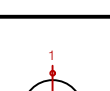


MANHOLE SCHEDULE
Sheet 1 of 2

Manhole Number	Cover Level	Depth To Invert	Connections	Pipe			Manhole Size	Types		
				Code	Inverts	Diams		Manhole	Cover	
F1		147.000		1	1.000	146.150	100	450	4	D400
E 302693.536	0.850	1.000		145.536	100					
N 516817.459		1.001		145.536	100					
F2		146.389		1	1.001	144.890	100	450	4	D400
E 302670.243	0.853	1.001		144.890	100					
N 516855.525		1.002		144.890	100					
F3		145.740		1	1.002	144.185	100	450	3	D400
E 302643.306	0.850	1.002		144.185	100					
N 516855.582		1.003		144.185	100					
F4		145.037		1	1.003	143.212	100	450	3	D400
E 302620.316	0.852	1.003		143.212	100					
N 516794.827		1.004		143.212	100					
F5		144.095		1	1.004	142.805	100	540	3	D400
E 302601.026	0.853	1.004		142.805	100					
N 516796.565		1.005		142.805	100					
F6		143.654		1	1.005	142.527	100	450	3	D400
E 302598.339	0.849	1.005		142.527	100					
N 516815.638		1.006		142.527	100					
F7		143.511		1	1.006	141.859	100	450	3	D400
E 302609.180	0.984	1.006		141.859	100					
N 516834.749		1.007		141.859	100					
F8		142.538		1	1.007	141.367	100	450	2	D400
E 302597.270	0.877	1.007		141.367	100					
N 516847.382		1.008		141.367	100					
F9		142.439		1	1.008	140.599	100	450	3	D400
E 302612.437	1.072	1.008		140.599	100					
N 516864.362		1.009		140.599	100					
F10		141.451		1	1.009	139.612	100	450	3	D400
E 302606.875	0.852	1.009		139.612	100					
N 516883.773		1.010		139.612	100					
F11		141.410		1	1.010	138.425	100	450	3	D400
E 302675.933	1.798	1.010		138.425	100					
N 516917.835		1.011		138.425	100					
F12		141.372		2	2.004	140.518	100	1200	2	D400
E 302760.402	2.947	2.004		140.518	100					
N 516882.905		2.005		140.518	100					
F13		142.077		2	5.007	141.217	100	1200	1	D400
E 302766.352	3.794	5.007		141.217	100					
N 516896.135		5.012		138.283	150					
F14		141.327		1	1.012	138.076	100	2100	1	D400
E 302756.255	3.281	1.012		138.076	100					
N 516874.329		1.013		138.076	100					
F15		145.100		1	2.000	144.250	100	450	4	D400
E 302641.786	0.850	2.000		144.250	100					
N 516842.241		2.001		144.250	100					
F16		144.874		1	4.000	142.822	100	450	3	D400
E 302654.294	2.052	2.000		142.822	100					
N 516867.426		2.001		142.822	100					
F17		143.629		1	2.001	142.454	100	450	3	D400
E 302668.770	1.225	2.002		142.454	100					
N 516886.618		2.002		142.454	100					
F18		143.369		1	2.002	141.804	100	450	3	D400
E 302714.430	1.585	2.003		141.804	100					
N 516886.217		2.003		141.804	100					
F19		141.882		1	2.004	141.024	100	450	3	D400
E 302750.580	0.858	2.004		141.024	100					
N 516880.252		2.004		141.024	100					
F20		146.150		1	3.000	144.550	100	450	4	D400
E 302657.545	1.600	3.000		144.550	100					
N 516849.854		3.000		144.550	100					

MANHOLE SCHEDULE
Sheet 2 of 2

Manhole Number	Cover Level	Depth To Invert	Connections	Pipe			Manhole Size	Types		
				Code	Inverts	Diams		Manhole	Cover	
F21	143.850	0.850		1	4.000	143.000	100	450	4	D400
E 302640.790 N 516864.342				0	5.000	146.100	100			
F22	147.000	0.850		1	5.000	145.980	100	450	4	D400
E 302712.539 N 516860.524				0	5.001	145.980	100			
F23	146.521	0.941		1	5.001	143.896	100	450	4	D400
E 302718.761 N 516863.343				0	5.002	143.896	100			
F24	144.877	0.981		1	5.001	143.896	100	450	4	D400
E 302742.684 N 516841.439				0	5.002	143.896	100			
F25	144.330	0.863		1	5.002	143.487	100	450	4	D400
E 302744.575 N 516859.905				0	5.003	143.487	100			
F26	143.000	0.869		1	5.003	142.181	100	450	3	D400
E 302760.437 N 516841.013				0	5.004	142.181	100			
F27	143.000	1.009		1	5.004	142.041	100	450	3	D400
E 302775.578 N 516844.882				0	5.005	142.041	100			
F28	142.233	0.857		1	5.005	141.376	100	450	3	D400
E 302770.540 N 516859.683				0	5.006	141.376	100			
F29	142.139	0.854		1	5.006	141.280	100	450	3	D400
E 302767.118 N 516865.884				0	5.007	141.280	100			
BPC	147.635	2.727		1	6.000	144.400	100	1200	BREAK PRESSURE CHAMBER	D400
E 302706.189 N 516798.504				0	6.000	144.400	100			
EX3	146.824	3.816		1	6.000			EXISTING		
E 302718.208 N 516770.991										

FOUL Network 1											
Pipe Code	Diameter (mm)	Gradient (1)	Pipe Type	Upstream Manhole Number	Invert	Cover	Downstream Manhole Number	Invert	Cover		
1.000	100	42	PVC-U	F1	146.15	147.00	F2	145.54	146.39		
1.001	100	55	PVC-U	F2	145.54	146.39	F3	144.89	145.74		
1.002	100	36	PVC-U	F3	144.89	145.74	F4	144.19	145.04		
1.003	100	20	PVC-U	F4	144.19	145.04	F5	143.21	144.06		
1.004	100	47	PVC-U	F5	143.21	144.06	F6	142.81	143.65		
1.005	100	77	PVC-U	F6	142.81	143.65	F7	142.53	143.51		
1.006	100	20	PVC-U	F7	142.53	143.51	F8	141.66	142.54		
1.007	100	78	PVC-U	F8	141.66	142.54	F9	141.37	142.44		
1.008	100	26	PVC-U	F9	141.37	142.44	F10	140.60	141.45		
1.009	100	78	PVC-U	F10	140.60	141.45	F11	139.61	141.41		
1.010	100	77	PVC-U	F11	139.61	141.41	F12	138.42	141.37		
1.011	100	125	PVC-U	F12	138.42	141.37	F13	138.25	142.08		
1.012	100	150	PVC-U	F13	138.25	142.08	F14	138.08	141.33		
5.000	100	25	PVC-U	F22	146.15	147.00	F23	145.58	146.52		
5.001	100	15	PVC-U	F23	145.58	146.52	F24	143.90	144.88		
5.002	100	15	PVC-U	F24	143.90	144.88	F25	143.49	144.35		
5.003	100	17	PVC-U	F25	143.49	144.35	F26	142.18	143.05		
5.004	100	78	PVC-U	F26	142.18	143.05	F27	142.04	143.05		
5.005	100	23	PVC-U	F27	142.04	143.05	F28	141.38	142.23		
5.006	100	60	PVC-U	F28	141.38	142.23	F29	141.29	142.14		
5.007	100	35	PVC-U	F29	141.29	142.14	F13	141.22	142.08		
2.000	100	20	PVC-U	F15	144.25	145.10	F16	142.82	144.87		
2.001	100	78	PVC-U	F16	142.82	144.87	F17	142.40	143.63		
2.002	100	78	PVC-U	F17	142.40	143.63	F18	141.80	142.37		
2.003	100	47	PVC-U	F18	141.80	143.37	F19	141.02	141.88		
2.004	100	20	PVC-U	F19	141.02	141.88	F12	140.52	141.37		
3.000	100	34	PVC-U	F20	144.00	145.15	F16	144.02	144.87		
4.000	100	78	PVC-U	F21	143.00	143.85	F16	142.82	144.87		
6.000	150	60	PVC-U	BPC	144.908	147.635	EX3	144.408	146.824		

NOTES.

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.

Rev.	Amendment	By	Checked	Approved	Date
FOR APPROVAL					
Status			Appd.	Date	
Client KCS AGRICULTURAL LTD					
Project NORTH PARK RHEDA, PHASE 2					
Title FOUL MANHOLE SCHEDULES					
Drawn ROM	Date 23.05.24	Checked WAM	Date 23.05.24	Approved WAM	Date 23.05.24
Scales			N.T.S		
Job No.			AA7281		
Client Drawing No.			Rev.		
Drawing No.			AA7281/EW/08		

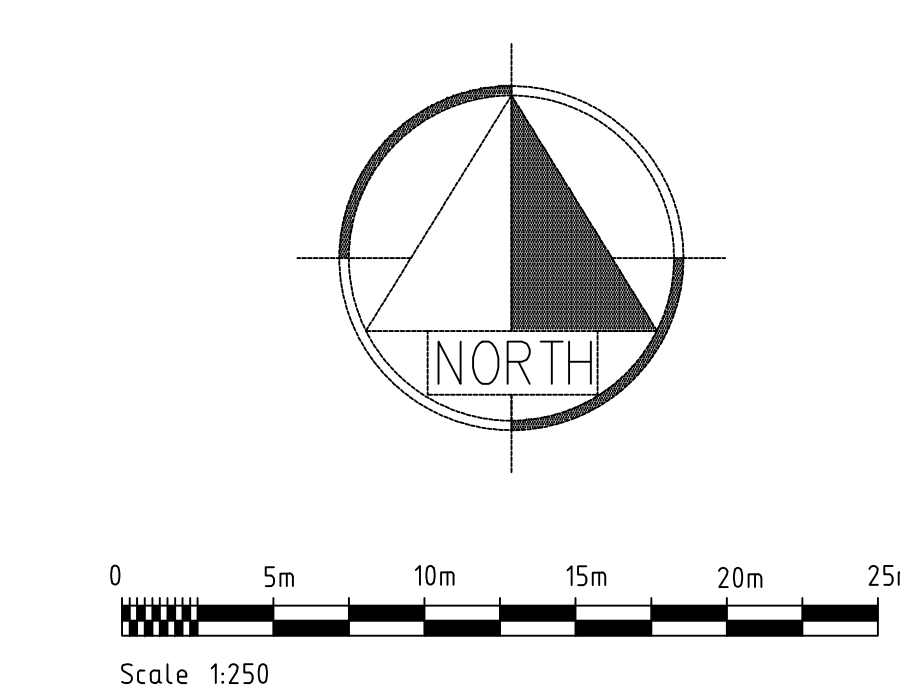


asher
ASSOCIATES
CIVIL ENGINEERS
STRUCTURAL ENGINEERS
PROJECT MANAGERS
32 George Street, Durness, DG1 1EH
Tel: 01387 250644 www.asherassociates.co.uk

