

# **Norwich Western Link**

## **Drainage Strategy Appendix 14 : Ground Investigation Reports Part 5 of 8**

Author: Ramboll

Document Reference: 4.04.14

Version Number: 00

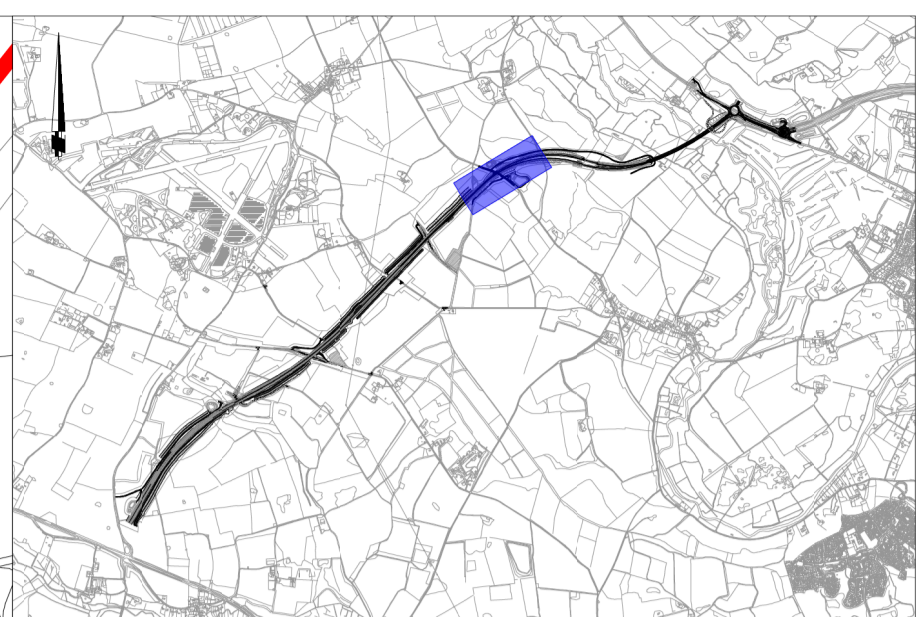
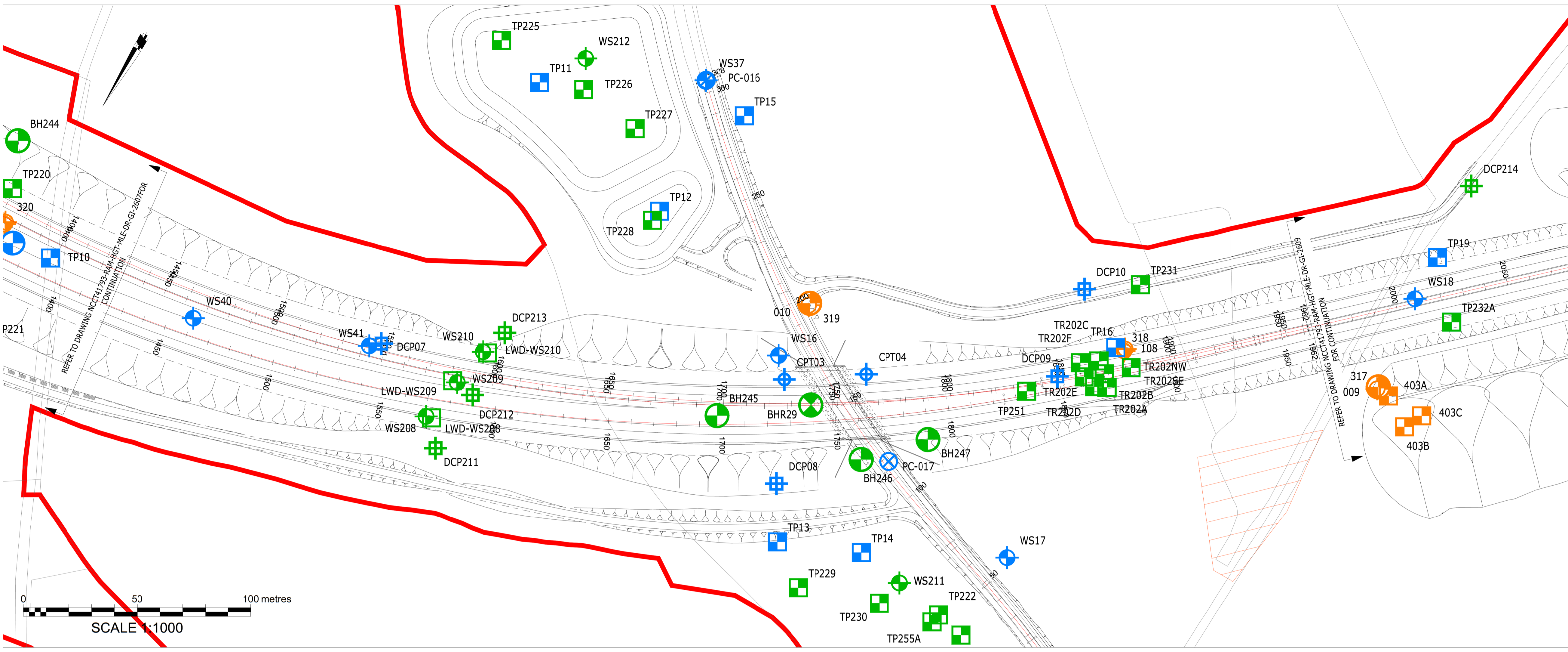
Date: March 2024

