



Technical Note

Cockering Road, Thanington

18-058-012 Rev A

Spine Road Highway Statement - Condition 10

March 2021

Rev	Issue Purpose	Author	Checked	Reviewed	Approved	Date
-	Draft for Comment	TGL	GAC	TGL	GAC	Jan 21
A	Approval	TGL	TGL	JA	GAC	March 21

1 Introduction

1.1.1 This technical note has been prepared to address that part of Condition 10 of outline planning permission 17/00519 which relates to the matter of access

1.1.2 Condition 10's requirements on access are reproduced below.

2 Condition 10 - Matter of Access

2.1.1 *'In relation to the matter of access a Reserved Matters application shall include:*

- *The highway details to be provided shall comprise:*
 - (a) the width and configuration of proposed carriageway layouts including any footways and verges;*
 - (b) the width and configuration of any footpaths and cycleways;*
 - (c) the details of any PROW closure or diversion, including route and period;*
 - (d) the layout of street lighting;*
 - (e) the layout and configuration of surface water sewers, drains and outfalls serving the highway;*
 - (f) the layout and configuration of retaining walls and highway supporting structures;*
 - (g) the layout of service routes and corridors within highways;*

(h) identification of any vehicle overhanging margins, embankments, visibility splays, property accesses, carriageway gradients, driveway gradients, car parking and street furniture”.

- *The gradient of vehicular accesses shall be no steeper than 1 in 10 for the first 1.5m from the highway boundary and no steeper than 1 in 8 thereafter.*
- *Before their first use the surface of vehicular accesses shall be a bound surface for the first five (5.0) metres of the access from the edge of the highway and this surface shall be permanently maintained thereafter”.*

3 Layout and Geometry

- 3.1.1 The layout and configuration of the proposed Spine Road is presented on the Spine Road General arrangement drawing 18-058-131 in **Appendix A**.
- 3.1.2 The layout is designed in accordance with the Kent Design Guide parameters specified for a Local Distributor Road (LDR) and is a result of ongoing negotiations with Kent County Council (see correspondence in **Appendix B**).
- 3.1.3 The western section the Spine Road ties in with Milton Manor Road with a compact roundabout arrangement as illustrated on drawing 18-056-036 in Appendix A. A carriageway width of 9.5m is specified from the Junction of Milton Manor Road tapering down to 7.3m to the employment area.
- 3.1.4 As part of ongoing discussions with KCC it was viewed that this section was preferred for commercial access as opposed to the Eastern Junction with Cockering Road as the highway authority sought to discourage Heavy Goods Vehicles travelling further east through the proposed residential area into the Cockering Road estate.
- 3.1.5 The carriageway east of the employment access is tapered down to 6.75m prior to tying in with Cockering Road at the eastern Junction.
- 3.1.6 The layout and configuration widths for the future parcels are a result of ongoing discussions with KCC and variations to the site wide masterplan.
- 3.1.7 These generally conform with the parameters for a Major Access Road (MAR) having a 5.5m width, 2.0m footways and a 2.0m verge (where required) or a Shared Private Drive (SPD) with a 4.8m carriageway width.
- 3.1.8 The Spine Road layout has been tracked utilising a Pantechnicon and rigid bus as illustrated in **Appendix A**.
- 3.1.9 The tracking demonstrates sufficient permeability within the layout to manoeuvre these vehicles considering the proposed traffic calming measures.

3.1.10 The Spine Road parameter widths area summarised below.

- Shared Footpath / Cycleway – 3.0m width,
- Highway SuDS / Landscape Corridor – 10m width
- Carriageway - 9.0m / 7.3m / 6.75m width
- Carriageway Junctions / Side Roads – 5.5m and 4.8m
- Junction Radii: 20.0m (Milton Manor Road), 10m (Cockering Road) & 6.0m elsewhere
- Highway verge – 2.0m width
- Footway – 2.0m width

3.1.11 Junction visibility has been assessed based upon the requirements of an LDR.

3.1.12 In compliance with the KCC design guide for movement, visibility splays of 4.5m x 70m and forward visibility sight lines of 60m have been incorporated within the layout.

3.1.13 Given the topography of the site, a preliminary review of vertical geometry for the Spine Road has been undertaken (as illustrated within Appendix A). This generally shows a maximum vertical gradient of 1:16.7 (6%) tying in with Milton Manor Road at 1:25 (4%).

3.1.14 Parcel junctions including SPDs tie into the Spine Road with vertical alignments not exceeding 4% (1:25) thus complying with the requirements of Condition 10.

3.1.15 Street furniture along the Spine road generally comprises of advanced warning signs relative to the traffic calming features and street lighting.

3.1.16 Having reviewed the requirements of Condition 10 in respects to overhang margins, property access and drive gradients, these are specific to the highway infrastructure for the estate road parcel phases and do not impact the Spine Road proposals.

3.1.17 There is an existing PROW just north of the Spine Road however this is not affected by the proposals.

4 Street Lighting

4.1.1 The street lighting layout and design is attached in **Appendix C**. The design confirms that the development's highways infrastructure can be adequately aligned to Kent County Council Highways current standards.

5 Highway Drainage

- 5.1.1 The approved drainage strategy prepared by Peter Brett Associates (PBA) under Decision Notice 17/00519 inferred that new highway drainage connections were to be made to the existing highway drainage networks in Milton Manor Road and Cockering Road.
- 5.1.2 The strategy however had not considered the adverse change in topography through the Spine Road due to the dry valley through the site or the impacts on the respective downstream highway networks if flows from the Spine Road were to be left to discharge at an unrestricted rate.
- 5.1.3 The Spine Road drainage has been split into three sub catchment zones which are summarised in Table 1 below. A catchment plan can be found in **Appendix A** which generally reflects the phasing strategy proposed pursuant to condition 7 of the outline planning permission..

