

Title: Transport Technical Note	Date: 04 December 2024
For: Bloor Homes Southern	Ref: 4166/002/002

Introduction

1. This Transport Technical Note has been prepared by Robert West on behalf of Bloor Homes to support a Reserved Matters Planning Application for the residential development of Phase 8a at Berewood, Waterlooville, PO7 7AY (hereafter: the site).
2. This Technical Note sets out the transport and highways design aspects of the scheme including site access arrangements, wider sustainability connection of the site, the internal road network design, intervisibility, parking proposals and delivery and servicing arrangements/ design.
3. Phase 8a development proposals comprise 185 residential dwellings, associated landscaping and drainage. The proposed site plan is attached at Appendix A.

Site access arrangements

4. The main vehicular and pedestrian access to the site is proposed from Phase 3b of the residential proposals at a parcel of land to the north of the Phase 8a site. As part of the development proposals, the main vehicular access to the site is required to cross bridleway 108/15/1 to the northwest of the site boundary.
5. Robert West previously prepared a Bridleway Crossing Technical Note (ref: 4166/002/001) dated 24 May 2024. This technical note included a video survey to capture seven-day usage of the bridleway. The technical note concluded:

“Overall use of the bridleway within the vicinity of the site is considered to be low. No horse riders were recorded throughout the duration of the survey with the majority of users being pedestrians and dog walkers. A limited number of cyclists were recorded on the bridleway.”

6. Subsequently a preliminary access/ bridleway crossing design was prepared. Following pre-application advice received from Hampshire County Council (HCC), an updated access/ bridleway crossing design has been prepared and is attached at Appendix B.

7. A summary of the updated design is included below:

- 5.5m wide tarmac road with a ramp at the bridleway crossing point
- 2m wide footway on the eastern side of the carriageway
- 1m wide verge on the western side of the carriageway
- Area of existing gravel bridleway path to be regraded to new bridleway crossing levels
- Hazard tactile paving for pedestrians on the eastern footway on the north and southbound approach to crossing the bridleway.
- Giveaway markings are provided on the carriageway ahead of the ramp on both the north and southbound directions, indicating priority for bridleway users.
- Proposed signage on both sides of the access/ bridleway crossing to TSRGD Diag 602 & Bespoke Give Way Sign indicating "GIVE WAY TO CYCLISTS, PEDESTRIANS & HORSE RIDERS CROSSING"
- Proposed signs to TSRGD Diag550.1 & 950 set 45m before Hazard (bridleway crossing) on both sides of the bridleway crossing as per Appendix A in Traffic Signs Manual Chapter.

8. Appropriate visibility splays at the bridleway crossing have been proposed as illustrated in Appendix B.

9. For cyclists, forward visibility splays of 34.5m are provided approaching the crossing. This has been calculated for a speed of 20mph (32.2 kph) as per table 5-5 from LTN 1/20.

10. The junction visibility splays for vehicles of 2.4m x 25m are provided from the centre of the lanes. It is acknowledged that the vehicular visibility splay on the southern side of the bridleway crossing passes through the footpath leading to property plot 1. The applicant has confirmed a property management company will be employed to maintain this area the visibility splay passes through.

11. Following design guidance from CD143 Designing for walking, cycling and horse-riding, visibility splays are not required as the Bridleway route will have priority.

12. Figure 1 below illustrates an extract from CD143 and states:

"Visibility splays shall be provided for horse-riding routes at junctions and crossings where equestrians have to stop or give way."

13. It is not intended that pedestrians, cyclists and horse-riders are giving way or stopping at this crossing therefore visibility splays from the major route to the minor route should not be required. See Figure 5.5N extract below.

Visibility at junctions and crossings

- 5.5 Visibility splays shall be provided for horse-riding routes at junctions and crossings where equestrians have to stop or give way.

NOTE Figure 5.5N provides a diagram of visibility splay "x" and "y" distances for horse-riding routes.

Figure 5.5N Visibility splay "x" and "y" distances for horse-riding routes

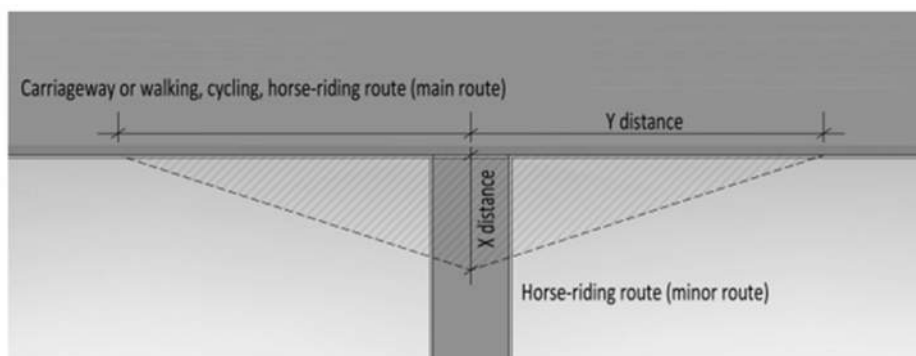


Figure 2: CD143 Figure 5.5N extract

CD143 guidance Figure 3 below states the design speed for horse riding routes on approach to a crossing is 10kph.

Design speed

- 5.2 Design speeds for horse-riding routes shall be in accordance with Table 5.2.

Table 5.2 Design speeds for horse-riding routes

Horse-riding activity	Design speed	Example situations
Trot/canter	20 kph	Remote from carriageway (for ≥ 50.0 metres length)
Walk	10 kph	Adjacent to carriageway; On approach to crossing; Remote from carriageway (for < 50.0 metres length)

Visibility

- 5.3 Stopping sight distance (SSD) for equestrians shall be in accordance with Table 5.3.

Table 5.3 SSD for equestrians

Design speed	SSD
20 kph	30.0 metres
10 kph	10.0 metres

Figure 3. CD143 Design speed and visibility for horse-riding routes

15. 10m forward visibility splays have been included for horse riders in drawing 4166-002-SK10_P02 attached at Appendix B.