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## **1 Introduction**

- 1.1.1 This document contains geotechnical long section drawings that are part of the Ramboll Ground Investigation report. The geotechnical long sections show the different soil types with depth across the scheme and are intended to provide evidence of the existing ground conditions that are stated within the Drainage Strategy Report.
- 1.1.2 We have included a summary of key information shown in this document in an accessible format. However, some users may not be able to access all technical details. If you require this document in a more accessible format please contact: [norwichwesternlink@norfolk.gov.uk](mailto:norwichwesternlink@norfolk.gov.uk)



- Notes:**
- DO NOT SCALE FROM THIS DRAWING.
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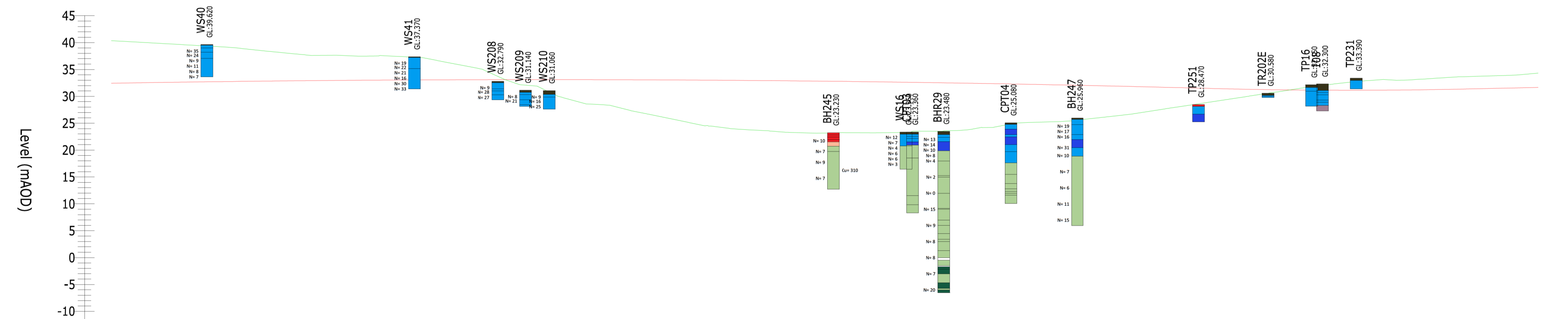
- GEOLOGY LEGEND**
- Topsoil
  - Flexible Pavement
  - Made Ground (Granular)
  - Made Ground (Cohesive)
  - Concrete
  - Peat
  - Alluvium (Granular)
  - Alluvium (Cohesive)
  - Glacial Deposits (Granular)
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  - Structureless Chalk
  - Structured Chalk
  - No Recovery

- EXPLORATORY HOLE LEGEND**
- ① BH ID
  - ② Ground Level
  - ③ Uncorrected SPT 'N' Value
  - ④ Undrained Shear Strength Value (kPa)
  - ⑤ Water Strike
  - ⑥ Water level recorded following strike
  - ⑦ Menard Limit Pressure (MPa)

- GROUND INVESTIGATION PHASES**
- 2022 ALIGNMENT REFINEMENT GROUND INVESTIGATION
  - 2021 SUPPLEMENTARY STAGE 1 GROUND INVESTIGATION
  - 2019/20 PRELIMINARY GROUND INVESTIGATION

- PLAN LEGEND**
- SITE EXTENTS BOUNDARY
  - CABLE PERCUSSION BOREHOLE
  - ROTARY OPEN HOLE BOREHOLE
  - CABLE PERCUSSION WITH ROTARY FOLLOW ON BOREHOLE
  - WINDOWLESS SAMPLE
  - DYNAMIC PROBE
  - TRIAL PIT/TRENCH
  - CPT LOCATION
  - DYNAMIC CONE PENETROMETER
  - PAVEMENT CORE