Drainage Zone	Zone 1	Zone 2	Zone 3
Corresponding Phase	Phases 1 & 2	Phase 3 & Employment	Highway only
Spine Road Impermeable Area	1.206 ha	0.606 ha	0.688 ha
Outfall Location	Outfall A -Ashford Road sewer requisition	Outfall B -Ashford Road sewer requisition	Milton Manor Road

Table 1: Spine Road Catchment Summary

- 5.1.4 A drainage layout has been developed which seeks to integrate highway SuDS in the form of ‘over the edge’ drainage by the implementation of a highway swale network through the length of the Spine Road.
- 5.1.5 The highway drainage proposals are presented on drawing 18-058-132 in **Appendix A**.
- 5.1.6 Highway swales have been designed with a 0.6m width base, 0.6m depth and 1:4 entry slopes. Where steeper longitudinal gradients are anticipated, a series of gabion check dams have been incorporated within the swales, to slow the rate of run off.
- 5.1.7 As part of a SuDS management treatment train, outfall from the highway swales receives a minimum of two stages of treatment via a series of SuDS basins, Ponds, and conveyance swales.
- 5.1.8 Zones 1 and 2 will form part of the wider strategic networks for the associated sub-phases where it is intended to have the downstream basins, ponds and SuDS adopted by the drainage authority, Southern Water.

- 5.1.9 It is intended that zone 3 be adopted by the highway authority, KCC. Run-off to the existing highway drainage network in Milton Manor Road shall be restricted to the approved greenfield runoff rate of 4 l/s/ha (2.8l/s based on an impermeable area of 0.688ha for this zone).
- 5.1.10 The highway drainage networks inclusive sub-phases have been hydraulically assessed which confirms that a 1 in 100-year storm return with additional 20% allowance for climate change can be managed within the respective systems without flooding as illustrated within the hydraulic calculations in **Appendix D**.

6 Highway Structures / Embankments

- 6.1.1 The spine road vertical alignment has been fixed in accordance with the Kent Design guide parameters for a LDR, which specifies a maximum longitudinal gradient of 1:16.7
- 6.1.2 An extensive earthworks exercise will be required in the development of the Spine Road based upon design constraints which includes cut and fill embankments.
- 6.1.3 Illustrative cross sections depicting strategic earthworks along the spine Road and Strategic Road Contours are presented on drawings 18-058-136 and drawing 18-058-137 in **Appendix A**.

7 Service Routes / Corridors

- 7.1.1 It is anticipated that all statutory service infrastructure will be accessed by a connection point from the incumbent utility provider via Cockering Road.
- 7.1.2 This is in line with the phasing for the residential parcels.
- 7.1.3 Service corridors shall be in line with Volume 1 of National Joint Utilities Group (NJUG) guidelines **Figure 1** below which has been extracted from the publication and shows a typical cross section of utilities through a footway.