Wider sustainable connectivity

16. It is acknowledged that proposed development forms part of wider Berewood MDA development and that sustainable connectivity is key to wider development parcels and the wider area surrounding the site. The pedestrian and cycle links are detailed below and illustrate in the site masterplan attached at Appendix A.

Bridleway

- Site entrance link with bridleway raised table
- Stepped footway link between Plots 12/13
- Stepped footway link opposite Apartment Block 28-36
- Level footway link opposite Plot 57

London Road

- Level footway link opposite Plot 87 providing direct access to London Road for Plots 74-94
- Level cycleway / footway link adjacent to Plot 153

Land to the west of the site boundary

- Level cycleway / footway link adjacent to Plot 154
- Level cycleway / footway link adjacent to Plot 185

Internal road network design

17. Please refer to drawing 4166-002-SK15_P01 showing the dimensions of the roads, footways, parking bays and car park aisles attached at Appendix C.
18. The internal road network includes cul de sacs and turning heads, these have been designed to include interconnectivity to the walking and cycling routes as discussed above. This approach complies with the guidance set out in paragraph 5.2.2 and 5.2.3 of TG and is in substantial accordance with the outline consent as required by condition 3 of planning ref: APP/10/00828. This is further supported by the accompanying planning statement.
19. Two raised tables are included within the internal site. One at the access and one central to the site, details for these raised tables can be found on drawing 4166-002-SK09_P01 attached at Appendix B.
20. Pedestrian crossing points within the site boundary are provided with dropped kerbs and tactile paving. The location of crossing points is indicated in 4166-002-001_P05 attached at Appendix D.
21. The limit for adoption of the internal roads for the site is illustrated in drawing 4166-002-SK16_P01 attached at Appendix E. The drawing illustrates major roads through the site are proposed for adoption.

Internal visibility

22. Drawing 4166-002-001_P05 attached at Appendix D details the pedestrian and vehicular visibility with pedestrian/ vehicle intervisibility.

Junction visibility

23. Vehicular visibility is separated in to forwards and junction visibility. Junction visibility is split between major and minor junctions, with major junctions measuring 2.4m x 25m and minor junctions 2m x 25m.
24. It is acknowledged there are instances at two junctions along the central road running east to west through the site in which the junction visibility splays pass through visitor bays. Although this is not ideal, guidance within Manual for Streets 2 states *“7.8.5 Parking in visibility splays in built-up areas is quite common, yet it does not appear to create significant problems in practice. Ideally, defined parking bays should be provided outside the visibility splay. However, in some circumstances, where speeds are low, some encroachment may be acceptable”*.
25. On the basis that junction visibility splays are slightly impeded by visitor parking bays at two junctions within the site boundary and all other junction visibility splays are unaffected, this is considered acceptable on transport and highways terms.

Forward visibility

26. Forward visibility of 25m have been provided at bends on the carriageway suitable for speeds of 20mph. The forward visibility splays are illustrated in drawing 4166-002-001_P05 attached at Appendix D.
27. Drawing 4166-002-TK003_P01 attached at Appendix F illustrates a large car can pass a 4.6t light van at all junctions.

Pedestrian visibility splays

Pedestrian visibility is provided at designated crossing points indicating 1.5m x 2.5m visibility can be achieved suitable for 20mph speed limits.

28. It is noted that all land within visibility splays is to be adopted, on drawing 4166-002-001_P05 (attached at Appendix D) there is annotation of the singular instance of pedestrian visibility encroaching upon land that would be private. The land within this visibility splay envelope is to be offered for adoption as hatched.

Pedestrian/ vehicle intervisibility

Pedestrian/ vehicle intervisibility is provided at crossovers to driveways and parking areas designated to each plot. Pedestrian/ vehicle intervisibility splays illustrated in drawing 4166-002-001_P05 (attached at Appendix D) can be achieved at 2m x 2m.

Parking provision

29. The parking requirements set out by HCC have been adhered to, to avoid any overspill in to the larger Berewood MDA.

30. A total of 423 spaces are proposed. The composition of total parking can be seen below.

Classification	Spaces
Plot parking	386
Of which are accessible bays	66 (only 2 show wheelchair marking but 66 have a margin adjacent)
Visitor bays	37
Total	423

Table 4: Parking summary

31. Each dwelling has one electric vehicle (EV) charging point, this is either wall mounted or post mounted, with post mounted only being used where wall mounted is not feasible.

32. All parking courts have a 6m spacing between rows of cars. With standard bays being 2.5m wide by 5m long. Parallel parking bays measure 2.5m wide by 6m long. These dimensions are illustrated in drawing 4166-002-SK15-P01 attached at Appendix C.

33. Where the parallel visitor parking bays are located adjacent to the bridleway to the north of the site, knee rail fencing will be implemented. This is to avoid vehicles overhanging the bridleway when accessing and egressing these spaces. Furthermore, it will prevent car doors opening directly onto the bridleway possibly conflicting with bridleway users.

34. The parking arrangement for Plot 17 has been amended to ensure of no encroachment into the carriageway. The new parking arrangement is illustrated in drawing 4166-002-SK15-P01 attached at Appendix C.

35. Triple tandem parking is proposed at the site, which has been agreed in similar quantities on previous phases of the Berewood MDA.

Cycle parking

36. A total of 359 long-stay cycle parking spaces will be provided in line with Havant Borough Council Parking Supplementary Planning Document.

Delivery and Servicing

37. Swept path analysis has been undertaken for a refuse vehicle (4166-002-TK001_P05), fire tender (4166-002-TK002_P04) and a 4.6t light van (4166-002-TK003_P01) illustrating appropriate delivery and servicing access can be achieved. Speeds of 10mph have been used when undertaking the swept path analysis. The drawings above are attached at Appendix F.
38. Passing places for a large car to pass a refuse vehicle have also been shown on drawing 4166-002-TK001_P05, with passing places being found on the central road to the site.
39. Passing places for a large car to pass the fire tender have also been shown on drawing 4166-002-TK002_P04, with passing places being found on the central road to the site.
40. All tracking of refuge vehicles and fire tenders remain within the proposed roads and there is no overspill of vehicle overhang on to pedestrian areas.
41. Bin collection points have all been located within the maximum drag and carry distance set out in Manual for Streets.