© Asher Associates

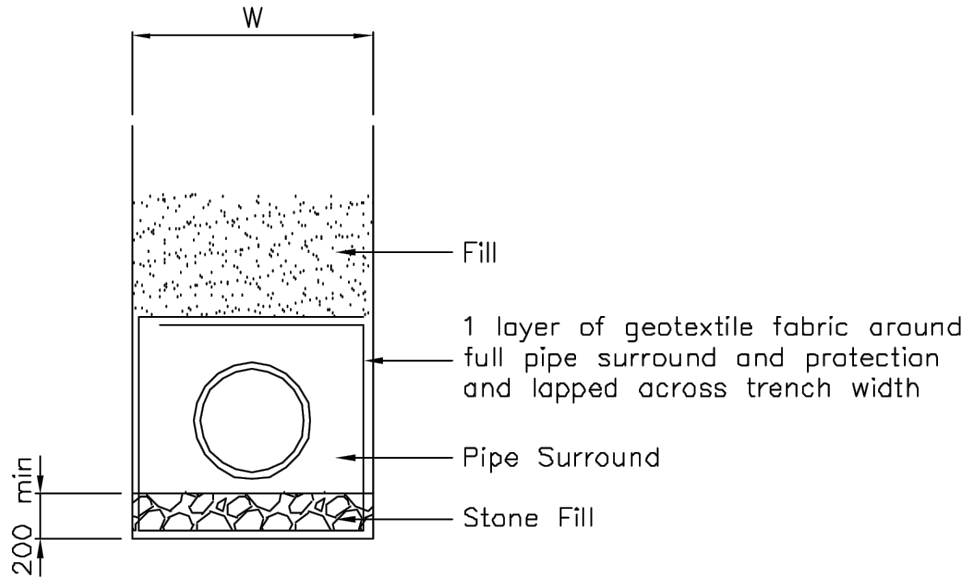
1. DO NOT SCALE FROM THIS DRAWING.

2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.

[illegible]

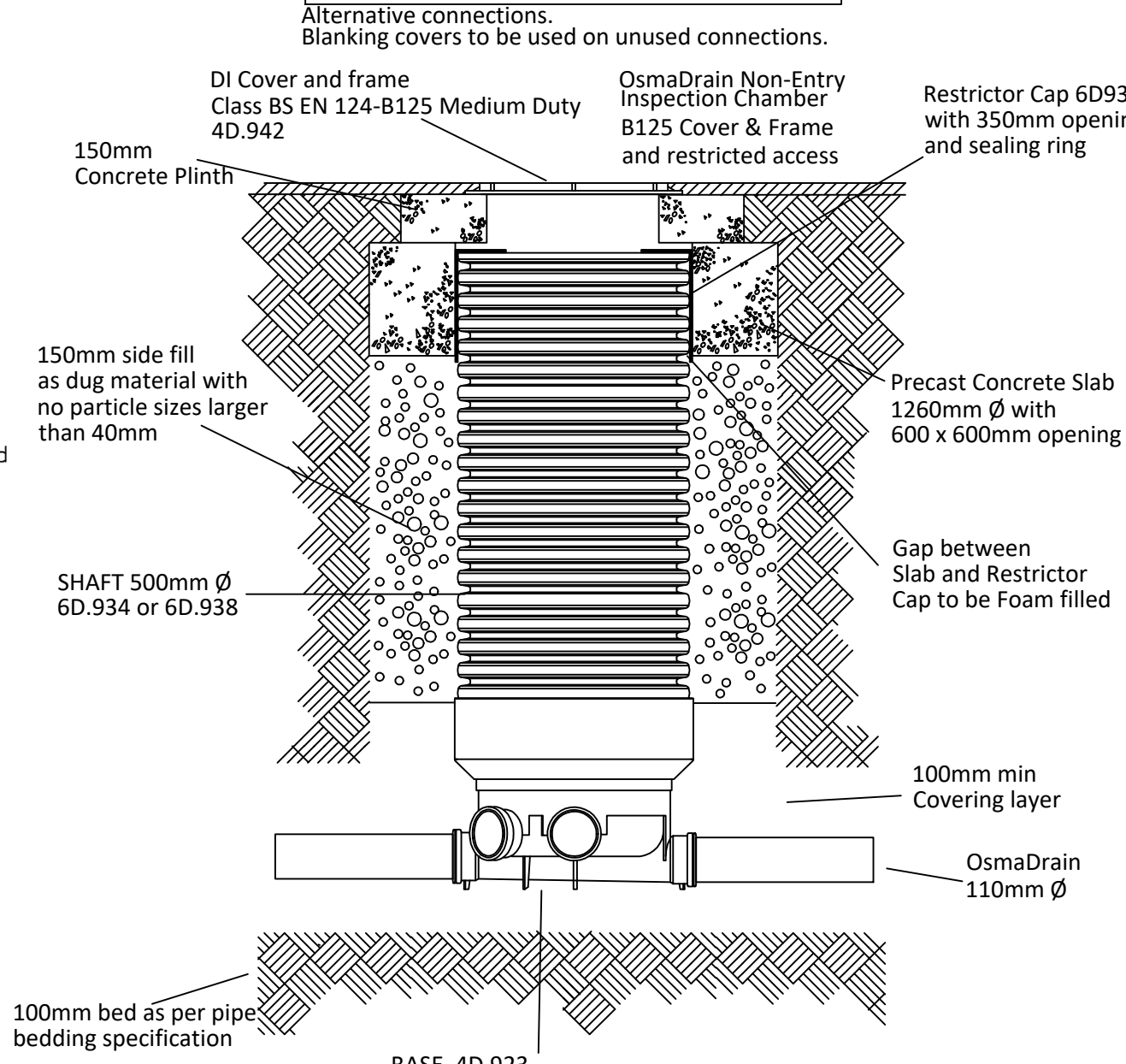
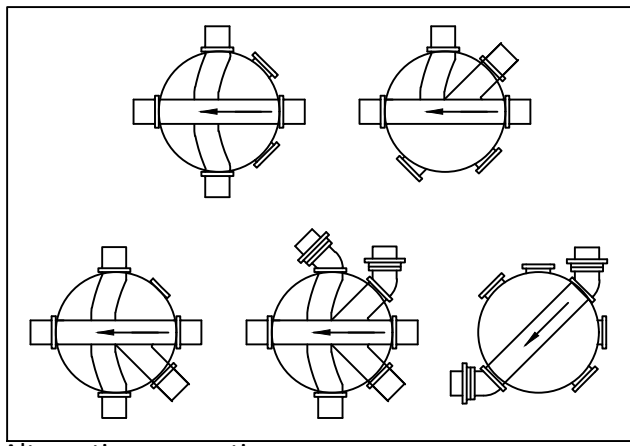
Minimum dimensions for inspection chambers and manholes					
TYPE OF ACCESS	DEPTH TO INVERT (m)	MINIMUM INTERNAL DIMENSIONS		MINIMUM NOMINAL COVER SIZE	
		RECTANGULAR LENGTH AND WIDTH	CIRCULAR DIAMETER	RECTANGULAR LENGTH AND WIDTH	CIRCULAR DIAMETER
INSPECTION CHAMBER	<0.6	225 x 100	190	-	190
MANHOLES	0.6-1.2	450 x 450	450	430 x 430	430 (a)
	1.0-1.5	750 x 675	-	750 x 675	-
MANHOLE ACCESS (b) SHAFT	>1.5	1200 x 1200	1200	600 x 600	600
	>2.7	1050 x 800	1050	600 x 600	600

- (a) In the case of clayware and plastic inspection chambers, the clear opening may be reduced to 430mm in order to provide proper support for the cover and frame.
- (b) Minimum height of chamber in access shaft manhole is 2.0m from crown of pipe to underside of reducing slab.
- (c) Manholes to be constructed in accordance with the current publication 'Sewers for Adoption' 6th Edition or Sewers for Scotland 2nd Edition depending upon location. See Typical Sewer Details.
- (d) Hepworth's Deep Access in MDPE may be used as an alternative for Type D manholes up to 1.5m deep.