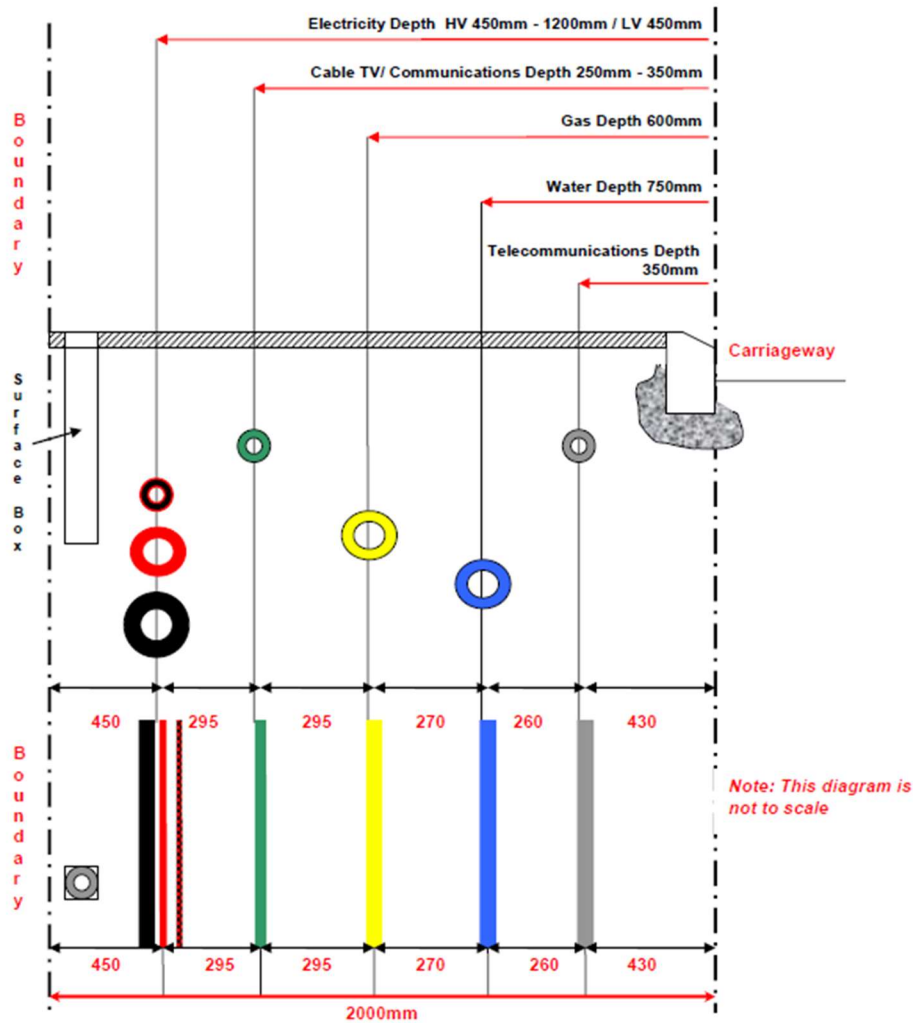
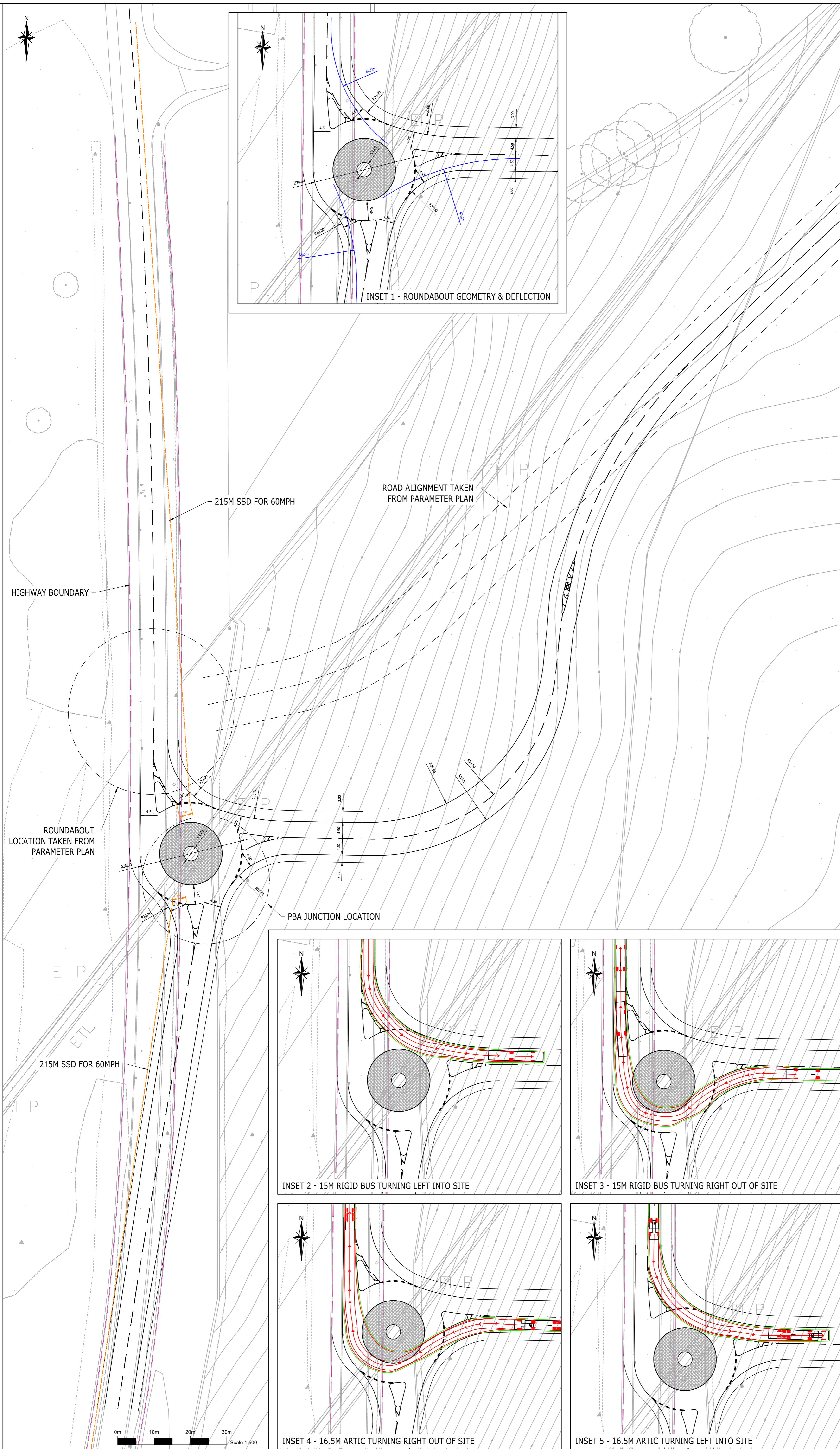


Figure 1: NJUG Cross Section

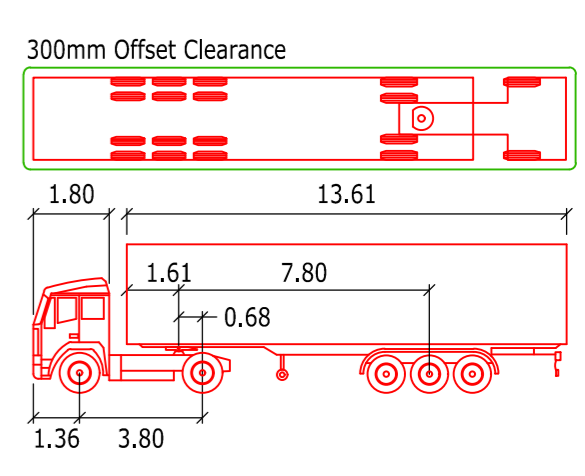
7.1.4 Final service routes shall be confirmed by the incumbent utility provider at the detailed design stage, however based on current sequencing and phasing the following utility routes are proposed;

- Utilities serving Phases 1, 4 & 5: To be located within the shared / footpath cycleway then spurred for the associated phase.
- Utilities serving Phases 2, 3 and employment area: To be located within the 2.0m footway then spurred for the associated phase.