NWL-MAINLINE SOUTH-(SHEET 8)  
SCALE: H 1:1000, V 1:500. DATUM: -10.000



Chainage	Existing Levels	Proposed Levels	Level Difference
1+430		32.437	-7.909
440	-40.079	32.519	-7.560
1+450	39.809	32.595	-7.213
460	39.515	32.666	-6.849
470	39.244	32.732	-6.512
480	38.825	32.793	-6.032
490	38.479	32.848	-5.462
500	38.309	32.898	-4.929
1+500	37.629	32.943	-4.686
510	37.514	32.982	-4.532
520	37.557	33.016	-4.541
530	37.336	33.046	-4.303
540	36.810	33.069	-3.741
1+550	35.848	33.087	-2.761
560	34.664	33.101	-1.564
570	32.558	33.108	0.550
580	30.884	33.111	1.527
590	29.546	33.109	3.563
1+600	28.517	33.101	4.583
610	27.809	33.087	5.279
620	26.707	33.069	6.363
630	25.691	33.045	7.354
640	25.076	33.016	8.391
1+650	24.058	32.982	8.925
660	23.706	32.943	9.237
670	23.377	32.898	9.521
680	23.182	32.848	9.666
690	23.088	32.793	9.595
1+700	23.213	32.732	9.519
710	23.233	32.667	9.434
720	23.514	32.596	9.082
730	23.516	32.519	9.001
740	23.898	32.438	8.629
1+750	24.334	32.351	8.018
760	25.094	32.259	7.165
770	25.252	32.161	6.910
780	25.547	32.059	6.512
1+800	26.115	31.951	5.836
810	26.383	31.838	5.167
820	26.671	31.720	4.278
830	26.199	31.596	3.396
840	26.946	31.467	2.521
1+850	29.708	31.350	1.642
860	30.485	31.258	0.773
870	31.229	31.181	-0.039
880	31.978	31.148	-0.830
890	32.525	31.131	-1.383
1+900	32.979	31.139	-1.840
910	33.684	31.172	-1.824
920	33.232	31.229	-2.003
930	33.954	31.312	-2.252
940	33.730	31.418	-2.312
1+950	33.882	31.528	-2.355
1+960	34.235	31.606	-2.624
1+962			

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First Issue

P01	DH	JS	AR	02/02/23
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 County Hall, Martineau Lane  
 Norwich NR1 2SG

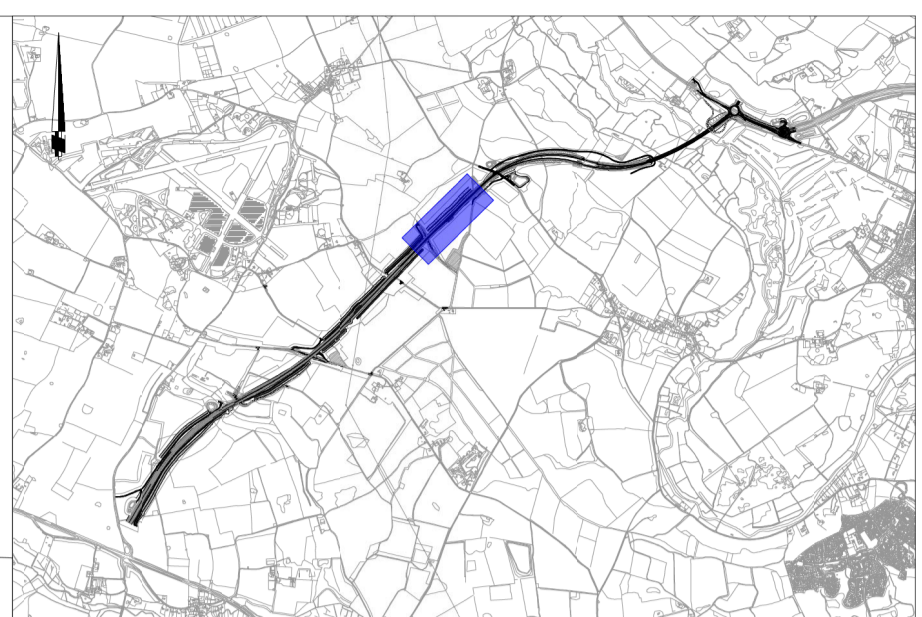
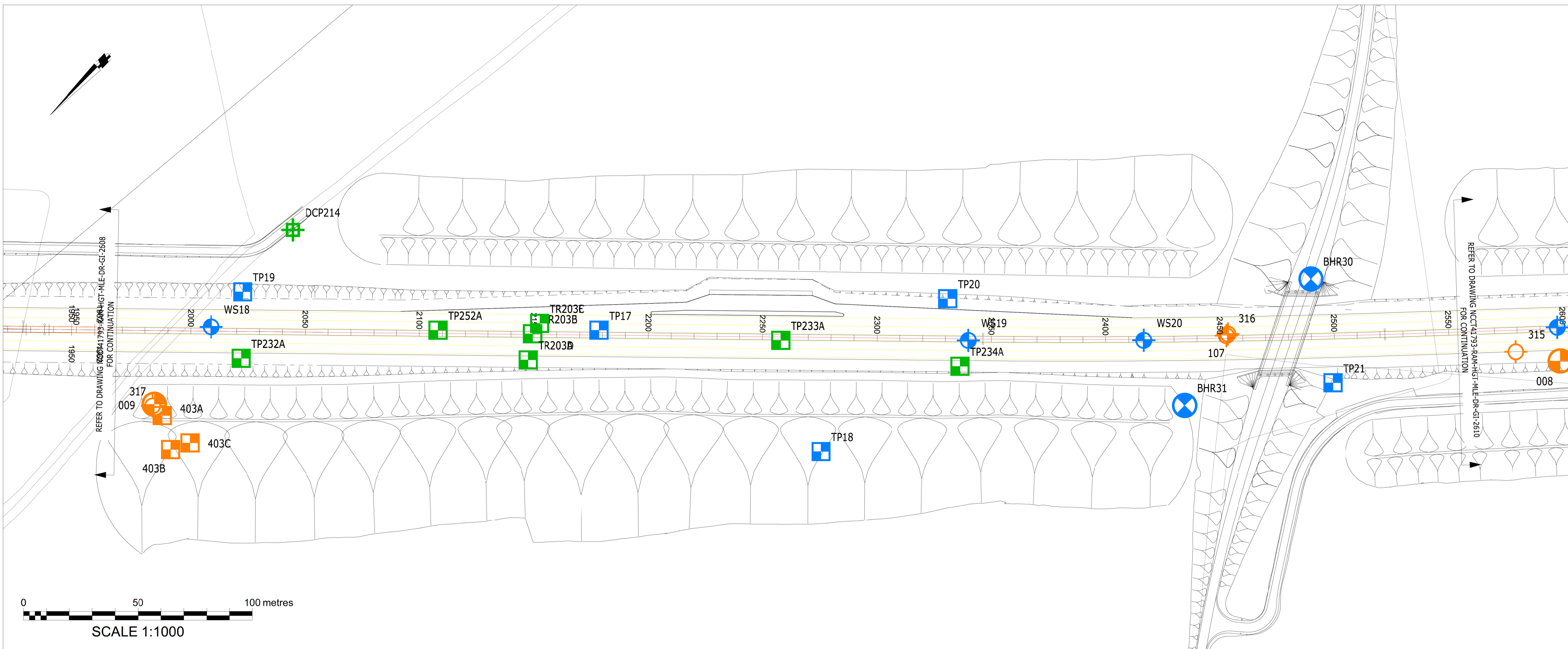
**PROJECT**