Appendix A – Site masterplan

Two thin, light grey curved lines originate from the left edge of the page and sweep downwards and to the right, creating a large, open, curved shape that frames the lower half of the page.



Notes.	
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Shared Ownership	20.0%
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Affordable Rent		20.0%	
Type	Base Amount	No.	Fin. Total

		37	26903

[illegible]

- N.B. Landscaping is indicative.
Please refer to detailed landscape drawing

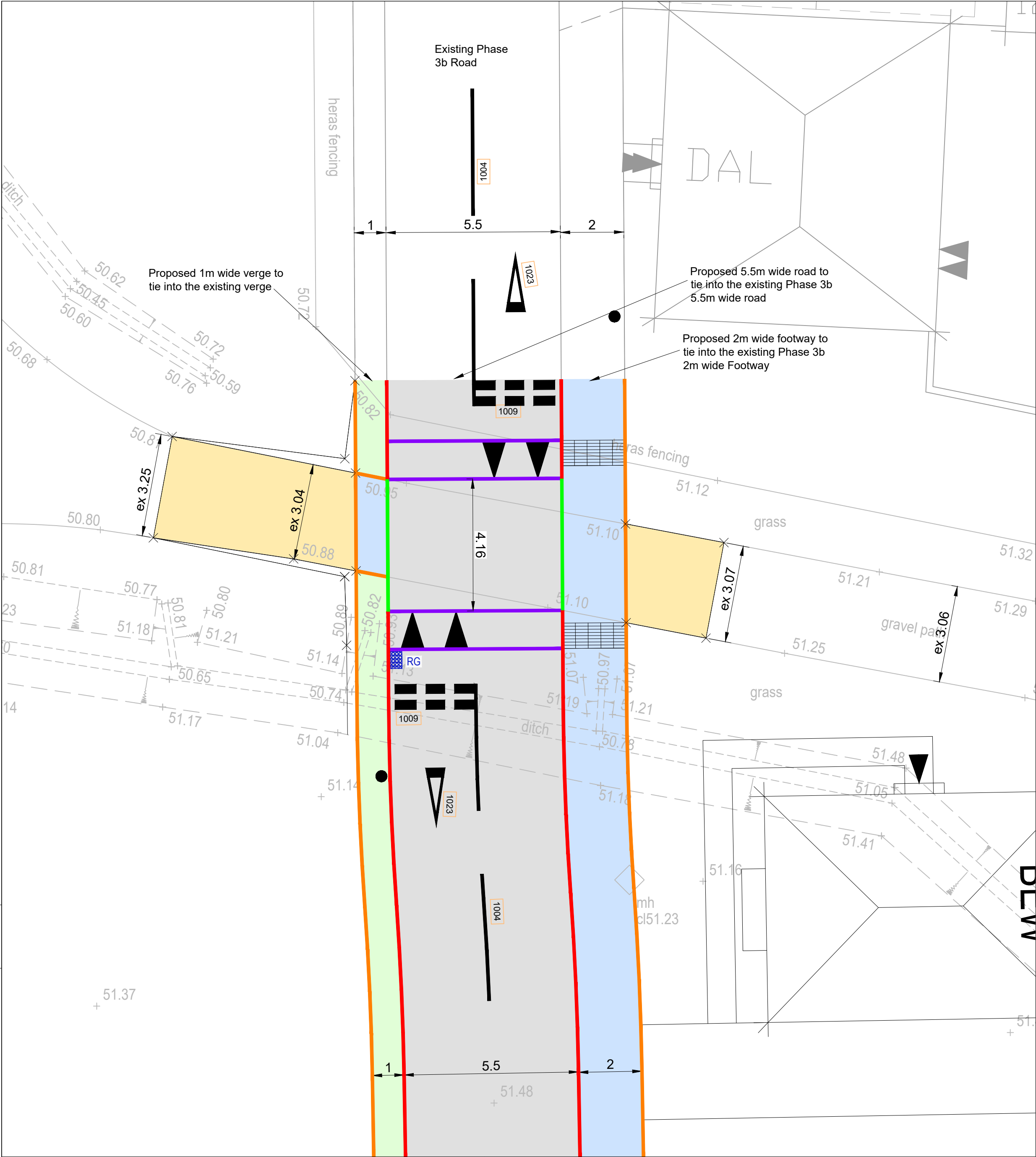
Revision			
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DATE: Feb 2024
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CHECKED: SD