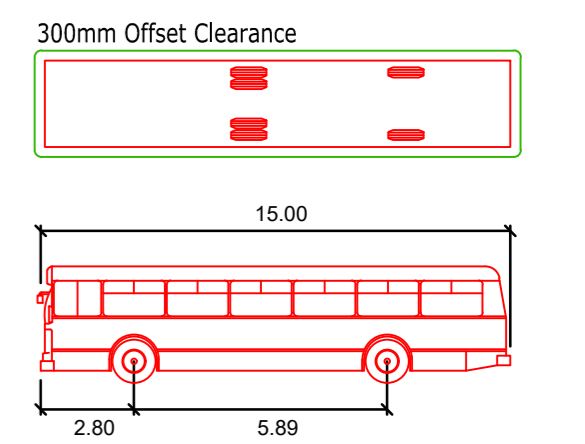
Appendix A C&A Drawings



NOTES



- Artic
- Tractor Width : 2.55 meters
 - Trailer Width : 2.55
 - Tractor Track : 2.55
 - Trailer Track : 2.55
 - Lock to Lock Time : 6.0
 - Steering Angle : 42.7
 - Articulating Angle : 70.0



- Rigid Public Service Veh.
- Width : 2.55 meters
 - Track : 2.55
 - Lock to Lock Time : 6.0
 - Steering Angle : 39.3

A	3rd party boundary area omitted	TGL	TGL	GAC	24.03.2021
Rev	Amendments	Dm	Chk	App	Date

Charles & Associates

Issued by: [Signature]

Landmark House
Station Road
Hemel Hempstead
MK27 9JL
01256 630420
www.c-a.co.uk

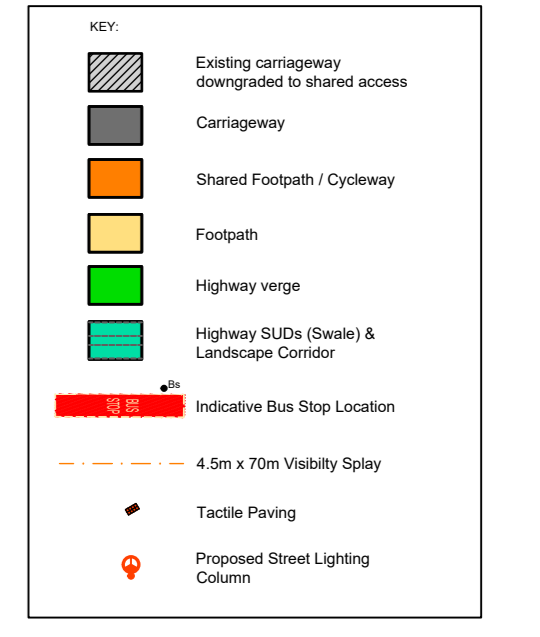
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Park Farm
East Malling Trust Estate
Bradbourne Lane
Aylesford Kent
ME12 2BN
01732 448120

Job Title

Cocking Road, Thanington		
Drawing Title Milton Manor Road Compact Roundabout Access Option 1		
Client Redrow Homes		
Scale 1:500 @ A1	Date Oct 2020	Designed DH
Drawn DH	Checked	Approved
Job No 18-058	Drawing No 18-058-036	Rev A



- NOTES**
1. Do not scale from this drawing. All dimensions are in meters unless stated otherwise.
 2. Spine Road alignment has been based on the approved Parameters Plan and PBA transport assessment proposals.
 3. This drawing must be read as indicative only and is subject to detailed development design. Typical parameters have been taken from Kent County Council's Design Guide 'Making it Happen' in connection with a Local Distributor Road.
 4. Bus stop and traffic calming feature locations shown should be read as indicative only and are subject to consultation with Kent County Council, Canterbury District Council and local bus operators.
 5. In the absence of a CAD masterplan, major access road junction positions should be read as indicative only and therefore subject to change. Awaiting masterplan layout from planning architects.