**DRAWING TITLE**  
 NORWICH WESTERN LINK  
 GEOLOGICAL LONG SECTION  
 SHEET 8  
 SOUTHBOUND

**DRAWING STATUS**  
 S5 SUITABLE FOR REVIEW AND ACCEPTANCE

DRAWN	CHECKED	APPROVED	AUTHORISED
DH	JS	AR	
SCALE @ A1 SIZE		DATE	REVISION
1:1000		02/02/23	P01

**DRAWING NUMBER**  
 NCCT41793-RAM-HGT-MLE-DR-GI-2608



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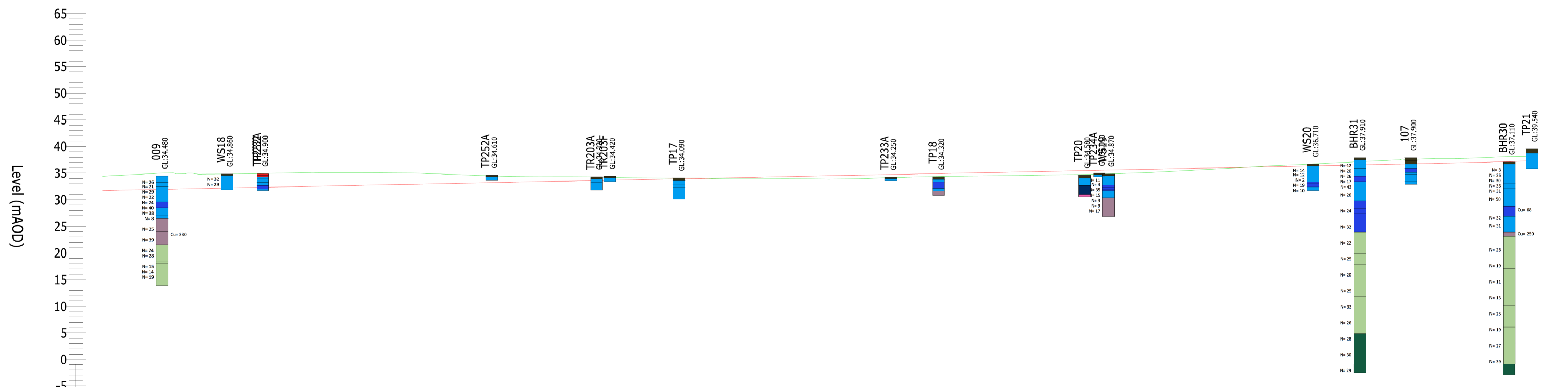
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  - DYNAMIC CONE PENETROMETER
  - PAVEMENT CORE

NWL-MAINLINE-(SHEET 9)  
SCALE: H 1:1000,V 1:500. DATUM: -5.000



Chainage	Existing Levels	Proposed Levels	Level Difference
1+962		31.721	-2.864
970	34.613	31.802	-2.811
980	34.689	31.904	-2.885
990	34.871	32.006	-2.865
2+000	34.813	32.108	-2.706
010	34.648	32.210	-2.632
020	34.938	32.312	-2.627
030	35.024	32.413	-2.611
040	35.139	32.515	-2.623
2+050	35.143	32.617	-2.526
060	35.132	32.719	-2.413
070	35.108	32.821	-2.285
080	35.076	32.923	-2.153
090	35.009	33.025	-1.984
100	34.814	33.127	-1.687
110	34.616	33.229	-1.387
120	34.456	33.331	-1.125
130	34.381	33.432	-0.949
140	34.357	33.534	-0.823
150	34.325	33.636	-0.689
160	34.319	33.738	-0.581
170	34.240	33.840	-0.400
180	34.129	33.942	-0.187
190	34.079	34.044	0.026
200	34.069	34.146	0.078
210	34.054	34.248	0.194
220	34.054	34.350	0.296
230	34.018	34.451	0.433
240	33.928	34.553	0.625
250	33.938	34.655	0.717
260	34.198	34.757	0.559
270	34.301	34.859	0.558
280	34.411	34.961	0.550
290	34.463	35.063	0.600
300	34.516	35.165	0.649
310	34.588	35.267	0.679
320	34.681	35.369	0.708
330	34.739	35.470	0.732
340	34.877	35.572	0.695
350	34.946	35.674	0.728
360	35.038	35.776	0.738
370	35.249	35.878	0.629
380	35.499	35.980	0.481
390	35.772	36.082	0.310
400	36.049	36.184	0.135
410	36.552	36.286	-0.264
420	36.796	36.387	-0.409
430	37.038	36.489	-0.549
440	37.279	36.591	-0.688
450	37.520	36.693	-0.827
460	37.762	36.795	-0.967
470	37.969	36.897	-1.072
480	38.121	37.002	-1.120
490	38.188	37.111	-1.077
2+500	36.188	37.332	-1.144