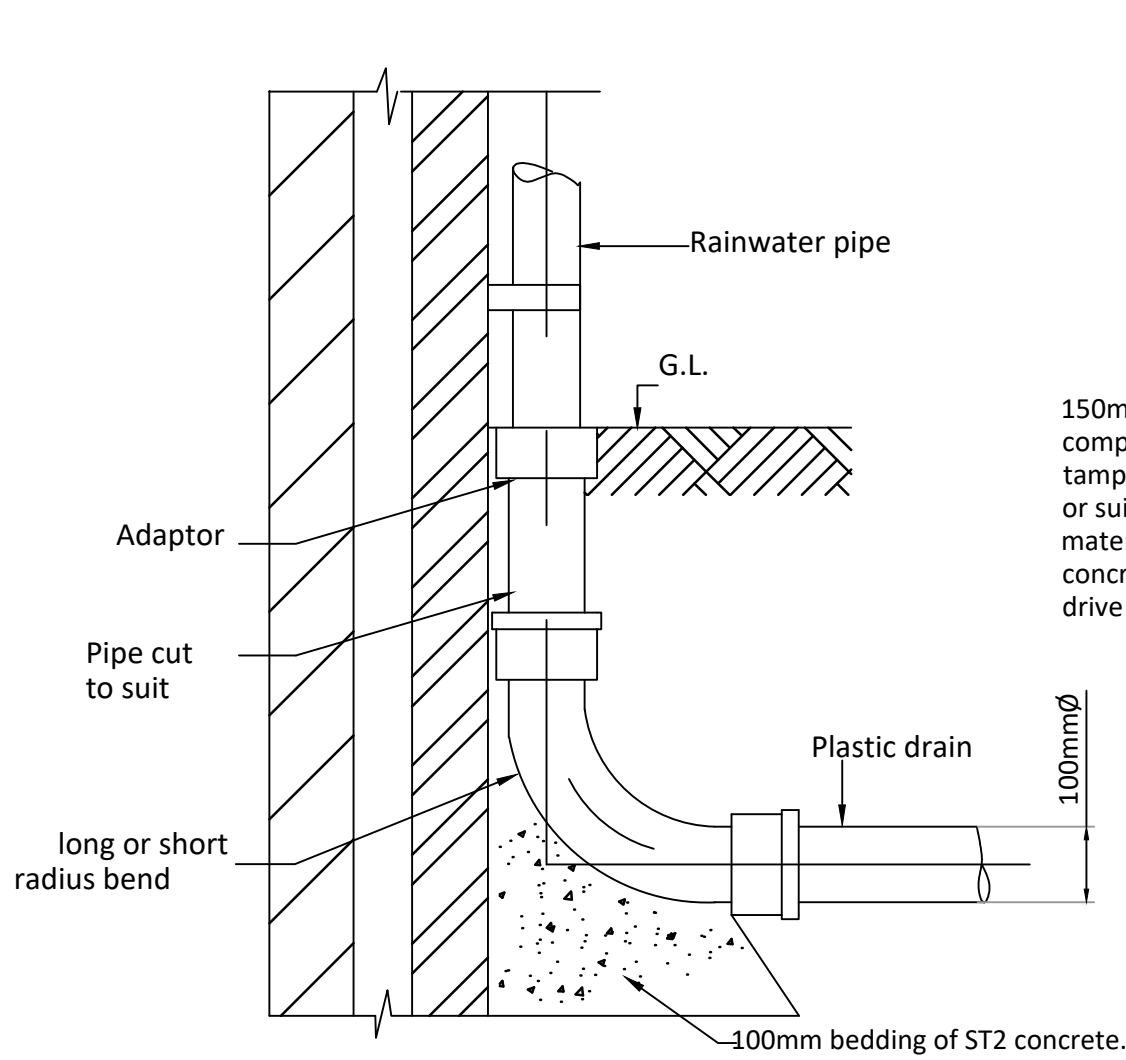
PIPE BEDDING CLASS S1

FOR USE IN POOR GROUND
EXTENT AND DEPTH TO BE DETERMINED
ON SITE AS WORK PROCEEDS
(N.T.S)

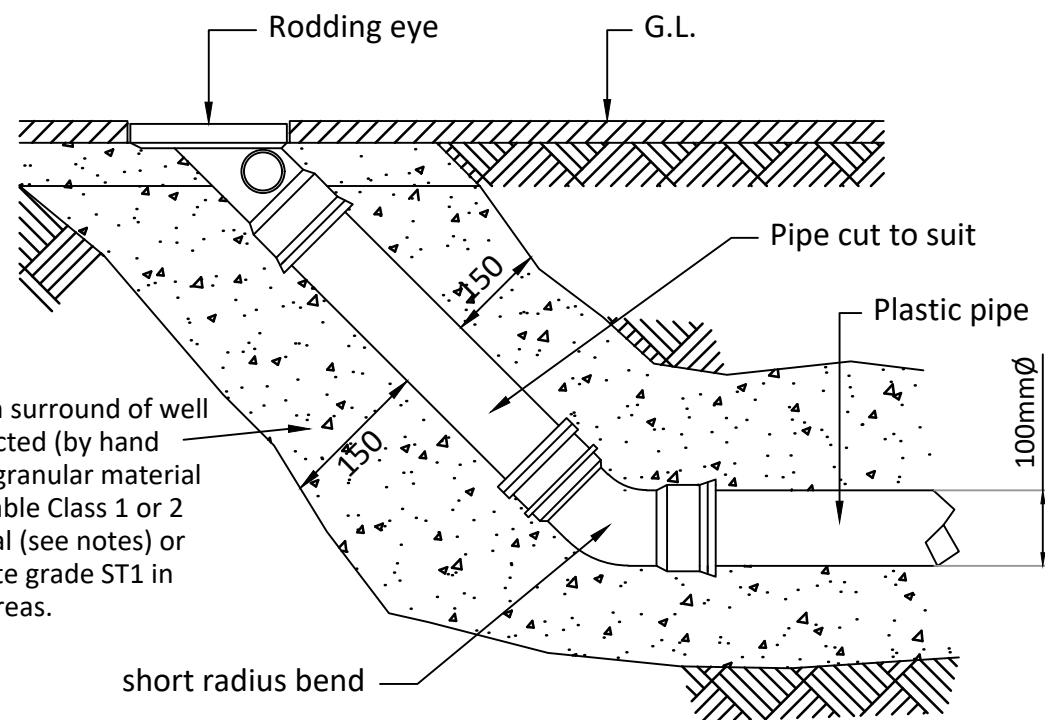
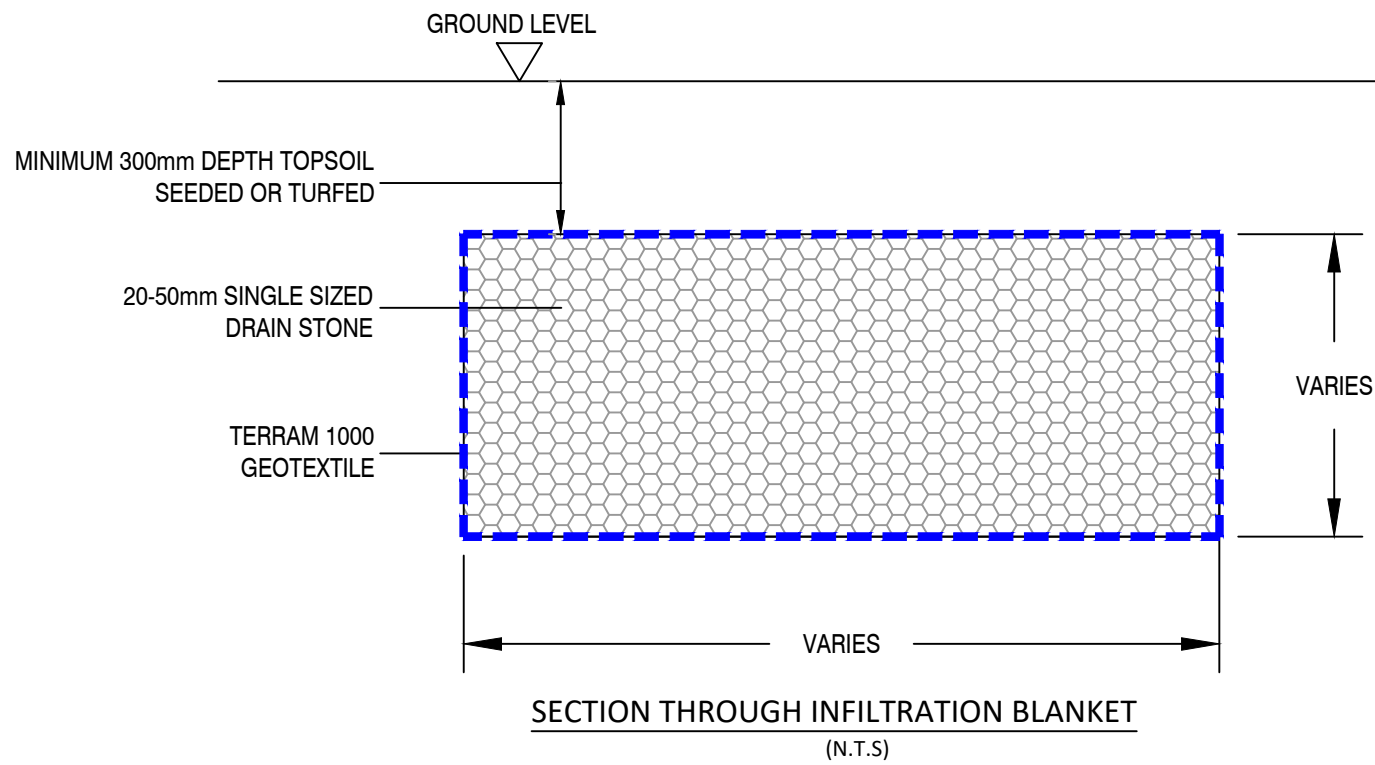