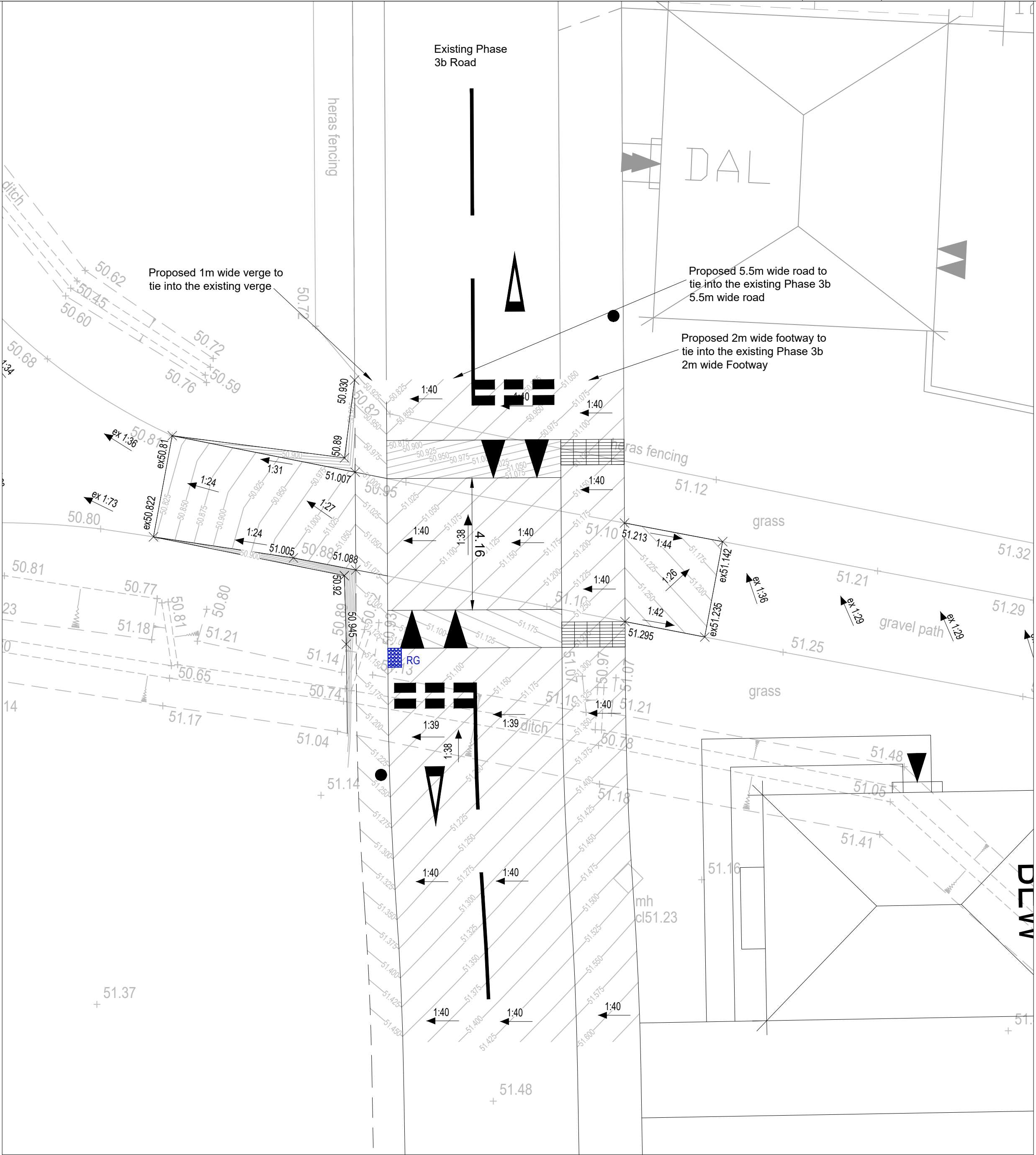
Drawing No.	SOxxx-SL-001L
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Appendix B – Bridleway crossing design

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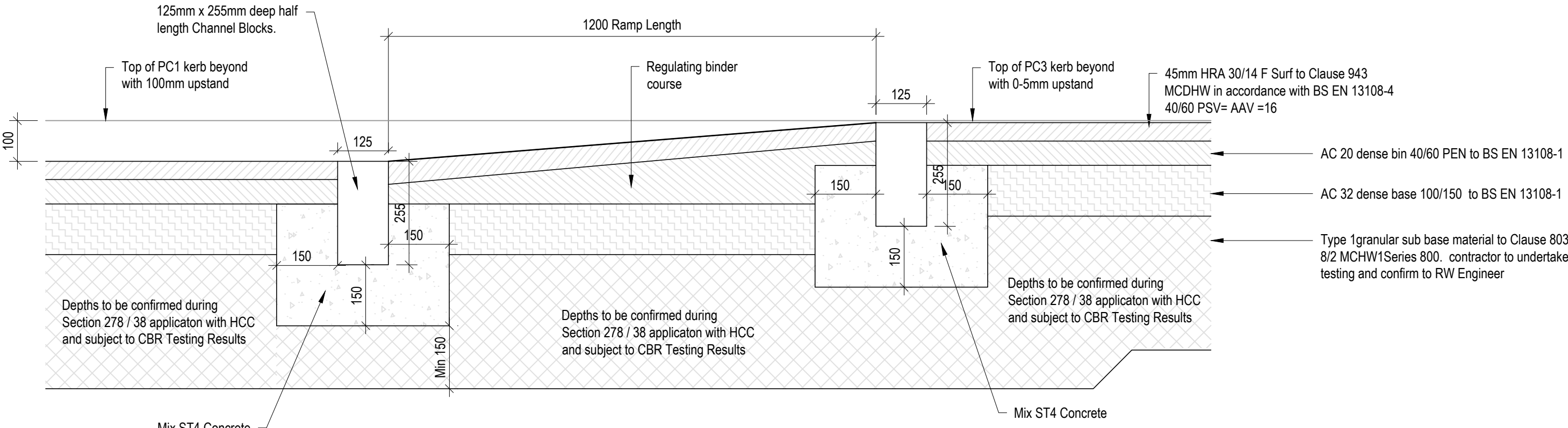
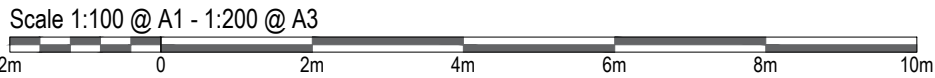
SURFACE FINISHES



PROPOSED LEVELS

SURFACE FINISHES KEY

- PC1 with 100mm upstand to Drawing HCC11/C/010B
- PC4 flush kerb to Drawing HCC11/C/010B
- Channel Blocks - top and bottom of ramp
- EF Precast Concrete Edging
- Proposed 5.5m wide Tarmac Road and Ramp
- Proposed 2m wide Tarmac Footway to Drawing HCC11/C/045C Type 1A
- Proposed 1m wide Verge
- Area of Existing Gravel Bridleway path to be reggraded to new bridleway crossing levels
- Hazard Tactile Paving
- Proposed adoptable Gully to connect to onsite system. To Drawing HCC/D/015B Type 1T
- Road marking reference to 'The Traffic Signs Regulations and General Directions'