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First Issue

P01	DH	JS	AR	02/02/23
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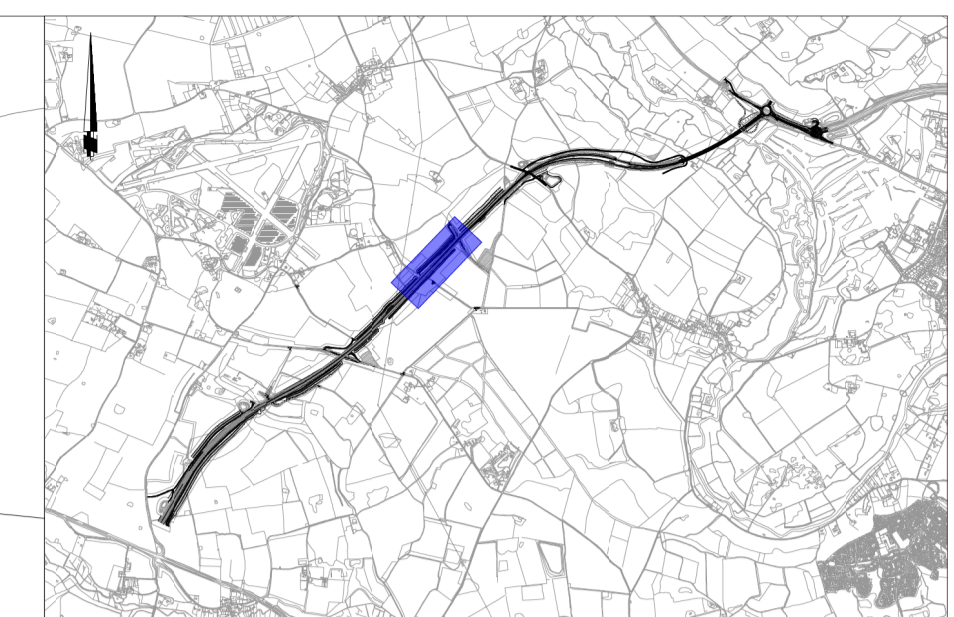
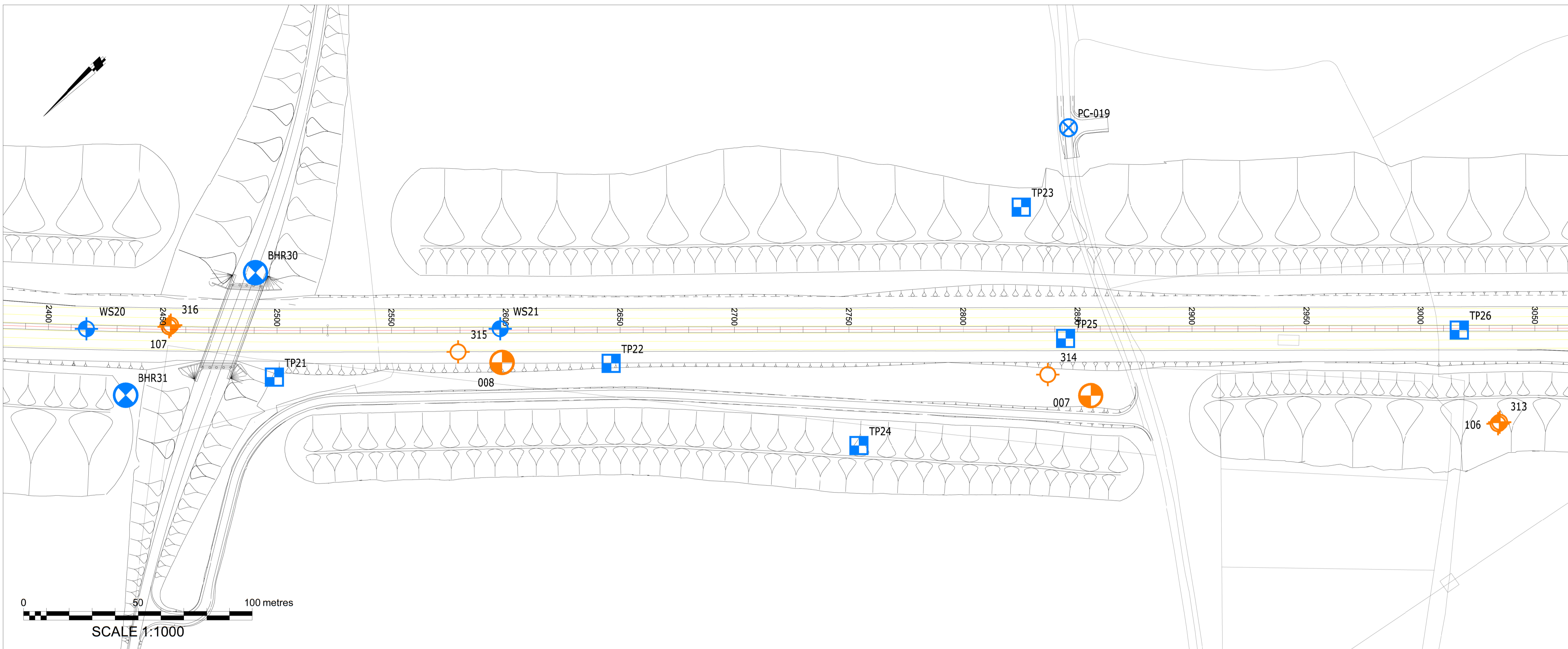
**Norwich Western Link**  
**ferrovial construction**  
**RAMBOLL**