TYPICAL INSPECTION CHAMBER DETAIL

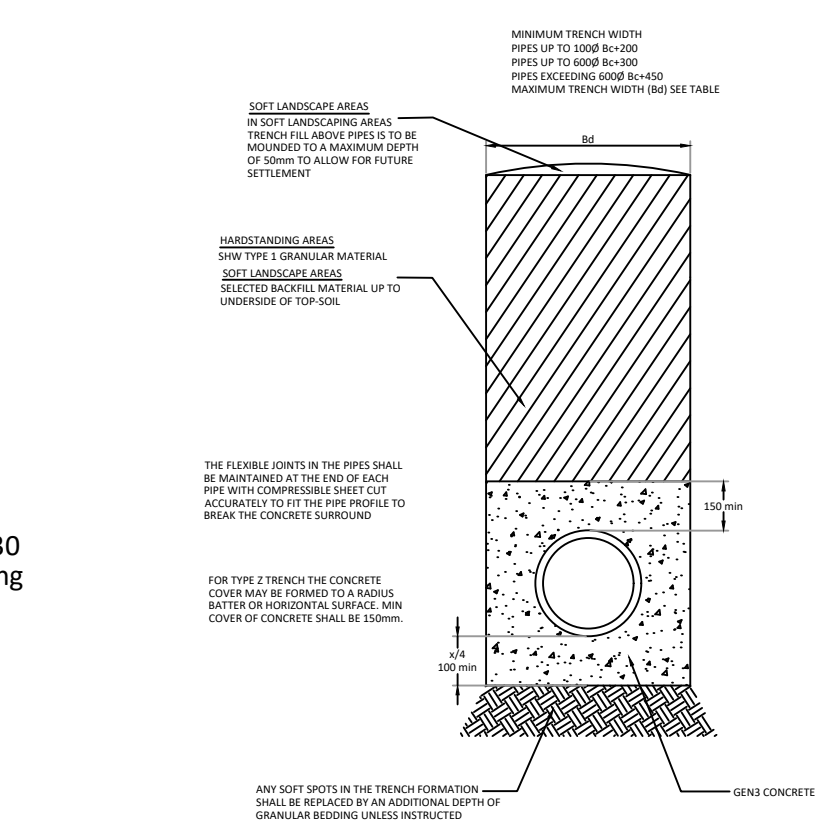
MAX DEPTH 1.2m
(SCALE 1:20)



RAINWATER PIPE CONNECTION TO DRAIN (SCALE 1:10)

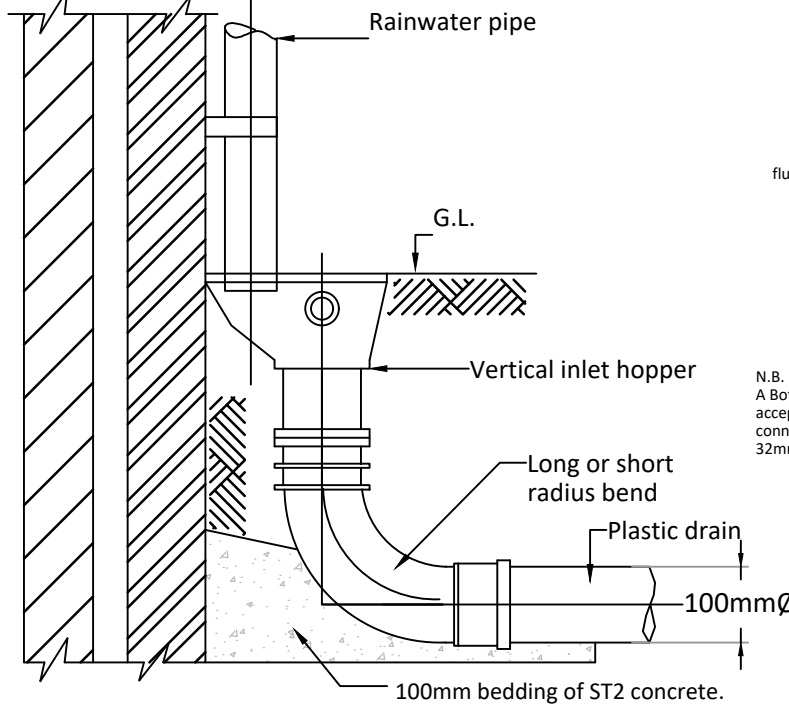


RODDING EYE (SCALE 1:10)

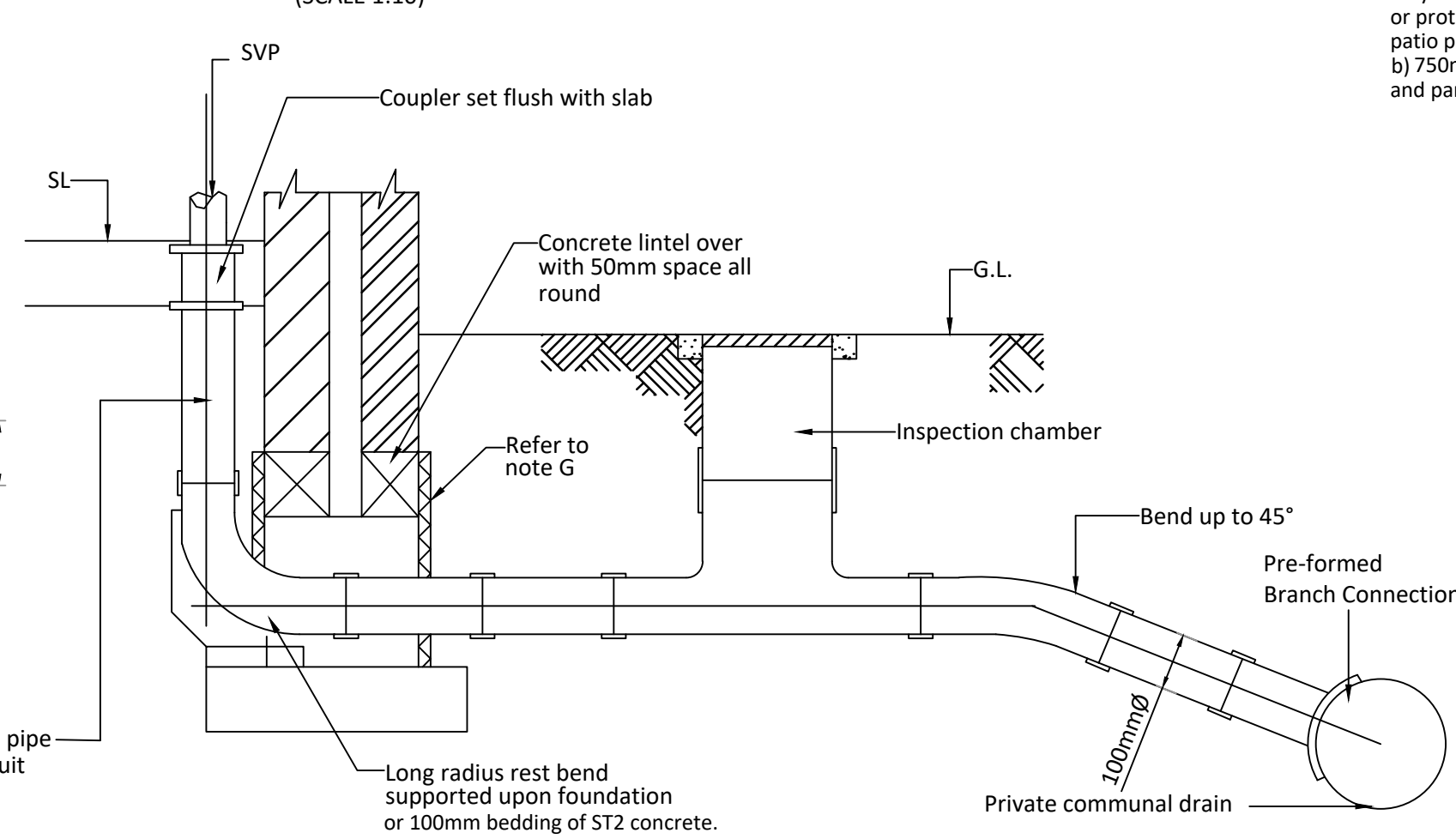


CLASS Z - CONCRETE BED AND SURROUND PIPE BEDDING DETAIL

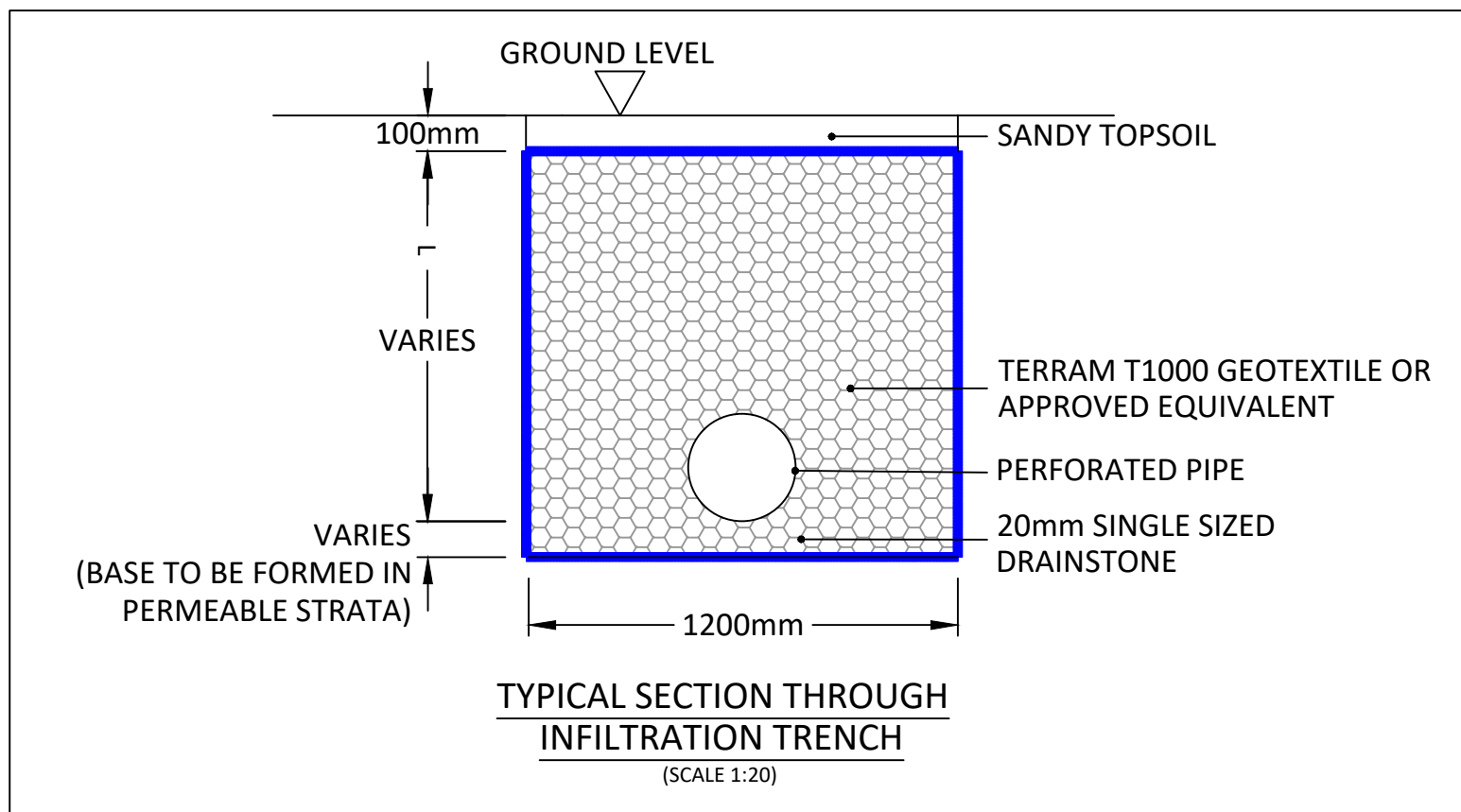
COVER <900mm IN VEHICULAR LOADING AND OPEN FIELD
COVER <600mm ELSEWHERE EXCEPT UNDER BUILDINGS
(SCALE 1:50)