PRELIMINARY DRAWING
Pending Highway Authority Approval

FOR PLANNING PURPOSES ONLY

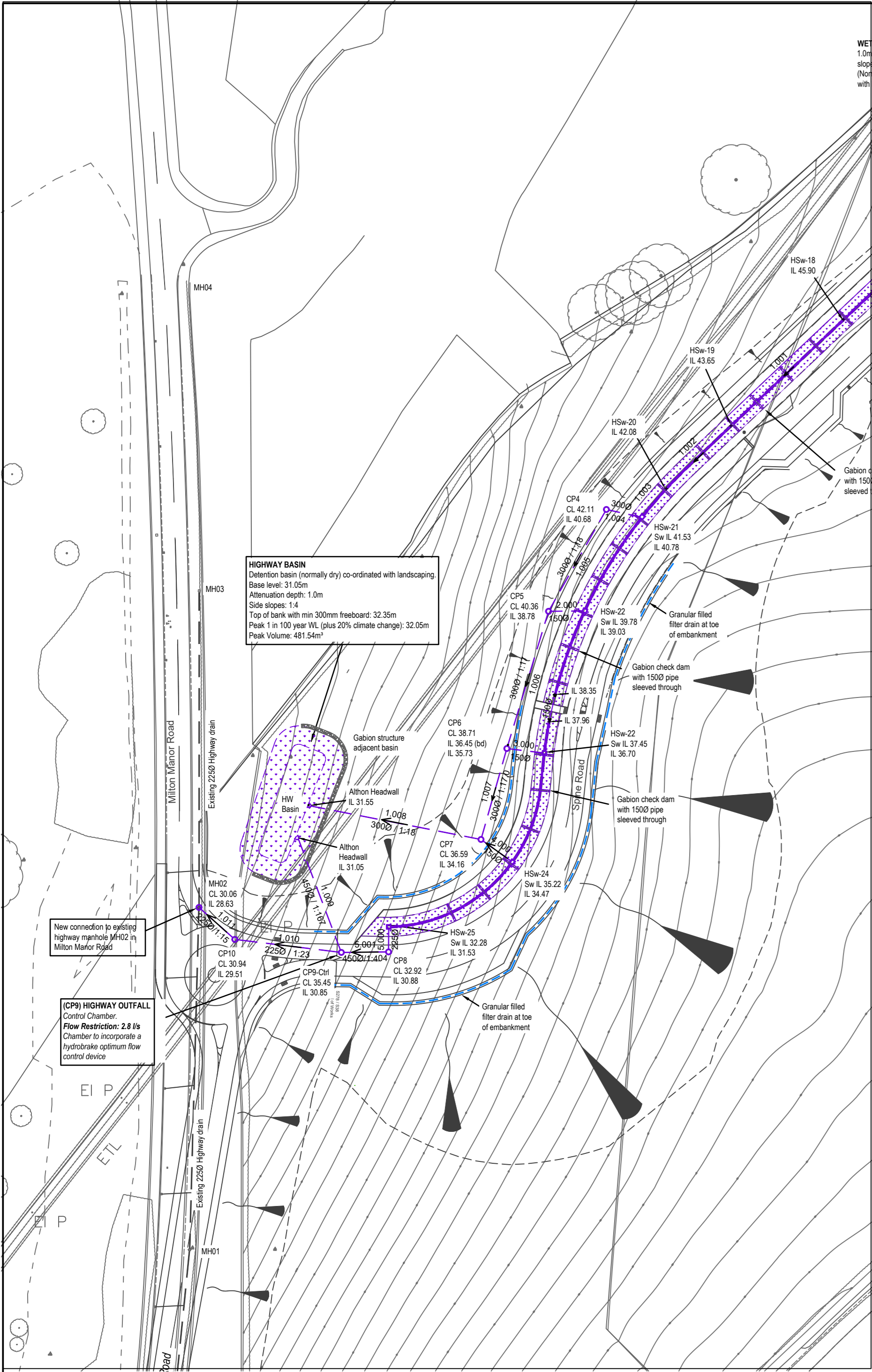
A Updated to account with revised masterplan junctions for Phase 1, 2 & 3 and revised street lighting layout		TGL	TGL	GAC	08.03.21
Rev	Amendments	Des	Chk	Appr	Date

Charles & Associates

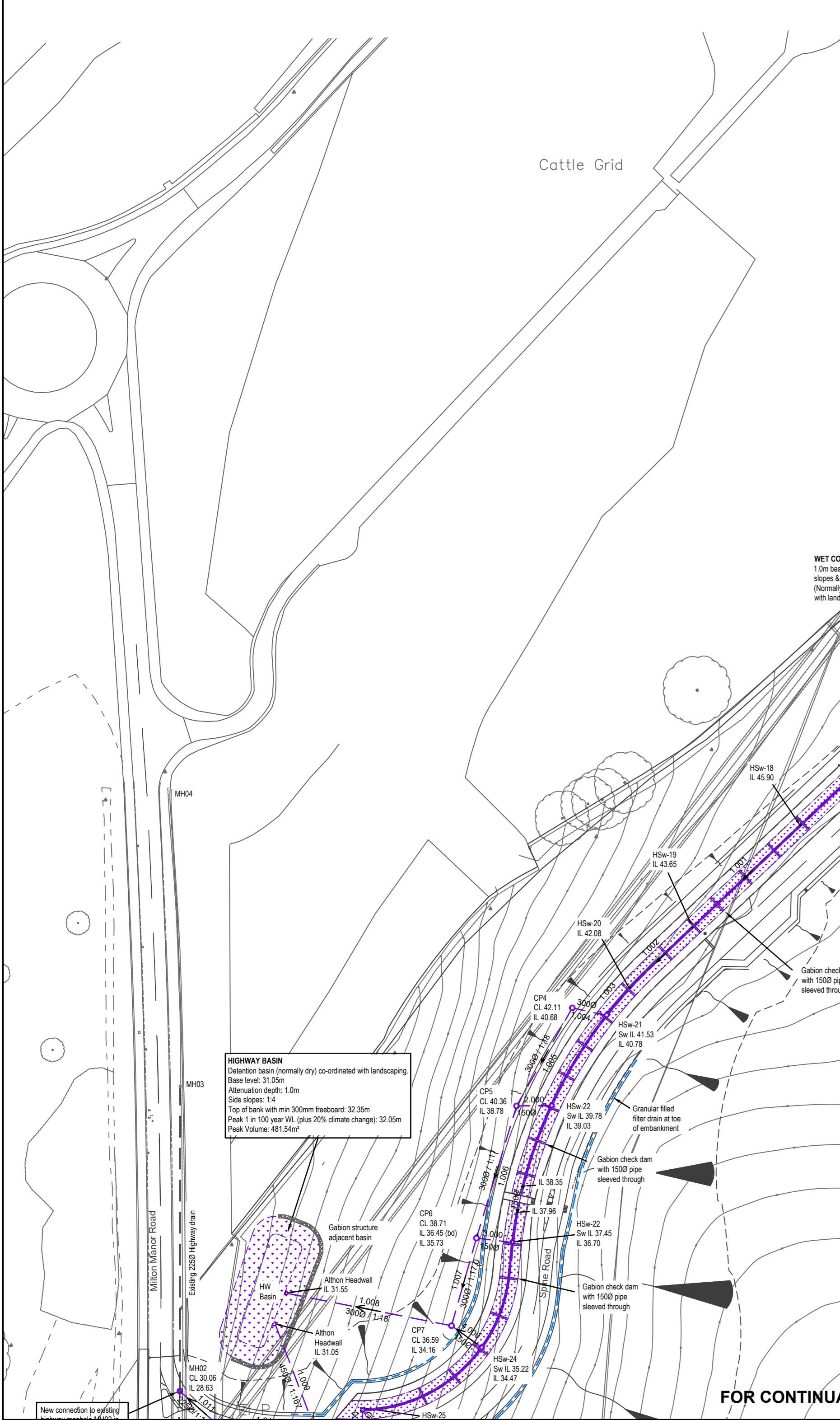
Landmark Home Used by Park Home
 Shared Home New Home Retirement Home
 Care Home Other