**DRAWING TITLE**  
 NORWICH WESTERN LINK  
 GEOLOGICAL LONG SECTION  
 SHEET 9  
 MAINLINE

**DRAWING STATUS**  
 S5 SUITABLE FOR REVIEW AND ACCEPTANCE

DRAWN	CHECKED	APPROVED	AUTHORISED
DH	JS	AR	
SCALE @ A1 SIZE	DATE	REVISION	
1:1000	02/02/23	P01	

**DRAWING NUMBER**  
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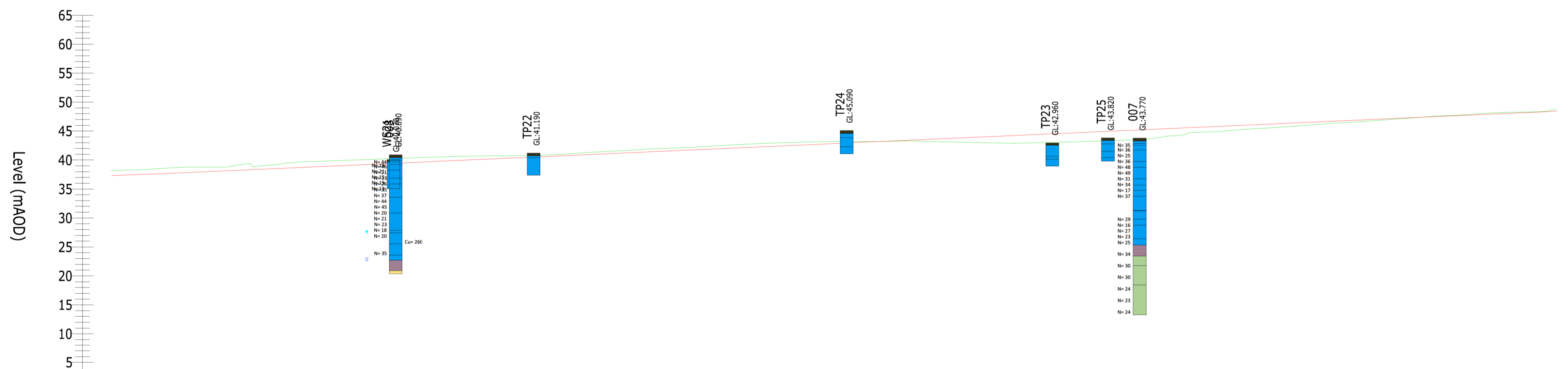
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- Topsoil
  - Flexible Pavement
  - Made Ground (Granular)
  - Made Ground (Cohesive)
  - Concrete
  - Peat
  - Alluvium (Granular)
  - Alluvium (Cohesive)
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NWL-MAINLINE (SHEET 10)  
SCALE: H 1:1000, V 1:500. DATUM: 5.000



Chainage	Existing Levels	Proposed Levels	Level Difference
2+500		37.332	-0.866
510	38.313	37.512	-0.801
520	38.024	37.710	-0.314
530	38.781	37.926	-0.855
540	38.817	38.150	-0.667
2+550	38.512	38.373	-0.539
560	39.315	38.597	-0.867
570	39.454	38.820	-0.594
580	39.539	39.044	-0.895
590	40.127	39.268	-0.859
2+600	40.389	39.491	-0.817
610	40.413	39.715	-0.761
620	40.633	39.938	-0.694
630	40.723	40.162	-0.561
640	40.763	40.386	-0.388
2+650	40.884	40.609	-0.275
660	41.169	40.833	-0.317
670	41.321	41.056	-0.400
680	41.721	41.280	-0.442
690	41.592	41.503	-0.489
2+700	42.198	41.727	-0.471
710	42.859	41.951	-0.508
720	42.818	42.174	-0.561
730	42.568	42.398	-0.560
740	43.119	42.621	-0.498
2+750	43.204	42.845	-0.359
760	43.178	43.068	-0.110
770	43.293	43.292	0.029
780	43.258	43.516	0.258
790	43.130	43.739	0.609
2+800	43.028	43.963	0.935
810	42.513	44.186	1.273
820	43.013	44.410	1.397
830	43.068	44.633	1.535
840	43.243	44.857	1.614
2+850	43.422	45.081	1.658
860	43.729	45.304	1.575
870	44.264	45.528	1.264
880	44.868	45.751	0.889
890	45.205	45.975	0.770
2+900	45.539	46.199	0.659
910	45.888	46.422	0.534
920	46.271	46.646	0.375
930	46.562	46.869	0.318
940	46.910	47.093	0.183
2+950	47.274	47.316	0.042
960	47.658	47.540	-0.118
970	47.891	47.764	-0.127
980	48.198	47.987	-0.199
990	48.259	48.211	-0.079
3+000	48.434	48.434	-0.319