UNIVERSAL GULLY WITH VERTICAL INLET (SCALE 1:10)



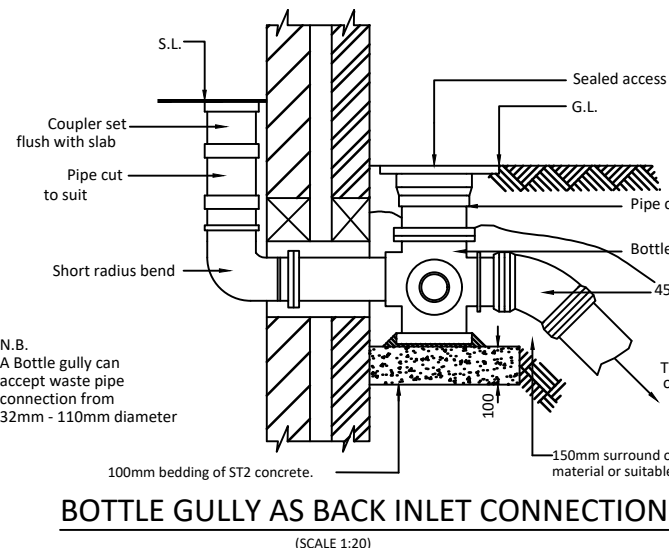
INSPECTION CHAMBER CONNECTION TO MAIN DRAIN AT LOWER LEVEL (SCALE 1:10)



TYPICAL SECTION THROUGH INFILTRATION TRENCH (SCALE 1:20)

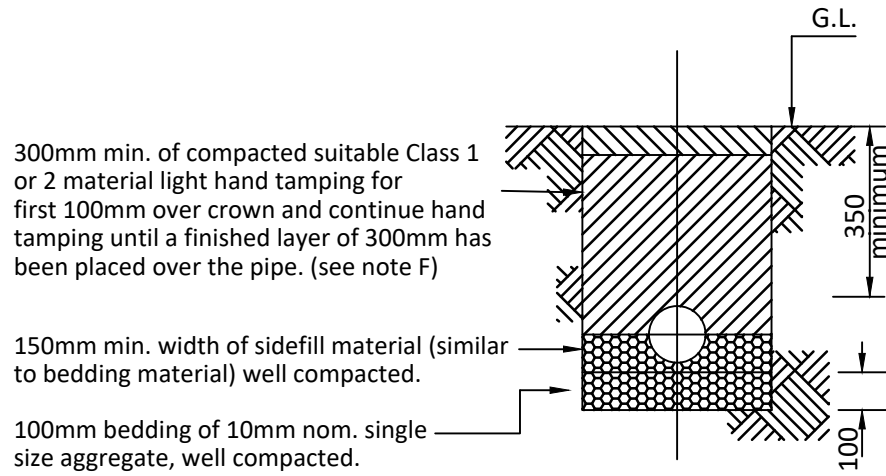
Dn	max Bd
150	0.5
225	0.7
300	0.85
375	1.05
450	1.05
525	1.125
600	1.2
675	1.275
750	1.35

MAXIMUM TRENCH WIDTH

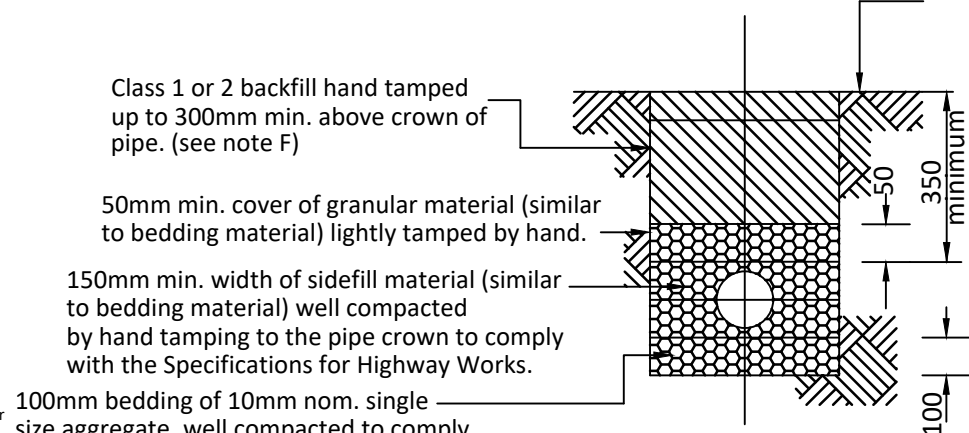


BOTTLE GULLY AS BACK INLET CONNECTION (SCALE 1:20)

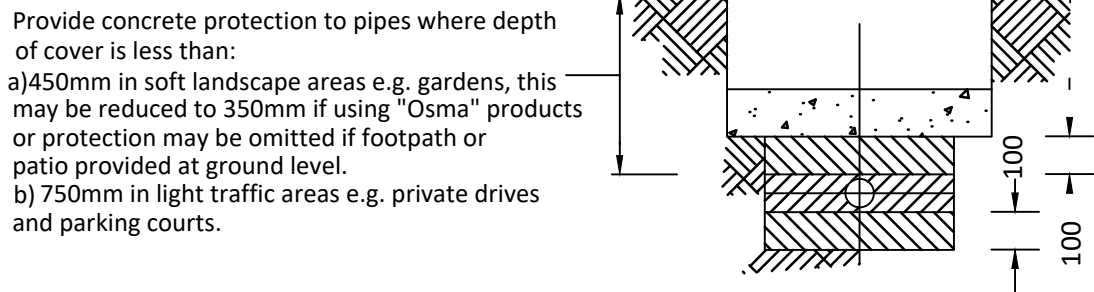
Provide concrete protection to pipes where depth of cover is less than:
a) 450mm in soft landscape areas e.g. gardens, this may be reduced to 350mm if using "Osma" products or protection may be omitted if footpath or patio provided at ground level.
b) 750mm in light traffic areas e.g. private drives and parking courts.



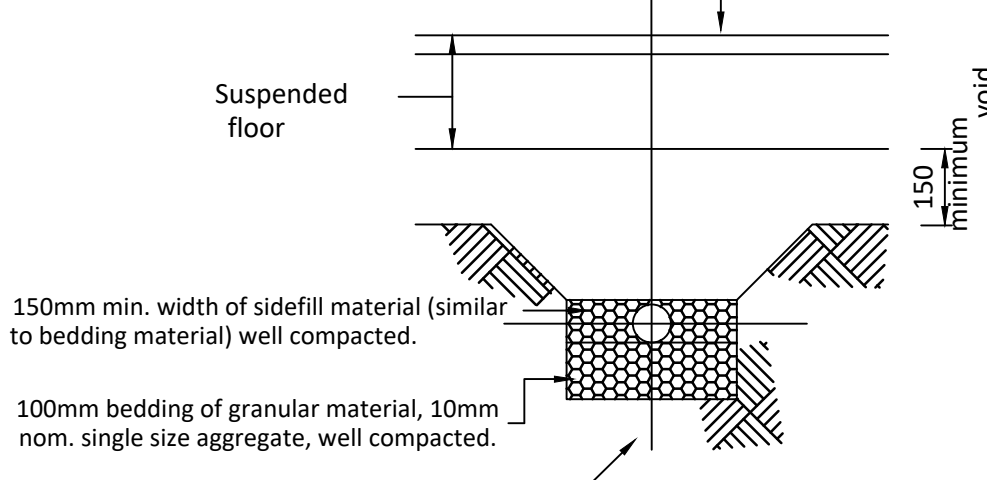
CLASS B PIPES BEDDED IN GRANULAR MATERIAL (SCALE 1:20)



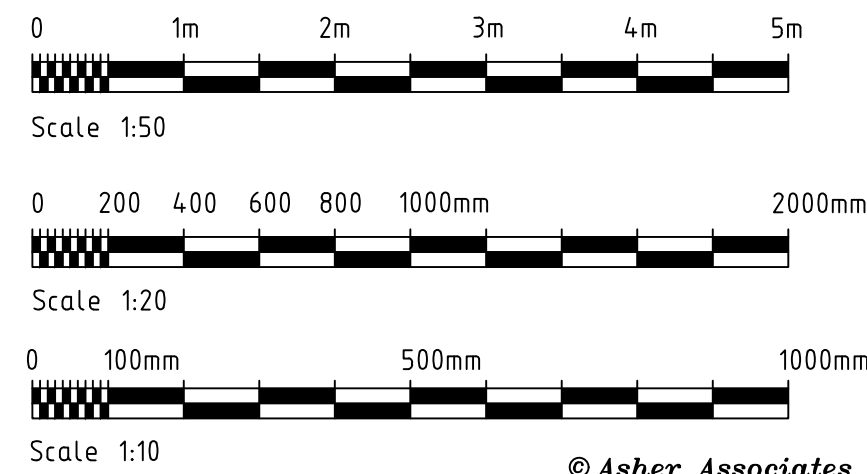
CLASS S PIPES BEDDED AND SURROUNDED IN GRANULAR MATERIAL (SCALE 1:20)



