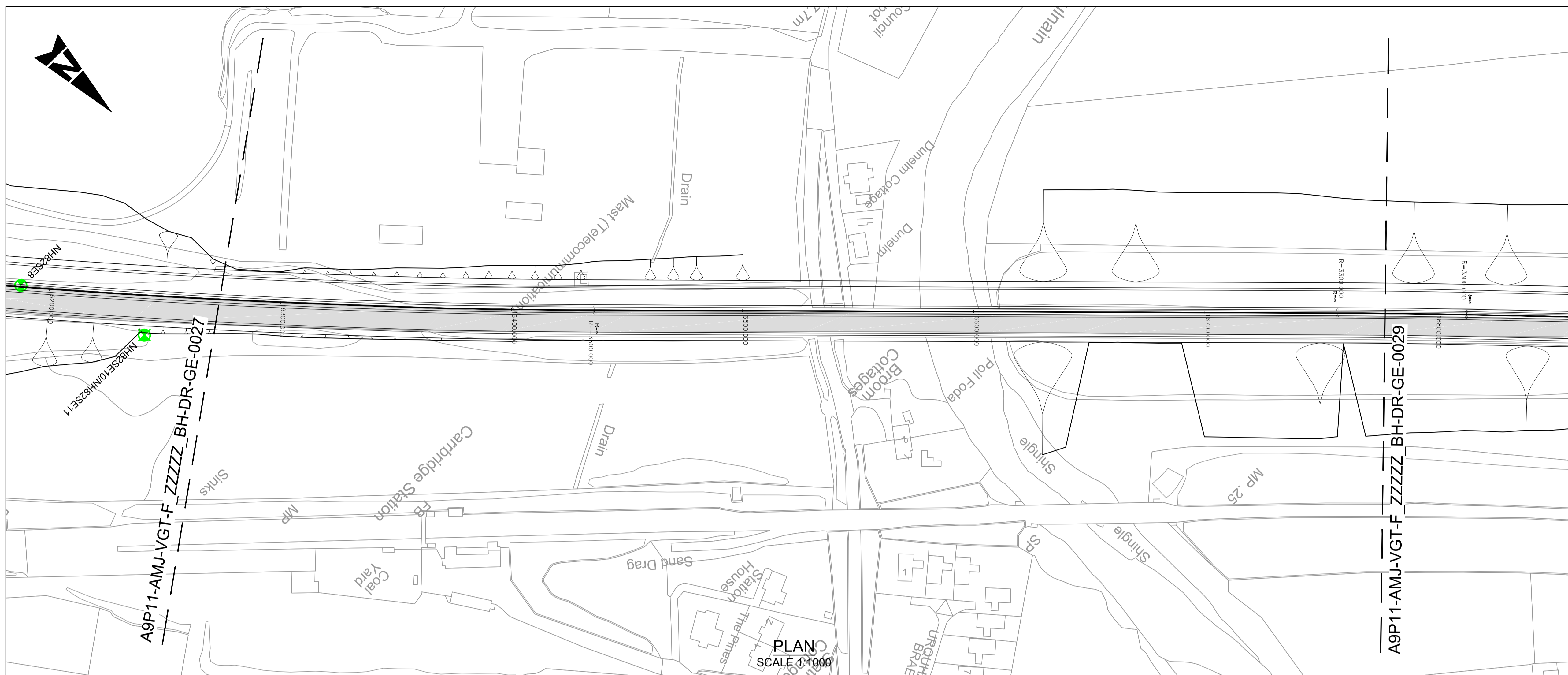


P01	CC	KP	KP	05/08/16
FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Subtability
FINAL				B
Client				
 An agency of The Scottish Government				
 Dalraddy to Slochd				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 27 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
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Drawing Number				
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A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0027			P01	
Location	Type	Role	Number	

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Millimetres
DO NOT SCALE



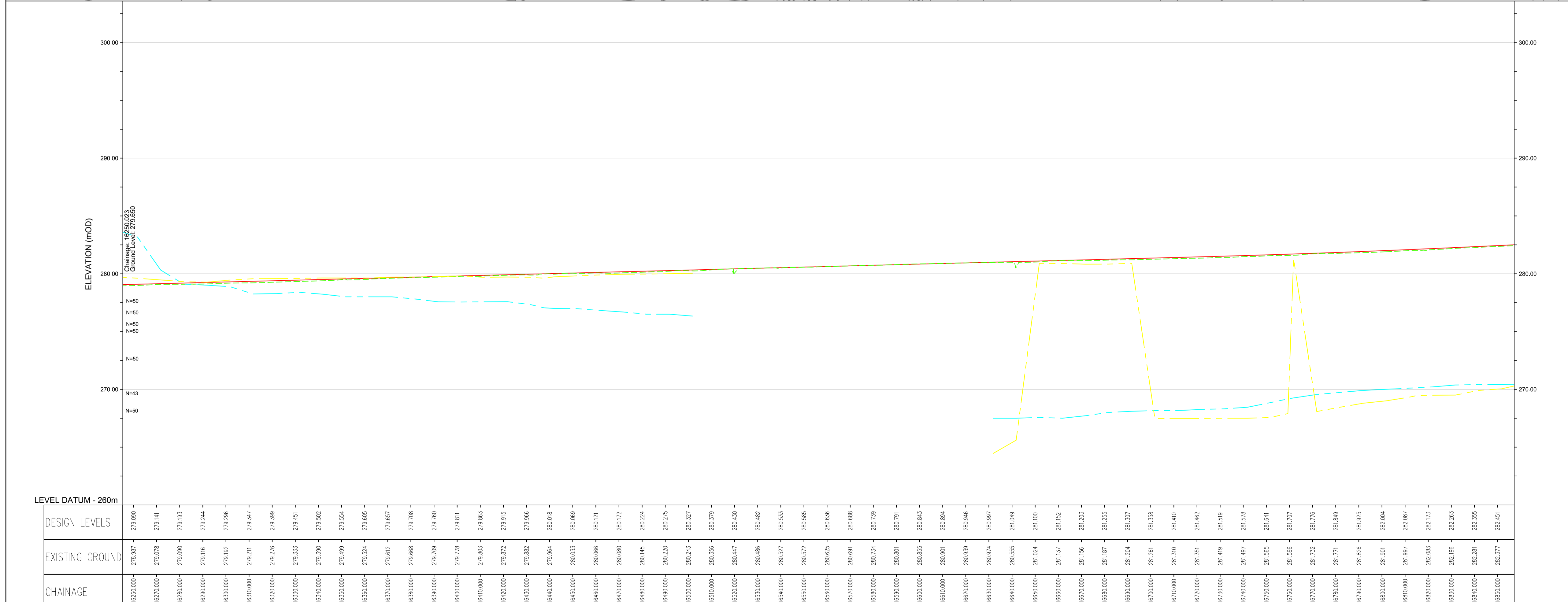
- NOTES:**
- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
 - ALL DEPTHS SHOWN ARE IN METRES.
 - HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

- KEY:**
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:**
- | | |
|-----------------------|-----------------------|
| NH82NW 1973 BOREHOLE | NH80NE 1978 BOREHOLE |
| NH82NW 1973 CORE | NH80NE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH80NE 1978 TRIAL PIT |
| NH91NW 1977 BOREHOLE | NH81SE 2003 BOREHOLE |
| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH82SE 1993 CORE | NH81SE 1999 CORE |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | |
| NH82SE 2008 CORE | |
| NH82SE 2008 TRIAL PIT | |

- GEOTECHNICAL LONG SECTION KEY:**
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

- WATER STRIKE
- RISE TO IN 20 MINS
- PROPOSED ROAD LEVEL
- EXISTING GROUND LEVEL
- SOUTHBOUND EARTHWORKS LEVEL
- NORTHBOUND EARTHWORKS LEVEL



P01	CC	KP	KP	05/08/16
FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Subtability
FINAL				B

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ATKINS mouchel

FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 28 OF 41)

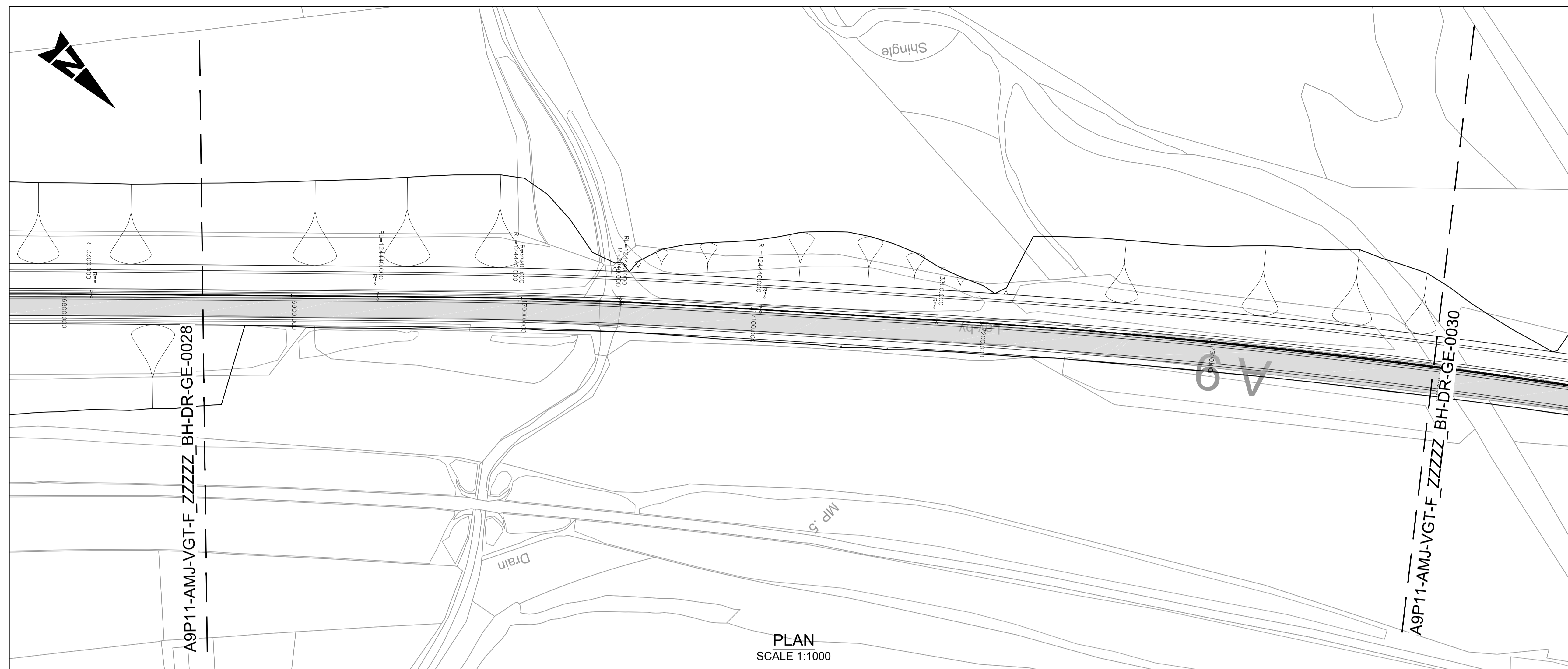
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Drawing Number	Project	Originator	Volume	Revision
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Location	Type	Role	Number	

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ELEVATION
SCALE 1:1000 H 1:200 V

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Millimetres
DO NOT SCALE



NOTES:

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- ALL DEPTHS SHOWN ARE IN METRES.
- HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

KEY:

EXISTING A9

BGS HISTORICAL GROUND INVESTIGATION:

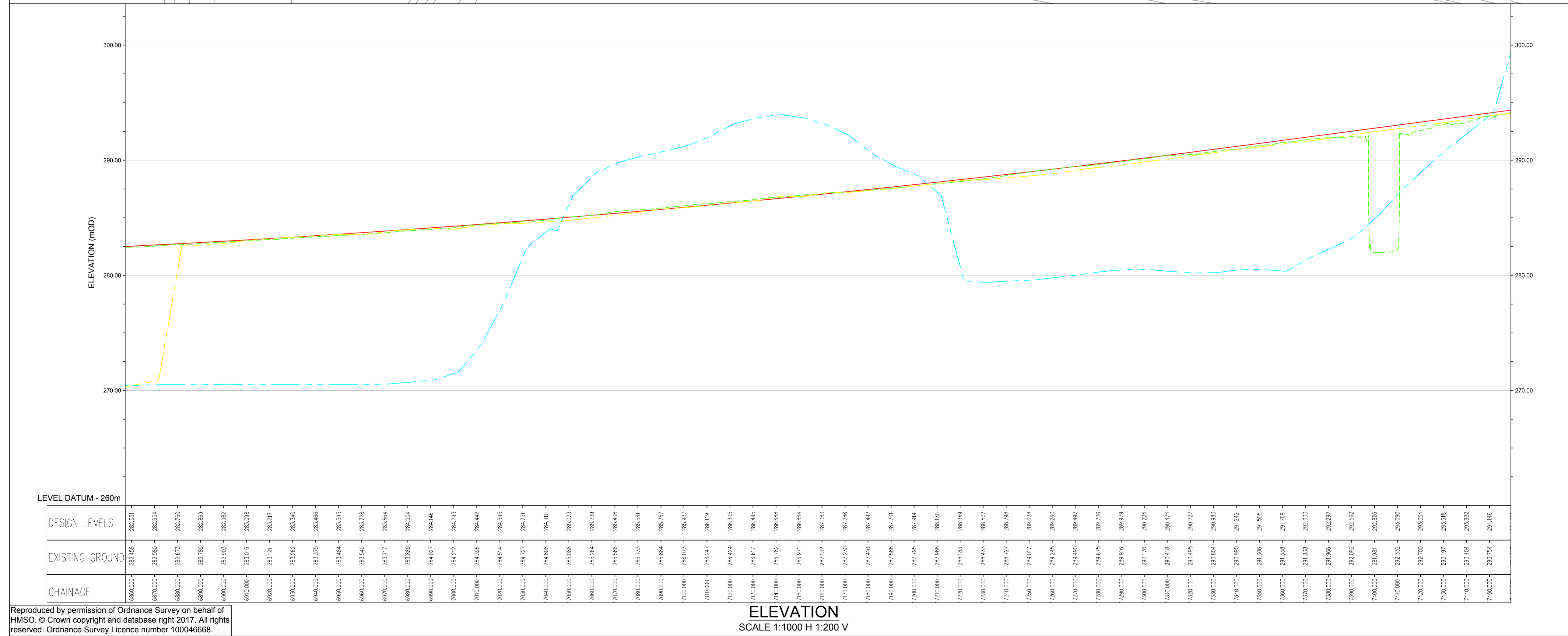
NH82NW	1973 BOREHOLE	NH80NE	1978 BOREHOLE
NH82NW	1973 CORE	NH80NE	1978 CORE
NH82NW	1973 TRIAL PIT	NH80NE	1978 TRIAL PIT
NH91NW	1977 BOREHOLE	NH81SE	2003 BOREHOLE
NH91NW	1977 CORE	NH81SE	2003 CORE
NH91NW	1977 TRIAL PIT	NH81SE	2003 TRIAL PIT
NH81SE	1964 BOREHOLE	NH81SE	1999 BOREHOLE
NH81SE	1964 CORE	NH81SE	1999 CORE
NH81SE	1964 TRIAL PIT	NH81SE	1999 TRIAL PIT
NH82SE	1993 BOREHOLE	NH81SE	1999 BOREHOLE
NH82SE	1993 CORE	NH81SE	1999 CORE
NH82SE	1993 TRIAL PIT	NH81SE	1999 TRIAL PIT
NH82SE	2008 BOREHOLE	NH81SE	1999 TRIAL PIT
NH82SE	2008 CORE		
NH82SE	2008 TRIAL PIT		

GEOTECHNICAL LONG SECTION KEY:

TOPSOIL	TOPSOIL
MADE GROUND	MADE GROUND
PEAT	SAND
ALLUVIUM GRANULAR	GRAVEL
RIVER TERRACE DEPOSITS COHESIVE	SILT
RIVER TERRACE DEPOSITS GRANULAR	CLAY
GLACIAL FLUVIAL GRANULAR	BOULDERS
GLACIAL TILL COHESIVE	BEDROCK
GLACIAL TILL GRANULAR	
ROCK	

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

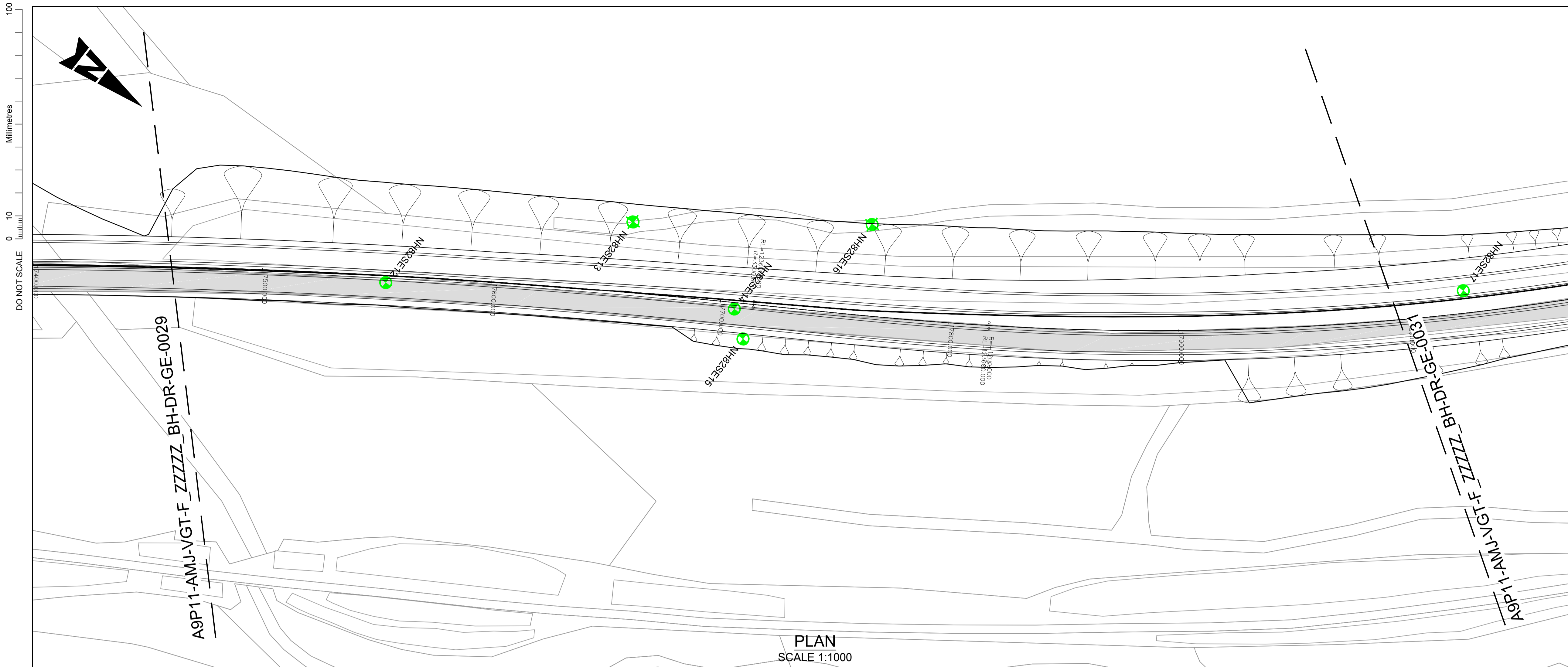
WATER STRIKE
 RISE TO IN 20 MINS
 PROPOSED ROAD LEVEL
 EXISTING GROUND LEVEL
 SOUTHBOUND EARTHWORKS LEVEL
 NORTHBOUND EARTHWORKS LEVEL



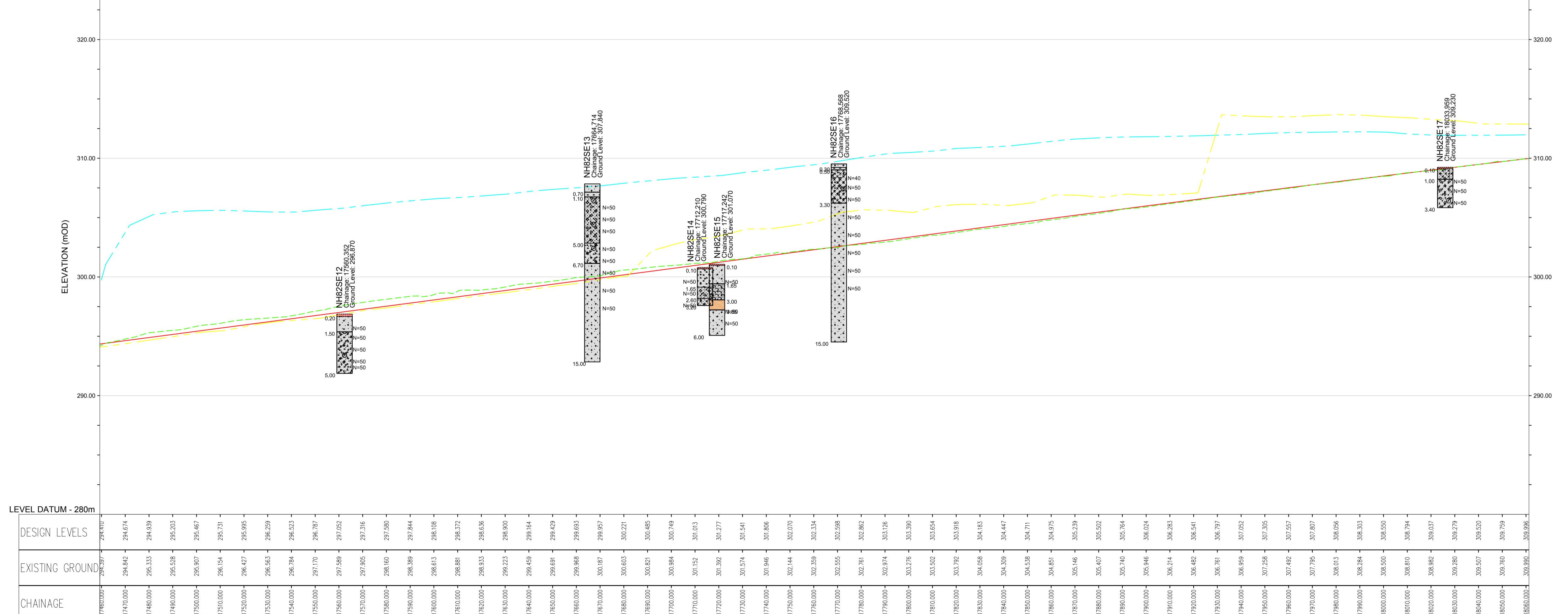
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FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
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Drawing Status				Subtality
FINAL				B
Client				
 An agency of The Scottish Government				
 Dalraddy to Slochd				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 29 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
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Project	Originator	Volume	Revision	
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Location	Type	Role	Number	

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- NOTES:**
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 - ALL DEPTHS SHOWN ARE IN METRES.
 - HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.
- KEY:**
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:**
- | | |
|-----------------------|-----------------------|
| NH82NW 1973 BOREHOLE | NH80NE 1978 BOREHOLE |
| NH82NW 1973 CORE | NH80NE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH80NE 1978 TRIAL PIT |
| NH81NW 1977 BOREHOLE | NH81SE 2003 BOREHOLE |
| NH81NW 1977 CORE | NH81SE 2003 CORE |
| NH81NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 CORE | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 CORE | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 TRIAL PIT | NH81SE 1999 TRIAL PIT |
- GEOTECHNICAL LONG SECTION KEY:**
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |
- NOTE:**
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.
- WATER STRIKE
 - RISE TO IN 20 MINS
 - PROPOSED ROAD LEVEL
 - EXISTING GROUND LEVEL
 - SOUTHBOUND EARTHWORKS LEVEL
 - NORTHBOUND EARTHWORKS LEVEL



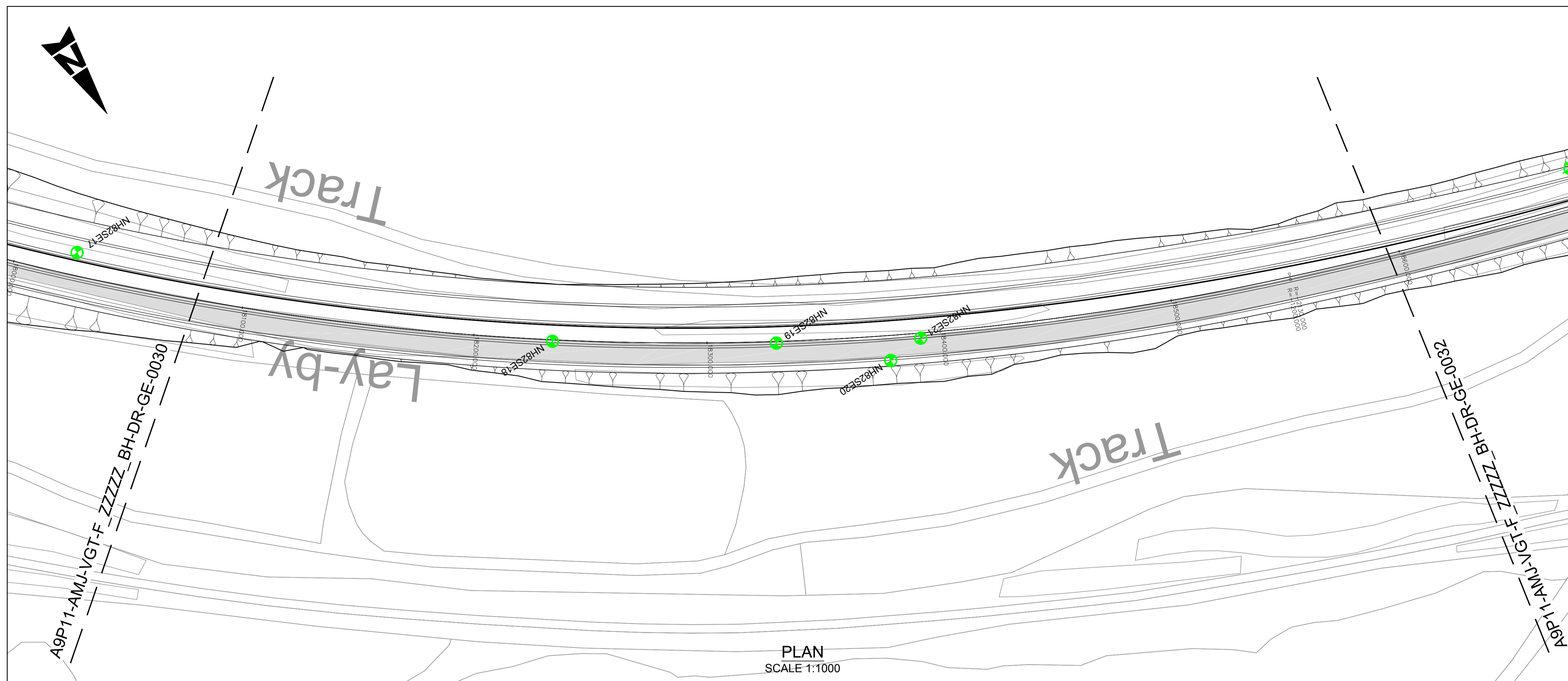
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FINAL				B
Client				
 An agency of The Scottish Government				
 Dalraddy to Stochd				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 30 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
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Project	Originator	Volume	Revision	
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Location	Type	Role	Number	