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First Issue

P01	DH	JS	AR	02/02/23
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Norwich NR1 2SG

**PROJECT**

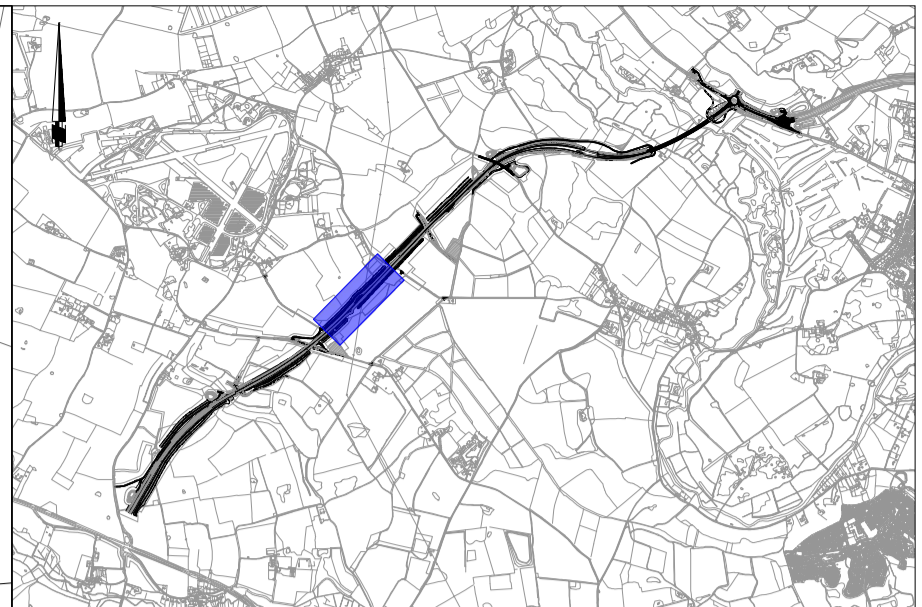
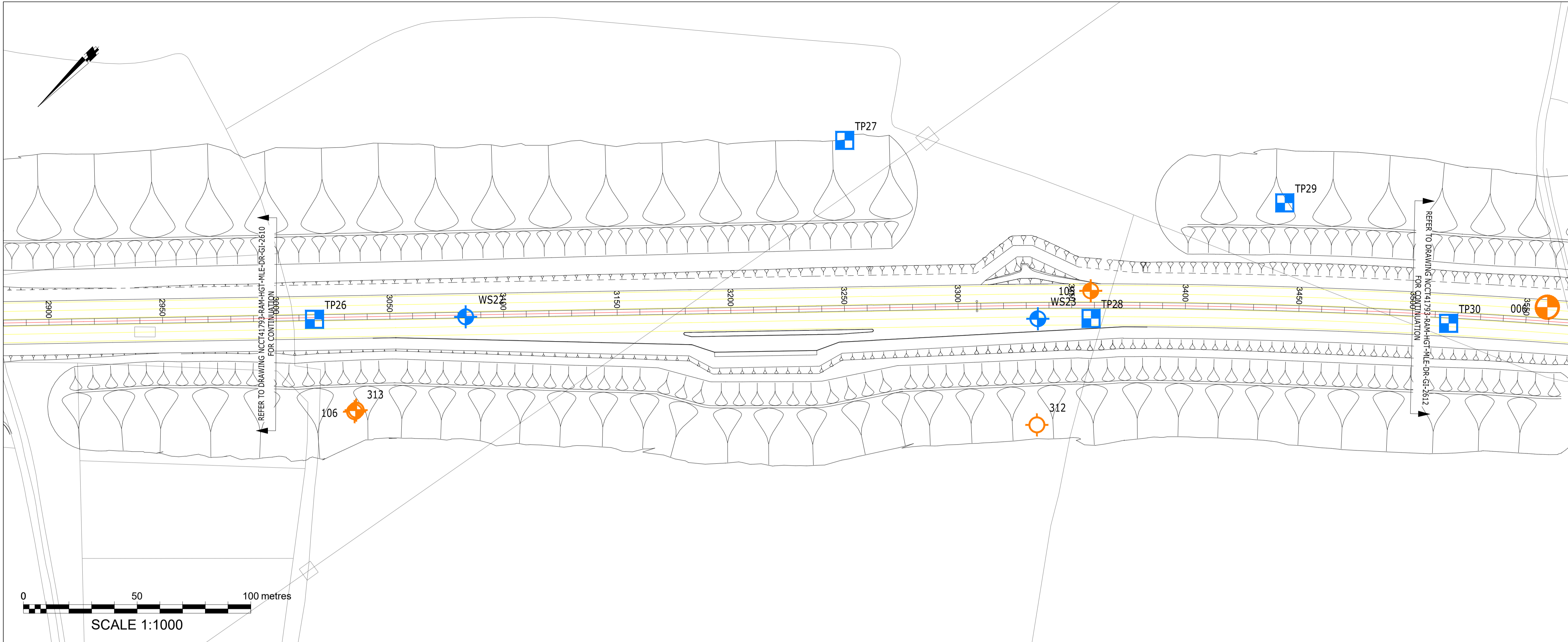
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NORWICH WESTERN LINK  
GEOLOGICAL LONG SECTION  
SHEET 10  
MAINLINE