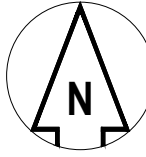


BRIDLEWAY CROSSING RAISED TABLE

Scale 1:10

DO NOT SCALE OFF THIS DRAWING

LEGEND



LEVELS KEY

- + 52.05 Existing Topographical Survey Level
- ex 1.36 Existing Gradient
- × 50.81 Existing tie into Level
- × 50.89 Proposed Spot Level
- 51.525 Proposed Contour (25mm intervals)
- 1:26 Proposed Gradient

Revision History					
Rev	Comment	By	Chkd	Appr	Date
Current Revision					
P01	PRELIM ISSUE	PR	SB	SB	06.11.2024

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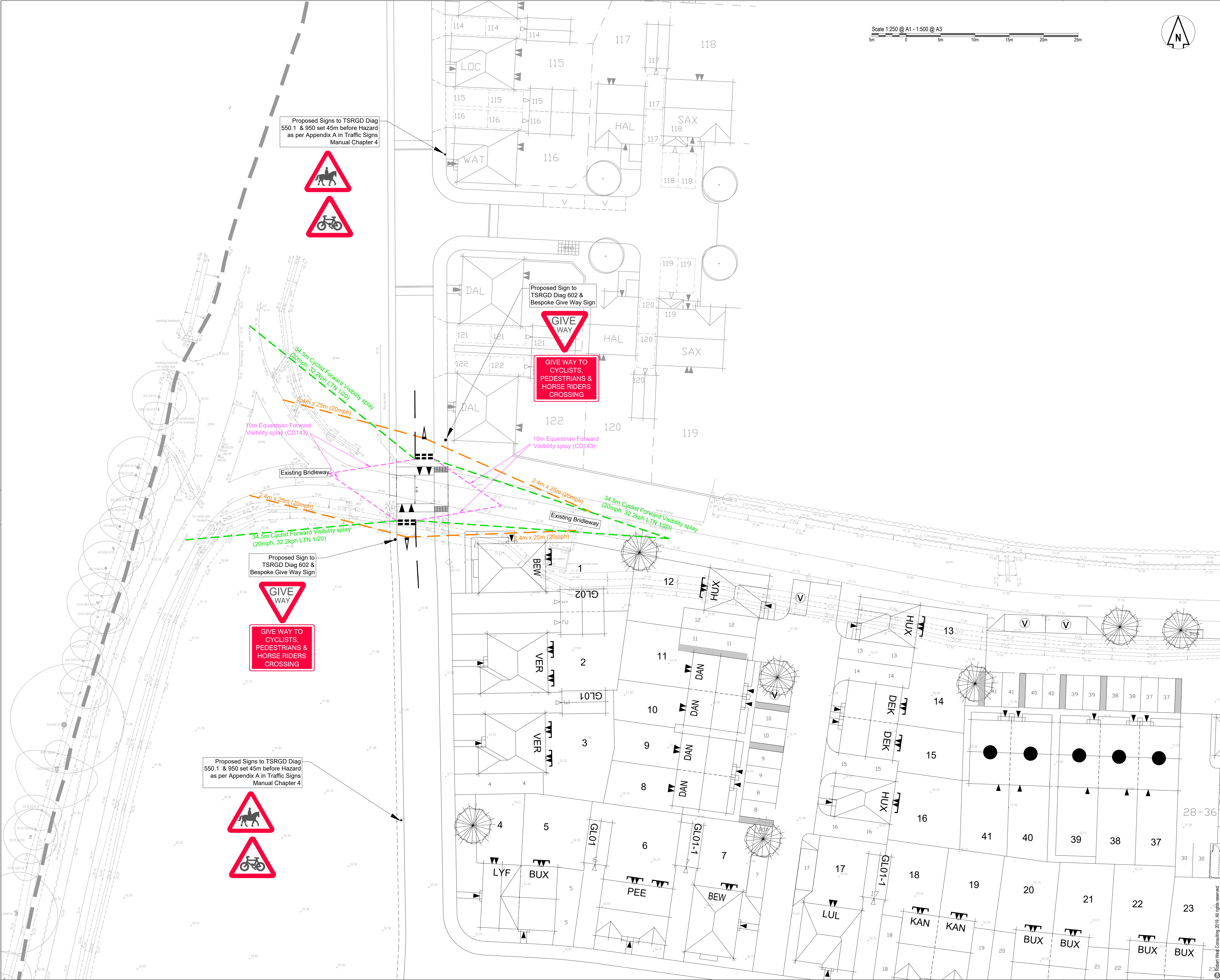
Project
WATERLOOVILLE - BEREWOOD
PHASE 8a

Drawing Title
BRIDLEWAY CROSSING
LEVELS, KERBING, DETAILS

RWCL Internal Register reference: 4166-002

Scales @ A1

SK09-P01



DO NOT SCALE OFF THIS DRAWING

LEGEND

Revision History				
Rev	Comment	By	Chkd	Appr
P01	PRELIM ISSUE	PR	SB	SB
P02	UPDATED ENTRANCE AND VIS SPLAYS	PR	SB	SB

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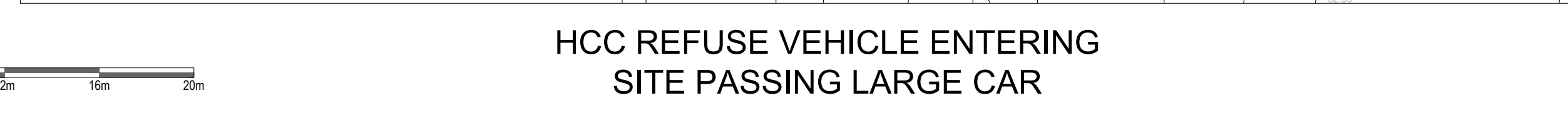
Project
WATERLOOVILLE - BEREWOOD
PHASE 8a