Job Title: **Cockering Road Thanington**
 Drawing Title: **Reserved Matters Spine Road General Arrangement**
 Client: **Redrow Homes**

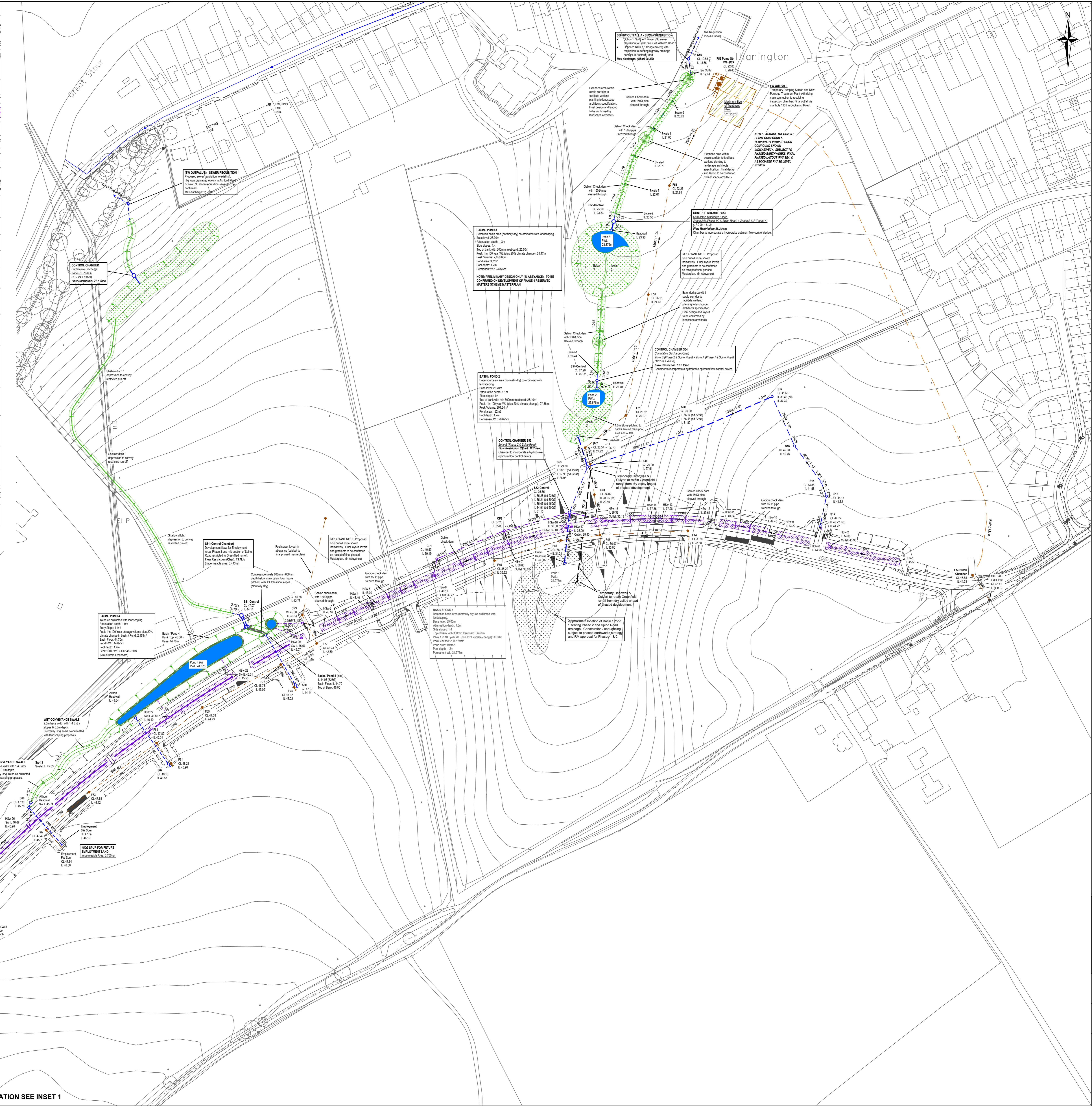
Scale: 1:1000 @A0	Date: Nov 20	Designed: TGL
Drawn: JH	Checked: TGL	Approved: GAC
Job No: 18-058	Drawing No: 18-058-131	Rev: A