**DRAWING STATUS**  
S5 SUITABLE FOR REVIEW AND ACCEPTANCE

DRAWN	CHECKED	APPROVED	AUTHORISED
DH	JS	AR	

SCALE @ A1 SIZE	DATE	REVISION
1:1000	02/02/23	P01

**DRAWING NUMBER**  
NCCT41793-RAM-HGT-MLE-DR-GI-2610



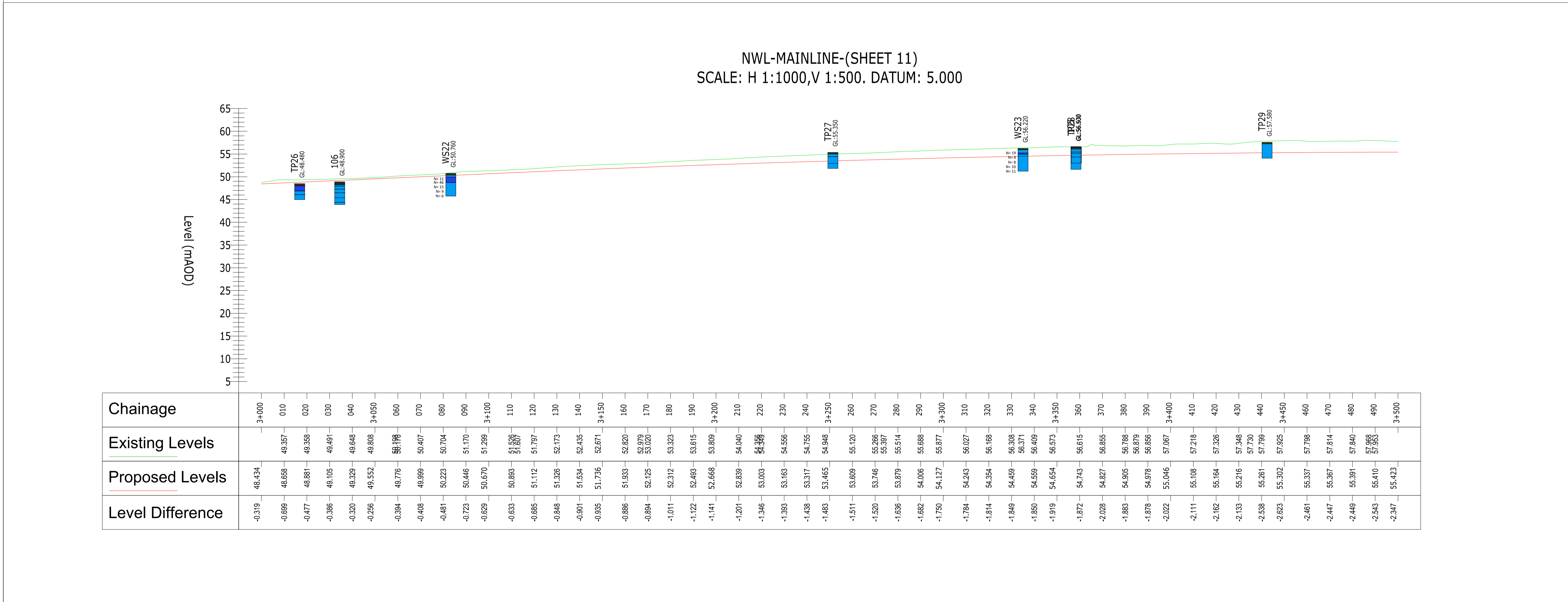
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First Issue

P01	DH	JS	AR	02/02/23
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**CLIENT**

**Norfolk County Council**  
Tom McCabe  
Executive Director of  
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Norfolk County Council  
County Hall, Martineau Lane  
Norwich NR1 2SG

**PROJECT**

Norwich Western Link  
ferrovial construction  
RAMBOLL

**DRAWING TITLE**  
NORWICH WESTERN LINK  
GEOLOGICAL LONG SECTION  
SHEET 11  
MAINLINE

**DRAWING STATUS**  
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DRAWN	CHECKED	APPROVED	AUTHORISED
DH	JS	AR	

SCALE @ A1 SIZE	DATE	REVISION
1:1000	02/02/23	P01

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