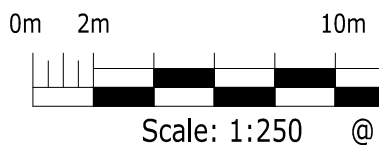


ASSUMED EXISTING DITCH LOCATION —

***SSE CABLE NOTES**

SSE CABLE DEPTH IS ASSUMED BASED ON SSE INSTALLATION GUIDELINE DEPTH OF 1 TO 1.3m BELOW GROUND LEVEL.
GROUND LEVEL USED FOR INSTALLATION IS ASSUMED TO BE THE EXISTING GROUND LEVELS. CABLE DEPTHS SHOULD BE CHECKED BEFORE INSTALLING DRAINAGE RUNS AND IF FOUND TO CLASH WITH THE DRAINAGE RUNS, BE REPORTED TO ARDENT FOR AN ALTERNATIVE DESIGN.

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PRIVATE DRAINAGE KEY

- PROPOSED INFRASTRUCTURE PRIVATE FOLL WATER SEWER & MANHOLE (WITH MANHOLE RCP, No.)
- PROPOSED ADAPTABLE FOLL WATER RESERVE MAIN
- PROPOSED PRIVATE FOLL LATERAL AND INSPECTION CHAMBER TO SSG TYPE 1 (450d)
- PROPOSED PRIVATE FOLL STORM LATERAL AND INSPECTION CHAMBER TO SSG TYPE 1 (200d)
- PROPOSED INFRASTRUCTURE PRIVATE WATER SEWER & MANHOLE (WITH MANHOLE RCP, No.)
- PROPOSED PRIVATE STORM LATERAL AND INSPECTION CHAMBER TO SSG TYPE 1 (450d)
- PROPOSED PRIVATE STORM LATERAL AND INSPECTION CHAMBER TO SSG TYPE 1 (200d)
- FILTER DRAIN - 300mm PERFORATED THINWALL PIPE
- LAND DRAINAGE STRAP
- PROPOSED HEADWALL
- ROAD GULLY
- VAPO GULLY
- HEAT PUMP GULLY - INSTALLED TO MANUFACTURERS SPECIFICATION
- ATTENUATION POND
- POZZIDRAIN
- DRAINAGE OVERFLOW
- SEE CABLE DIVERSION

NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION, INC. RISK ASSESSMENTS AND ALL OTHER RELATED DRAWINGS ISSUED BY THE ENGINEER.
2. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
3. ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METRES UNLESS OTHERWISE STATED.
4. TOPOGRAPHICAL SURVEY UNDERTAKEN BY M.J. ZARA ASSOCIATES IN JANUARY 2020.

[illegible]

LDC DRAINAGE KEY

		EXISTING UNNAMED DITCH - DITCH TO REMAIN AS EXISTING.
		EXISTING UNNAMED DITCH - DITCH TO BE CLEARED IN ACCORDANCE WITH LDCA REQUIREMENTS.
		EXISTING UNNAMED DITCH CULVERT - CULVERT TO REMAIN AS EXISTING.
		EXISTING UNNAMED DITCH CULVERT - CULVERT TO BE GRUBBED UP AND DITCH TO BE REINSTITATED IN ACCORDANCE WITH DITCH SECTION.
		EXISTING ROOT PROTECTION AREA
		PROPOSED TREE LOCATION

CONSTRUCTION
ISSUE

P	UPDATED HEADLINE TITLES IN ACCORDANCE WITH LFAA NOTES	AMC	AMC	AO	08-07
Q	CONDITION DISCHARGE	AMC	AMC	AO	03-05
N	UPDATED COVER LEVELS OF MANHOLES ON ROAD 7, F35, 27 & 532/4. REVEALED LATERAL DRAINAGE RUNS 27/4, 27/5, 27/6, 27/7, 27/8, 27/9, 27/10, 27/11, 27/12, 27/13, 27/14, 27/15, 27/16, 27/17, 27/18, 27/19, 27/20, 27/21, 27/22, 27/23, 27/24, 27/25, 27/26, 27/27, 27/28, 27/29, 27/30, 27/31, 27/32, 27/33, 27/34, 27/35, 27/36, 27/37, 27/38, 27/39, 27/40, 27/41, 27/42, 27/43, 27/44, 27/45, 27/46, 27/47, 27/48, 27/49, 27/50, 27/51, 27/52, 27/53, 27/54, 27/55, 27/56, 27/57, 27/58, 27/59, 27/60, 27/61, 27/62, 27/63, 27/64, 27/65, 27/66, 27/67, 27/68, 27/69, 27/70, 27/71, 27/72, 27/73, 27/74, 27/75, 27/76, 27/77, 27/78, 27/79, 27/80, 27/81, 27/82, 27/83, 27/84, 27/85, 27/86, 27/87, 27/88, 27/89, 27/90, 27/91, 27/92, 27/93, 27/94, 27/95, 27/96, 27/97, 27/98, 27/99, 27/100, 27/101, 27/102, 27/103, 27/104, 27/105, 27/106, 27/107, 27/108, 27/109, 27/110, 27/111, 27/112, 27/113, 27/114, 27/115, 27/116, 27/117, 27/118, 27/119, 27/120, 27/121, 27/122, 27/123, 27/124, 27/125, 27/126, 27/127, 27/128, 27/129, 27/130, 27/131, 27/132, 27/133, 27/134, 27/135, 27/136, 27/137, 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ARDENT | CONSULTING
ENGINEERS

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

Client

ESQUIRE DEVELOPMENTS

Project Title:	
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ARUNDEL

Drawing Title:

DRAINAGE LAYOUT - SHEET 2

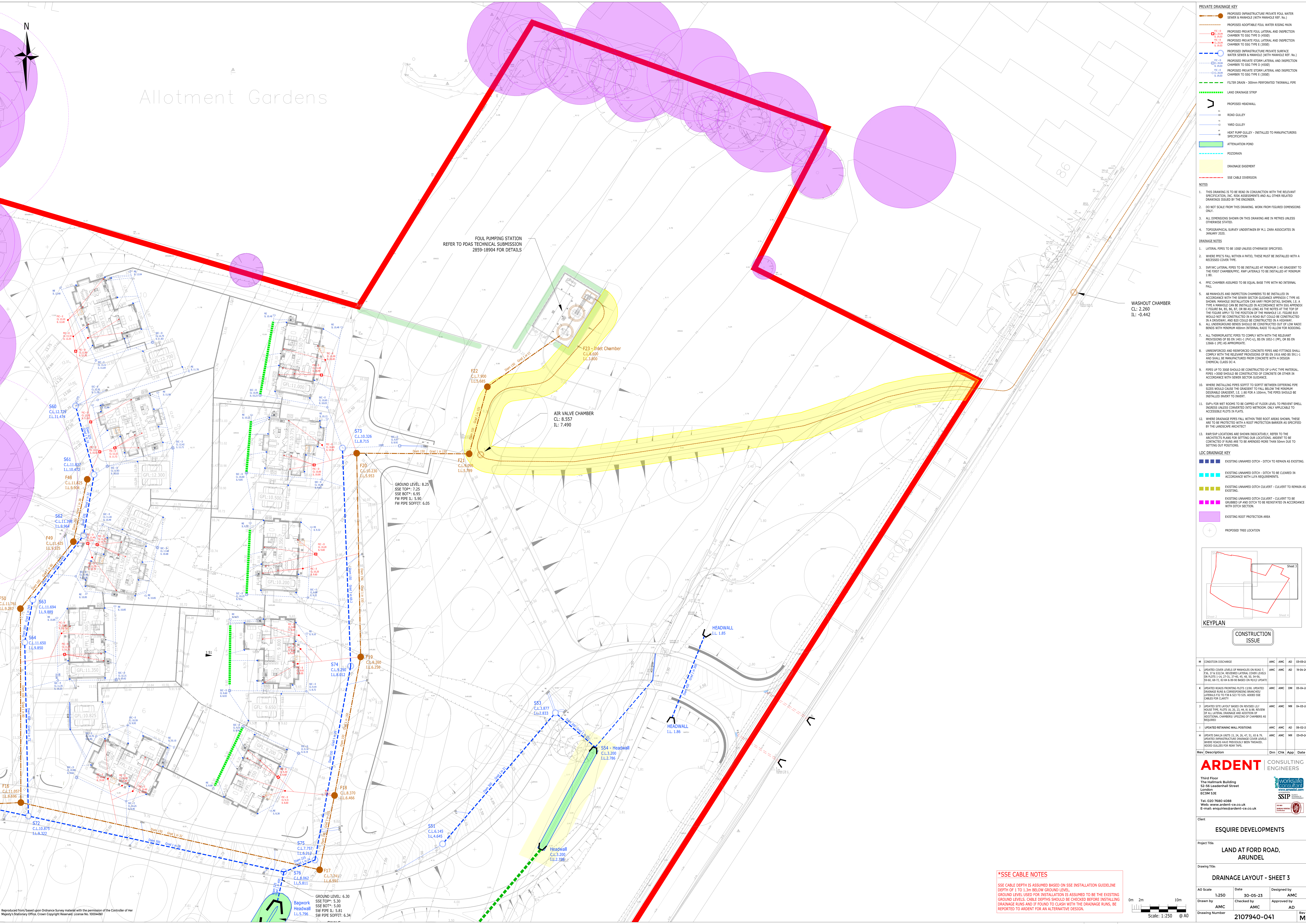
40 Scale	Date	Designed by
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As Scale	Date	Designed by
1:250	30-05-23	AMC

Drawn by AMC	Checked by AMC	Approved by AD
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Drawing Number	2107940-040	Rev	D
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ject\200940 - land at ford road, stundel\technical\acad\drawings\200940-033_040_041_042 drainage layout.dwg



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PRIVATE DRAINAGE KEY

- PROPOSED INFRASTRUCTURE PRIVATE FOUL WATER SEWER & MANHOLE (WITH MANHOLE REF. No.)
- PROPOSED ADOPTABLE FOUL WATER RISING MAIN
- PROPOSED PRIVATE FOUL LATERAL AND INSPECTION CHAMBER TO SSG TYPE D (4500)
- PROPOSED PRIVATE FOUL LATERAL AND INSPECTION CHAMBER TO SSG TYPE E (3000)
- PROPOSED INFRASTRUCTURE PRIVATE SURFACE WATER SEWER & MANHOLE (WITH MANHOLE REF. No.)
- PROPOSED PRIVATE STORM LATERAL AND INSPECTION CHAMBER TO SSG TYPE D (4500)
- PROPOSED PRIVATE STORM LATERAL AND INSPECTION CHAMBER TO SSG TYPE E (3000)
- FILTER DRAIN - 300mm PERFORATED TWINWALL PIPE
- LAND DRAINAGE STRIP
- PROPOSED HEADWALL
- ROAD GULLY
- YARD GULLY
- HEAT PUMP GULLY - INSTALLED TO MANUFACTURERS SPECIFICATION
- ATTENUATION POND
- POTDRAIN
- DRAINAGE EASEMENT
- SSE CABLE DIVERSION

NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION, INC. RISK ASSESSMENTS AND ALL OTHER RELATED DRAWINGS ISSUED BY THE ENGINEER.
- DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METRES UNLESS OTHERWISE STATED.
- TOPOGRAPHICAL SURVEY UNDERTAKEN BY M.J. ZARA ASSOCIATES IN JANUARY 2020.

DRAINAGE NOTES

- LATERAL PIPES TO BE 1000 UNLESS OTHERWISE SPECIFIED.
- WHERE PIPES FALL WITHIN A PAVEMENT, THESE MUST BE INSTALLED WITH A RECESSED COVER TYPE.
- SW/VC LATERAL PIPES TO BE INSTALLED AT MINIMUM 1:40 GRADIENT TO THE FIRST CHAMBER/PPIC. RWP LATERALS TO BE INSTALLED AT MINIMUM 1:80.
- PPIC CHAMBER ASSUMED TO BE EQUAL BASE TYPE WITH NO INTERNAL FALL.
- ALL MANHOLES AND INSPECTION CHAMBERS TO BE INSTALLED IN ACCORDANCE WITH THE SEWER SECTOR GUIDANCE. APPROX C TYPE AS SHOWN. MANHOLE INSTALLATION CAN VARY FROM DETAIL SHOWN, I.E. A TYPE A MANHOLE CAN BE INSTALLED IN ACCORDANCE WITH S50 APPENDIX C FIGURE BA, BB, BB, B7, OR BB AS LONG AS THE NOTES AT THE TOP OF THE FIGURE APPLY TO THE POSITION OF THE MANHOLE I.E. FIGURE B15 WOULD NOT BE CONSTRUCTED IN A ROAD BUT COULD BE CONSTRUCTED IN A DRIVEWAY, AND B10 COULD BE CONSTRUCTED IN A DRIVEWAY.
- ALL UNDERGROUND BENDS SHOULD BE CONSTRUCTED OUT OF LOW RADIUS BENDS WITH MINIMUM 400mm INTERNAL RADIUS TO ALLOW FOR RODDING.
- ALL THERMOPLASTIC PIPES TO COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 14011 (PPIC), BS EN 18251 (PP), OR BS EN 12666-1 (PE) AS APPROPRIATE.
- UNREINFORCED AND REINFORCED CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 12450 AND BS EN 12451-1 AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4.
- PIPES UP TO 3000 SHOULD BE CONSTRUCTED OF U-PVC TYPE MATERIAL. PIPES >3000 SHOULD BE CONSTRUCTED OF CONCRETE OR OTHER IN ACCORDANCE WITH SEWER SECTOR GUIDANCE.
- WHERE INSTALLING PIPES SOFFIT TO SOFFIT BETWEEN DIFFERING PIPE SIZES WOULD CAUSE THE GRADIENT TO FALL BELOW THE MINIMUM DESIRABLE GRADIENT, I.E. 1:80 FOR A 100mm, THE PIPES SHOULD BE INSTALLED INVERT TO INVERT.
- SAPs FOR WET ROOMS TO BE CAPED AT FLOOR LEVEL TO PREVENT SMELL INGRESS UNLESS CONVERTED INTO WETROOM. ONLY APPLICABLE TO ACCESSIBLE PLAYS IN FLATS.
- WHERE DRAINAGE PIPES FALL WITHIN THE ROOF AREAS SHOWN, THESE ARE TO BE PROTECTED WITH A ROOT PROTECTION BARRIER AS SPECIFIED BY THE LANDSCAPE ARCHITECT.
- RWP/SPV LOCATIONS ARE SHOWN INDICATIVELY. REFER TO THE ARCHITECTS PLANS FOR SETTING OUT LOCATIONS. ARDENT TO BE CONTACTED IF PLANS ARE TO BE AMENDED MORE THAN 50mm DUE TO SETTING OUT POSITIONS.

WASHOUT CHAMBER
CL: 2.260
IL: -0.442

AIR VALVE CHAMBER
CL: 8.557
IL: 7.490

F23 - Inlet Chamber
CL: 8.600
IL: 3.800

F22
CL: 7.900
IL: 5.685

F21
CL: 8.090
IL: 5.789

F20
CL: 10.230
IL: 5.553

S73
CL: 10.326
IL: 8.715

S74
CL: 9.260
IL: 6.256

S75
CL: 7.757
IL: 6.212

S76
CL: 8.062
IL: 5.811

S77
CL: 10.875
IL: 6.322

S78
CL: 11.067
IL: 6.696

S79
CL: 11.067
IL: 6.696

S80
CL: 12.128
IL: 11.474

S81
CL: 11.422
IL: 10.472

S82
CL: 11.398
IL: 9.904

S83
CL: 11.494
IL: 9.889

S84
CL: 11.650
IL: 9.850

S85
CL: 11.425
IL: 9.575

S86
CL: 11.425
IL: 9.575

S87
CL: 11.425
IL: 9.575

S88
CL: 11.425
IL: 9.575

S89
CL: 11.425
IL: 9.575

S90
CL: 11.425
IL: 9.575

S91
CL: 11.425
IL: 9.575

S92
CL: 11.425
IL: 9.575

S93
CL: 11.425
IL: 9.575

S94
CL: 11.425
IL: 9.575

S95
CL: 11.425
IL: 9.575

S96
CL: 11.425
IL: 9.575

S97
CL: 11.425
IL: 9.575

S98
CL: 11.425
IL: 9.575

S99
CL: 11.425
IL: 9.575

S100
CL: 11.425
IL: 9.575

LDC DRAINAGE KEY

- EXISTING UNPAVED DITCH - DITCH TO REMAIN AS EXISTING
- EXISTING UNPAVED DITCH - DITCH TO BE CLEARED IN ACCORDANCE WITH LPA REQUIREMENTS
- EXISTING UNPAVED DITCH CULVERT - CULVERT TO REMAIN AS EXISTING
- EXISTING UNPAVED DITCH CULVERT - CULVERT TO BE CHURBED UP AND DITCH TO BE REINSTATED IN ACCORDANCE WITH DITCH SECTION
- EXISTING ROOT PROTECTION AREA
- PROPOSED TREE LOCATION

KEYPLAN

CONSTRUCTION ISSUE

9. PIPES UP TO 3000 SHOULD BE CONSTRUCTED OF U-PVC TYPE MATERIAL. PIPES ABOVE 3000 SHOULD BE CONSTRUCTED OF CONCRETE OR OTHER MATERIALS ACCORDING WITH SEWER DESIGN GUIDANCE.