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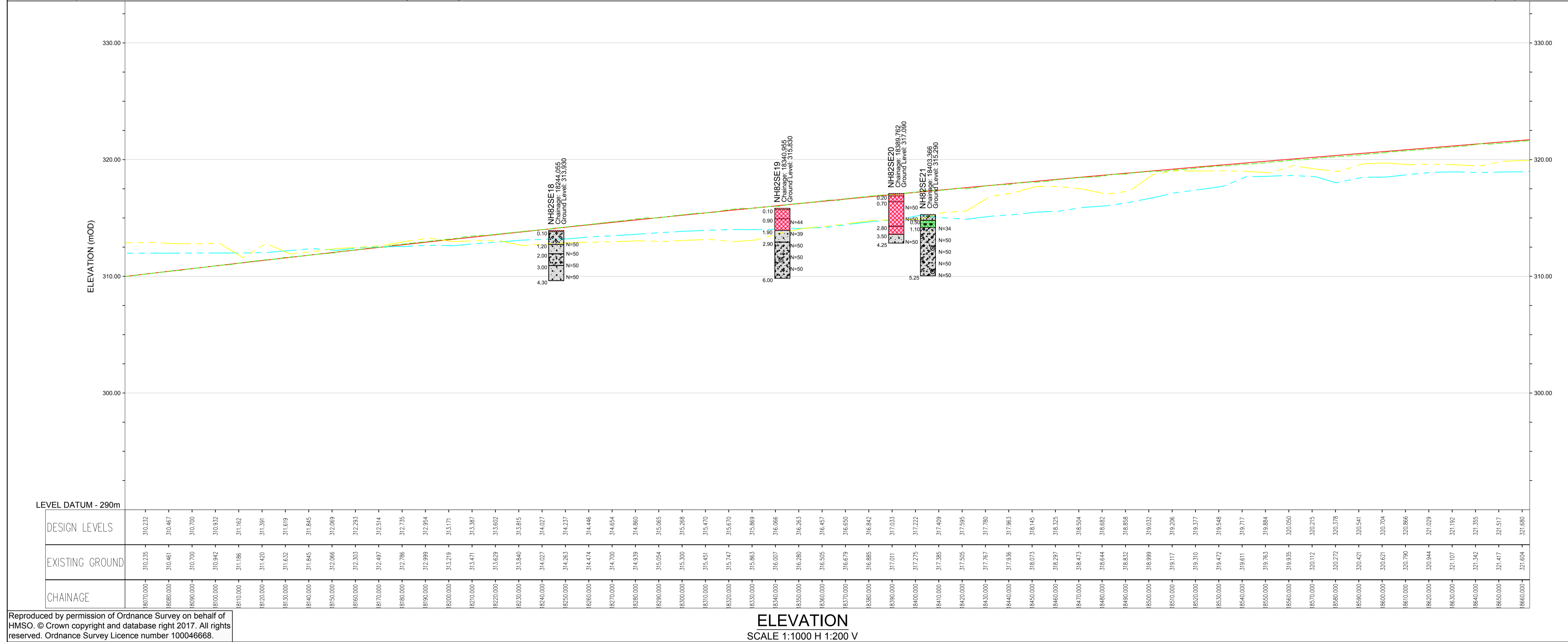
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ELEVATION SCALE 1:1000 H 1:200 V

100
0 10
Millimetres
DO NOT SCALE



- NOTES:**
- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
 - ALL DEPTHS SHOWN ARE IN METRES.
 - HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.
- KEY:**
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:**
- | | |
|-----------------------|-----------------------|
| NH82NW 1973 BOREHOLE | NH80NE 1978 BOREHOLE |
| NH82NW 1973 CORE | NH80NE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH80NE 1978 TRIAL PIT |
| NH91NW 1977 BOREHOLE | NH81SE 2003 BOREHOLE |
| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 CORE | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 CORE | |
| NH82SE 2008 TRIAL PIT | |
- GEOTECHNICAL LONG SECTION KEY:**
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |
- NOTE:**
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.
- WATER STRIKE
 - RISE TO IN 20 MINS
 - PROPOSED ROAD LEVEL
 - EXISTING GROUND LEVEL
 - SOUTHBOUND EARTHWORKS LEVEL
 - NORTHBOUND EARTHWORKS LEVEL

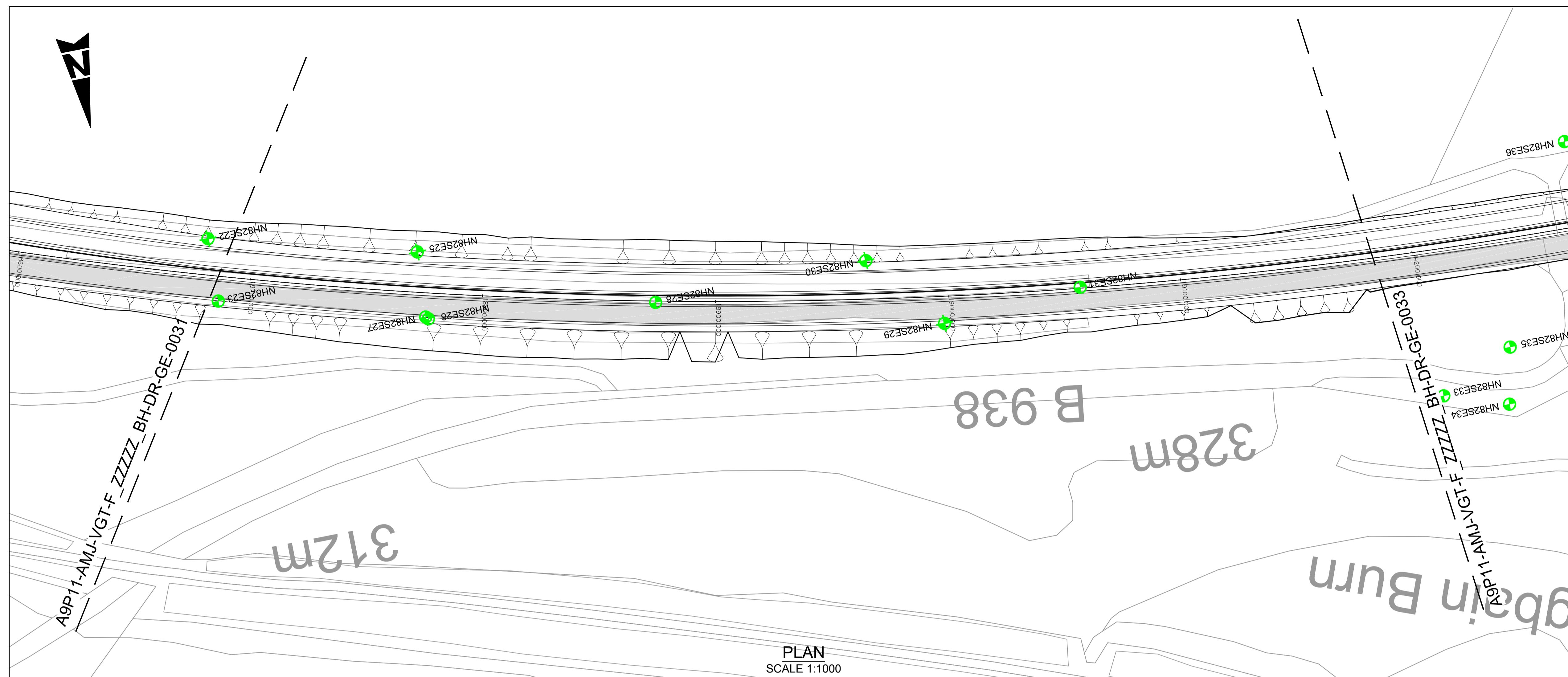


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FINAL				B
Client				
 An agency of The Scottish Government				
 Dairdery to Slochd				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 31 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
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Drawing Number				
Project	Originator	Volume	Revision	
A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0031			P01	
Location	Type	Role	Number	

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DO NOT SCALE



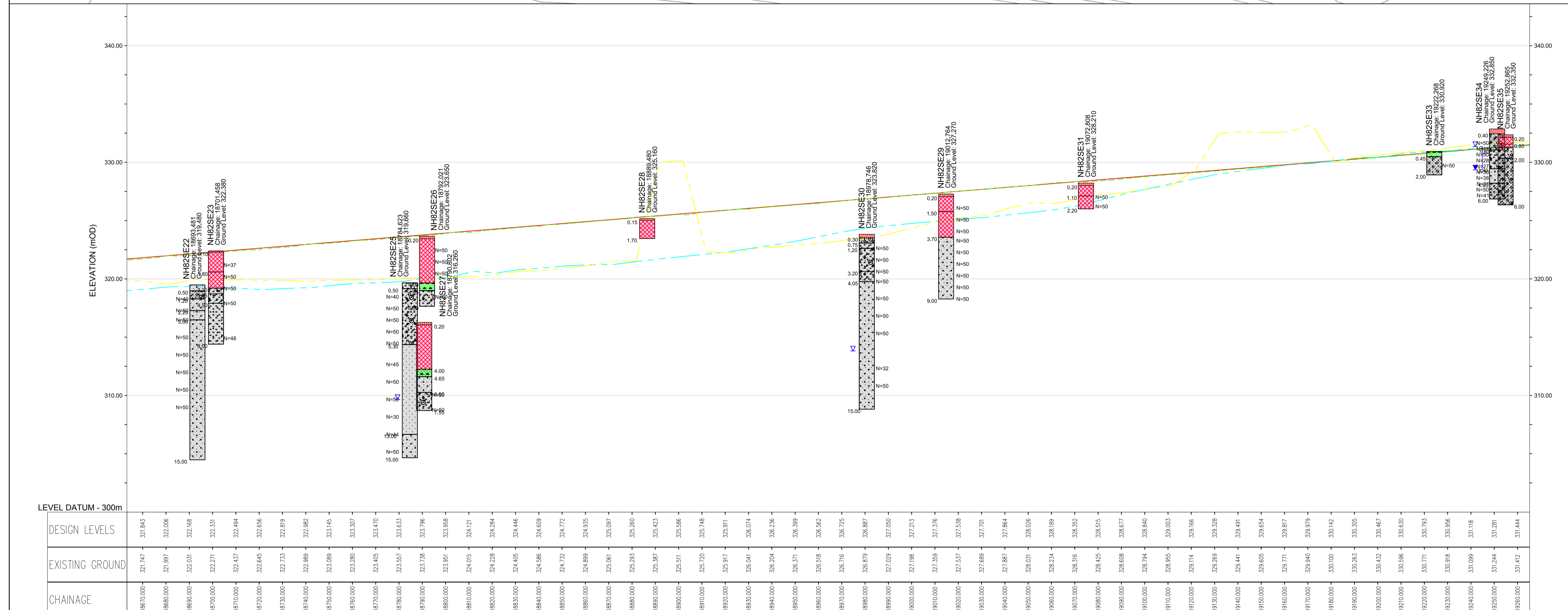
- NOTES:
- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
 - ALL DEPTHS SHOWN ARE IN METRES.
 - HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

- KEY:
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:
- | | |
|-----------------------|-----------------------|
| NH82NW 1973 BOREHOLE | NH80NE 1978 BOREHOLE |
| NH82NW 1973 CORE | NH80NE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH80NE 1978 TRIAL PIT |
| NH91NW 1977 BOREHOLE | NH81SE 2003 BOREHOLE |
| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH82SE 1993 CORE | NH81SE 1999 CORE |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | |
| NH82SE 2008 CORE | |
| NH82SE 2008 TRIAL PIT | |

- GEOTECHNICAL LONG SECTION KEY:
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |

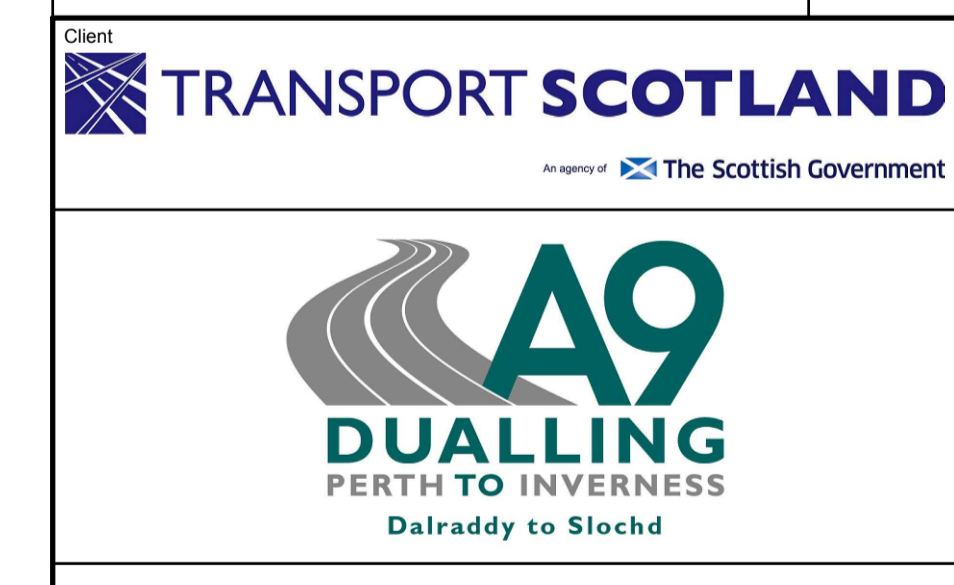
NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

- WATER STRIKE
- RISE TO IN 20 MINS
- PROPOSED ROAD LEVEL
- EXISTING GROUND LEVEL
- SOUTHBOUND EARTHWORKS LEVEL
- NORTHBOUND EARTHWORKS LEVEL



P01	CC	KP	KP	05/08/16
FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Suitability
FINAL				B

Client
TRANSPORT SCOTLAND
An agency of The Scottish Government



ATKINS mouchel

Drawing Title
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 32 OF 41)

Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
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Drawing Number	Project	Originator	Volume	Revision
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Location	Type	Role	Number	

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ELEVATION
SCALE 1:1000 H 1:200 V

100
10
0
Millimetres
DO NOT SCALE



NOTES:

- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- ALL DEPTHS SHOWN ARE IN METRES.
- HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

KEY:

- EXISTING A9

BGS HISTORICAL GROUND INVESTIGATION:

NH82NW 1973 BOREHOLE	NH80NE 1978 BOREHOLE
NH82NW 1973 CORE	NH80NE 1978 CORE
NH82NW 1973 TRIAL PIT	NH81SE 1978 TRIAL PIT
NH81NW 1977 BOREHOLE	NH81SE 2003 BOREHOLE
NH81NW 1977 CORE	NH81SE 2003 CORE
NH81NW 1977 TRIAL PIT	NH81SE 2003 TRIAL PIT
NH81SE 1964 BOREHOLE	NH81SE 1999 BOREHOLE
NH81SE 1964 CORE	NH81SE 1999 CORE
NH81SE 1964 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 1993 BOREHOLE	NH81SE 1999 BOREHOLE
NH82SE 1993 CORE	NH81SE 1999 CORE
NH82SE 1993 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 2008 BOREHOLE	
NH82SE 2008 CORE	
NH82SE 2008 TRIAL PIT	

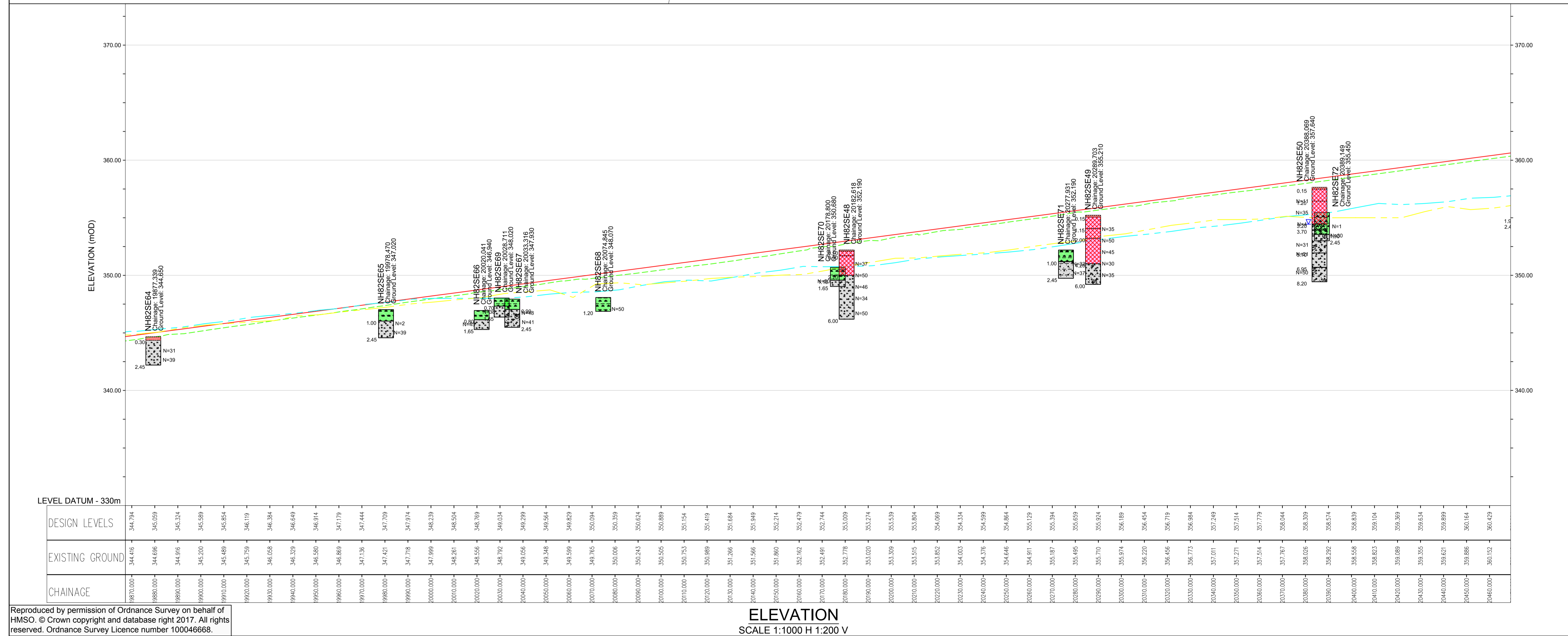
GEOTECHNICAL LONG SECTION KEY:

TOPSOIL	TOPSOIL
MADE GROUND	MADE GROUND
PEAT	SAND
ALLUVIUM GRANULAR	GRAVEL
RIVER TERRACE DEPOSITS COHESIVE	SILT
RIVER TERRACE DEPOSITS GRANULAR	CLAY
GLACIAL FLUVIAL GRANULAR	BOULDERS
GLACIAL TILL COHESIVE	BEDROCK
GLACIAL TILL GRANULAR	
ROCK	

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

LEGEND:

- WATER STRIKE
- RISE TO IN 20 MINS
- PROPOSED ROAD LEVEL
- EXISTING GROUND LEVEL
- SOUTHBOUND EARTHWORKS LEVEL
- NORTHBOUND EARTHWORKS LEVEL

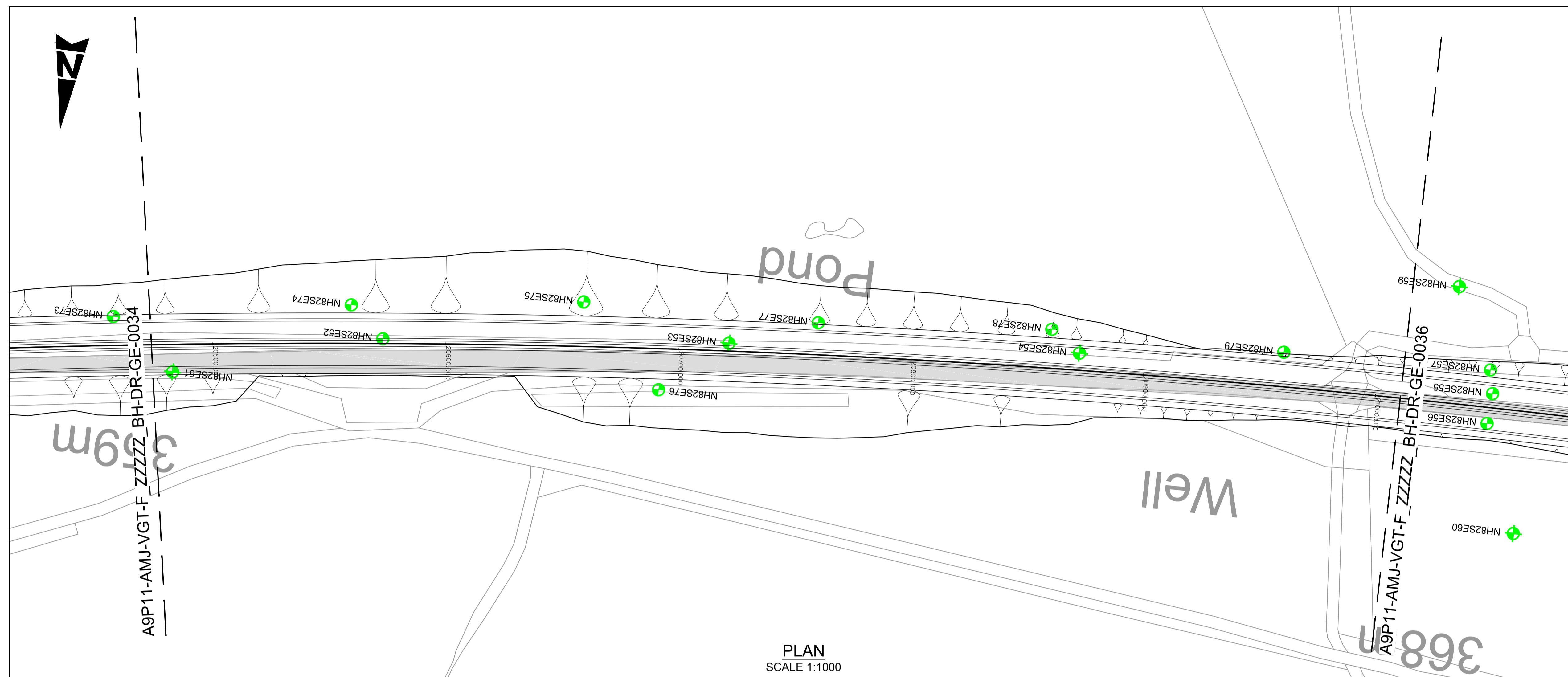


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Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Suitability
FINAL				B
Client				
 An agency of The Scottish Government				
 Dalraddy to Stochd				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 34 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
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Project	Originator	Volume	Revision	
A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0034			P01	
Location	Type	Role	Number	