PIPES PROTECTED FROM SURFACE LOAD (SCALE 1:20)



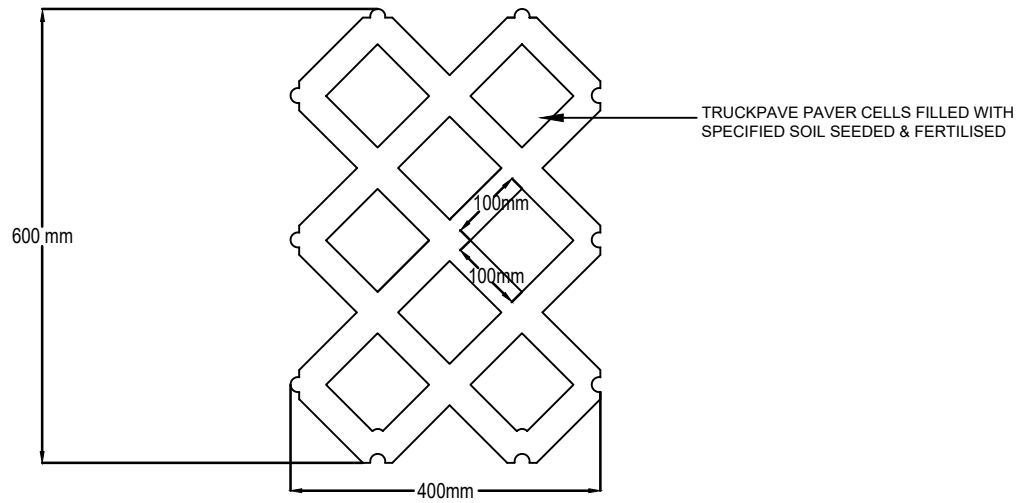
PIPES BENEATH CONCRETE SUSPENDED FLOORS (SCALE 1:20)



NOTES.

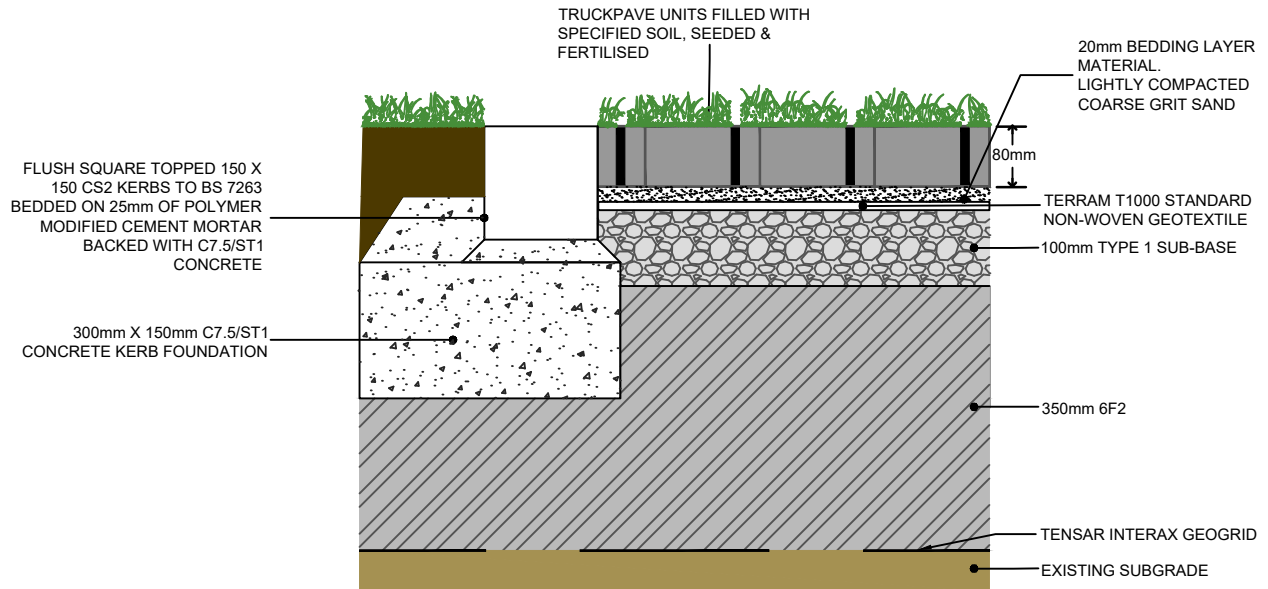
- A. All building drainage is to comply and be laid in accordance with BS EN 752 Parts 1 to 4 & BS 5955.
- B. Osma products have been shown for detail but any similar upvc products complying with A. above is acceptable.
- C. Cover and frames to manholes/inspection chambers to comply with BS EN124.
- D. Suitable 'as dug' material to comply with Appendix A of BS5955. The maximum particle size should not exceed 20mm and be free from stones exceeding 40mm. The presence of an occasional particle between 20mm and 40mm is acceptable provided the total quantity of such particles is only a very small fraction of the whole, but shall not be allowed within the first 100mm of pipe cover. If particles exceed 40mm then the material shall be rejected.
- E. Granular material shall comply with Table 2 of BS5955 e.g. 10mm nominal single sized aggregate for 100mm diameter pipes.
- F. Class 1 or 2 (complying with Specification for Highway Works) backfill should be placed in layers not exceeding 300mm uncompacted thickness, each layer being well compacted. Mechanical compaction equipment should not be used until there is a minimum of 450mm of compacted material above the crown of the pipe.
- G. Where a drain run passes through a wall or foundation it is necessary to:
i) form an opening using a concrete lintel with at least 50mm clearance all around the pipe and the openings masked with rigid sheet material to prevent entry of fill or vermin, or;
ii) build in a length of pipe with its joints as close as possible to the wall faces (150mm maximum) and connected on each side to 600mm long rocker pipes with flexible joints.
- H. All materials shall comply to British/European standards.
- J. Where ground slopes towards a building, an open vertical inlet gully is to be provided at the foot of any rainwater pipe
- K. Cover and frames to be Class B125 to BS EN124 where vehicle loading anticipated, otherwise to manufacturers spec.
- L. Where standing waste (sw), wash hand basins (whb) & stub stacks (ss) connect to main underlab drain via a branch connection, a rodding eye will be fitted to the main rising pipe of the sw or whb & a removable cap fitted to the ss.
- M. Class 1 or 2 material shall comply with Series 600 and Table 6/1 of the MCDHW Specification for Highway Works.

Rev.	Amendment				By	Checked	Approved	Date
FOR APPROVAL								
Status						Appd.		Date
Client								
KCS AGRICULTURAL LTD								
Project								
NORTH PARK RHEDA, PHASE 2								
Title								
DRAINAGE DETAILS								
Drawn	Date	Checked	Date	Approved	Date			
ROM	27.05.24	WAM	27.05.24	WAM	27.05.24			
 asher ASSOCIATES						Scales		
						1:10, 1:20, 1:50 @A1		
						Job No.		
						AA7281		
Client Drawing No.						Rev.		
Drawing No.								
AA7281/EW/10								