10. WHERE INSTALLING PIPES SLOTTED TO SLOTTED THROUGH DIFFERING PIPE SIZES WOULD CAUSE THE GRADIENT TO FALL BELOW THE MINIMUM DESIRED GRADIENT, I.E. 1 IN 100 for a 100mm, THE PIPES SHOULD BE INSTALLED IN SERIES TO AVOID THIS.

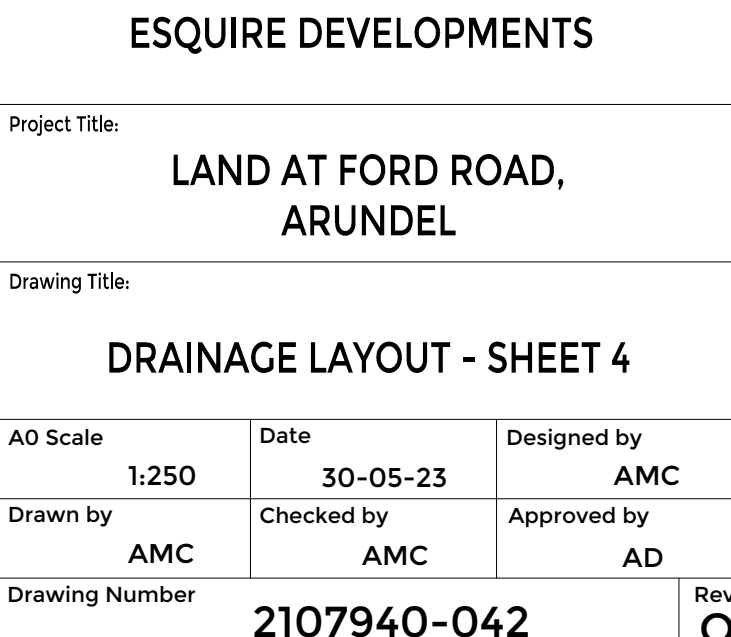
11. SVCS FOR NET WORKS TO BE CONNECTED TO LOCAL LEVELS TO PREVENT SHELLS INGRESS UNLESS CONVERTED INTO WETROON, ONLY APPLICABLE TO ACCESSIBLE PLOTS IN PLATS.

12. WHERE DRAINAGE PIPES FALL WITHIN TREE ROOT AREAS SHOWN, THESE ARE TO BE PROTECTED WITH A ROOT PROTECTION BARRIER AS SPECIFIED BY THE LANDSCAPE ARCHITECT.

13. RWP/S DRAINAGE AREAS SHOWN INDICATIVELY. REFER TO THE SPECIFICATIONS FOR SETTING OUT LOCATIONS. AGREEMENT TO BE CONTACTED IF RUNS ARE TO BE CONSTRUCTED MORE THAN 50mm DEEP TO SETTING OUT POSITIONS.

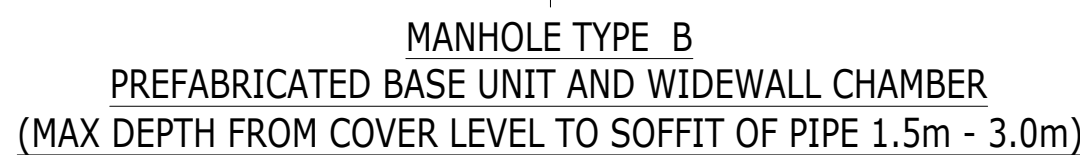
LDC DRAINAGE KEY

1. EXISTING UNMANNED DITCH - DITCH TO BE REMAINING AS EXISTING



SSE CABLE DEPTH IS ASSUMED BASED ON SSE INSTALLATION GUIDELINE DEPTH OF 1 TO 1.3m BELOW GROUND LEVEL. GROUND LEVEL USED FOR INSTALLATION IS ASSUMED TO BE THE EXISTING GROUND LEVELS. CABLE DEPTHS SHOULD BE CHECKED BEFORE INSTALLING DRAINAGE RUNS AND IF FOUND TO CLASH WITH THE DRAINAGE RUNS, BE REPORTED TO ARDENT FOR AN ALTERNATIVE DESIGN.





PIPE DIA	ROCKER PIPE LENGTH
150 - 600	0 - 0.6m
601- 750	0.6 - 1.0m
>750	1.25m

DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)
LESS THAN 375	1200
375 - 700	1500
750 - 900	1800
>900	2100

NOTES:

- 1) BEDDING AT SIDES OF PIPES TO BE WELL COMPACTED
- 2) BEDDING/BACKFILL DIRECTLY ABOVE PIPE TO BE LIGHTLY COMPACTED BY HAND
- 3) DIMENSION X IS THE EXTERNAL DIAMETER OF THE PIPE
- 4) DIMENSION Y=D/6 OR 150mm WHICHEVER IS THE GREATER (400 MAX)
- 5) WHERE APPROPRIATE GEOTEXTILES MAY BE USED TO CONTAIN BEDDING MATERIAL E.G. IN RUNNING SAND
- 6) PIPES WITH COVER OF LESS THAN 1.2m ARE TO BE PROTECTED WITH CLASS 3 CONCRETE BED AND SURROUND.
- 7) IF TRADITIONAL PC RINGS USED IN LIEU OF WIDEWALL CHAMBER 150mm THICK GEN 3 CONCRETE SURROUND REQUIRED.

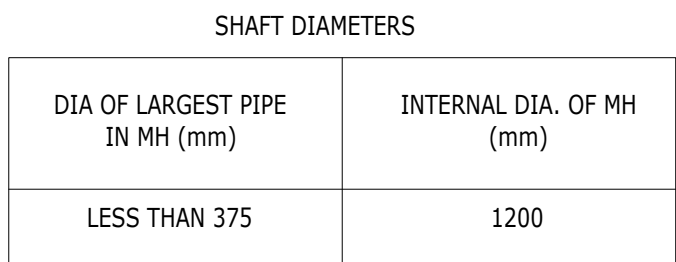
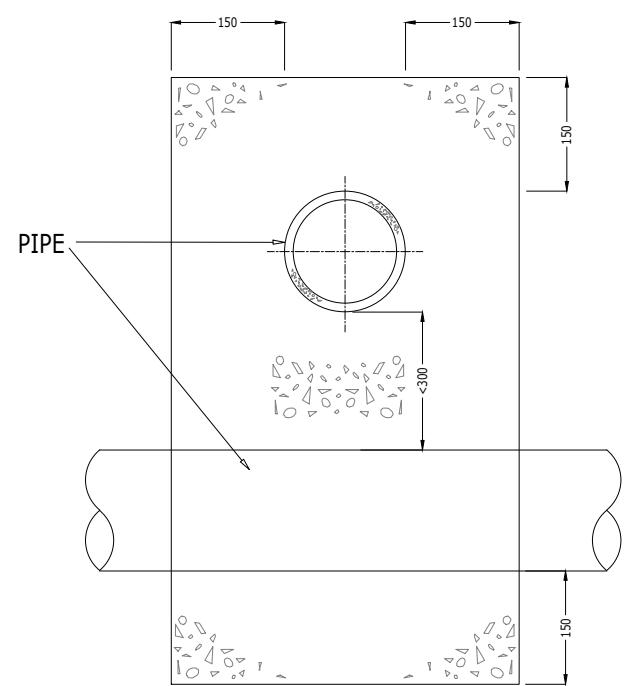


TABLE 3
TYPE A MATERIAL

GRANULAR BEDDING AND SIDIFILL MATERIALS FOR FLEXIBLE PIPES	
PIPE DIA. (mm)	GRADING
150	10 OR 14 SINGLE SIZE OR 14 TO 5mm GRADED
225 300	10, 14 OR 20mm SINGLE SIZE OF 14 TO 5mm GRAGED OR 20 TO 5mm GRADED
375 450 525	14 OR 20mm SINGLE SIZE OF 14 TO 5mm GRAGED. OR 20 TO 5mm GRADED
GREATER THAN 600	14, 20 OR 40mm SINGLE SIZE OF 14 TO 5mm GRAGED OR 20 TO 5mm GRADED OR 40 TO 5mm GRADED



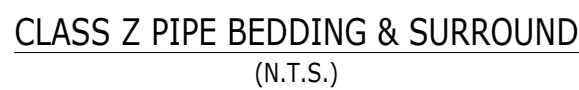
NB: REFER TO TYPE Z DETAIL FOR MORE INFORMATION ON JOINTS



1. EXTERNAL VEHICULAR AREAS WHERE COVER TO PIPE SOFFIT IS GREATER THAN 1200mm
2. ALL EXTERNAL NON-VEHICULAR AREAS WHERE COVER TO PIPE SOFFIT IS GREATER THAN 900mm

TABLE 2

MIN. GRANULAR BED		
PIPE Ø (C) (mm)	D1 (mm)	D2 (mm)
100	150	600
150	150	600
225	150	700
300	150	850
375	150	1050
450	150	1150
525	150	1200
600	150	1350
750	150	1500



MIN. CONCRETE ENCASEMENT		
PIPE Ø (C) (mm)	D1 (mm)	D2 (mm)
100-600	150	150

TABLE 3

1. EXTERNAL VEHICULAR AREAS (**EXCEPT ADOPTABLE HIGHWAYS**) WHERE COVER TO PIPE SOFFIT IS LESS THAN 1200mm
2. ALL EXTERNAL NON-VEHICULAR AREAS WHERE COVER TO PIPE SOFFIT IS EQUAL TO OR LESS THAN 600mm

NOTE:
ALL PIPEWORK WITH CLASS Z SURROUND SHALL HAVE FLEXIBLE COUPLINGS WITH FLEXI-BOARDS ON ALL JOINTS

MANHOLE DETAILS SHOWN ARE
INTERCHANGEABLE WITH ANY DETAIL SHOWN
IN SEWER SECTOR GUIDANCE APPENDIX C
WITH THE SAME TYPE DESIGNATED ON THE
MANHOLE SCHEDULE

1. LATERAL PIPES TO BE 1000 UNLESS OTHERWISE SPECIFIED.
2. LATERAL PIPES TO BE INSTALLED AT MINIMUM 1:80 GRADIENT, INCLUDING THOSE FROM SVP AND RW/PS.
3. PIPC CHAMBER ASSUMED TO BE EQUAL BASE TYPE WITH NO INTERNAL FALL.
4. ALL MANHOLES AND INSPECTION CHAMBERS TO BE INSTALLED IN ACCORDANCE WITH THE SEWER SECTOR GUIDANCE APPENDIX C TYPE AS NOTED. IF MANHOLE INSTALLATION CAN VARY FROM DETAIL SHOWN, I.E. A TYPE A MANHOLE CAN BE INSTALLED IN ACCORDANCE WITH SSS APPENDIX C FIGURE B4, B5, B6, B7, OR B8 AS LONG AS THE NOTES AT THE TOP OF THE FIGURE APPLY TO THE POSITION OF THE MANHOLE I.E. FIGURE B19 WOULD NOT BE CONSIDERED IN A ROAD BUT COULD BE CONSTRUCTED IN A DRIVEWAY, AND B20 COULD BE CONSTRUCTED IN A HIGHWAY.
5. ALL UNDERGROUND BODIES SHOULD BE CONSTRUCTED OUT OF LOW RADI BENDS WITH MINIMUM 400mm INTERNAL RADI TO ALLOW FOR ROLLING.
6. ALL THERMOPlastic PIPES TO COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 14011 (PVC-U), BS EN 18521 (PP), OR BS EN 12666-1 (PE) AS APPROPRIATE.
7. UNREINFORCED AND REINFORCED CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1916 AND BS 5911-1 AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4.
8. PIPES UP TO 3000 SHOULD BE CONSTRUCTED OF U-PVC TYPE MATERIAL. PIPES >3000 SHOULD BE CONSTRUCTED OF CONCRETE OR OTHER IN ACCORDANCE WITH SEWER SECTOR GUIDANCE.
9. WHERE INSTALLING PIPES SOFT TO SOFT BETWEEN DIFFERING PIPE SIZES WOULD CAUSE THE GRADIENT TO FALL BELOW THE MINIMUM PERMITTED GRADIENT (I.E. 1:80 FOR A 100mm), THE PIPES SHOULD BE INSTALLED INVERT TO INVERT.
10. SVP'S FOR WET ROOTS TO BE CAPED AT FLOOR LEVEL TO PREVENT SMELL INGRESS UNLESS CONVERTED INTO WETROOM, ONLY APPLICABLE TO ACCESSIBLE PLOTS IN FLATS.

TENDER ISSUE

A	CONSTRUCTION ISSUE	AMC	AMC	AD	28-07-23
-	FIRST ISSUE	AMC	AMC	AD	30-05-23
Rev	Description	Drn	Chk	App	Date

ARDENT | CONSULTING
ENGINEERS

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

Client

ESQUIRE DEVELOPMENTS

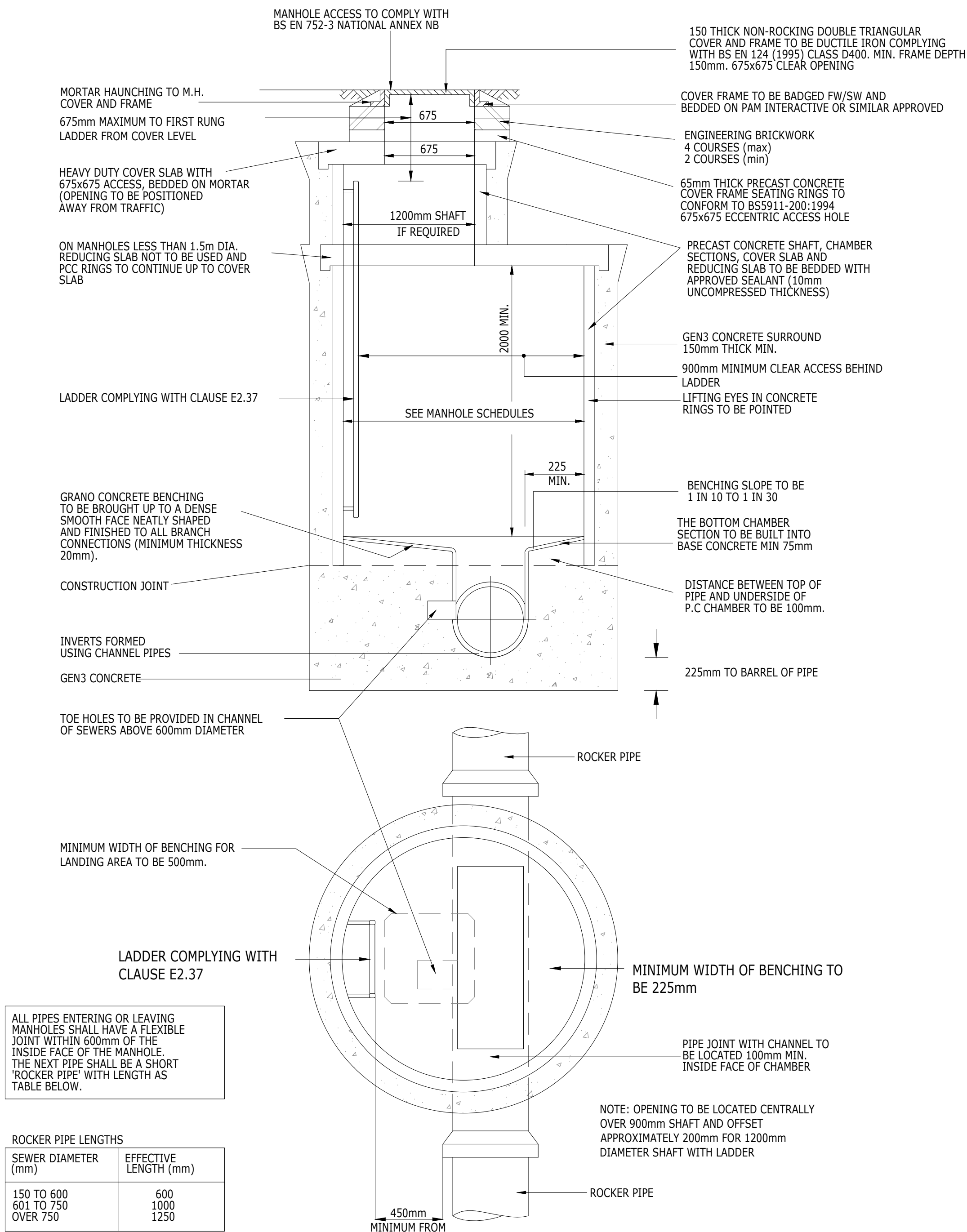
Project Title:

**LAND AT FORD ROAD,
ARUNDEL**

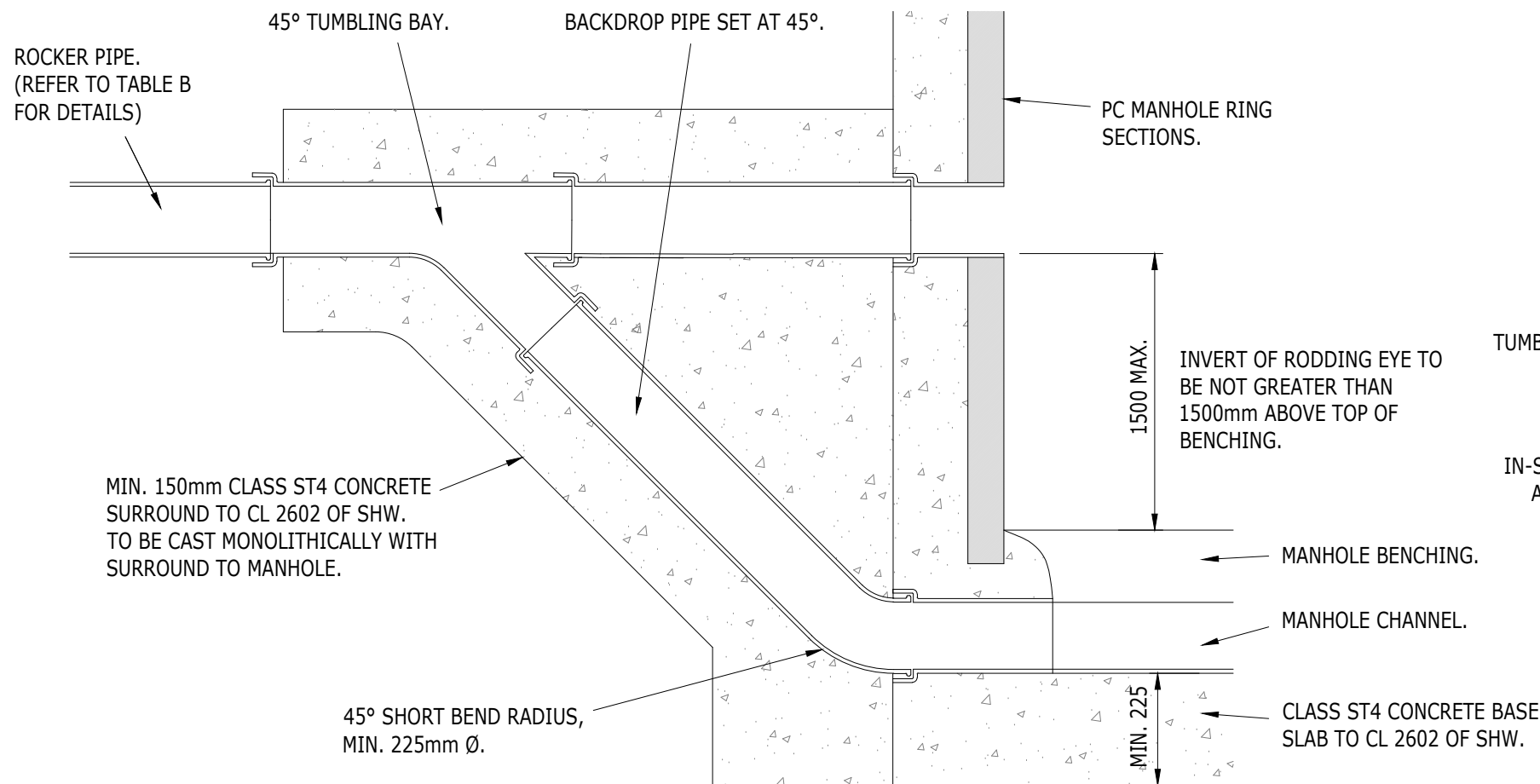
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DRAINAGE DETAILS - SHEET 1

A1 Scale	Date	Designed by
1:250	30-05-23	AMC
Drawn by	Checked by	Approved by
AMC	AMC	AD
Drawing Number	2107940-053	
	Rev A	



MANHOLE TYPE A
(MAX DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3.0 - 6.0m)

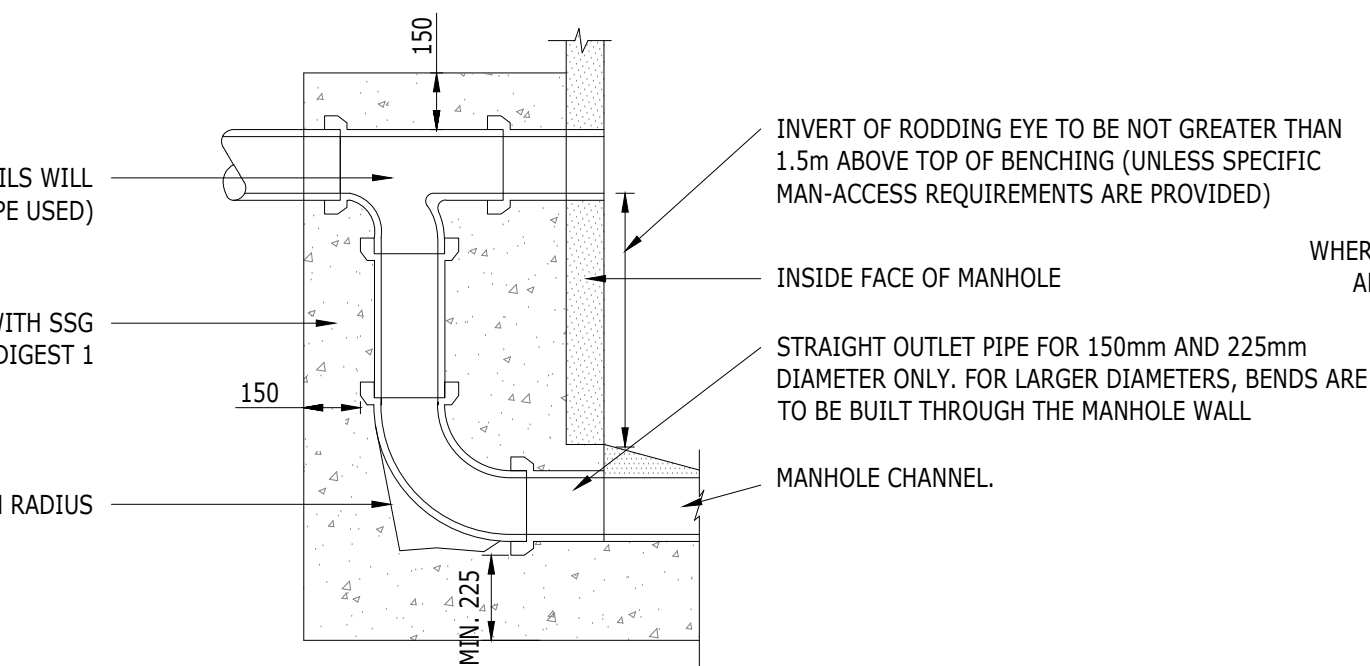


BACKDROP DETAIL
(PRIVATE CONNECTION MIN. 150mm PIPE DIA.)

TUMBLING BAY JUNCTION (ACTUAL DETAILS WILL BE DEPENDENT ON THE TYPE OF PIPE USED)

IN-SITU GEN3 CONCRETE COMPLYING WITH SSG APPENDIX C E4.1 AND BRE SPECIAL DIGEST 1

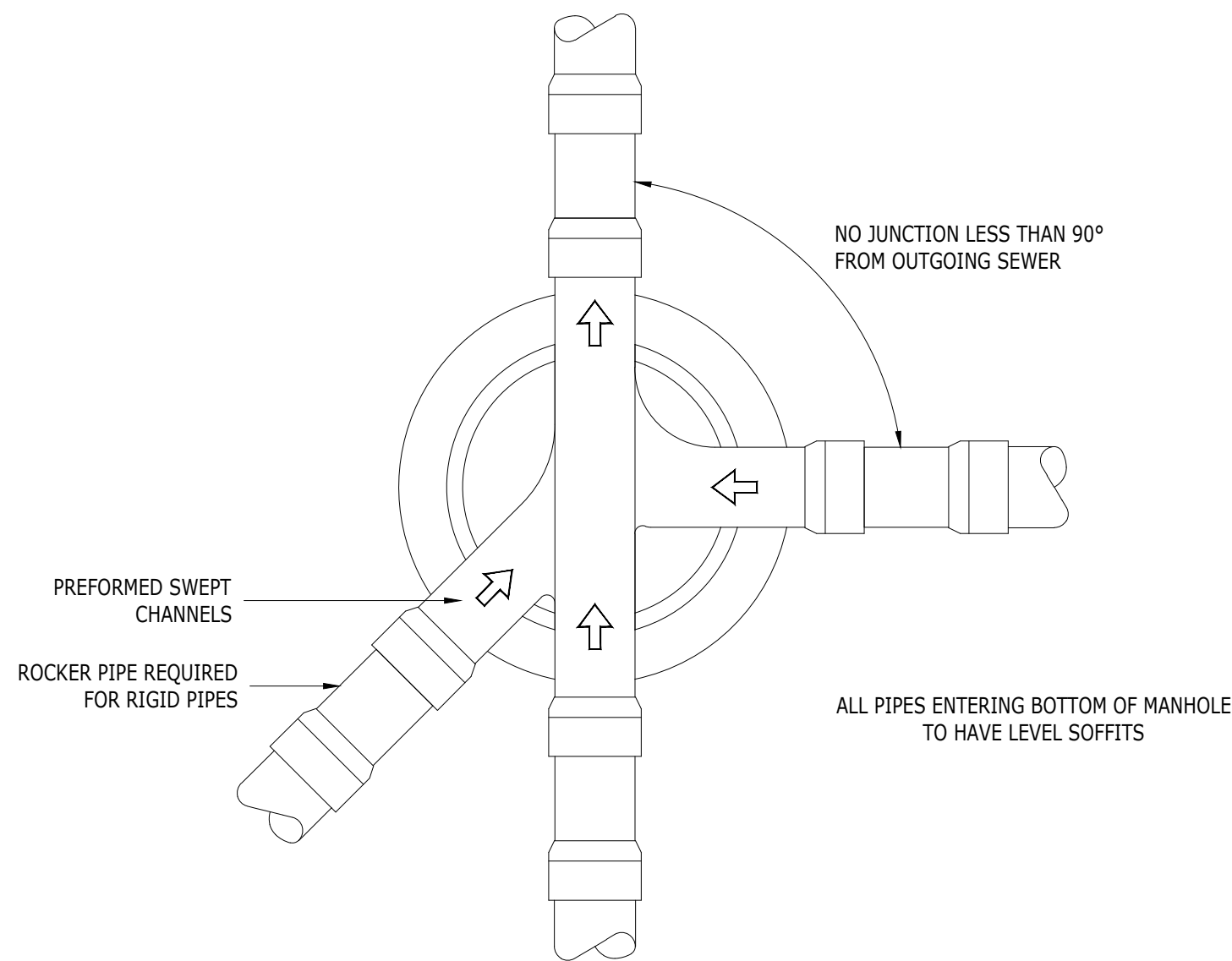
REST BEND 210mm MINIMUM RADIUS



TYPICAL VERTICAL BACKDROP DETAIL (RIGID MATERIALS)
FOR USE IN MANHOLE TYPES A TO D

TABLE 4 BS EN 124 CLASSIFICATION - DRAINAGE CHAMBERS

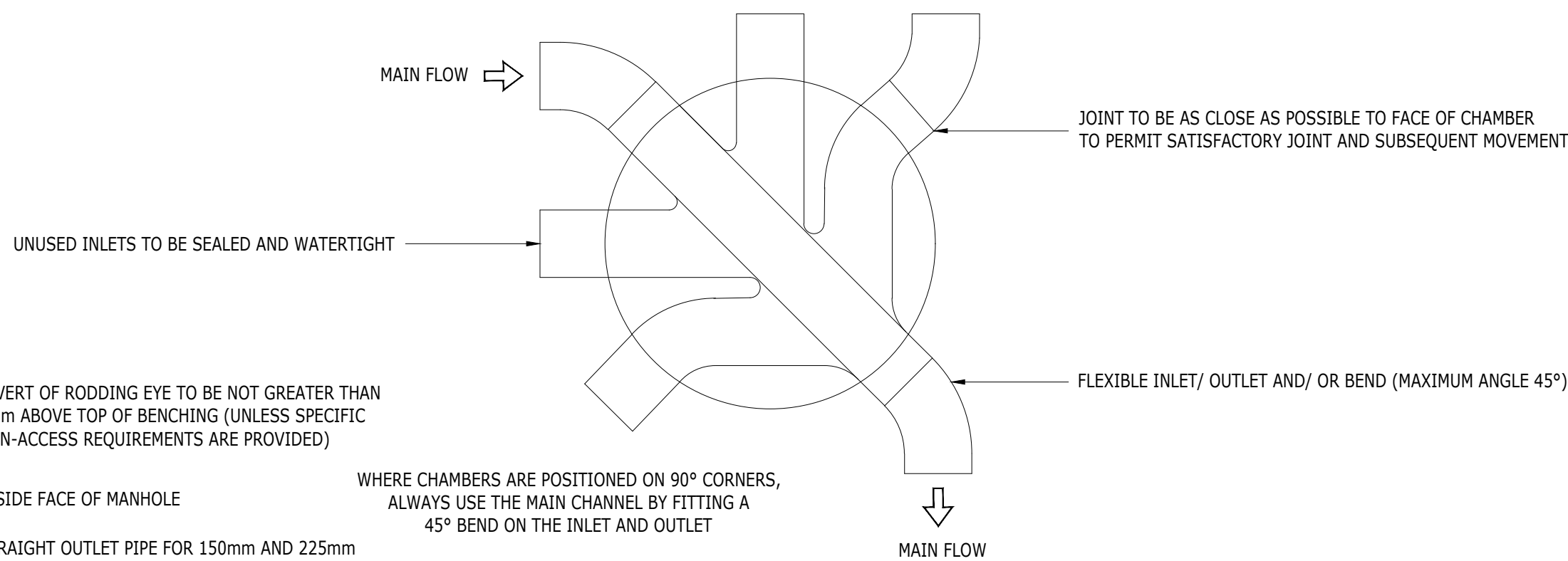
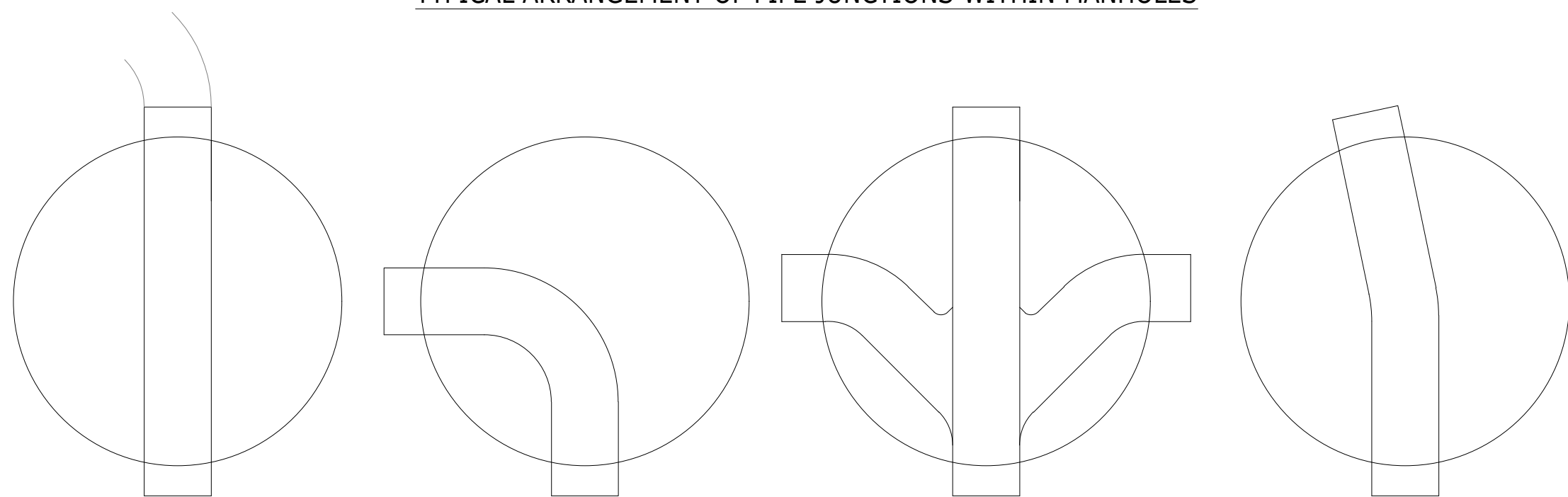
GROUP	CLASS	PLACE OF INSTALLATION
1	MIN. A 15	GARDEN AREAS OF PRIVATE HOUSES ONLY
2	MIN. B 125	FOOTWAYS, PARKING BAYS, AMENITY AREAS AND AREAS OF LANDSCAPING
3	MIN. C 250	N/A
4	MIN. D 400	ALL ESTATE ROADS AND PARKING ACCESS ROADS