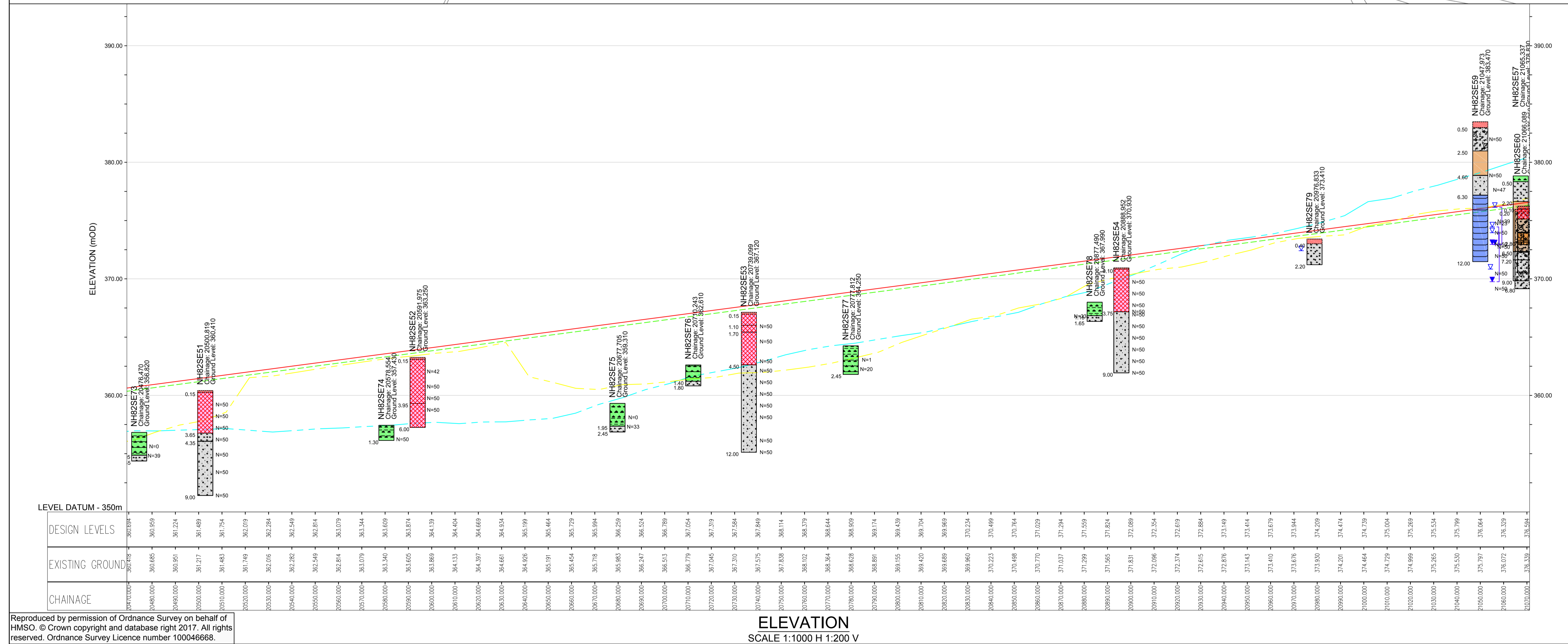
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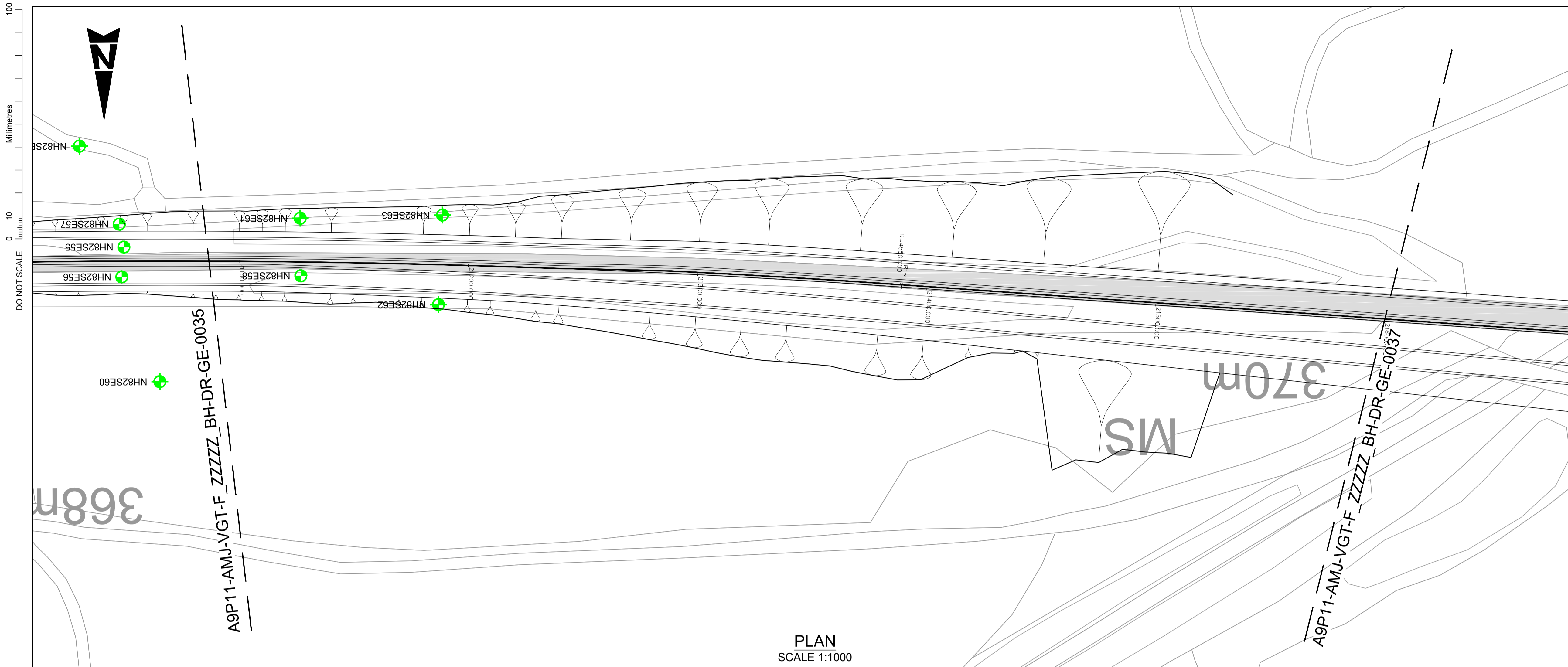
- NOTES:**
- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
 - ALL DEPTHS SHOWN ARE IN METRES.
 - HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.
- KEY:**
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:**
- | | |
|-----------------------|-----------------------|
| NH82NW 1973 BOREHOLE | NH80NE 1978 BOREHOLE |
| NH82NW 1973 CORE | NH80NE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH81SE 1978 TRIAL PIT |
| NH91NW 1977 BOREHOLE | NH81SE 2003 BOREHOLE |
| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH82SE 1993 CORE | NH81SE 1999 CORE |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | NH82SE 2008 CORE |
| NH82SE 2008 TRIAL PIT | NH82SE 2008 TRIAL PIT |
- GEOTECHNICAL LONG SECTION KEY:**
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |
- NOTE:**
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.
- WATER STRIKE
 - RISE TO IN 20 MINS
 - PROPOSED ROAD LEVEL
 - EXISTING GROUND LEVEL
 - SOUTHBOUND EARTHWORKS LEVEL
 - NORTHBOUND EARTHWORKS LEVEL



P01	CC	KP	KP	05/08/16
FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Suitability
FINAL				B
Client				
 An agency of The Scottish Government				
 Dalraddy to Stochd				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 35 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
Drawing Number				
Project	Originator	Volume	Revision	
A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0035			P01	
Location	Type	Role	Number	

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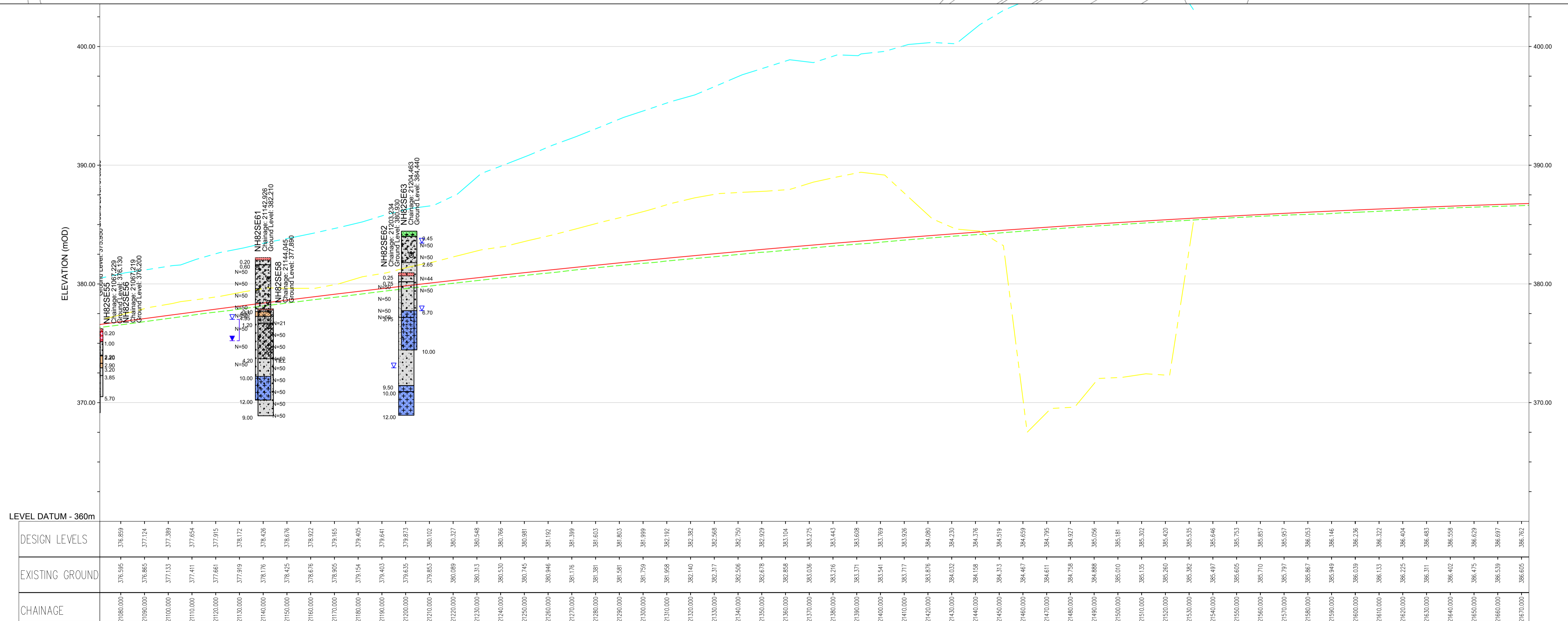
- NOTES:
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 - HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

- KEY:
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:
- | | |
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| NH82NW 1973 CORE | NH80NE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH80NE 1978 TRIAL PIT |
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| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH82SE 1993 CORE | NH81SE 1999 CORE |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | |
| NH82SE 2008 CORE | |
| NH82SE 2008 TRIAL PIT | |

- GEOTECHNICAL LONG SECTION KEY:
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
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- WATER STRIKE
- RISE IN TO 20 MINS
- PROPOSED ROAD LEVEL
- EXISTING GROUND LEVEL
- SOUTHBOUND EARTHWORKS LEVEL
- NORTHBOUND EARTHWORKS LEVEL



ELEVATION
SCALE 1:1000 H 1:200 V

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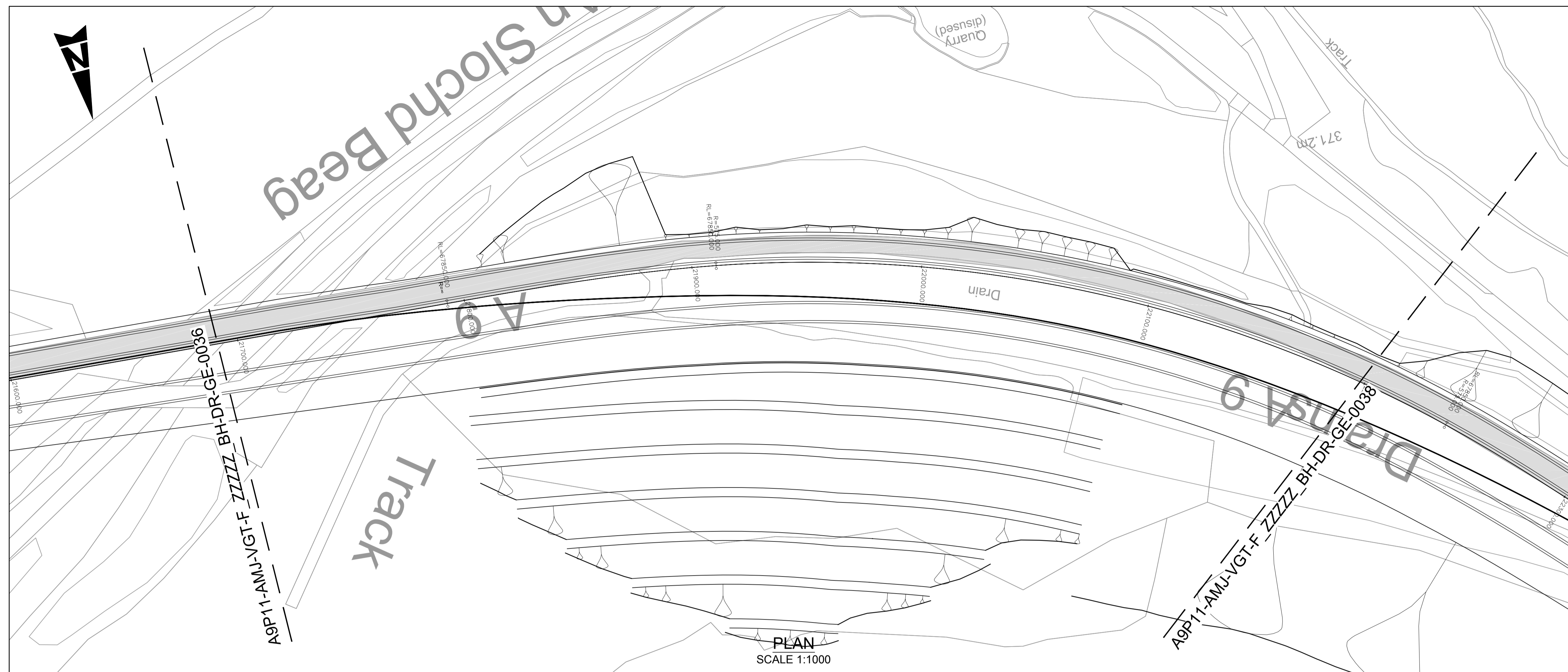
Client				
 An agency of The Scottish Government				
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Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 36 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
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Number				