Drawing Title
BRIDLEWAY CROSSING
VISIBILITY SPLAYS

RWCL Internal Register reference: 4166-002 Scales @ A1

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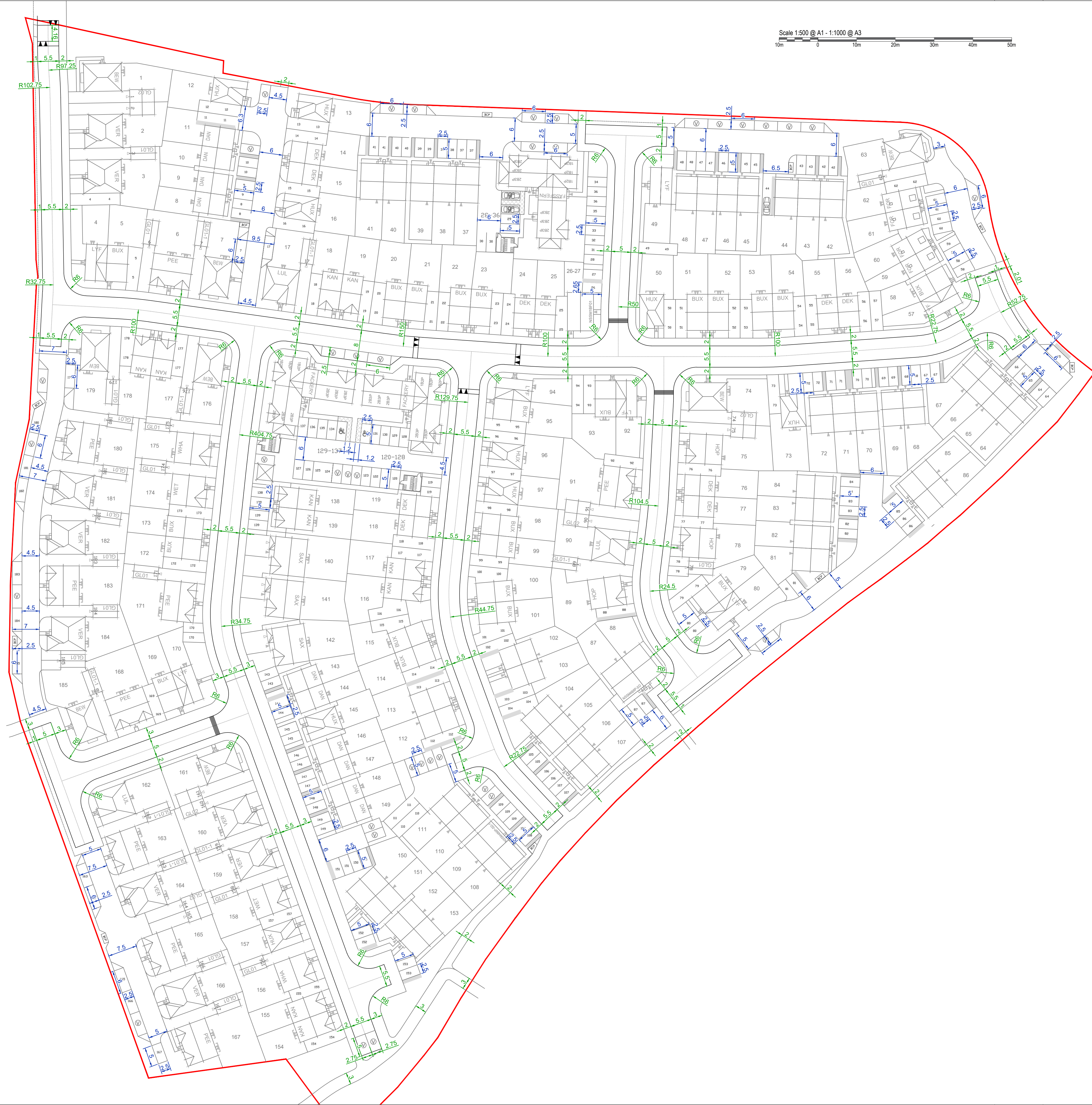
SK10-P02



SK11-P02

Appendix C – Geometric pln

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Appendix D – Visibility plan

REFER TO DRAWING SK10 FOR
BRIDLEWAY CROSSING VISIBILITY SPLAYS

DO NOT SCALE OFF THIS DRAWING

LEGEND

SITE BOUNDARY

JUNCTION VISIBILITY SPLAY
25m FOR 20MPH SPEED LIMIT
2.4m x DISTANCE AT MAIN JUNCTIONS
2m x DISTANCE AT MINOR ACCESS

FORWARD VISIBILITY SPLAYS ON
BENDS - 25m FOR 20MPH SPEED

PEDESTRIAN VISIBILITY SPLAY
1.5 X 25m FOR 20MPH SPEED LIMIT

PEDESTRIAN/VEHICLE INTERVISIBILITY
SPLAY 2.0 X 2.0m

TACTILE PAVING UNCONTROLLED
CROSSING.
DK = HCC PC4 FLUSH KERBS

ALL VISIBILITY SPLAYS SIT WITHIN CARRIAGEWAY TO BE
OFFERED FOR ADOPTION UNLESS NOTED OTHERWISE

Revision History					
Rev	Comment	By	Chkd	Appr	Date
P04	LATEST SITE LAYOUT ADDED	PR	SB	SB	11.09.2024
P03	LATEST SITE LAYOUT ADDED. SPLAYS UPDATED	PR	SB	SB	23.08.2024
P02	LATEST SITE LAYOUT ADDED. SPLAYS UPDATED	PR	SB	SB	10.07.2024
P01	PRELIMINARY	MH	WH	SB	07.05.2024
Current Revision					
P05	ISSUED FOR APPROVAL	PR	SB	SB	06.11.2024