INSET 1



FOR CONTINUATION SEE INSET 2



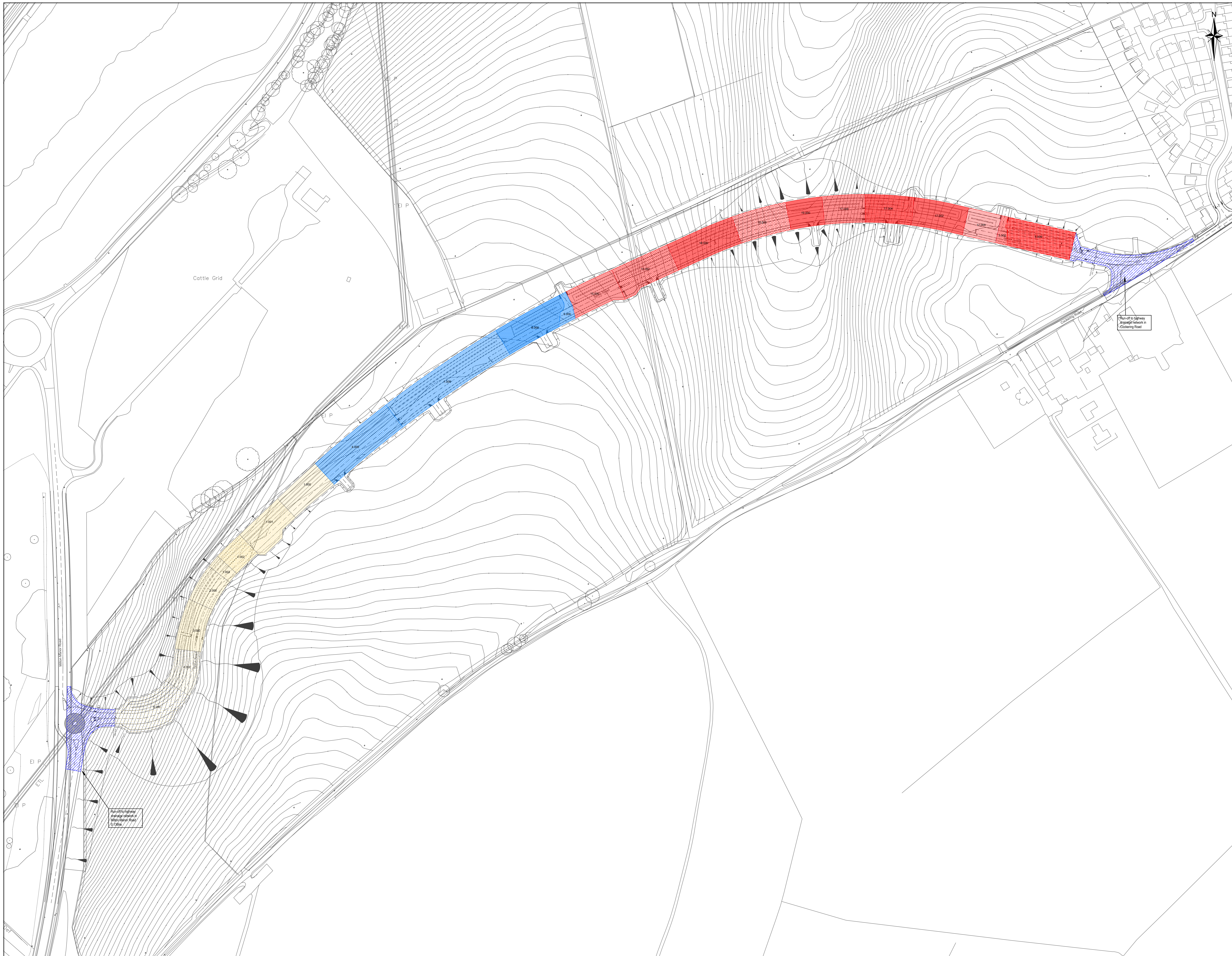
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Pending Highway Authority Approval

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A		Updated to accord with revised masterplan junctions for Phase 1, 2 & 3 and amended drainage strategy for Phase 1, 2 & 3		TGL	TGL	GAC	08.03.21
Rev	Amendments	Drn	Chn	Page	Date		
Charles & Associates Leadwork Room 18-058 01753 600000 411004/18058		Issued by Paul Stone Paul Stone 01753 600000 411004/18058		Park House Park Farm Bleanwater Lane Bleanwater Kent ME10 2JQ 01753 600000			
Job Title		Cockering Road Thanington					
Drawing Title		Reserved Matters Spine Road Drainage					
Client		Redrow Homes					
Scale	Date	Designed					
1:1000 @A0	Jan 21	TGL					
Drawn	Checked	Approved					
TGL	GAC	GAC					
Job No	Drawing No	Rev					
18-058	18-058-132	A					



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ZONE 1 - CATCHMENT:

3,000	=	1361 m ²	=	0.309 ha
3,002	=	1366 m ²	=	0.310 ha
15,000	=	6000 m ²	=	1.361 ha
15,002	=	6272 m ²	=	1.422 ha
16,000	=	1387 m ²	=	0.314 ha
17,000	=	602 m ²	=	0.134 ha
17,002	=	1085 m ²	=	0.241 ha
17,004	=	967 m ²	=	0.217 ha
17,006	=	849 m ²	=	0.188 ha
18,000	=	1082 m ²	=	0.239 ha
19,000	=	713 m ²	=	0.157 ha

Phase Catchment
Phase 2 = 2,278 ha

ZONE 2 CATCHMENT:

1,008	=	5607 m ²	=	1.255 ha
4,000	=	1834 m ²	=	0.409 ha
8,000	=	1348 m ²	=	0.295 ha
9,000	=	225 m ²	=	0.050 ha

Phase Catchment
Phase 2 = 1.242 ha
Phase 3 = 0.750 ha

ZONE 3 CATCHMENT:

1,000	=	992 m ²	=	0.224 ha
1,001	=	1114 m ²	=	0.247 ha
1,002	=	968 m ²	=	0.215 ha
1,003	=	222 m ²	=	0.049 ha
2,000	=	872 m ²	=	0.192 ha
3,000	=	917 m ²	=	0.206 ha
4,000	=	776 m ²	=	0.171 ha
5,000	=	1625 m ²	=	0.358 ha

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Rev	Amendments	Des	Chk	App	Date