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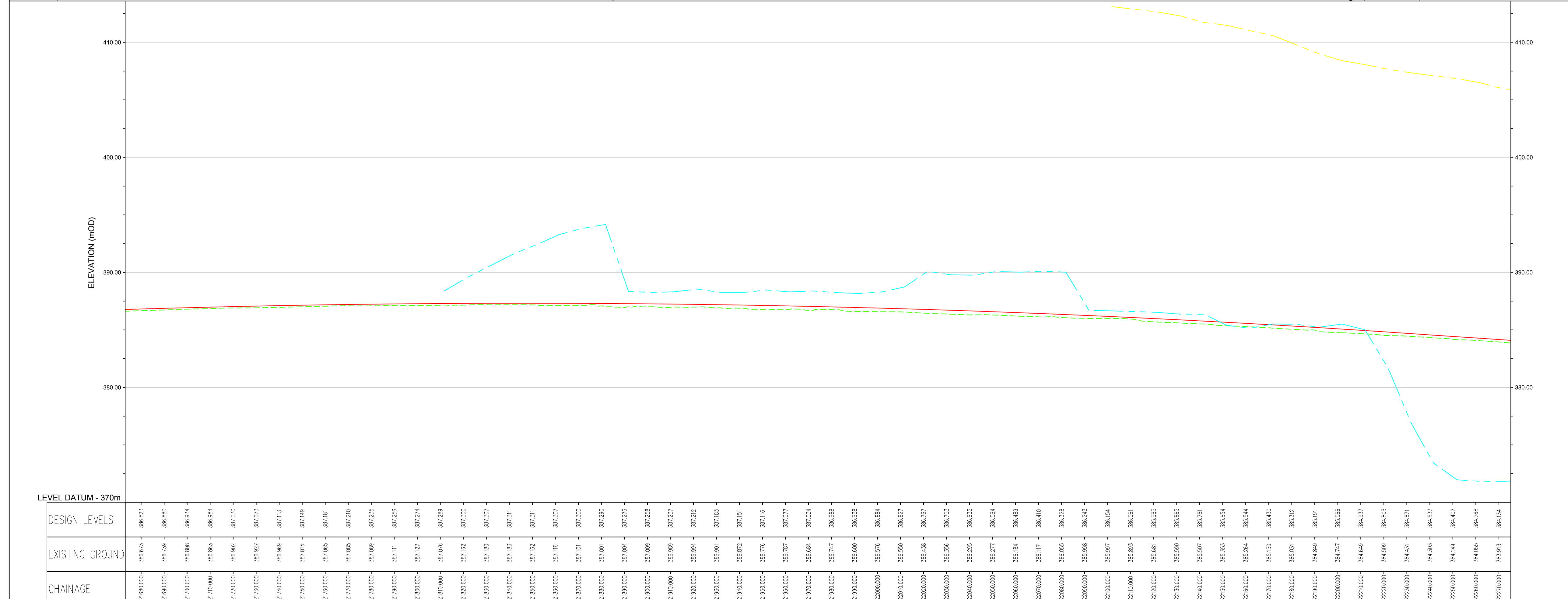


- NOTES:**
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 - ALL DEPTHS SHOWN ARE IN METRES.
 - HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.
- KEY:**
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:**
- | | |
|-----------------------|-----------------------|
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| NH82NW 1973 CORE | NH80NE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH81SE 1978 TRIAL PIT |
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| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH82SE 1993 CORE | NH81SE 1999 CORE |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | |
| NH82SE 2008 CORE | |
| NH82SE 2008 TRIAL PIT | |

- GEOTECHNICAL LONG SECTION KEY:**
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |

- NOTE:**
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- DEPTH (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.
- WATER STRIKE
 - RISE TO IN 20 MINS
 - PROPOSED ROAD LEVEL
 - EXISTING GROUND LEVEL
 - SOUTHBOUND EARTHWORKS LEVEL
 - NORTHBOUND EARTHWORKS LEVEL

PLAN
SCALE 1:1000



ELEVATION
SCALE 1:1000 H 1:200 V

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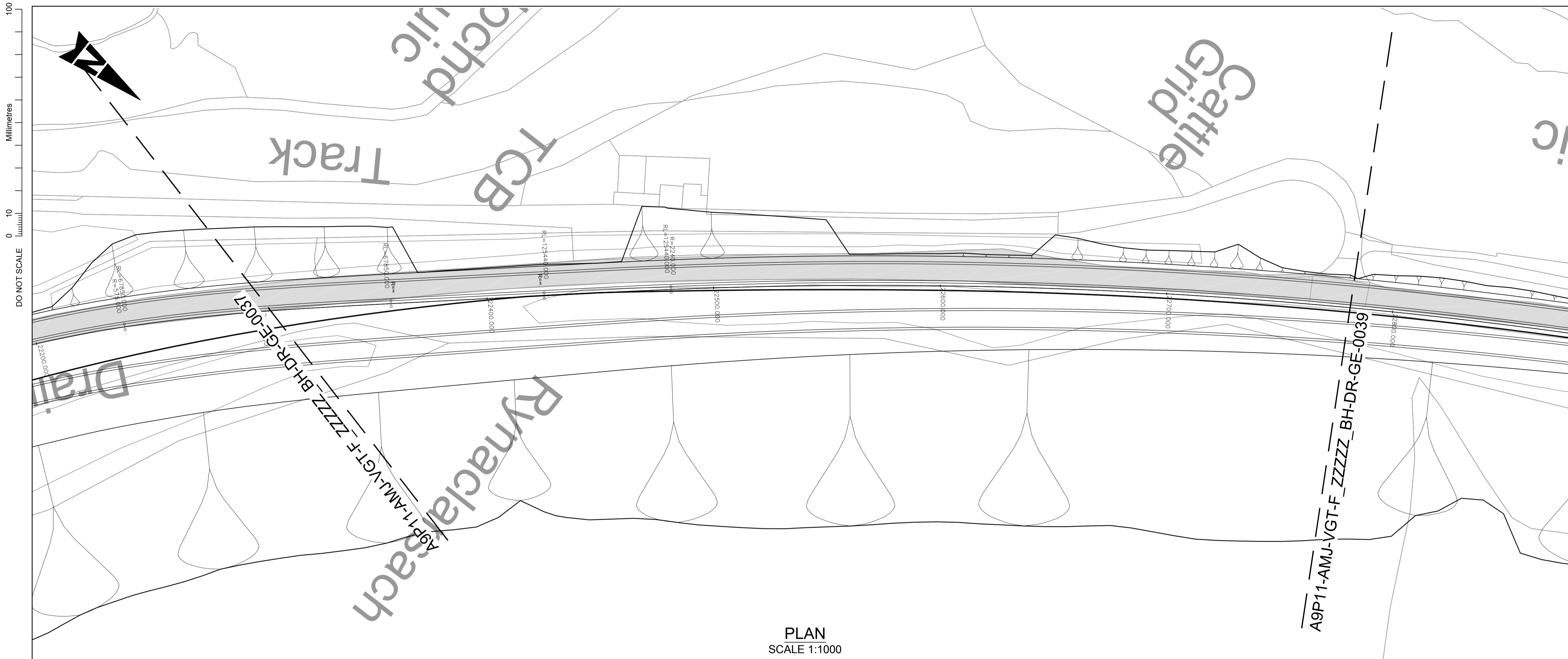


Drawing Title
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 37 OF 41)

Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
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Drawing Number	Project	Originator	Volume	Revision
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Location	Type	Role	Number	

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NOTES:

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- ALL DEPTHS SHOWN ARE IN METRES.
- HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

KEY:

EXISTING A9

BGS HISTORICAL GROUND INVESTIGATION:

NH82NW 1973 BOREHOLE	NH80NE 1978 BOREHOLE
NH82NW 1973 CORE	NH80NE 1978 CORE
NH82NW 1973 TRIAL PIT	NH80SE 1978 TRIAL PIT
NH91NW 1977 BOREHOLE	NH81SE 2003 BOREHOLE
NH91NW 1977 CORE	NH81SE 2003 CORE
NH91NW 1977 TRIAL PIT	NH81SE 1999 BOREHOLE
NH81SE 1964 BOREHOLE	NH81SE 1999 CORE
NH81SE 1964 CORE	NH81SE 1999 TRIAL PIT
NH81SE 1964 TRIAL PIT	NH81SE 1999 BOREHOLE
NH82SE 1993 BOREHOLE	NH81SE 1999 CORE
NH82SE 1993 CORE	NH81SE 1999 TRIAL PIT
NH82SE 1993 TRIAL PIT	NH82SE 2008 BOREHOLE
NH82SE 2008 BOREHOLE	NH82SE 2008 CORE
NH82SE 2008 CORE	NH82SE 2008 TRIAL PIT

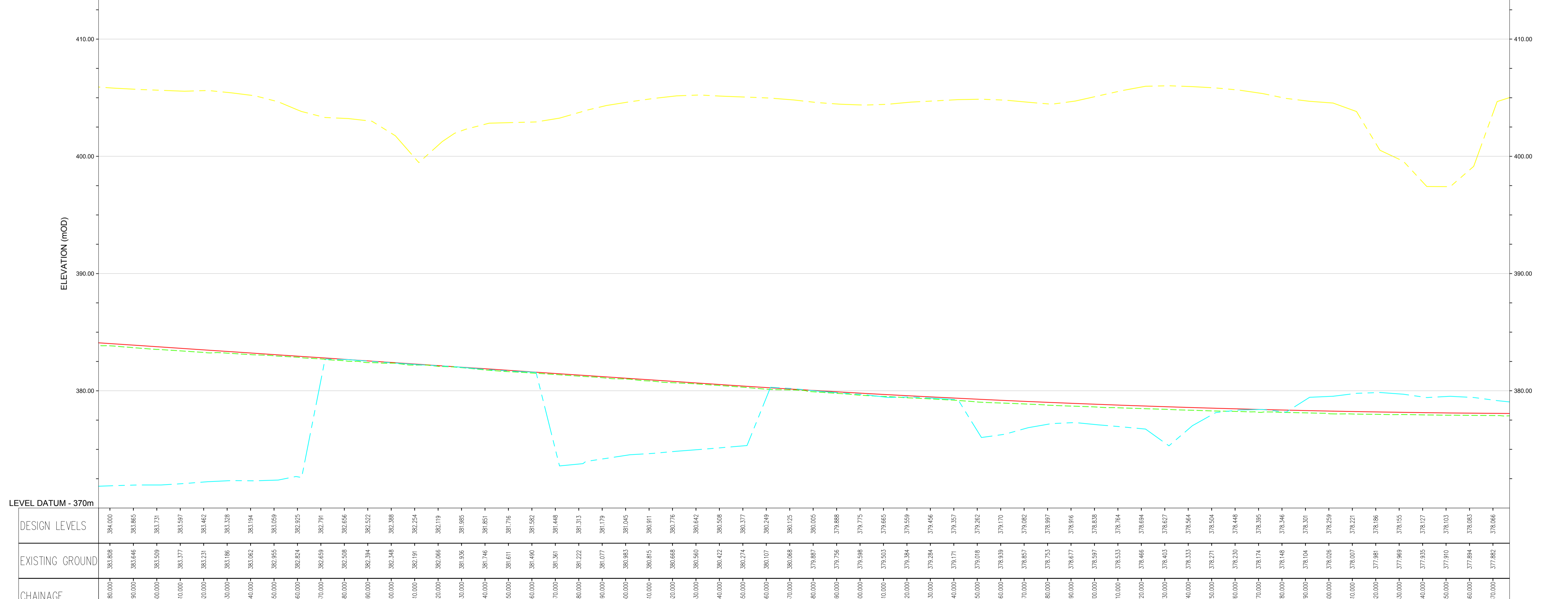
GEOTECHNICAL LONG SECTION KEY:

TOPSOIL	TOPSOIL
MADE GROUND	MADE GROUND
PEAT	SAND
ALLUVIUM GRANULAR	GRAVEL
RIVER TERRACE DEPOSITS COHESIVE	SILT
RIVER TERRACE DEPOSITS GRANULAR	CLAY
GLACIAL FLUVIAL GRANULAR	BOULDERS
GLACIAL TILL COHESIVE	BEDROCK
GLACIAL TILL GRANULAR	
ROCK	

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

LEGEND:

- WATER STRIKE
- RISE TO IN 20 MINS
- PROPOSED ROAD LEVEL
- EXISTING GROUND LEVEL
- SOUTHBOUND EARTHWORKS LEVEL
- NORTHBOUND EARTHWORKS LEVEL



LEVEL DATUM - 370m	CHAINAGE	DESIGN LEVELS	EXISTING GROUND
	22280.000	384.000	383.808
	22285.000	383.865	383.646
	22300.000	383.731	383.509
	22310.000	383.599	383.377
	22320.000	383.462	383.231
	22330.000	383.328	383.106
	22340.000	383.194	382.982
	22350.000	382.059	382.955
	22360.000	382.925	382.824
	22370.000	382.791	382.659
	22380.000	382.654	382.508
	22390.000	382.522	382.394
	22400.000	382.388	382.258
	22410.000	382.254	382.191
	22420.000	382.119	382.066
	22430.000	381.985	381.936
	22440.000	381.851	381.746
	22450.000	381.611	381.611
	22460.000	381.490	381.588
	22470.000	381.361	381.448
	22480.000	381.222	381.315
	22490.000	381.077	381.179
	22500.000	380.983	381.045
	22510.000	380.815	380.911
	22520.000	380.668	380.778
	22530.000	380.560	380.642
	22540.000	380.422	380.508
	22550.000	380.274	380.377
	22560.000	380.107	380.249
	22570.000	380.008	380.122
	22580.000	379.887	380.005
	22590.000	379.756	379.888
	22600.000	379.598	379.775
	22610.000	379.503	379.665
	22620.000	379.384	379.559
	22630.000	379.284	379.456
	22640.000	379.171	379.357
	22650.000	379.018	379.262
	22660.000	378.939	379.177
	22670.000	378.857	379.082
	22680.000	378.753	378.997
	22690.000	378.677	378.916
	22700.000	378.597	378.838
	22710.000	378.533	378.764
	22720.000	378.465	378.694
	22730.000	378.403	378.627
	22740.000	378.333	378.564
	22750.000	378.271	378.504
	22760.000	378.230	378.448
	22770.000	378.174	378.395
	22780.000	378.148	378.346
	22790.000	378.104	378.301
	22800.000	378.026	378.259
	22810.000	378.007	378.221
	22820.000	377.981	378.186
	22830.000	377.969	378.155
	22840.000	377.935	378.127
	22850.000	377.910	378.103
	22860.000	377.884	378.080
	22870.000	377.862	378.058