RIGID PIPES BUILT INTO MANHOLE SHOULD HAVE A FLEXIBLE JOINT AS CLOSE AS FEASIBLE TO THE EXTERNAL FACE OF THE STRUCTURE AND THE LENGTH OF THE NEXT ROCKER PIPE SHOULD BE AS SHOWN

NOMINAL DIAMETER (mm)	MAX. EFFECTIVE LENGTH (m)
150 - 600	0.60
601 - 750	1.00
OVER 750	1.25

TYPICAL ARRANGEMENT OF PIPE JUNCTIONS WITHIN MANHOLES



WHERE CHAMBERS ARE POSITIONED ON 90° CORNERS, ALWAYS USE THE MAIN CHANNEL BY FITTING A 45° BEND ON THE INLET AND OUTLET

NOTE : WHERE A BEND IS USED IMMEDIATELY OUTSIDE THE MANHOLE, THIS MAY BE USED AS THE ROCKER PIPE

ALTERNATIVE BASE LAYOUTS FOR TYPE D CHAMBERS

MANHOLE DETAILS SHOWN ARE INTERCHANGEABLE WITH ANY DETAIL SHOWN IN SEWER SECTOR GUIDANCE APPENDIX C WITH THE SAME TYPE DESIGNATED ON THE MANHOLE SCHEDULE

DRAINAGE NOTES

- LATERAL PIPES TO BE 1000 UNLESS OTHERWISE SPECIFIED.
- LATERAL PIPES TO BE INSTALLED AT MINIMUM 1:80 GRADIENT. INCLUDING THOSE FROM SVP AND RWPs.
- PPIC CHAMBER ASSUMED TO BE EQUAL BASE TYPE WITH NO INTERNAL FALL
- ALL MANHOLES AND INSPECTION CHAMBERS TO BE INSTALLED IN ACCORDANCE WITH THE SEWER SECTOR GUIDANCE APPENDIX C TYPE AS SHOWN. MANHOLE INSTALLATION CAN VARY FROM DETAIL SHOWN, I.E. A TYPE A MANHOLE CAN BE INSTALLED IN ACCORDANCE WITH SSG APPENDIX C FIGURE B4, B5, B6, B7, OR B8 AS LONG AS THE NOTES AT THE TOP OF THE FIGURE APPLY TO THE POSITION OF THE MANHOLE I.E. FIGURE B19 WOULD NOT BE CONSTRUCTED IN A ROAD BUT COULD BE CONSTRUCTED IN A DRIVEWAY, AND B20 COULD BE CONSTRUCTED IN A HIGHWAY.
- ALL UNDERGROUND BENDS SHOULD BE CONSTRUCTED OUT OF LOW RADII BENDS WITH MINIMUM 400mm INTERNAL RADII TO ALLOW FOR RODDING.
- ALL THERMOPLASTIC PIPES TO COMPLY WITH WITH THE RELEVANT PROVISIONS OF BS EN 1401-1 (PVC-U), BS EN 1852-1 (PP), OR BS EN 12666-1 (PE) AS APPROPRIATE.
- UNREINFORCED AND REINFORCED CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1916 AND BS 5911-1 AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4.
- PIPES UP TO 3000 SHOULD BE CONSTRUCTED OF U-PVC TYPE MATERIAL. PIPES >3000 SHOULD BE CONSTRUCTED OF CONCRETE OR OTHER IN ACCORDANCE WITH SEWER SECTOR GUIDANCE.
- WHERE INSTALLING PIPES SOFFIT TO SOFFIT BETWEEN DIFFERING PIPE SIZES WOULD CAUSE THE GRADIENT TO FALL BELOW THE MINIMUM DESIRABLE GRADIENT, I.E. 1:80 FOR A 100mm, THE PIPES SHOULD BE INSTALLED INVERT TO INVERT.
- SVPs FOR WET ROOMS TO BE CAPPED AT FLOOR LEVEL TO PREVENT SMELL INGRESS UNLESS CONVERTED INTO WETROOM. ONLY APPLICABLE TO ACCESSIBLE PLOTS IN FLATS.

CONSTRUCTION ISSUE

A	CONSTRUCTION ISSUE	AMC	AMC	AD	28-07-23
-	FIRST ISSUE	AMC	AMC	AD	30-05-23
Rev	Description	Drn	Chk	App	Date

ARDENT CONSULTING ENGINEERS

Third Floor
The Hailmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

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Project Title:

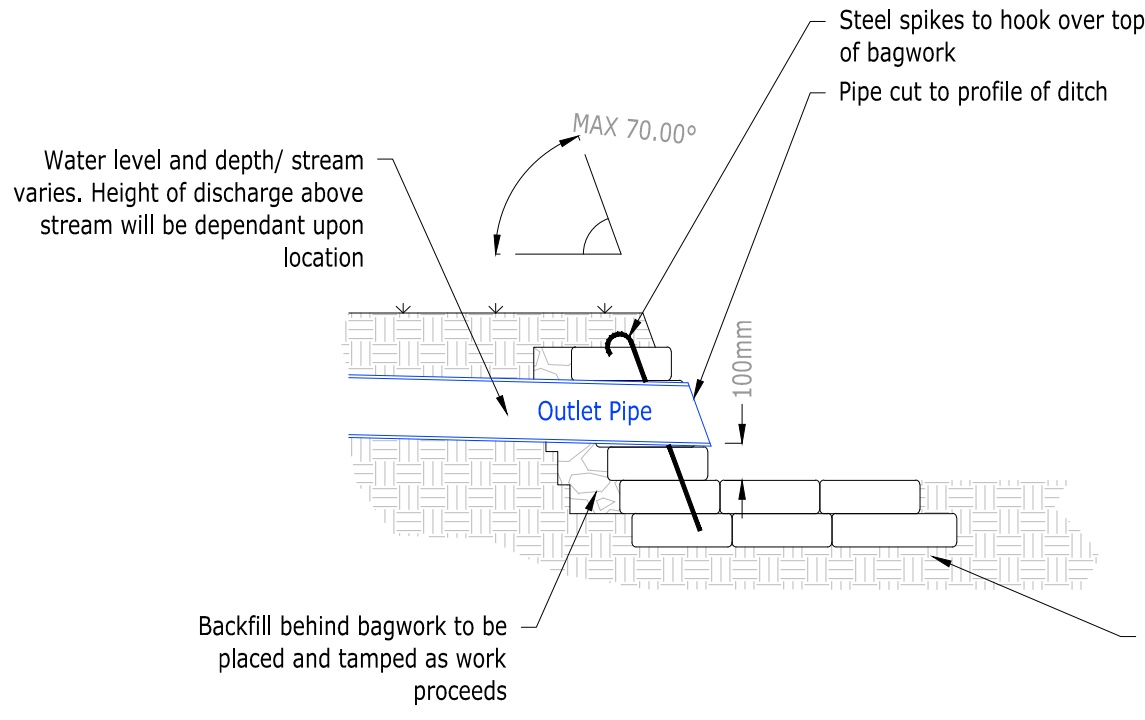
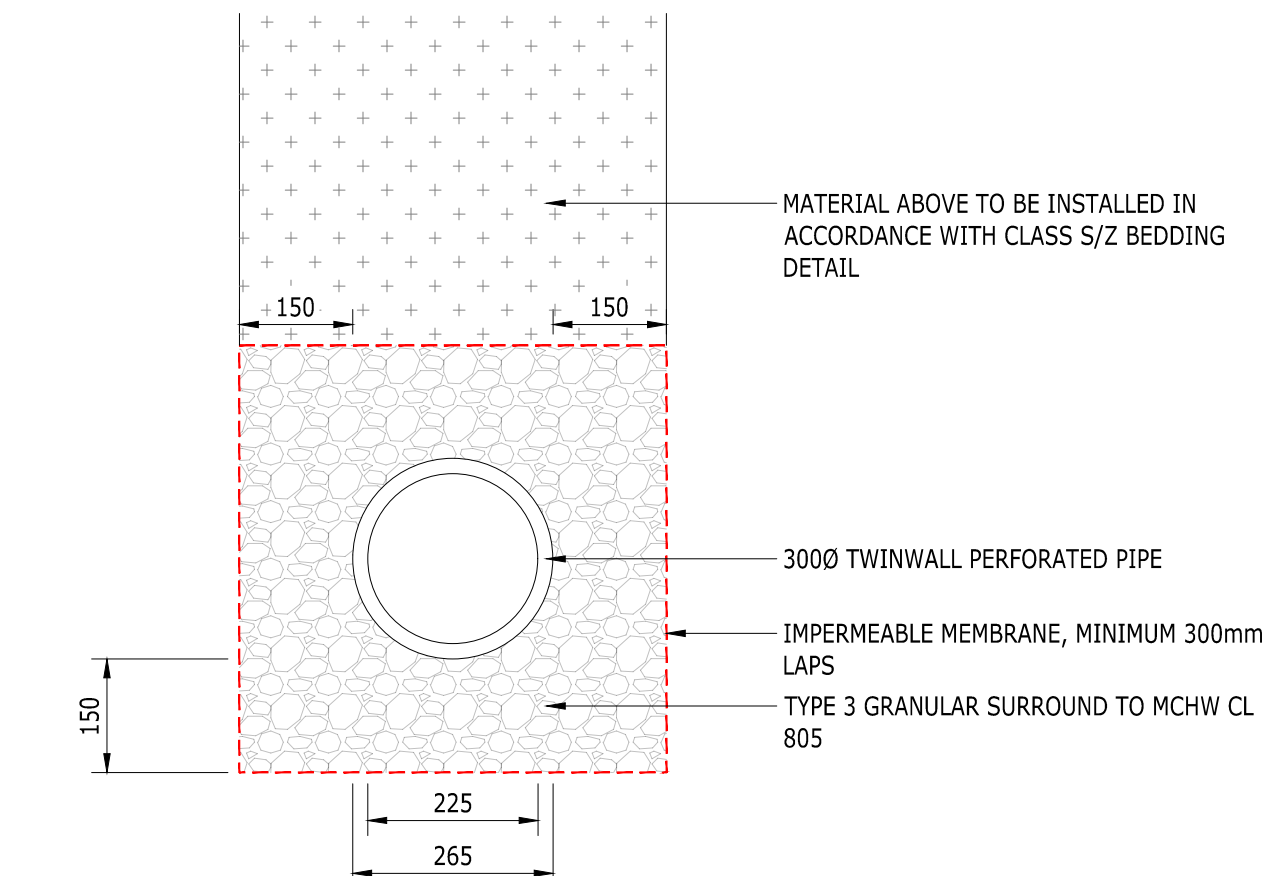
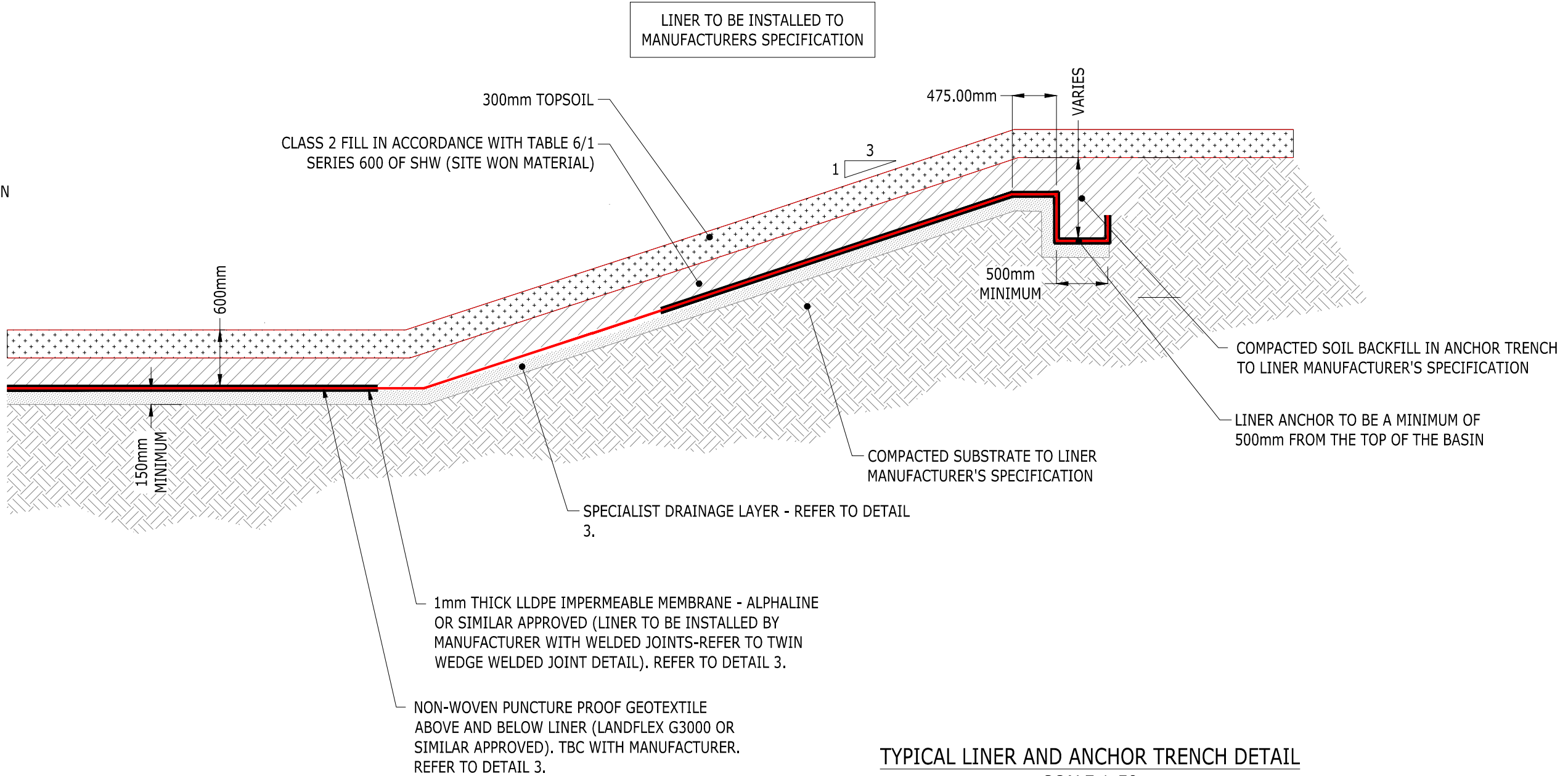
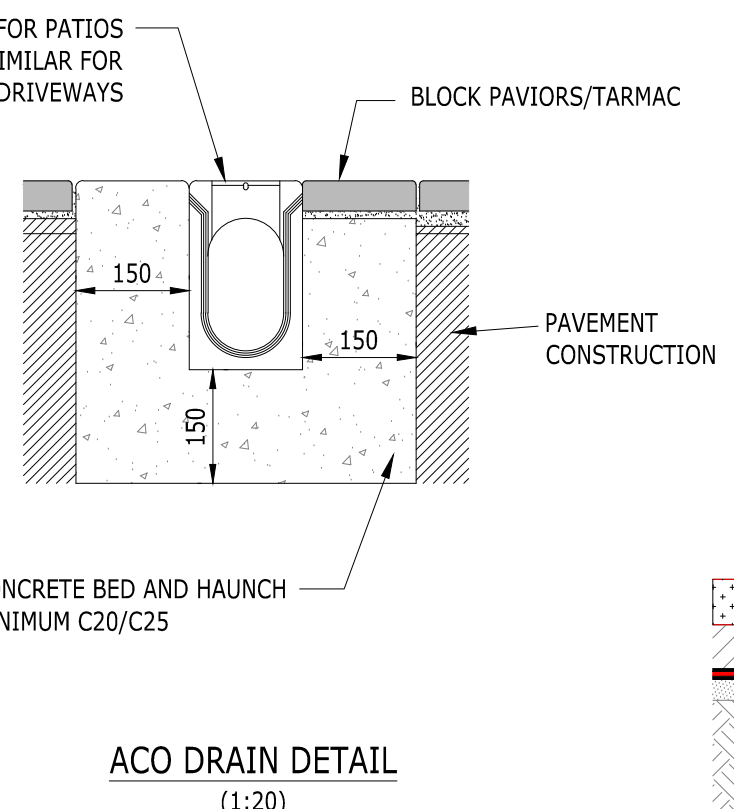
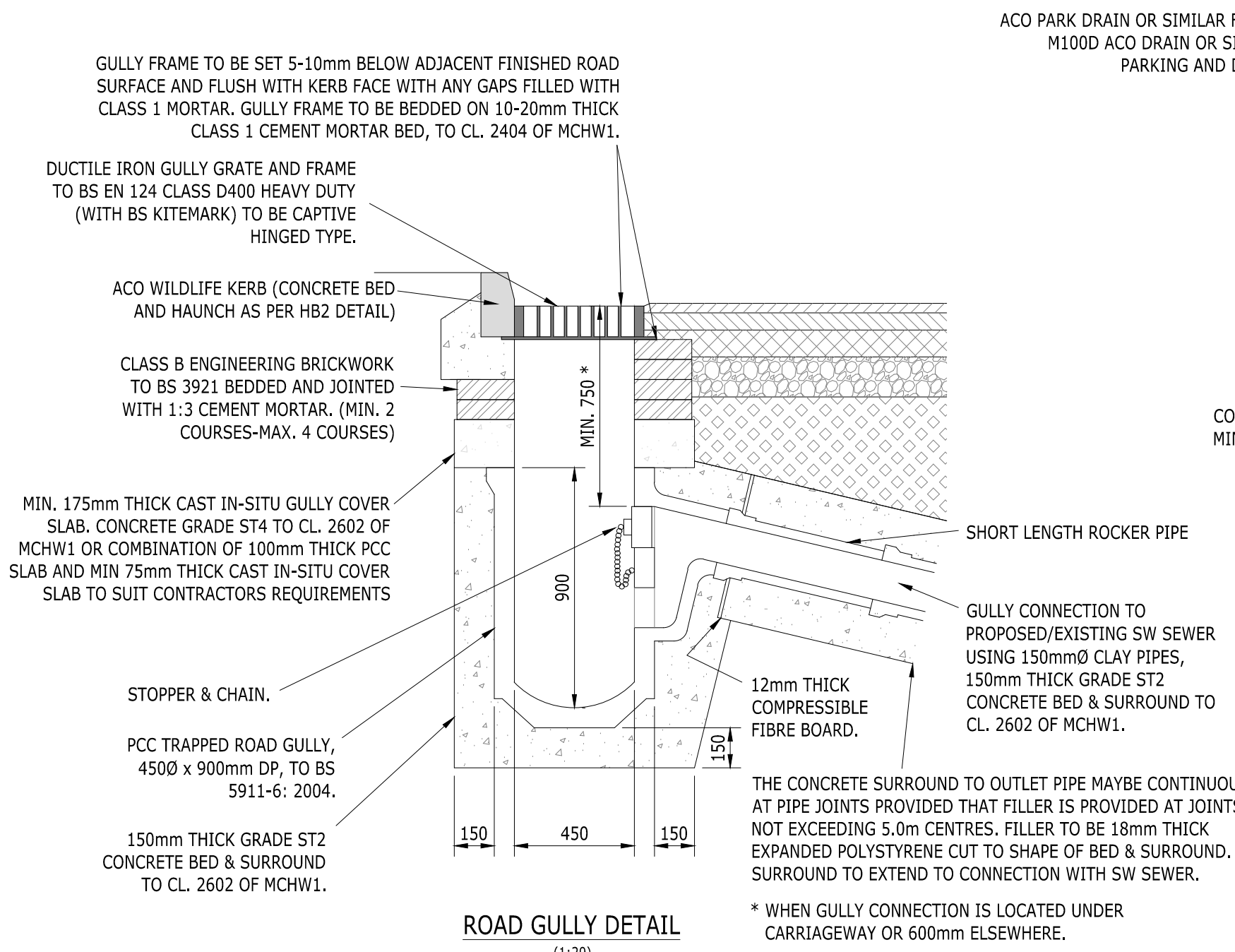
LAND AT FORD ROAD,
ARUNDEL