FOR APPROVAL

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Project
WATERLOOVILLE - BEREWOOD
PHASE 8a

Drawing Title
JUNCTION, FORWARD & PEDESTRIAN
VISIBILITY SPLAYS

RWCL Internal Register reference:

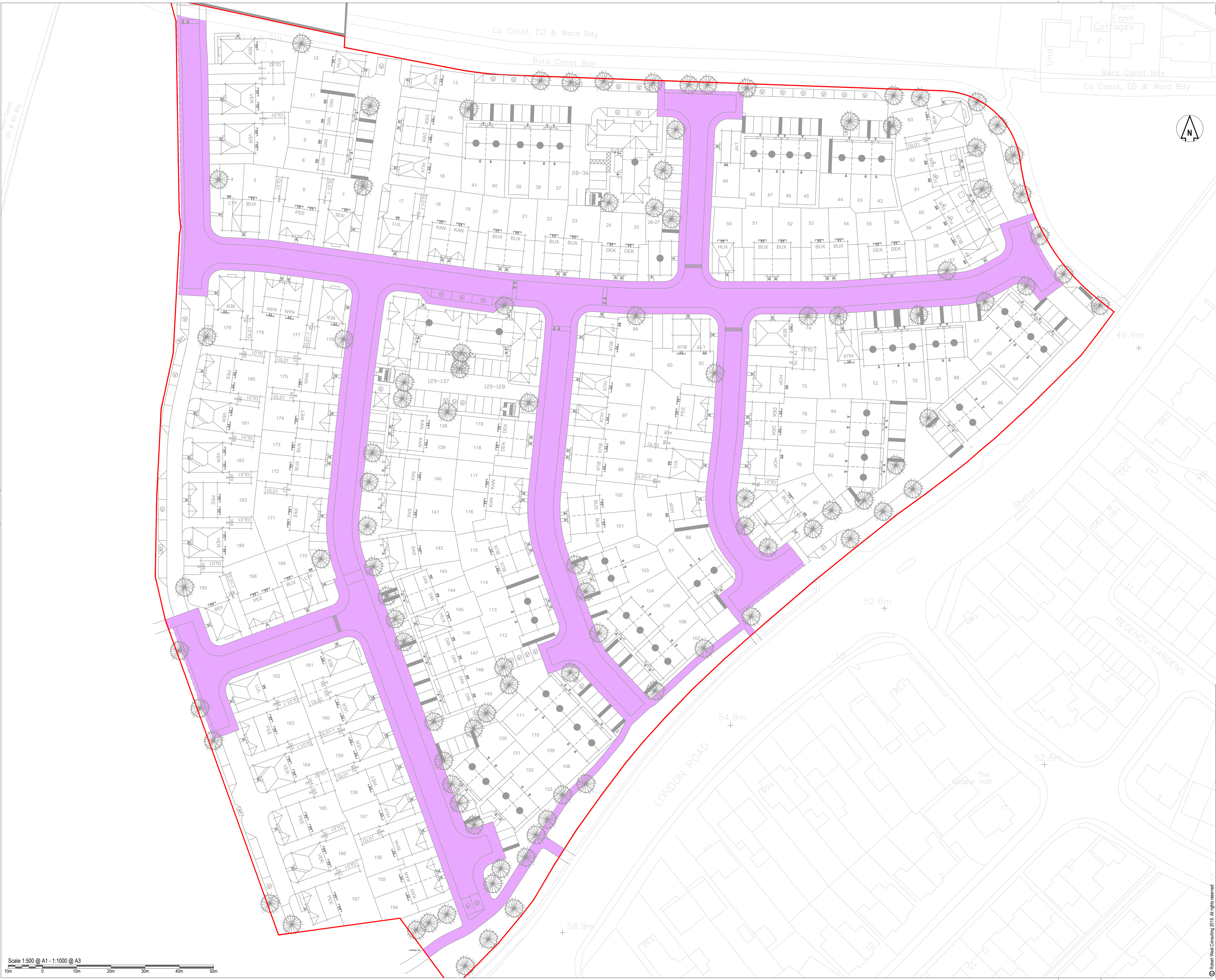
Scales @ A1

001 - P05

Scale 1:500 @ A1 - 1:1000 @ A3

10m 0 10m 20m 30m 40m 50m

Appendix E – Road adoption plan



DO NOT SCALE OFF THIS DRAWING

NOTES

1. The contractor is responsible for verifying all site & setting out dimensions before commencing work.
2. This drawing is to be read in conjunction with all relevant Architectural and M&E drawings.
3. All dimensions in meters unless stated otherwise.

Key:

- Site Boundary
- Extent of Carriageway to be offered for Adoption

Scale 1:500 @ A1 - 1:1000 @ A3

10m 0 10m 20m 30m 40m 50m

Revision History					
Rev	Comment	By	Chkd	Appr	Date
Current Revision					
P01	PRELIMINARY ISSUE	UN	PR	SB	06.11.2024

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Project
**WATERLOOVILLE - BEREWOOD
PHASE 8a**

Drawing Title
EXTENT OF CARRIAGEWAY ADOPTION PLAN

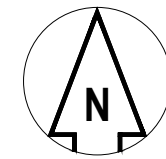
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SK16-P01

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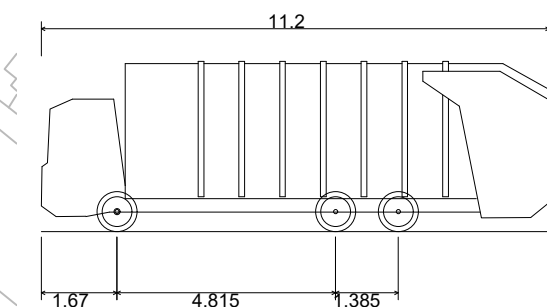
Appendix F – Swept path analysis

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LEGEND:

- Site Boundary
- Wheel track (Forward manoeuvre) Shows outer limit of wheel entirely within the carriageway. Not encroaching on any kerbs
- Wheel track (Reverse manoeuvre) Shows outer limit of wheel entirely within the carriageway. Not encroaching on any kerbs
- Body track - Shows the outer limit of body generally within carriageway, may overhang the verge when turning where necessary
- BCP Bin Collection Point
- Refuse Operative Walking Distance (Max 25m from Vehicle)
- Resident Walking distance (Max 30m from Bin Storage Point to Bin Collection Point)



Phoenix 2 Duo (P2-15W with Elite 6x4 chassis)
Overall Length 11.200m
Overall Width 2.530m
Overall Body Height 3.751m
Min Body Ground Clearance 0.304m
Track Width 2.500m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 9.500m

VEHICLE TRACKING
SPEED SET TO 10mph

Revision History					
Rev	Comment	By	Chkd	Appr	Date
P04	LATEST LAYOUT ADDED	PR	SB	SB	11.09.2024
P03	LATEST LAYOUT ADDED. TRACKING UPDATED	PR	SB	SB	23.08.2024
P02	LATEST LAYOUT ADDED. TRACKING UPDATED	PR	SB	SB	10.07.2024
P01	ISSUED FOR INFORMATION	MH	WH	SB	07.05.2024
Current Revision					
P05	LAYOUT UPDATED. TRACKING UPDATED	PR	SB	SB	06.11.2024

INFORMATION

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Project
WATERLOOVILLE - BEREWOOD
PHASE 8a

Drawing Title
SWEEP PATH ANALYSIS
REFUSE VEHICLE

RWCL Internal Register reference: 4166-002

Scales @ A1

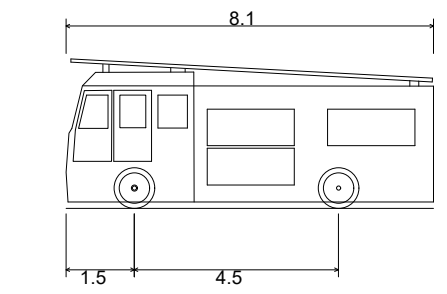
TK-001-P05

Scale 1:500 @ A1 - 1:1000 @ A3
10m 0 10m 20m 30m 40m 50m



LEGEND:

- Site Boundary
- Wheel track (Forward manoeuvre) Shows outer limit of wheel entirely within the carriageway. Not encroaching on any kerbs
- Wheel track (Reverse manoeuvre) Shows outer limit of wheel entirely within the carriageway. Not encroaching on any kerbs
- Body track - Shows the outer limit of body generally within carriageway, may overhang the verge when turning where necessary
- Fire Hose Distance (Max 45m from Vehicle to furthest entrance)
- Fire Tender Reverse Distance (Max 20m)



HCC Fire Tender
Overall Length 8.100m
Overall Width 2.550m
Overall Body Height 3.300m
Min Body Ground Clearance 0.140m
Track Width 2.550m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 7.600m

**VEHICLE TRACKING
SPEED SET TO 10mph**

Revision History					
Rev	Comment	By	Chkd	Appr	Date
P03	LATEST LAYOUT ADDED	PR	SB	SB	11.09.2024
P02	LATEST LAYOUT ADDED, TRACKING UPDATED	PR	SB	SB	23.08.2024
P01	ISSUED FOR INFORMATION	PR	SB	SB	10.07.2024
Current Revision					
P04	LAYOUT UPDATED, TRACKING UPDATED	PR	SB	SB	06.11.2024

INFORMATION

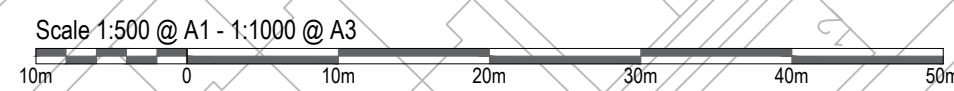
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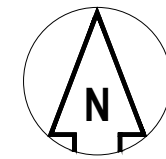
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Project
**WATERLOOVILLE - BEREWOOD
PHASE 8a**

Drawing Title
**SWEPT PATH ANALYSIS
FIRE TENDER**

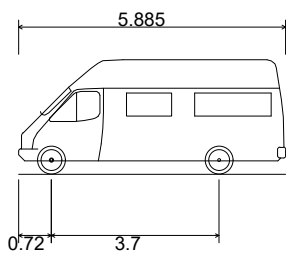
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TK-002 - P04



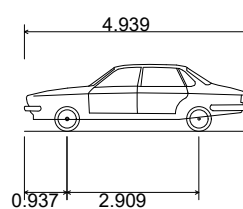


LEGEND:

- Site Boundary
- Wheel track (Forward manoeuvre) Shows outer limit of wheel entirely within the carriageway. Not encroaching on any kerbs
- Wheel track (Reverse manoeuvre) Shows outer limit of wheel entirely within the carriageway. Not encroaching on any kerbs
- Body track - Shows the outer limit of body generally within carriageway, may overhang the verge when turning where necessary



4.6t Light Van
Overall Length 5.885m
Overall Width 2.000m
Overall Body Height 2.526m
Min Body Ground Clearance 0.299m
Track Width 1.765m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 6.000m



Jaguar S-Type
Overall Length 4.939m
Overall Width 1.878m
Overall Body Height 1.474m
Min Body Ground Clearance 0.259m
Max Track Width 1.544m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 6.000m

VEHICLE TRACKING
SPEED SET TO 10mph

Revision History					
Rev	Comment	By	Chkd	Appr	Date
Current Revision					
P01	ISSUED FOR INFORMATION	UN	PR	SB	06.11.2024

INFORMATION

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Project
WATERLOOVILLE - BEREWOOD
PHASE 8a

Drawing Title
SWEEP PATH ANALYSIS
4.6 TONNE LIGHT VAN / LARGE CAR

RWCL Internal Register reference: 4166-002

Scales @ A1

TK-003-P01

Scale 1:500 @ A1 - 1:1000 @ A3
10m 0 10m 20m 30m 40m 50m