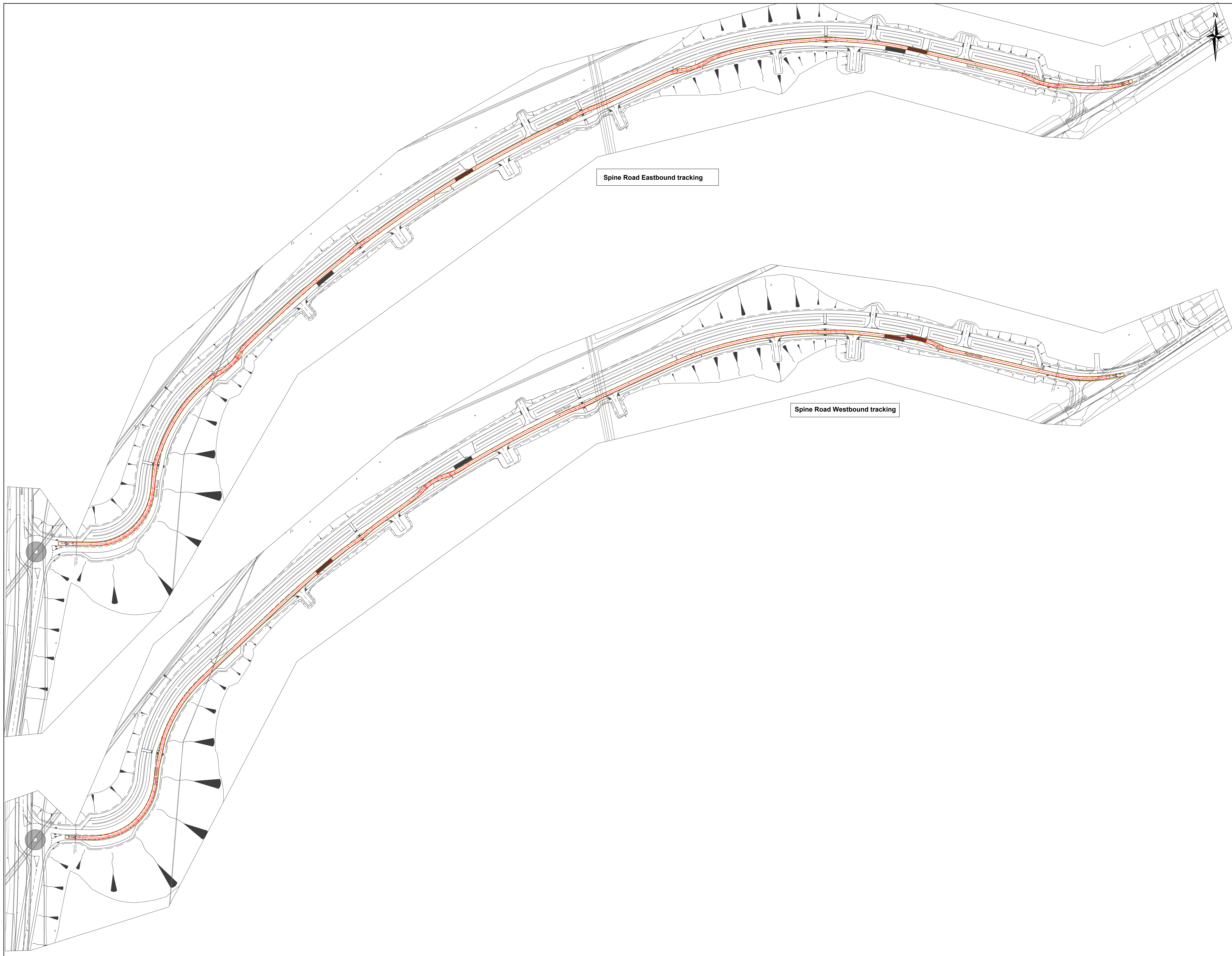
Charles & Associates

Landmark House
10000
10000
10000
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Lead by
10000
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10000
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Paul Stone
Paul Stone
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Job Title		Cocking Road Thanington	
Drawing Title		Reserved Matters Spine Road Catchment	
Client		Redrow Homes	
Scale	Date	Designed	TGL
1:1000 @A0	Jan 21		
Drawn	Checked	Approved	
JH	TGL	GAC	
Job No	Drawing No	Rev	
18-058	18-058-133	-	

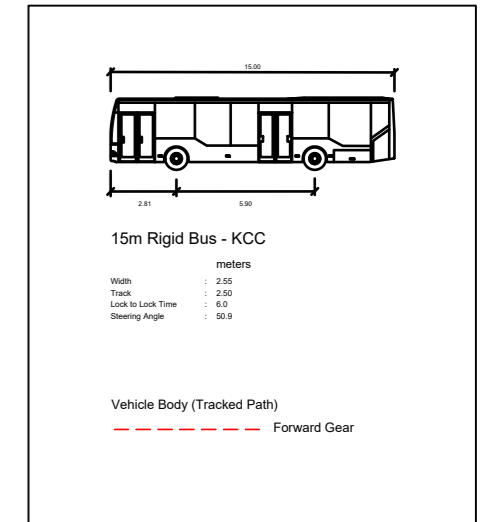


Spine Road Eastbound tracking

Spine Road Westbound tracking

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Project Director
Karl Hedges
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Job Title		
Cockering Road Thanington		
Drawing Title		
Reserved Matters Spine Road Bus Strategy Tracking		
Client		
Redrow Homes		
Scale	Date	Designed
1:1000 @A0	Jan 21	TGL
Drawn	Checked	Approved
TGL	GAC	GAC
Job No	Drawing No	Rev
18-058	18-058-134	-