Drawing Title:

DRAINAGE DETAILS - SHEET 2

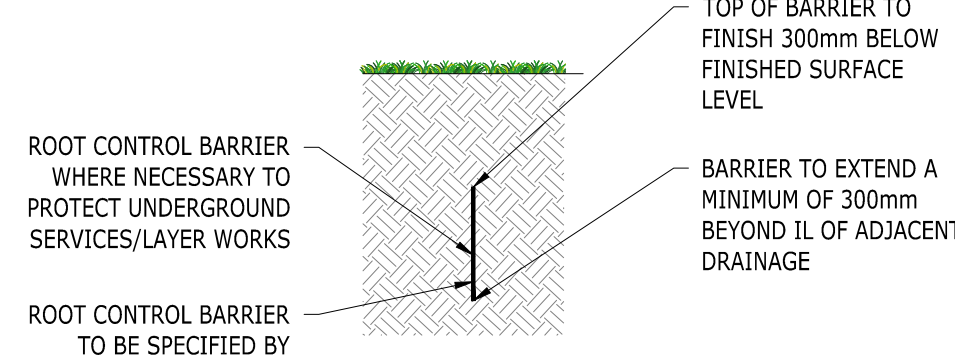
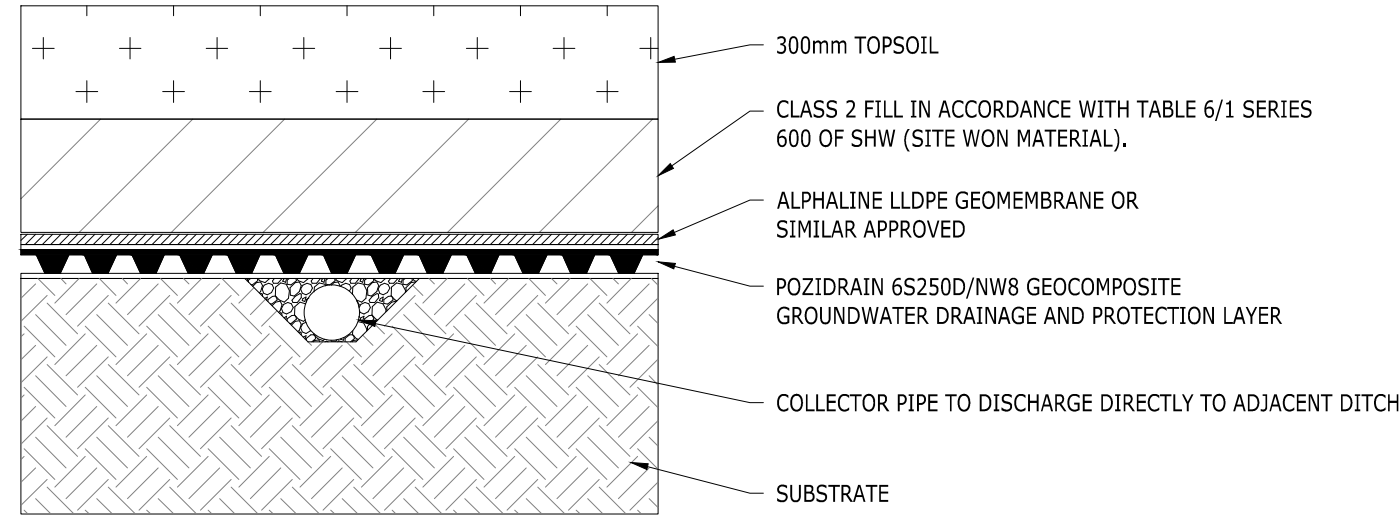
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Drawn by	Checked by	Approved by
AMC	AMC	AD

Drawing Number 2107940-054 Rev A

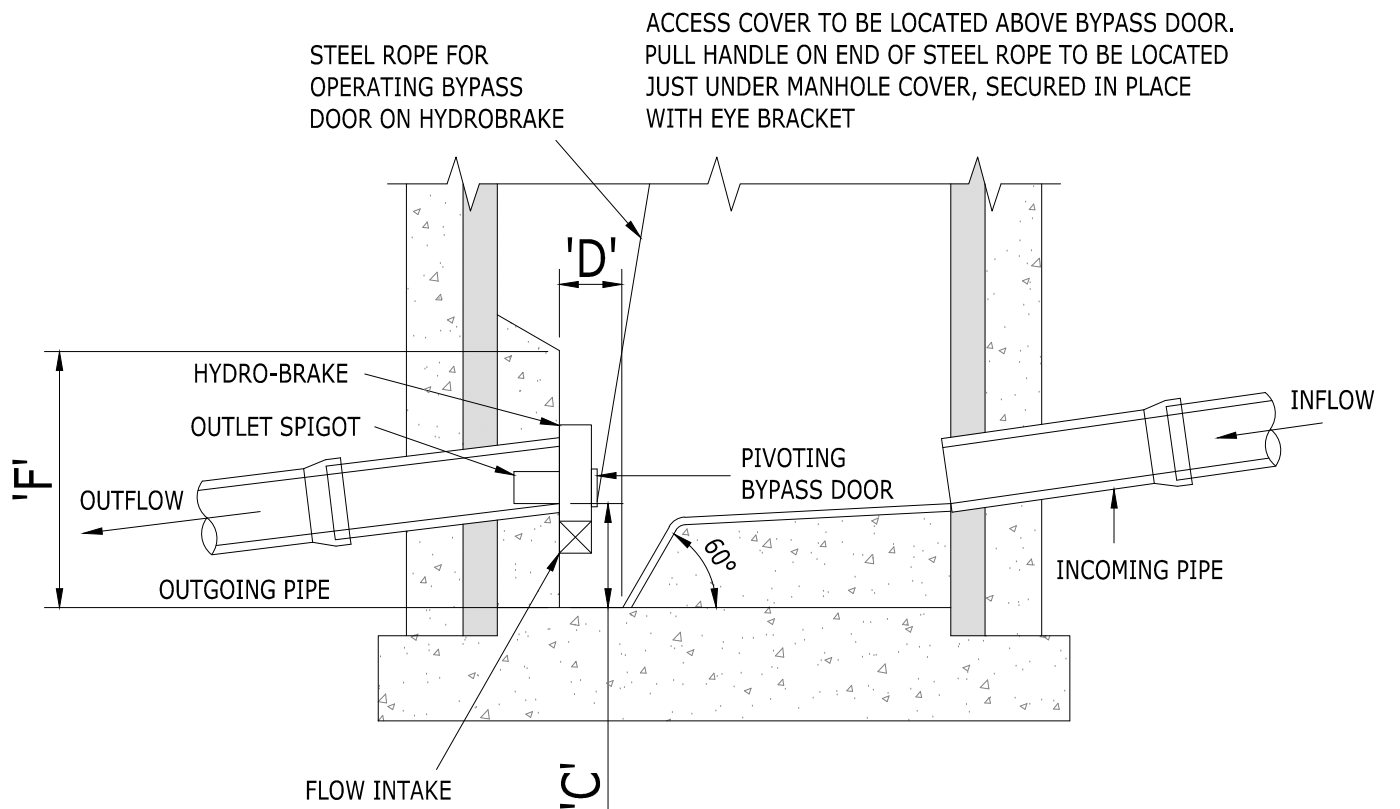
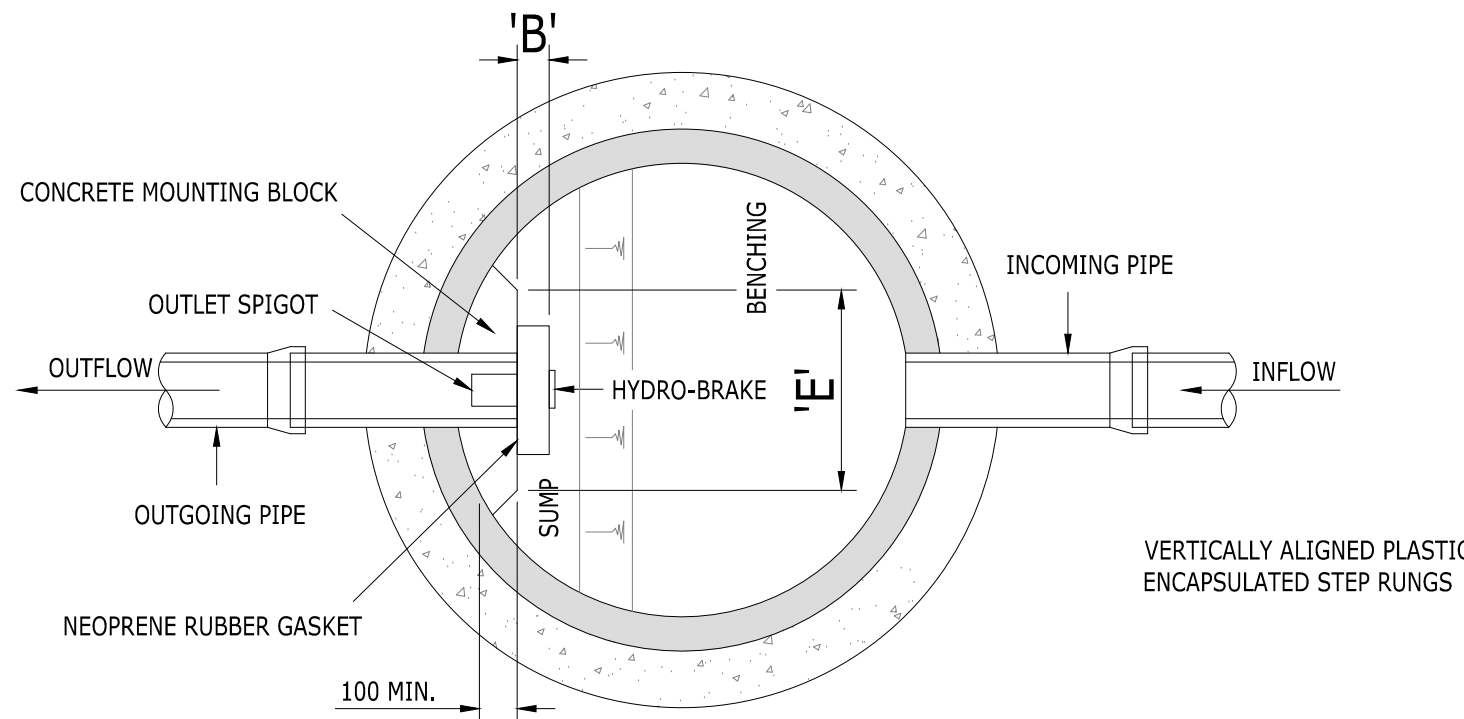
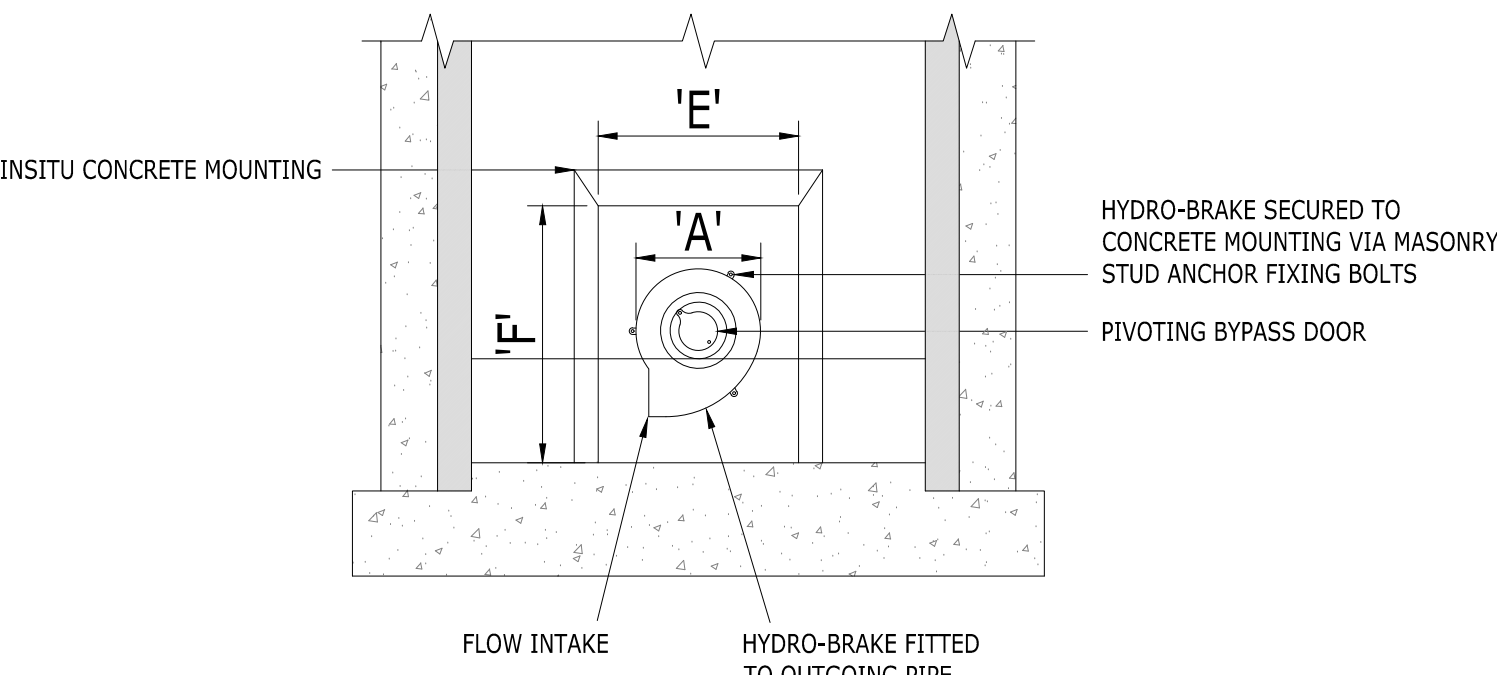