TRUCKPAVE: GRASS SURFACE PAVING GRID

SCALE 1:10



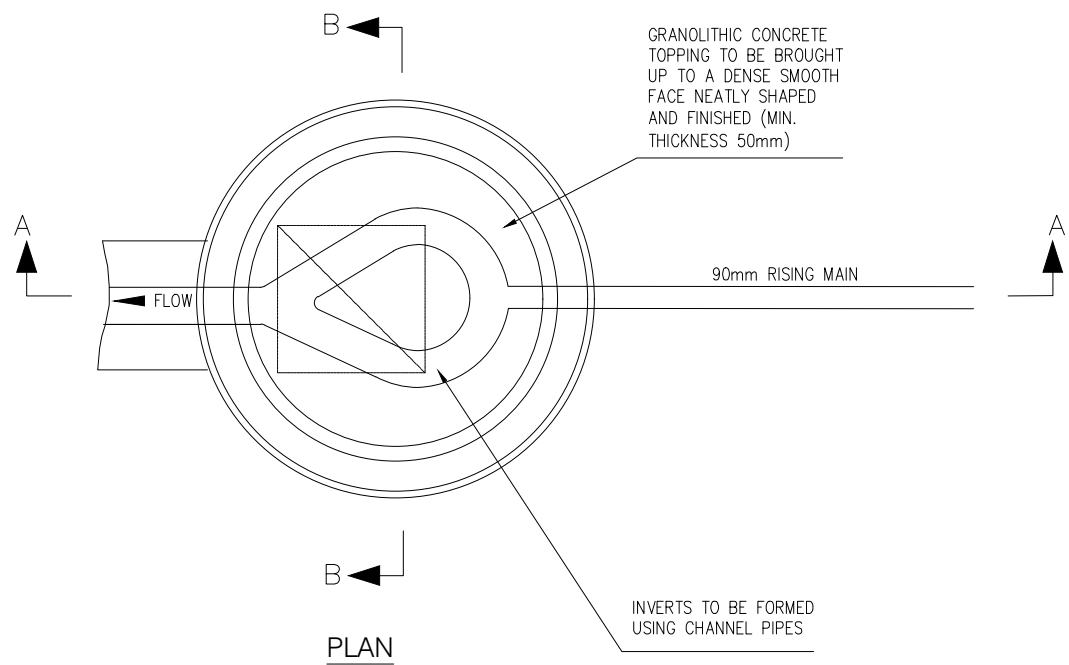
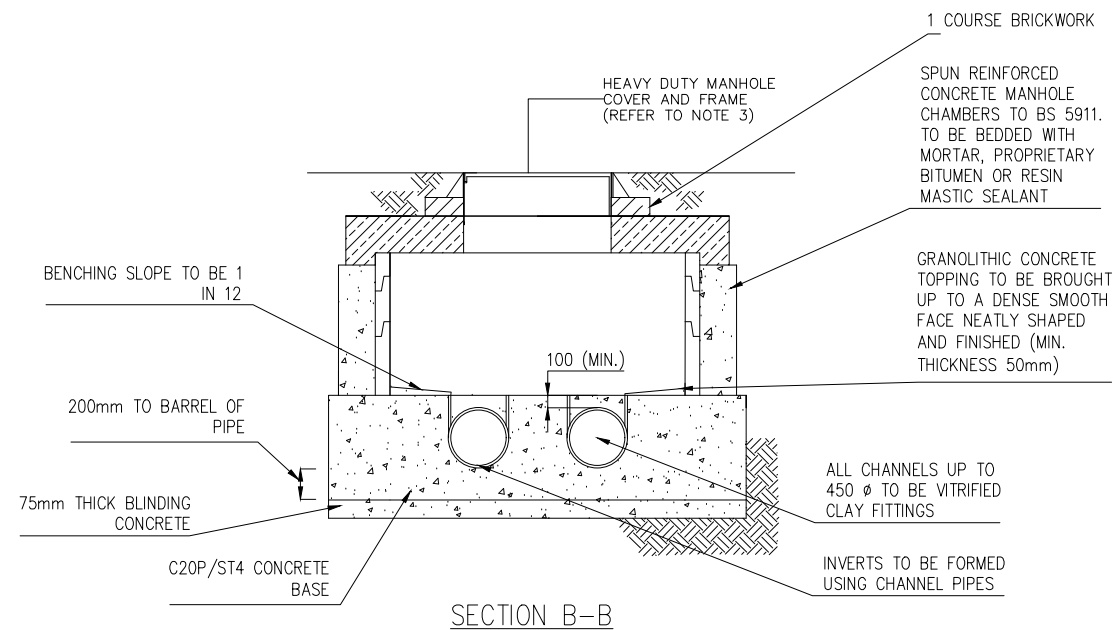
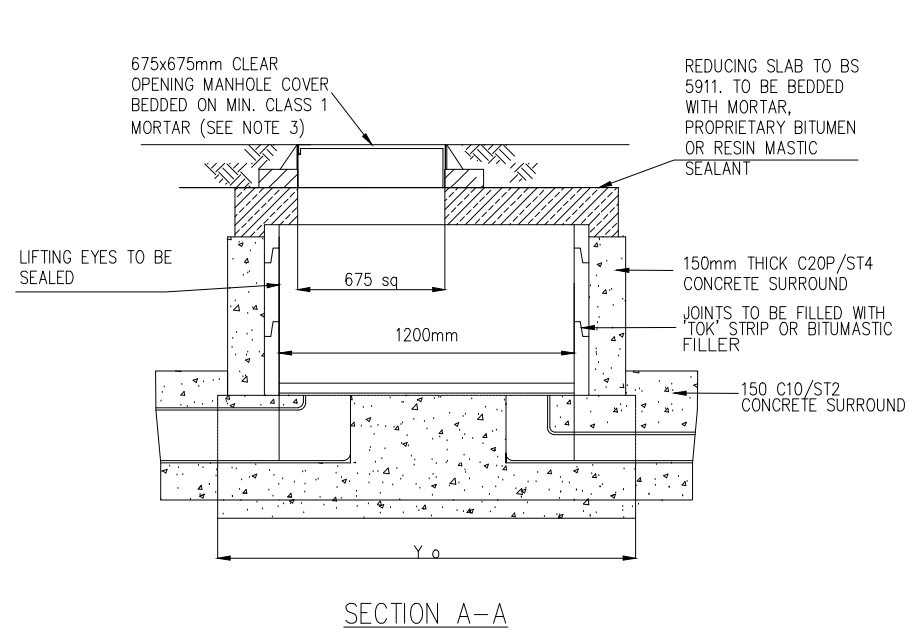
TRUCKPAVE: GRASS SURFACE: TYPICAL CONSTRUCTION PROFILE

SCALE 1:10



Scale 1:10

Scale 1:10								
	Rev.	ORIGINAL DRAWING.	ROM	27.05.24	WAM	27.05.24	WAM	27.05.24
				Drawn	Date	Checked	Date	Apprd
© Asher Associates								
Client			KCS AGRICULTURAL LTD.					
			FOR APPROVAL					
Project			 CIVIL ENGINEERS STRUCTURAL ENGINEERS PROJECT MANAGERS 32 George Street, Dumfries DG1 1EH Tel 01387 250644 www.asherassociates.co.uk			Scales 1:10 @ A4		
NORTH PARK RHEDA, PHASE 2.						Job No. AA7281		
						Drg. No. AA7281/EW/11		
Title						Rev.		
TRUCKPAVE DETAILS								