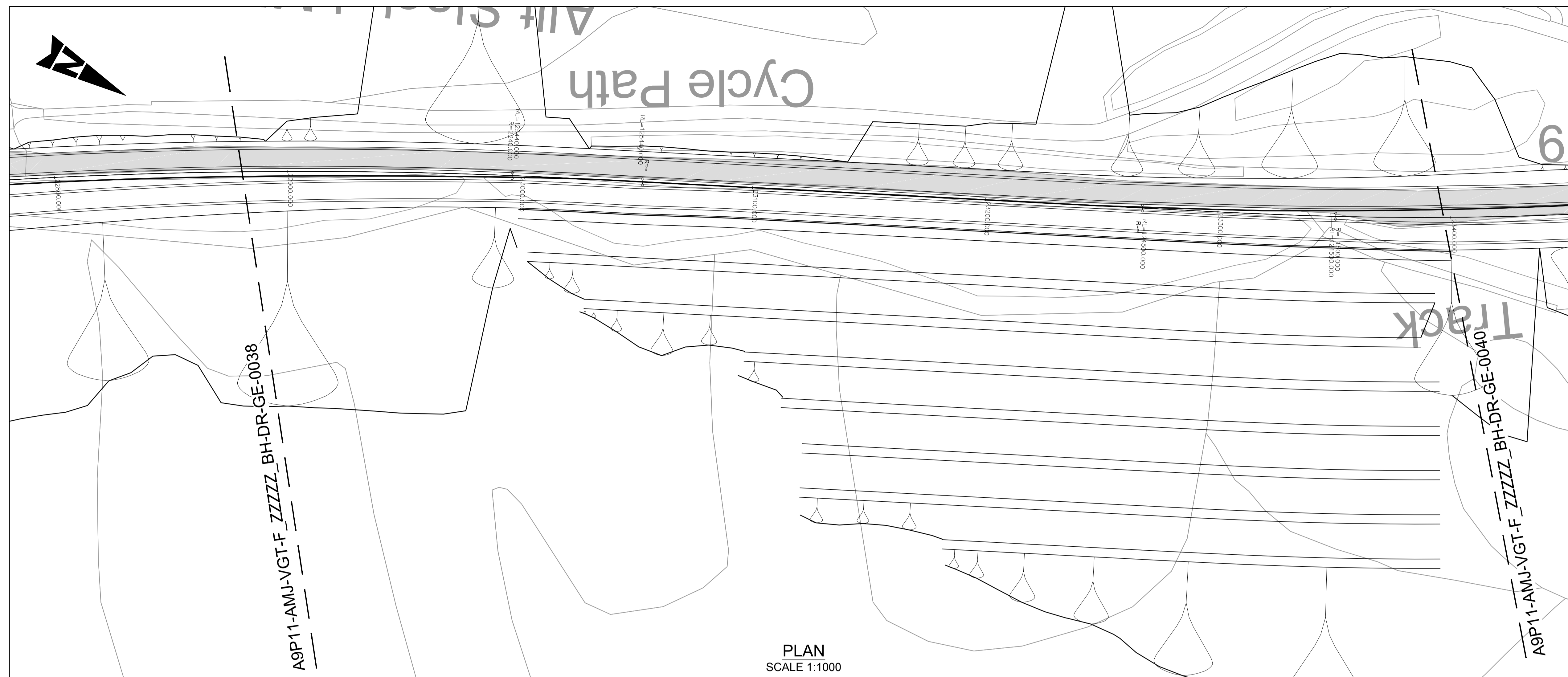
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Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Subtability
FINAL				B
Client				
 An agency of The Scottish Government				
 Dairdrey to Slouch				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 38 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
Drawing Number	Project	Originator	Volume	Revision
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Location	Type	Role	Number	

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SCALE 1:1000

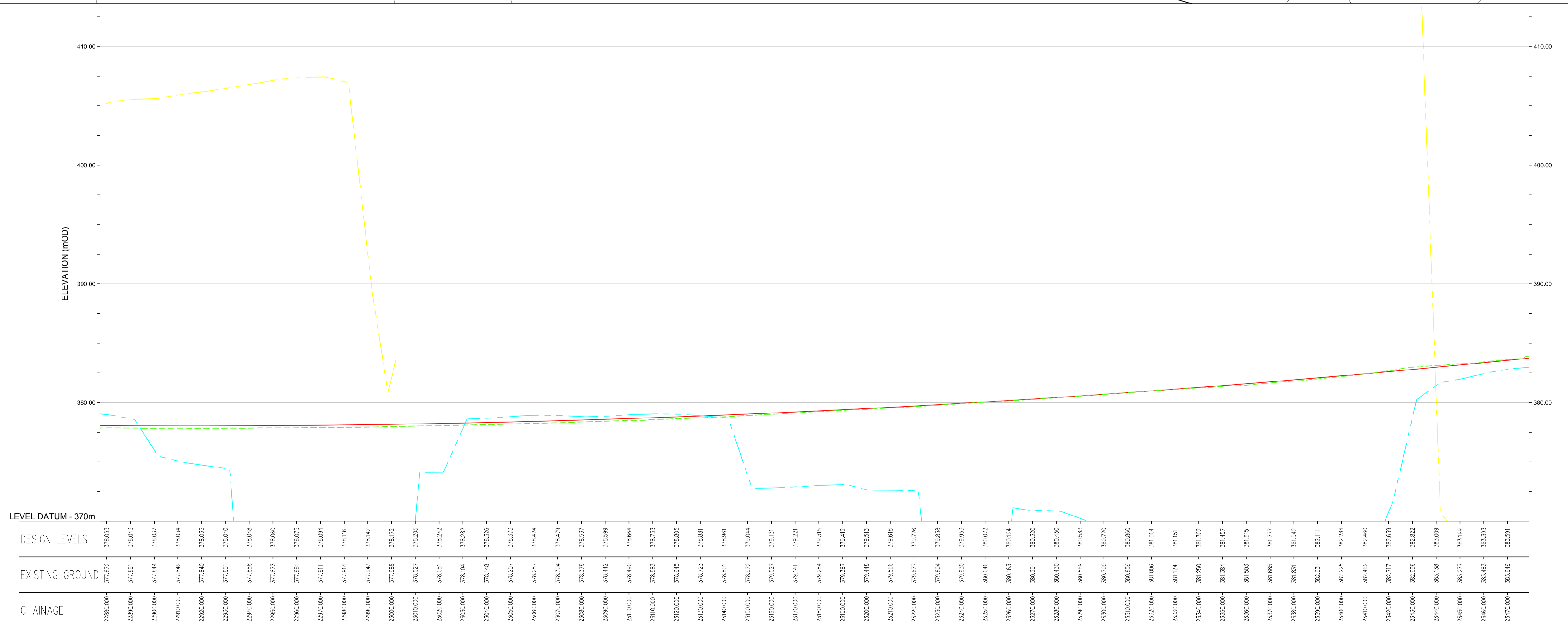
- NOTES:
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- KEY:
- EXISTING A9
- BGS HISTORICAL GROUND INVESTIGATION:
- | | |
|-----------------------|-----------------------|
| NH82NW 1973 BOREHOLE | NH80NE 1978 BOREHOLE |
| NH82NW 1973 CORE | NH80NE 1978 CORE |
| NH82NW 1973 TRIAL PIT | NH80NE 1978 TRIAL PIT |
| NH91NW 1977 BOREHOLE | NH81SE 2003 BOREHOLE |
| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH82SE 1993 CORE | NH81SE 1999 CORE |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | NH82SE 2008 CORE |
| NH82SE 2008 CORE | NH82SE 2008 TRIAL PIT |
| NH82SE 2008 TRIAL PIT | |

- GEOTECHNICAL LONG SECTION KEY:
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |

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- RISE TO IN 20 MINS
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ELEVATION
SCALE 1:1000 H 1:200 V

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Rev	Drawn / Des	Checked	Approved	Date
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Drawing Status				Subtibility
FINAL				B

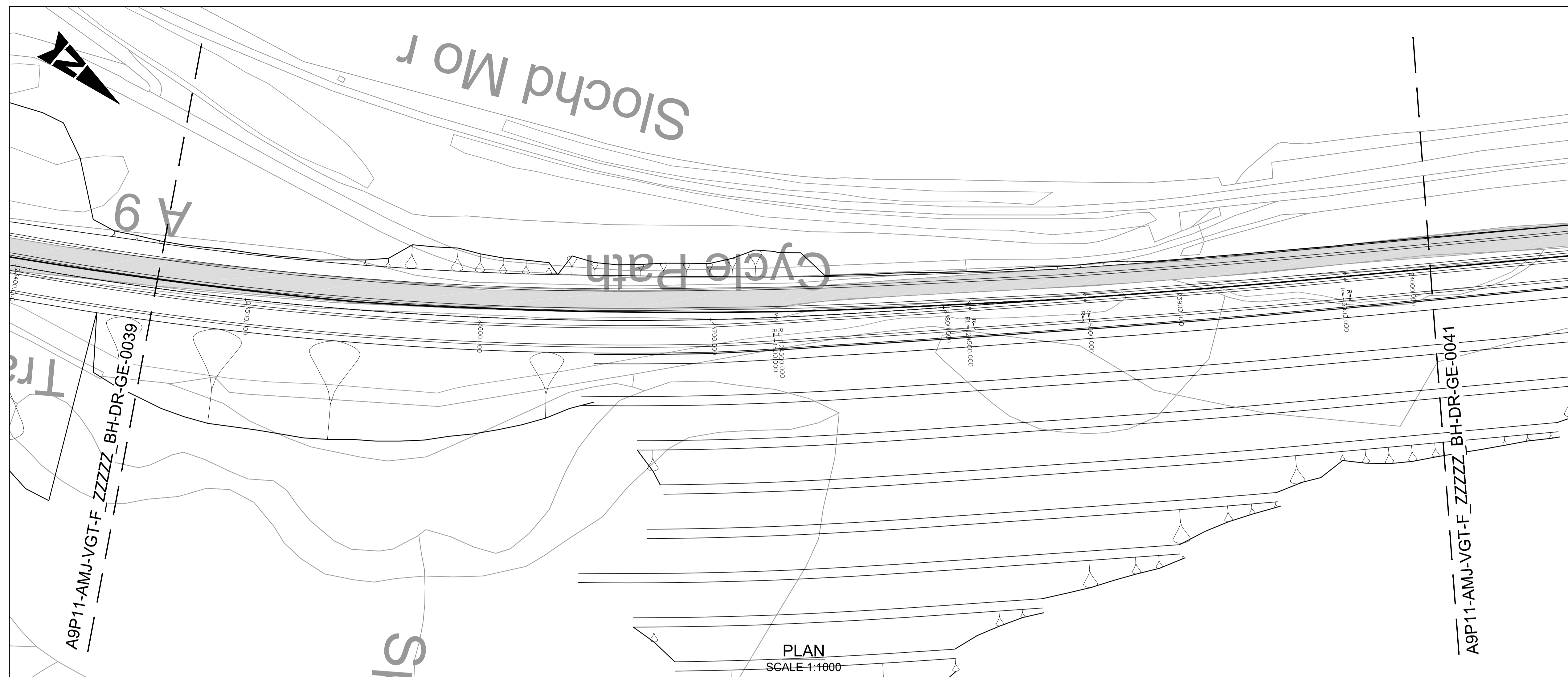
Client				
 An agency of The Scottish Government				
 Dalraddy to Stochd				

Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 39 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
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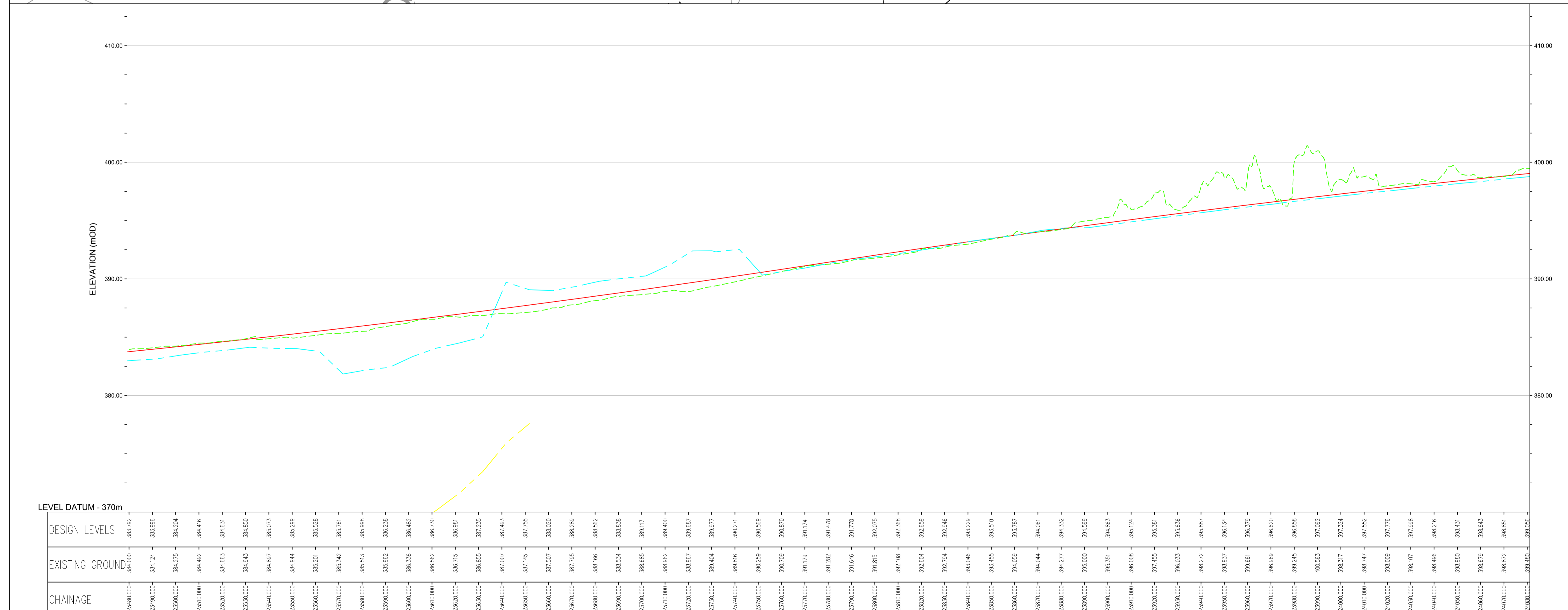
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- EXISTING A9
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- | | |
|-----------------------|-----------------------|
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| NH82NW 1973 TRIAL PIT | NH80NE 1978 TRIAL PIT |
| NH91NW 1977 BOREHOLE | NH81SE 2003 BOREHOLE |
| NH91NW 1977 CORE | NH81SE 2003 CORE |
| NH91NW 1977 TRIAL PIT | NH81SE 2003 TRIAL PIT |
| NH81SE 1964 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH81SE 1964 CORE | NH81SE 1999 CORE |
| NH81SE 1964 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 1993 BOREHOLE | NH81SE 1999 BOREHOLE |
| NH82SE 1993 CORE | NH81SE 1999 CORE |
| NH82SE 1993 TRIAL PIT | NH81SE 1999 TRIAL PIT |
| NH82SE 2008 BOREHOLE | |
| NH82SE 2008 CORE | |
| NH82SE 2008 TRIAL PIT | |
- GEOTECHNICAL LONG SECTION KEY:**
- | | |
|---------------------------------|-------------|
| TOPSOIL | TOPSOIL |
| MADE GROUND | MADE GROUND |
| PEAT | SAND |
| ALLUVIUM GRANULAR | GRAVEL |
| RIVER TERRACE DEPOSITS COHESIVE | SILT |
| RIVER TERRACE DEPOSITS GRANULAR | CLAY |
| GLACIAL FLUVIAL GRANULAR | BOULDERS |
| GLACIAL TILL COHESIVE | BEDROCK |
| GLACIAL TILL GRANULAR | |
| ROCK | |
- NOTE:**
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.
- WATER STRIKE
 - RISE TO IN 20 MINS
 - PROPOSED ROAD LEVEL
 - EXISTING GROUND LEVEL
 - SOUTHBOUND EARTHWORKS LEVEL
 - NORTHBOUND EARTHWORKS LEVEL

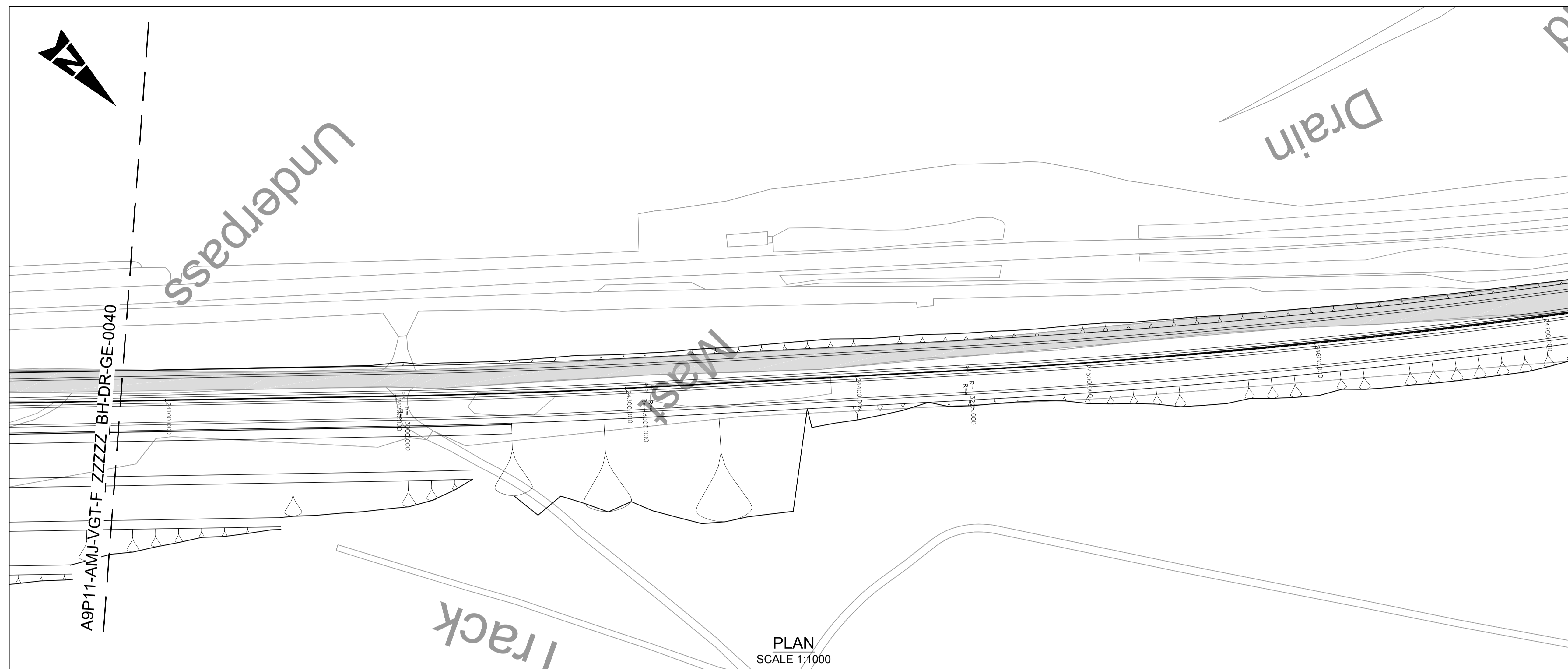


P01	CC	KP	KP	05/08/16
FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Subtality
FINAL				B
Client				
 An agency of The Scottish Government				
 Dalraddy to Slochd				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 40 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
Drawing Number				
Project	Originator	Volume	Revision	
A9P11 - AMJ - VGT - F_ZZZZ_BH - DR - GE - 0040			P01	
Location	Type	Role	Number	

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100
10
0
Millimetres
DO NOT SCALE



NOTES:

- ALL LEVELS IN mAOD UNLESS OTHERWISE NOTED. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
- ALL DEPTHS SHOWN ARE IN METRES.
- HISTORICAL BOREHOLE POSITIONS AND LEVELS INFERRED FROM BGS DATABASE TO ACCURACY ± 10m.

KEY:

- EXISTING A9

BGS HISTORICAL GROUND INVESTIGATION:

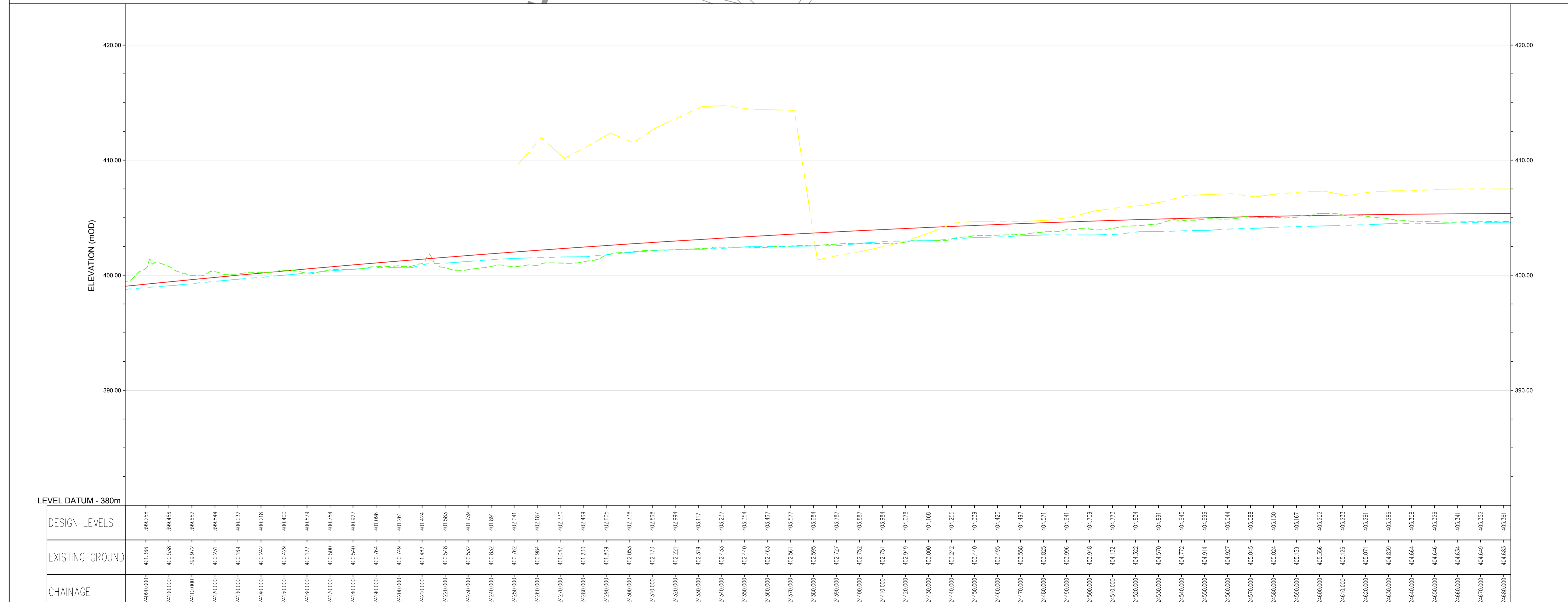
NH82NW 1973 BOREHOLE	NH80NE 1978 BOREHOLE
NH82NW 1973 CORE	NH80NE 1978 CORE
NH82NW 1973 TRIAL PIT	NH80NE 1978 TRIAL PIT
NH91NW 1977 BOREHOLE	NH81SE 2003 BOREHOLE
NH91NW 1977 CORE	NH81SE 2003 CORE
NH91NW 1977 TRIAL PIT	NH81SE 2003 TRIAL PIT
NH81SE 1964 BOREHOLE	NH81SE 1999 BOREHOLE
NH81SE 1964 CORE	NH81SE 1999 CORE
NH81SE 1964 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 1993 BOREHOLE	NH81SE 1999 BOREHOLE
NH82SE 1993 CORE	NH81SE 1999 CORE
NH82SE 1993 TRIAL PIT	NH81SE 1999 TRIAL PIT
NH82SE 2008 BOREHOLE	
NH82SE 2008 CORE	
NH82SE 2008 TRIAL PIT	

GEOTECHNICAL LONG SECTION KEY:

TOPSOIL	TOPSOIL
MADE GROUND	MADE GROUND
PEAT	SAND
ALLUVIUM GRANULAR	GRAVEL
RIVER TERRACE DEPOSITS COHESIVE	SILT
RIVER TERRACE DEPOSITS GRANULAR	CLAY
GLACIAL FLUVIAL GRANULAR	BOULDERS
GLACIAL TILL COHESIVE	BEDROCK
GLACIAL TILL GRANULAR	
ROCK	

NOTE:
COMPOSITE SOIL TYPES WILL BE SIGNIFIED BY COMBINED SYMBOLS E.G. SILTY SAND
DEPTHS (m BGL) ARE GENERALLY PRESENTED TO THE LEFT OF THE BOREHOLE LOGS ON THE GEOLOGICAL SECTION.

- WATER STRIKE
- RISE TO IN 20 MINS
- PROPOSED ROAD LEVEL
- EXISTING GROUND LEVEL
- SOUTHBOUND EARTHWORKS LEVEL
- NORTHBOUND EARTHWORKS LEVEL



P01	CC	KP	KP	05/08/16
FIRST ISSUE				
Rev	Drawn / Des	Checked	Approved	Date
Description				
Drawing Status				Subtability
FINAL				B
Client				
 TRANSPORT SCOTLAND <small>An agency of The Scottish Government</small>				
 A9 DUALLING PERTH TO INVERNESS Dalraddy to Slouch				
 ATKINS mouchel				
Drawing Title				
FIGURE 5.21-MAINLINE ALIGNMENT OPTION 2 BOREHOLE PLAN AND LONG SECTION (SHEET 41 OF 41)				
Scale	Designed / Drawn	Checked	Approved	Authorised
AS SHOWN	CC	KP	KP	RG
Original Size	Date	Date	Date	Date
A1	02/08/16	03/08/16	03/08/16	05/08/16
Drawing Number				
Project	Originator	Volume	Revision	
A9P11 - AMJ - VGT -	F_ZZZZZ_BH - DR - GE - 0041		P01	
Location	Type	Role	Number	

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