CONSTRUCTION NOTES

- 1. Bags shall be of Hessian or Canvas and shall be of a size to provide a wall thickness of 500mm
- 2. Concrete bagwork shall be to Clause 519 and be three quarter filled with 25mm slump ST4 concrete immediately prior to placing with the ends sewn
- 3. The bags shall be placed in a modified Flemish bond so as to 'break joint' with the mouths away from the surface and be tamped into position to form a rectangular block
- 4. Extent of outlet protection to be the greater of 1500mm or pipe diameter + 1200mm spanning the outlet pipe
- 5. All exposed pipework to be certified UV Stable.



PRIVATE HYDRO-BRAKE DIMENSION TABLE - (ALL DIMENSIONS IN mm)							
MANHOLE REFERENCE	HYDRO INTERNATIONAL HYDRO-BRAKE REFERENCE	'A' (HYDRO-BRAKE WIDTH)	'B' (HYDRO-BRAKE DEPTH)	'C' (SUMP DEPTH)	'D' (SUMP WIDTH)	'E' (MOUNTING BLOCK WIDTH)	'F' (MOUNTING BLOCK HEIGHT)
HYDROBRAKE 1	SHE-0053-1000-0566-1000	280	60	260	120	485	630
HYDROBRAKE 2	SHE-0043-1000-1403-1000	265	50	255	100	470	615
HYDROBRAKE 3	SHE-0068-3100-2501-3100	415	75	310	150	620	760



- DRAINAGE NOTES
1. LATERAL PIPES TO BE 1000 UNLESS OTHERWISE SPECIFIED.
 2. LATERAL PIPES TO BE INSTALLED AT MINIMUM 1:80 GRADIENT. INCLUDING THOSE FROM SVP AND RWPS.
 3. PPIC CHAMBER ASSUMED TO BE EQUAL BASE TYPE WITH NO INTERNAL FALL
 4. ALL MANHOLES AND INSPECTION CHAMBERS TO BE INSTALLED IN ACCORDANCE WITH THE SEWER SECTOR GUIDANCE APPENDIX C TYPE AS SHOWN. MANHOLE INSTALLATION CAN VARY FROM DETAIL SHOWN, I.E. A TYPE A MANHOLE CAN BE INSTALLED IN ACCORDANCE WITH SSG APPENDIX C FIGURE B4, B5, B6, B7, OR B8 AS LONG AS THE NOTES AT THE TOP OF THE FIGURE APPLY TO THE POSITION OF THE MANHOLE I.E. FIGURE B19 WOULD NOT BE CONSTRUCTED IN A ROAD BUT COULD BE CONSTRUCTED IN A DRIVEWAY, AND B20 COULD BE CONSTRUCTED IN A HIGHWAY.
 5. ALL UNDERGROUND BENDS SHOULD BE CONSTRUCTED OUT OF LOW RADI BENDS WITH MINIMUM 400mm INTERNAL RADI TO ALLOW FOR RODDING.
 6. ALL THERMOPLASTIC PIPES TO COMPLY WITH WITH THE RELEVANT PROVISIONS OF BS EN 1401-1 (PVC-U), BS EN 1852-1 (PP), OR BS EN 12666-1 (PE) AS APPROPRIATE.
 7. UNREINFORCED AND REINFORCED CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1916 AND BS 5911-1 AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4.
 8. PIPES UP TO 3000 SHOULD BE CONSTRUCTED OF U-PVC TYPE MATERIAL. PIPES >3000 SHOULD BE CONSTRUCTED OF CONCRETE OR OTHER IN ACCORDANCE WITH SEWER SECTOR GUIDANCE.
 9. WHERE INSTALLING PIPES SOFFIT TO SOFFIT BETWEEN DIFFERING PIPE SIZES WOULD CAUSE THE GRADIENT TO FALL BELOW THE MINIMUM DESIRABLE GRADIENT, I.E. 1:80 FOR A 100mm, THE PIPES SHOULD BE INSTALLED INVERT TO INVERT.
 10. SVPS FOR WET ROOMS TO BE CAPPED AT FLOOR LEVEL TO PREVENT SMELL INGRESS UNLESS CONVERTED INTO WETROOM. ONLY APPLICABLE TO ACCESSIBLE PLOTS IN FLATS.

CONSTRUCTION ISSUE

D	ADDED ROOT PROTECTION DETAIL	AMC	AMC	AD	07-05-24
C	UPDATED HYDROBRAKE 3 PER LLFA COMMENTS	AMC	AMC	AD	18-04-24
B	CONSTRUCTION ISSUE	AMC	AMC	AD	28-07-23
A	MOVED ACO DETAIL TO SHEET 4	AMC	AMC	AD	06-06-23
-	FIRST ISSUE	AMC	AMC	AD	30-05-23
Rev	Description	Drn	Chk	App	Date

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Third Floor,
The Hailmark Building
52-56 Leadenhall Street
London
EC3M 5JE

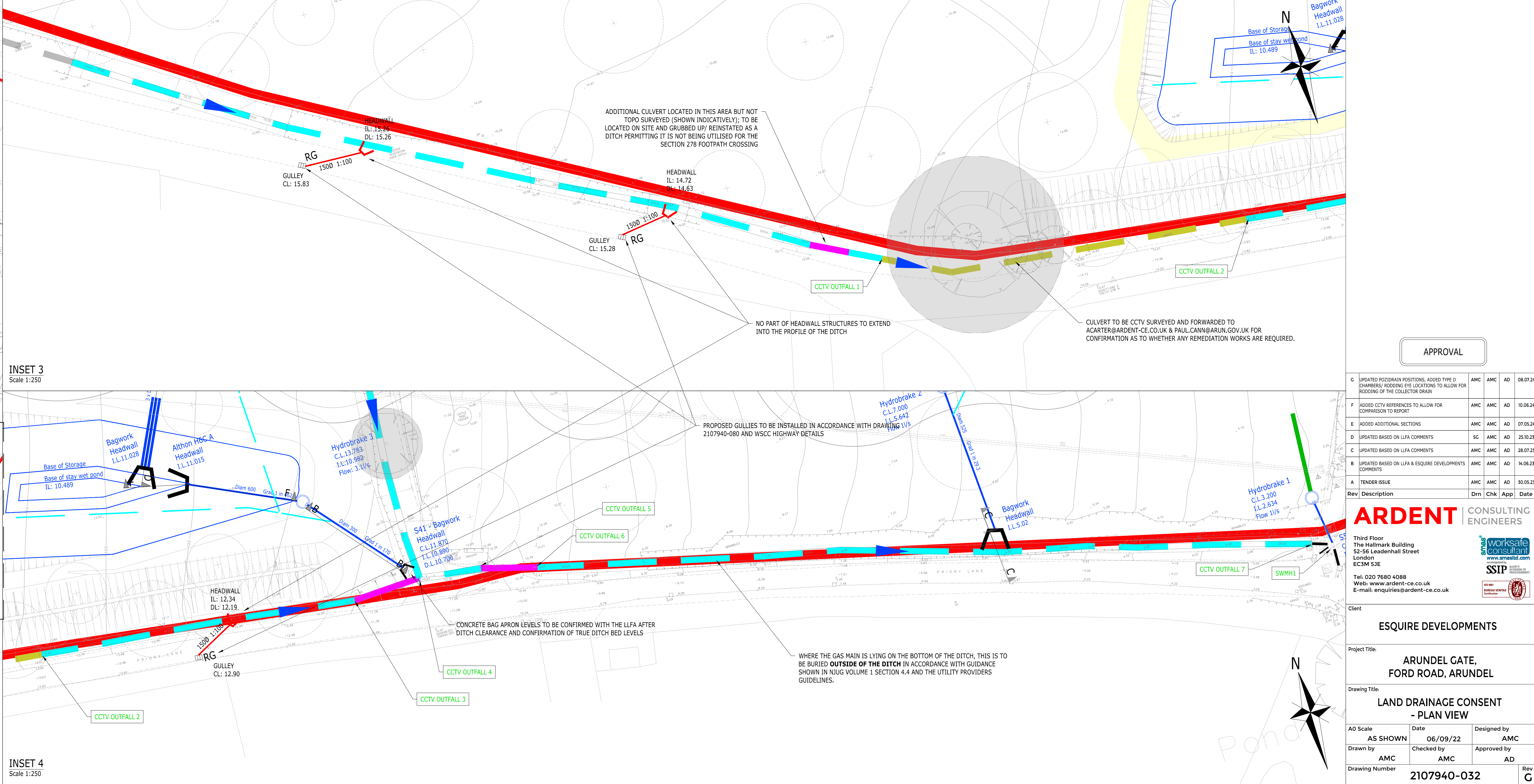
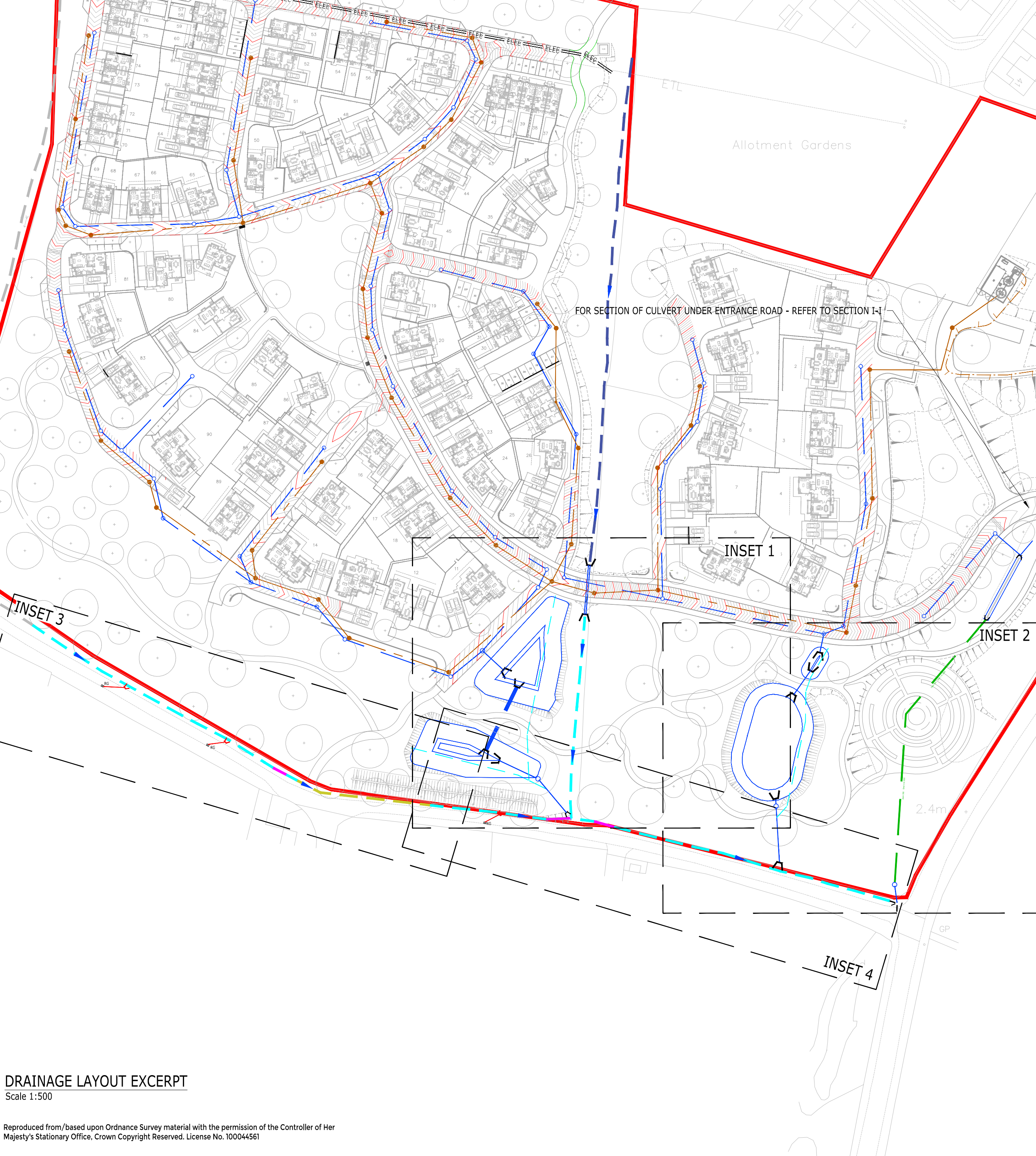
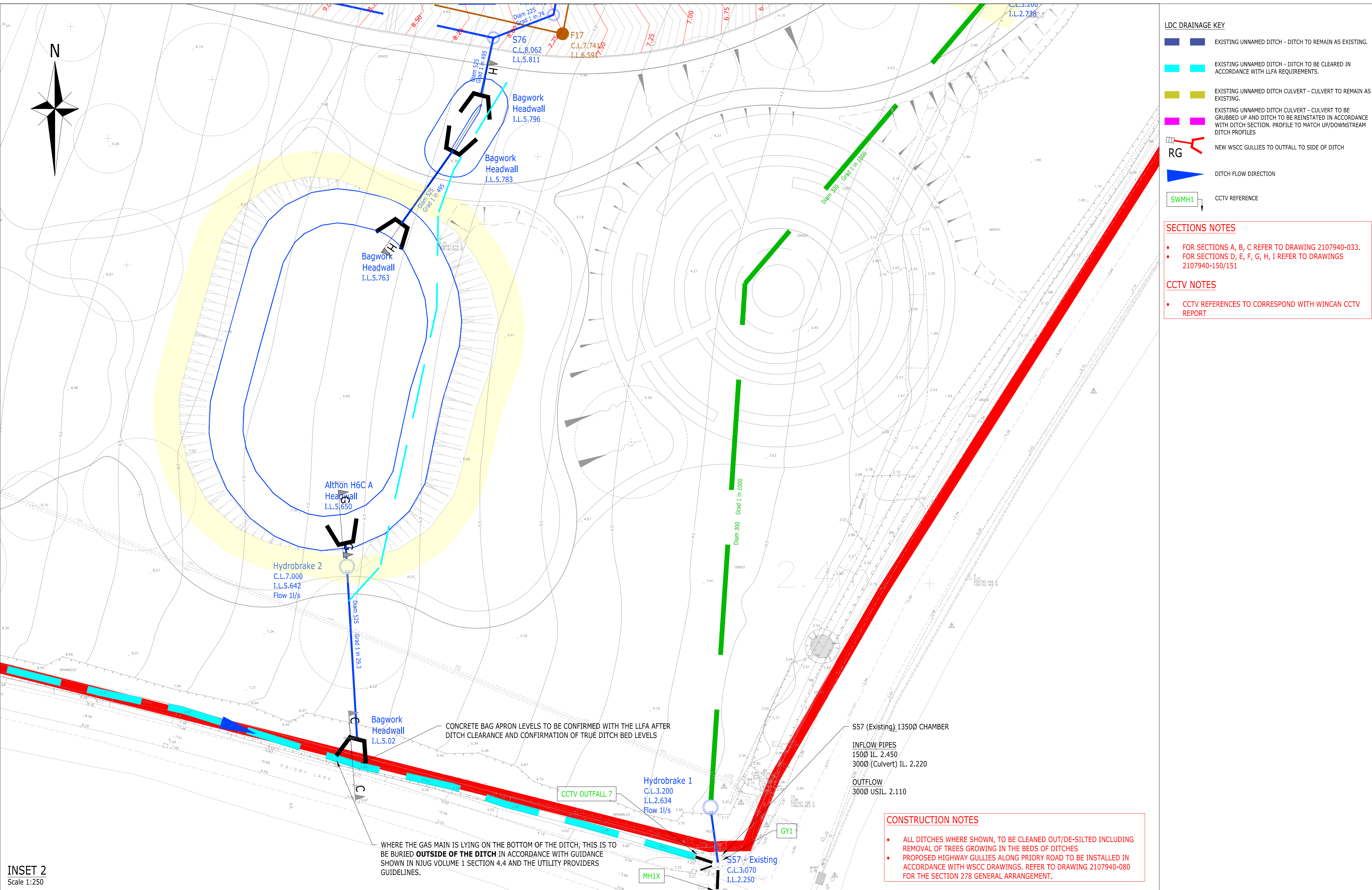
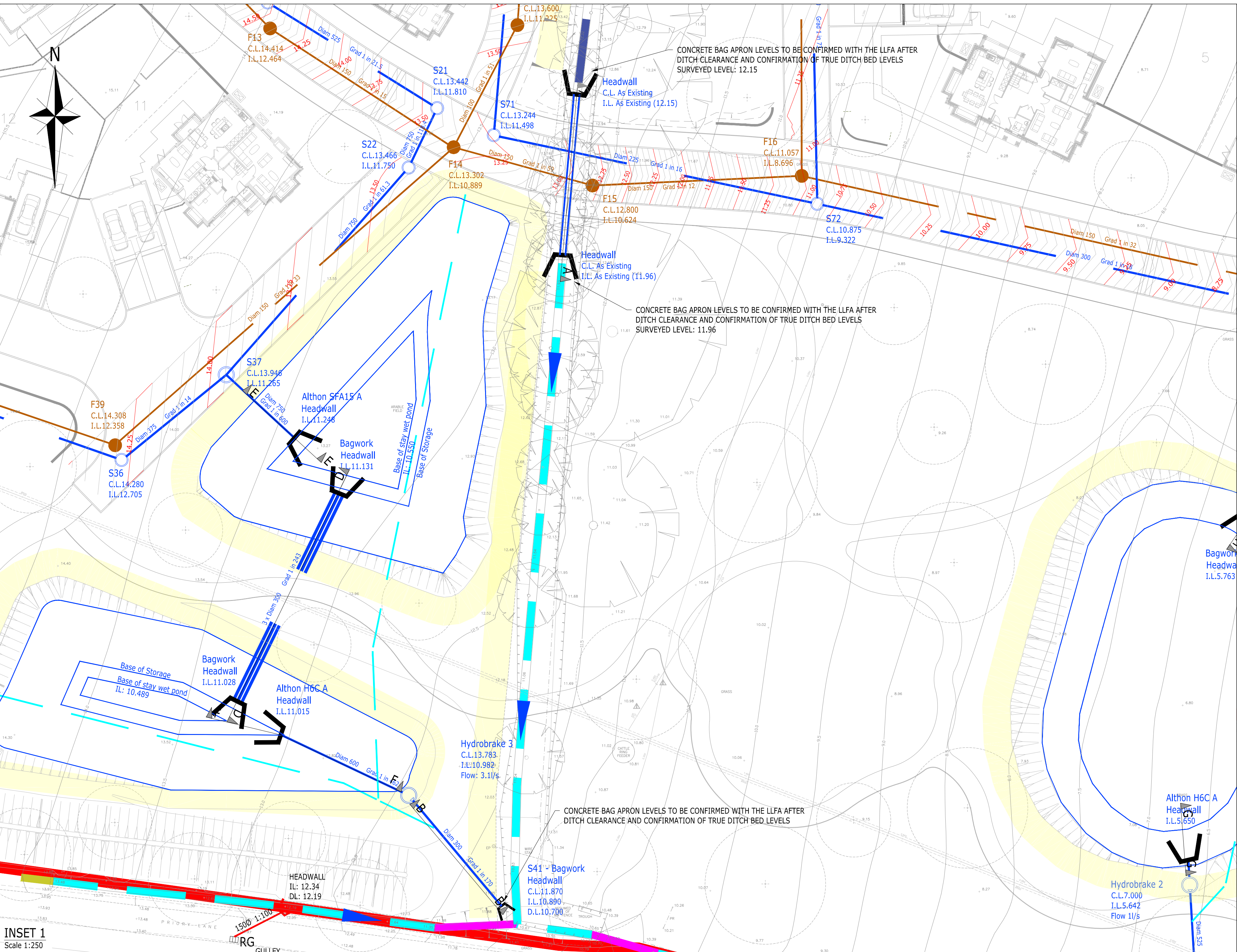
Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