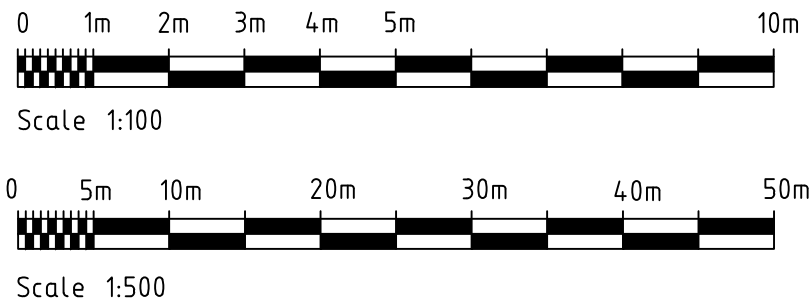
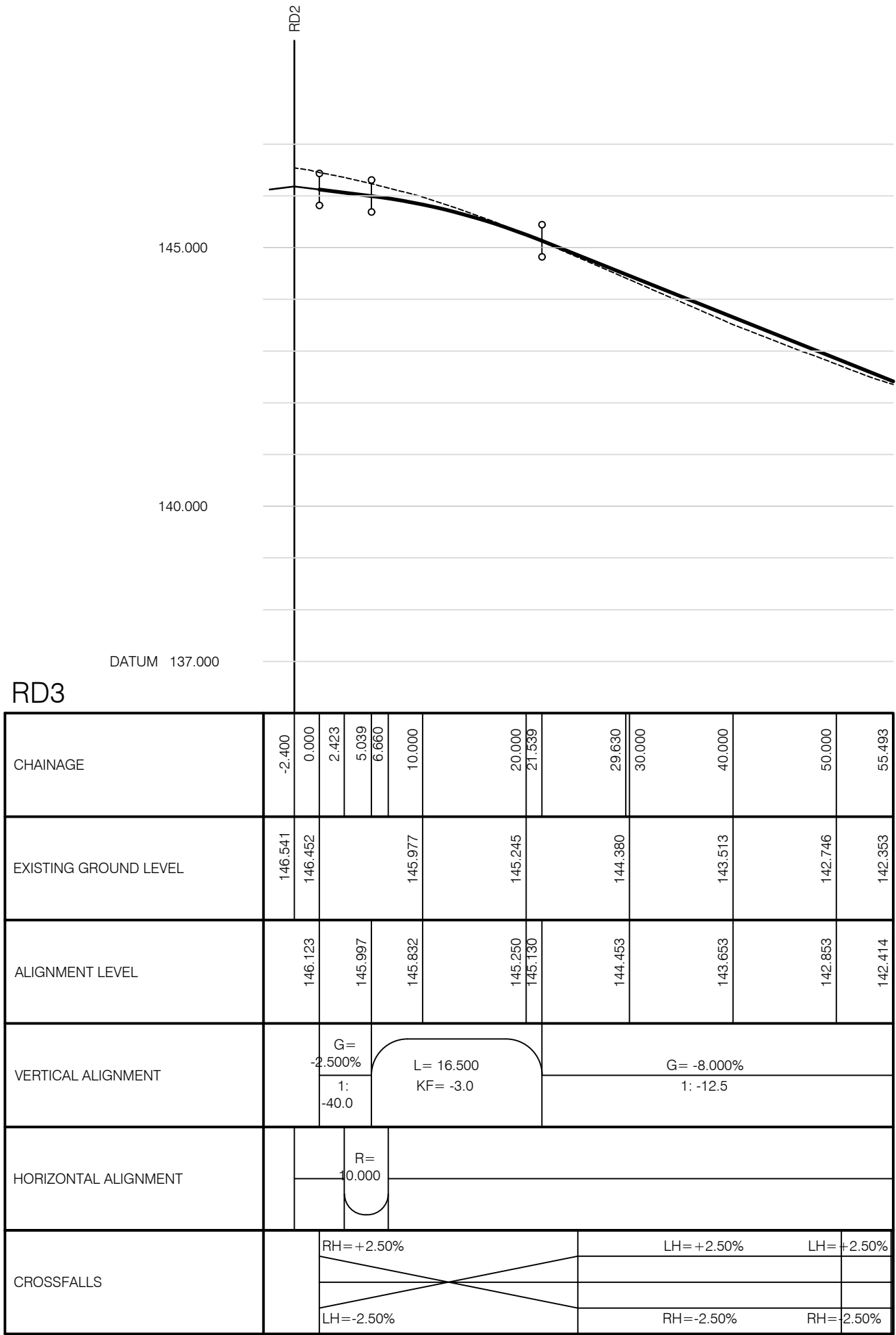
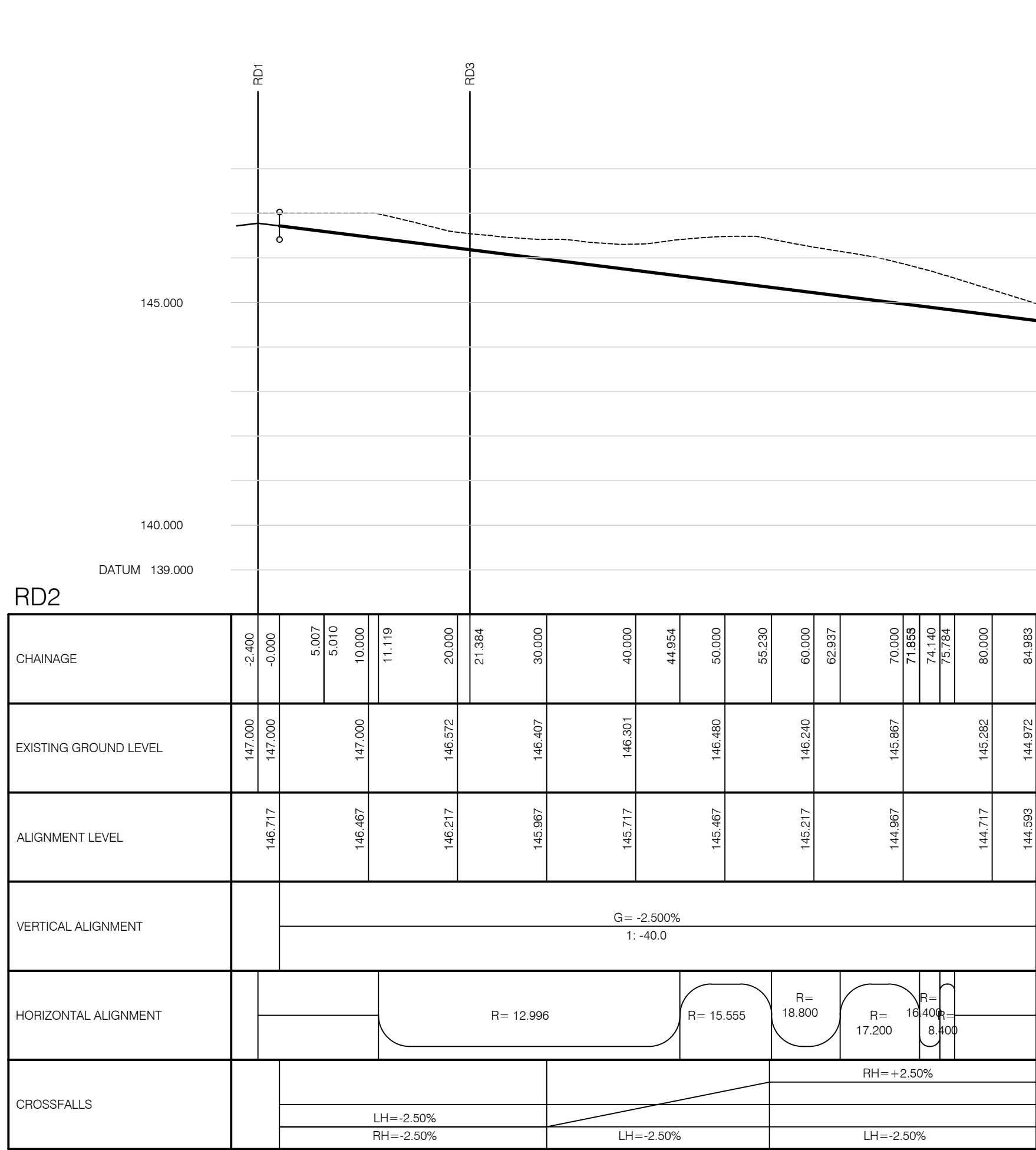
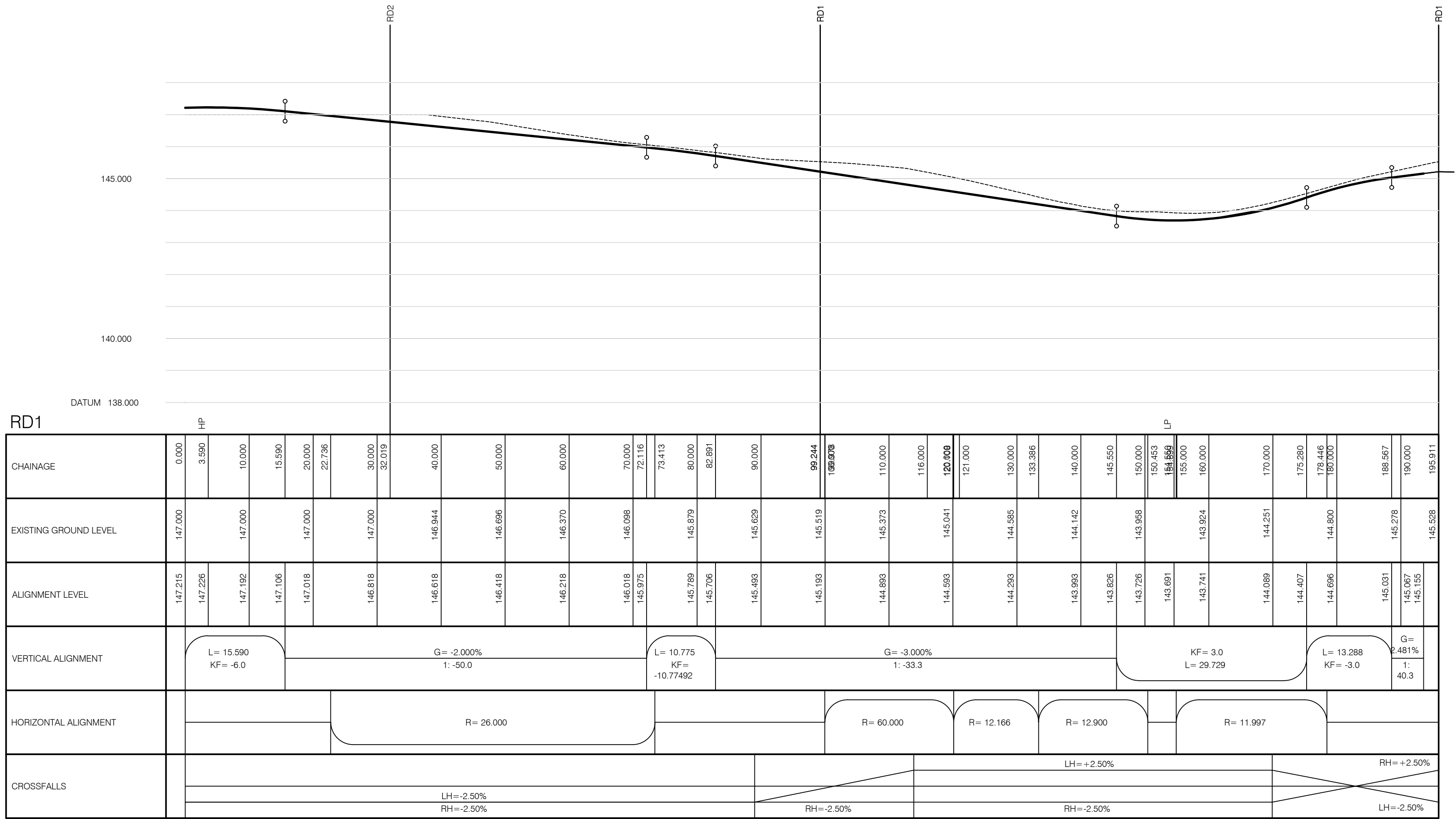


- NOTES.**
- DO NOT SCALE FROM THIS DRAWING
 - ALL DIMENSIONS ARE IN MILLIMETRES
 - MANHOLE COVERS AND FRAMES TO BE CLASS D400, DUCTILE IRON TO EN 124 (675 x 675 CLEAR OPENING). UNLESS OTHERWISE NOTED IN THE MANHOLE SCHEDULES.
 - MANHOLE COVERS TO HAVE LETTERS S.W. (SURFACE WATER) OR F.W. (FOUL) AS APPROPRIATE, CAST 3.5mm HIGH ON LIDS.
 - ALL BRICKWORK TO BE ENGLISH BOND. EXPOSED BRICKWORK TO BE FLUSH POINTED. BURIED BRICKWORK TO BE FILLED AND BAG RUBBED.
 - ALL CONSTRUCTION TO BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATION DETAILS PROVIDED IN WRC PUBLICATION "SEWERS FOR ADOPTION", EIGHTH EDITION.

Rev.	Amendment	By	Checked	Approved	Date
FOR APPROVAL					
Status			Appd.	Date	
Client					
KCS AGRICULTURAL LTD					
Project					
NORTH PARK RHEDA, PHASE 2					
Title					
RISING MAIN PRESSURE BREAK CHAMBER DETAILS					
Drawn RJ	Date 27.05.24	Checked WAM	Date 27.05.24	Approved WAM	Date 27.05.24
 asher ASSOCIATES CIVIL ENGINEERS STRUCTURAL ENGINEERS PROJECT MANAGERS 32 George Street, Dumfries, DG1 1EH Tel: 01387 250644 www.asherassociates.co.uk			Scales N.T.S.		
			Job No. AA7281		
			Client Drawing No.		Rev.
			Drawing No. AA7281/EW/12		

NOTES.

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.



© Asher Associates

Drawn	Date	Checked	Date	Approved	Date
ROM	28.05.24	WAM	28.05.24	WAM	28.05.24
 asher ASSOCIATES CIVIL ENGINEERS STRUCTURAL ENGINEERS PROJECT MANAGERS 32 George Street, Durness DG1 1EH Tel 01387 250644 www.asherassociates.co.uk			Scales		
			1:500H ; 1:100V @ A1		
			Job No.		
			AA7281		
			Client Drawing No.		Rev.
Drawing No. AA7281/EW/14					