worksafe
consultant

SSIP

ISO 9001
BUREAU VERITAS
CERTIFIED

Client		ESQUIRE DEVELOPMENTS	
Project Title:		LAND AT FORD ROAD, ARUNDEL	
Drawing Title:		DRAINAGE DETAILS - SHEET 4	
A1 Scale	Date	Designed by	
1:250	30-05-23	AMC	
Drawn by	Checked by	Approved by	
AMC	AMC	AD	
Drawing Number		2107940-056	
		Rev D	



- LDC DRAINAGE KEY**
- EXISTING UNNAMED DITCH - DITCH TO REMAIN AS EXISTING.
 - EXISTING UNNAMED DITCH - DITCH TO BE CLEARED IN ACCORDANCE WITH LFA REQUIREMENTS.
 - EXISTING UNNAMED DITCH CULVERT - CULVERT TO REMAIN AS EXISTING.
 - EXISTING UNNAMED DITCH CULVERT - CULVERT TO BE GRUBBED UP AND DITCH TO BE REINSTATED IN ACCORDANCE WITH DITCH SECTION PROFILE TO MATCH UPDOWNSTREAM DITCH PROFILES.
 - NEW WSSC GULLIES TO OUTFALL TO SIDE OF DITCH
 - DITCH FLOW DIRECTION
 - CCTV REFERENCE
- SECTIONS NOTES**
- FOR SECTIONS A, B, C REFER TO DRAWING 2107940-033.
 - FOR SECTIONS D, E, F, G, H, I REFER TO DRAWINGS 2107940-150/151.
- CCTV NOTES**
- CCTV REFERENCES TO CORRESPOND WITH WINCAN CCTV REPORT

- CONSTRUCTION NOTES**
- ALL DITCHES WHERE SHOWN, TO BE CLEANED OUT/DITCHED INCLUDING REMOVAL OF TREES GROWING IN THE BEDS OF DITCHES.
 - PROPOSED HIGHWAY GULLIES ALONG PRIORY ROAD TO BE INSTALLED IN ACCORDANCE WITH WSSC DRAWINGS. REFER TO DRAWING 2107940-080 FOR THE SECTION 278 GENERAL ARRANGEMENT.

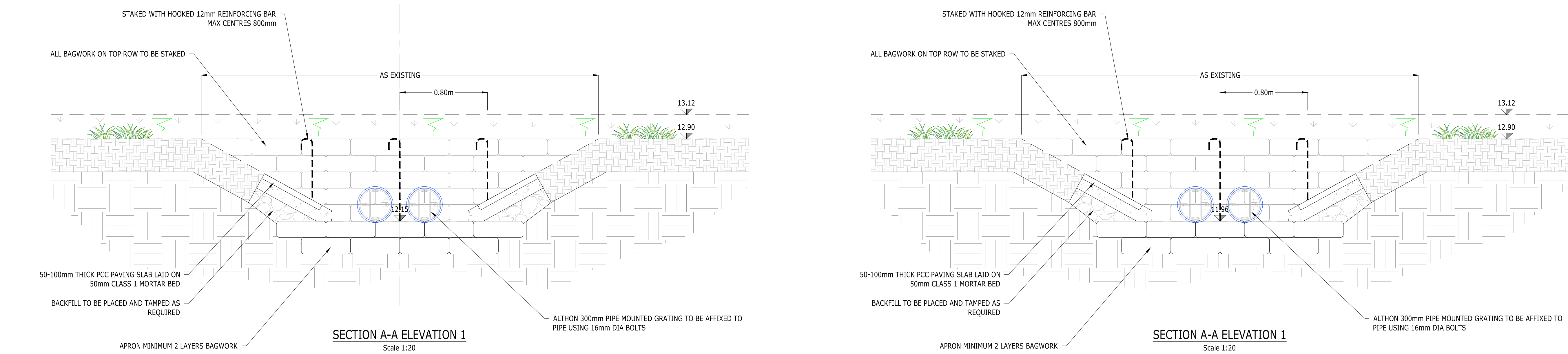
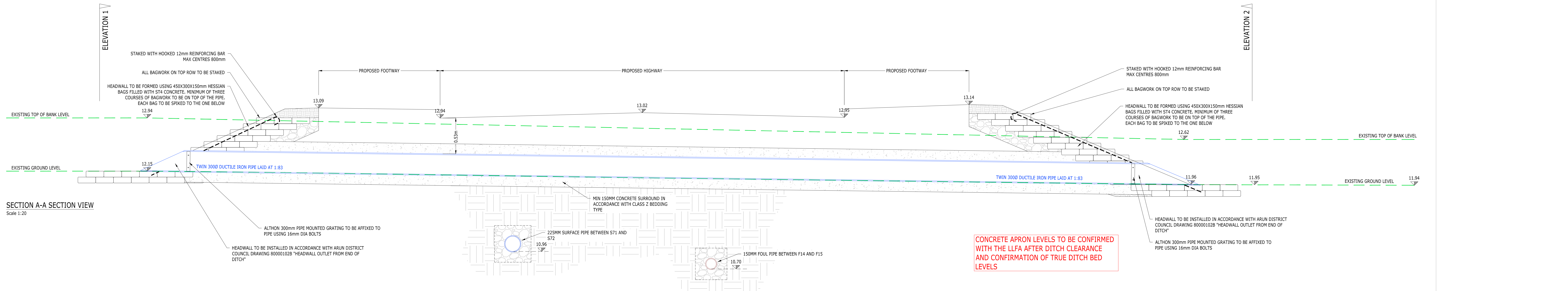
APPROVAL									
G	UPDATED PROPOSED POSITIONS, ADDED TYPE D CHAMBERS, ADDING THE LOCATIONS TO ALLOW FOR FLOODING OF THE COLLECTOR DRAIN	AMC	AMC	AD	08.07.24				
F	POSSIBLE CCTV REFERENCES TO ALLOW FOR ADDITIONAL ADDITIONAL SECTIONS	AMC	AMC	AD	10.06.24				
E	ADDED ADDITIONAL SECTIONS	AMC	AMC	AD	07.06.24				
D	UPDATED BASED ON LFA COMMENTS	AMC	AMC	AD	25.03.23				
C	UPDATED BASED ON LFA COMMENTS	AMC	AMC	AD	26.07.23				
B	UPDATED BASED ON LFA & ESQUIRE DEVELOPMENTS COMMENTS	AMC	AMC	AD	14.06.23				
A	TENDER ISSUE	AMC	AMC	AD	30.05.23				
Rev	Description	Drn	Chk	App	Date				

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Third Floor
The Halkin Building
52-56 Leadenhall Street
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EC3M 5JE

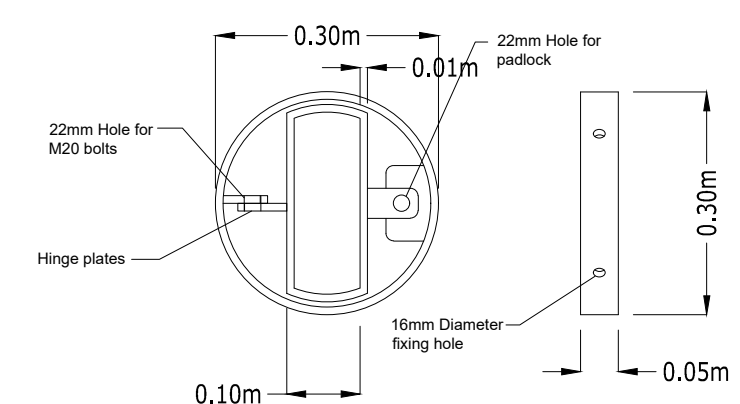
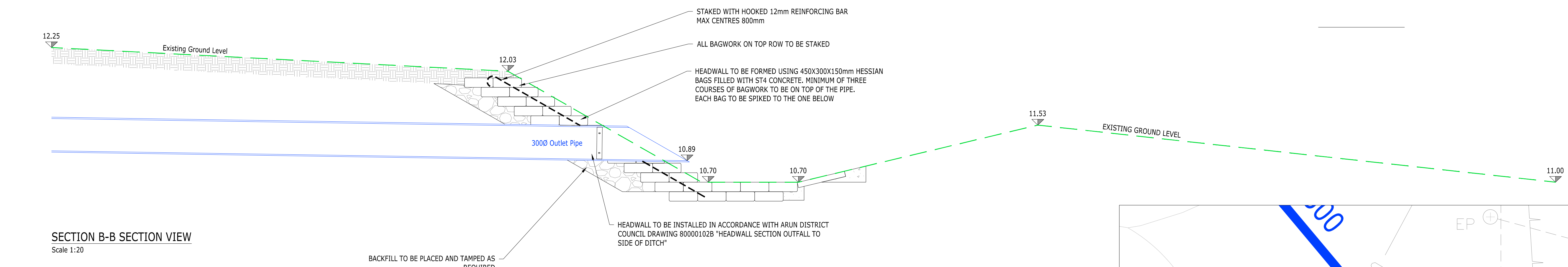
Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

ESQUIRE DEVELOPMENTS									
Project Title:									
ARUNDEL GATE, FORD ROAD, ARUNDEL									
Drawing Title:									
LAND DRAINAGE CONSENT - PLAN VIEW									
AD Scale	Date	Designed by							
AS SHOWN	06/09/22	AMC							
Drawn by	Checked by	Approved by							
AMC	AMC	AD							
Drawing Number	2107940-032		Rev	C					

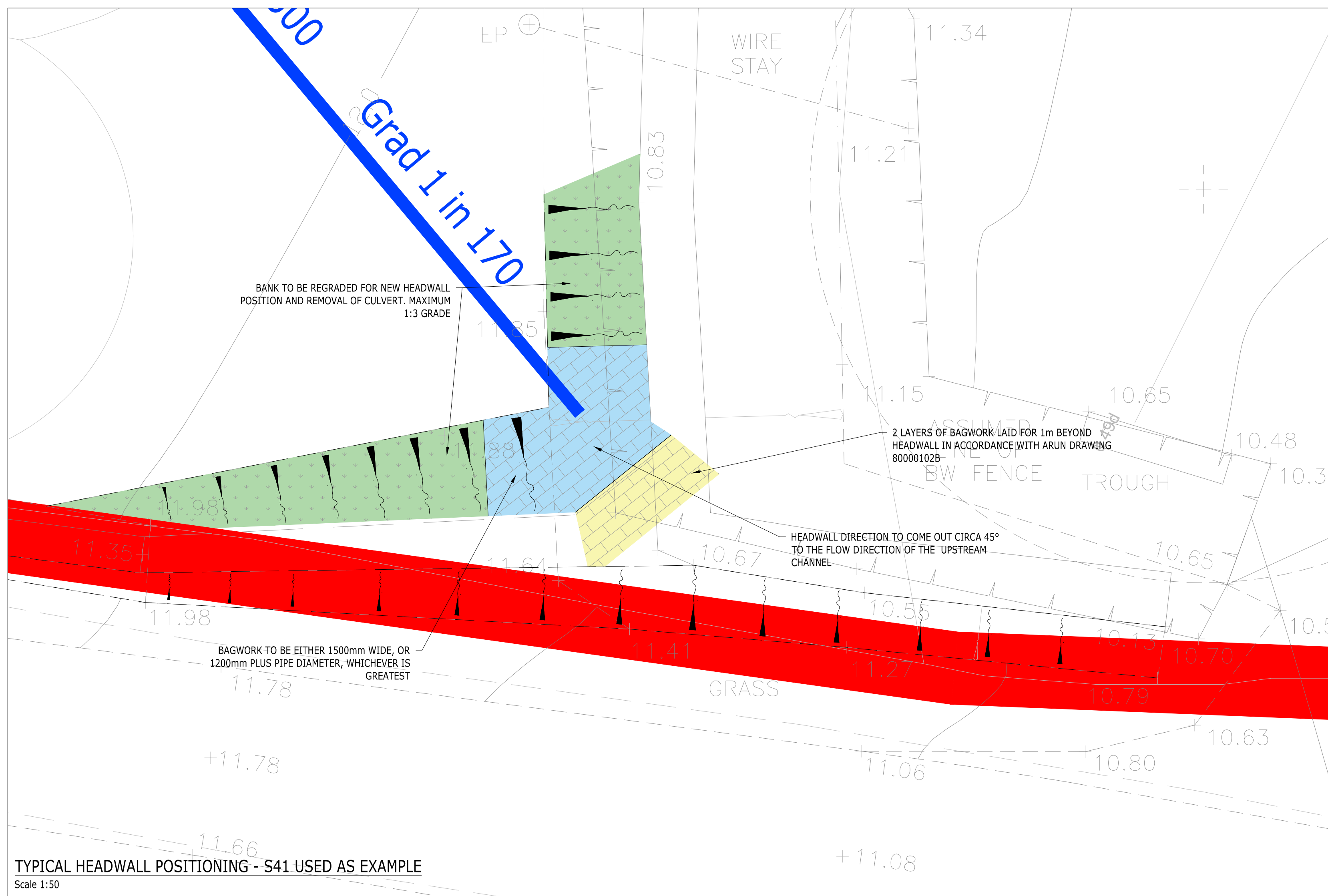
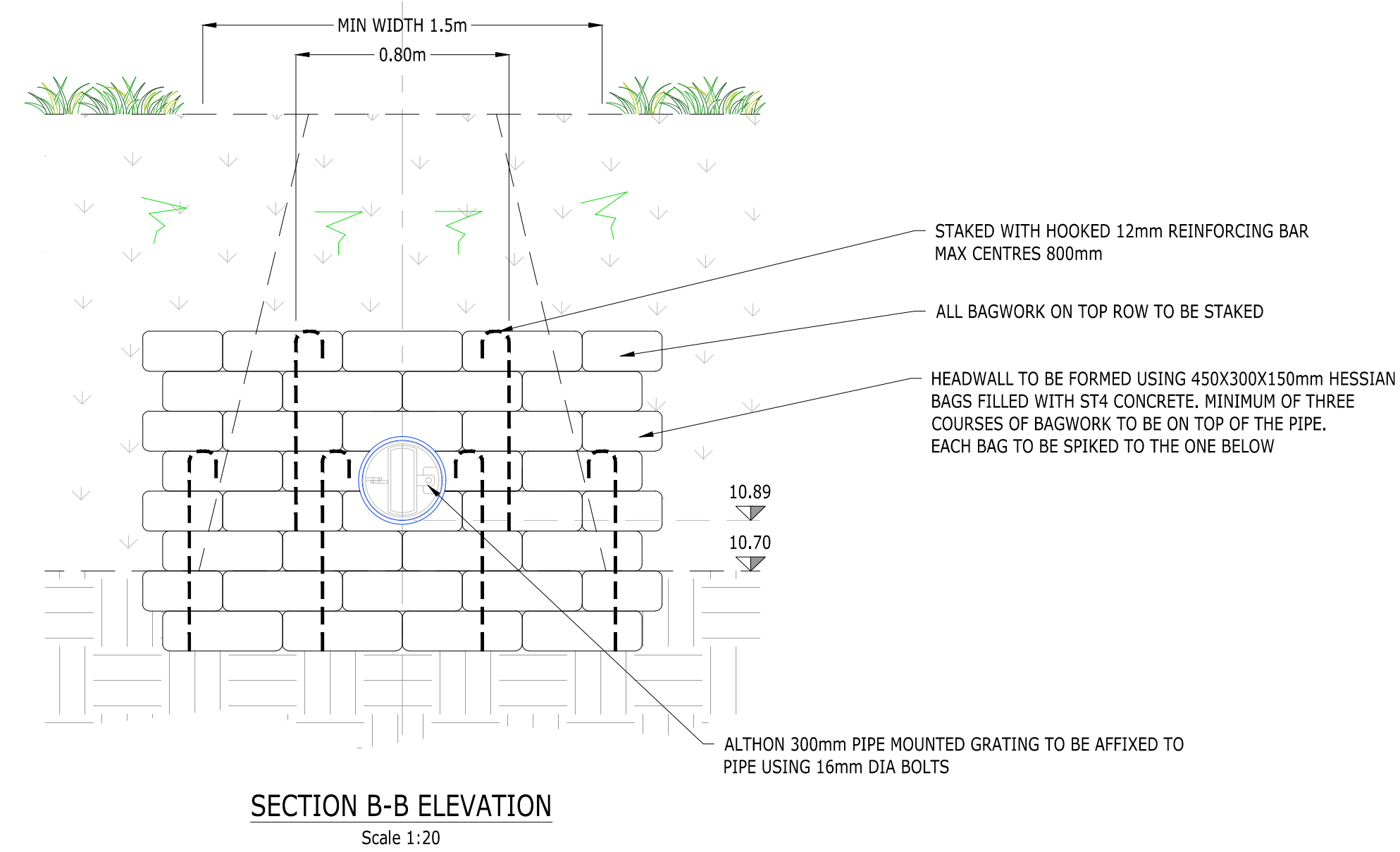


NOTES

1. BAGS SHALL BE OF HESSIAN AND SHALL BE OF A SIZE TO PROVIDE A WALL THICKNESS OF 500MM
2. CONCRETE BAGWORK SHALL BE TO CLAUSE 519 AND BE THREE QUARTER FILLED WITH 25MM SLUMP ST4 CONCRETE IMMEDIATELY PRIOR TO PLACING WITH ENDS SEWN.
3. THE BAGS SHALL BE PLACED IN A MODIFIED FLEMISH BOND SO AS TO 'BREAK JOINT' WITH THE MOUTHS AWAY FROM THE SURFACE AND BE TAMPED INTO POSITION TO FORM A RECTANGULAR BLOCK
4. EXTENT OF OUTLET PROTECTION TO BE THE GREATER OF 1500mm OR PIPE DIAMETER + 1200mm SPANNING THE OUTLET PIPE
5. DITCH TO BE REGRADED AS REQUESTED.
6. ALL EXPOSED PIPEWORK TO BE CERTIFIED UV STABLE.
7. ALL BAGS ON TOP ROWS TO BE STEEL SPIKED.
8. NO PART OF HEADWALL STRUCTURE TO ENCROACH INTO THE PROFILE OF THE WATERCOURSE.



ALTHON 300mm PIPE MOUNTED GRATING
SCALE 1:10



APPROVAL

D	UPDATED BASED ON LLFA COMMENTS ADDED (GRATINGS & ELEVATIONS AS REQUIRED)	AMC	AMC	AD	28.07.24
C	UPDATED BASED ON LLFA COMMENTS	SG	AMC	AD	28.10.23
B	UPDATED BASED ON LLFA COMMENTS	AMC	AMC	AD	28.07.23
A	TENDER ISSUE	AMC	AMC	AD	30.05.21
Rev	Description	Drn	Chk	App	Date

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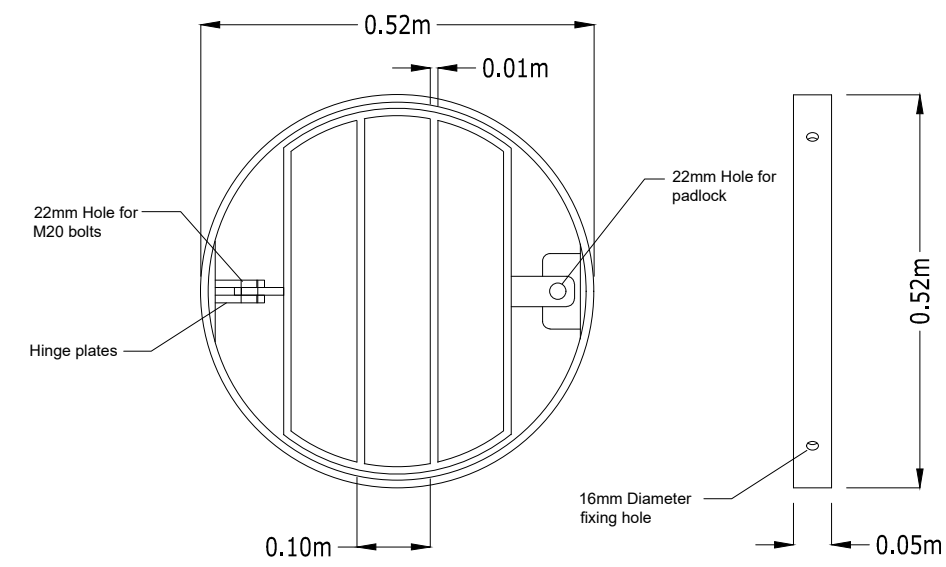
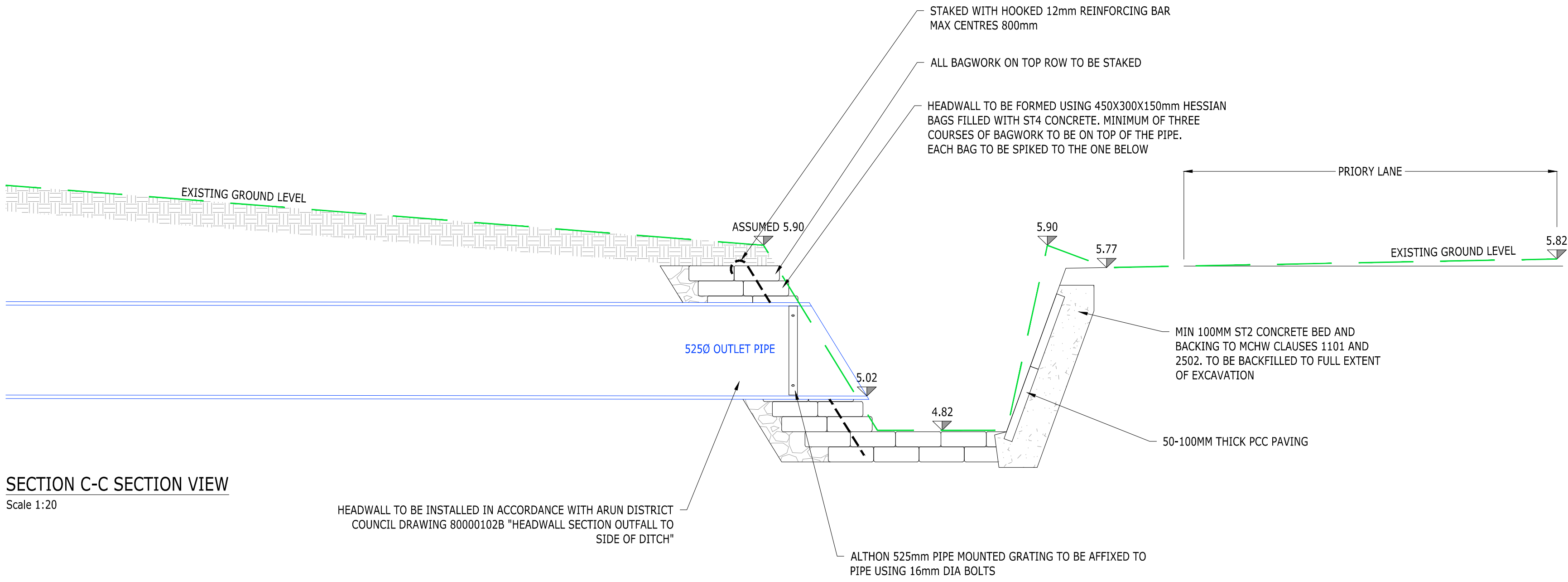
Third Floor
The Helixmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

SSIP SKILLSAFE

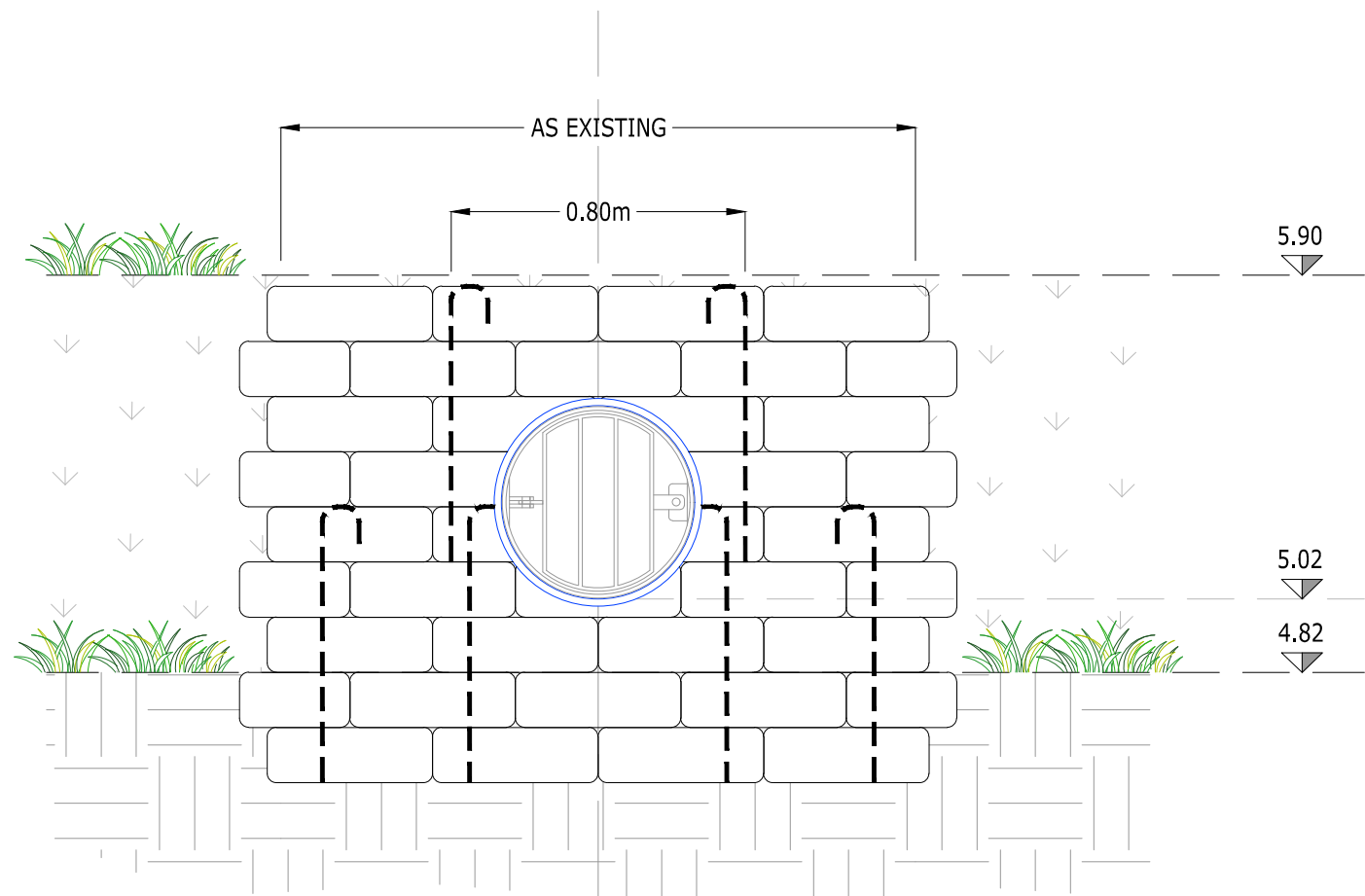
worksafe consultant

Client		ESQUIRE DEVELOPMENTS	
Project Title:		ARUNDEL GATE, FORD ROAD, ARUNDEL	
Drawing Title:		LAND DRAINAGE CONSENT - SECTION VIEWS - SHEET 1	
Scale	Date	Designed by	AMC
AS SHOWN	16/09/22	Checked by	AMC
Drawn by	AMC	Approved by	AD
Drawing Number	2107940-033		Rev C



ALTHON 525mm PIPE MOUNTED GRATING
SCALE 1:10

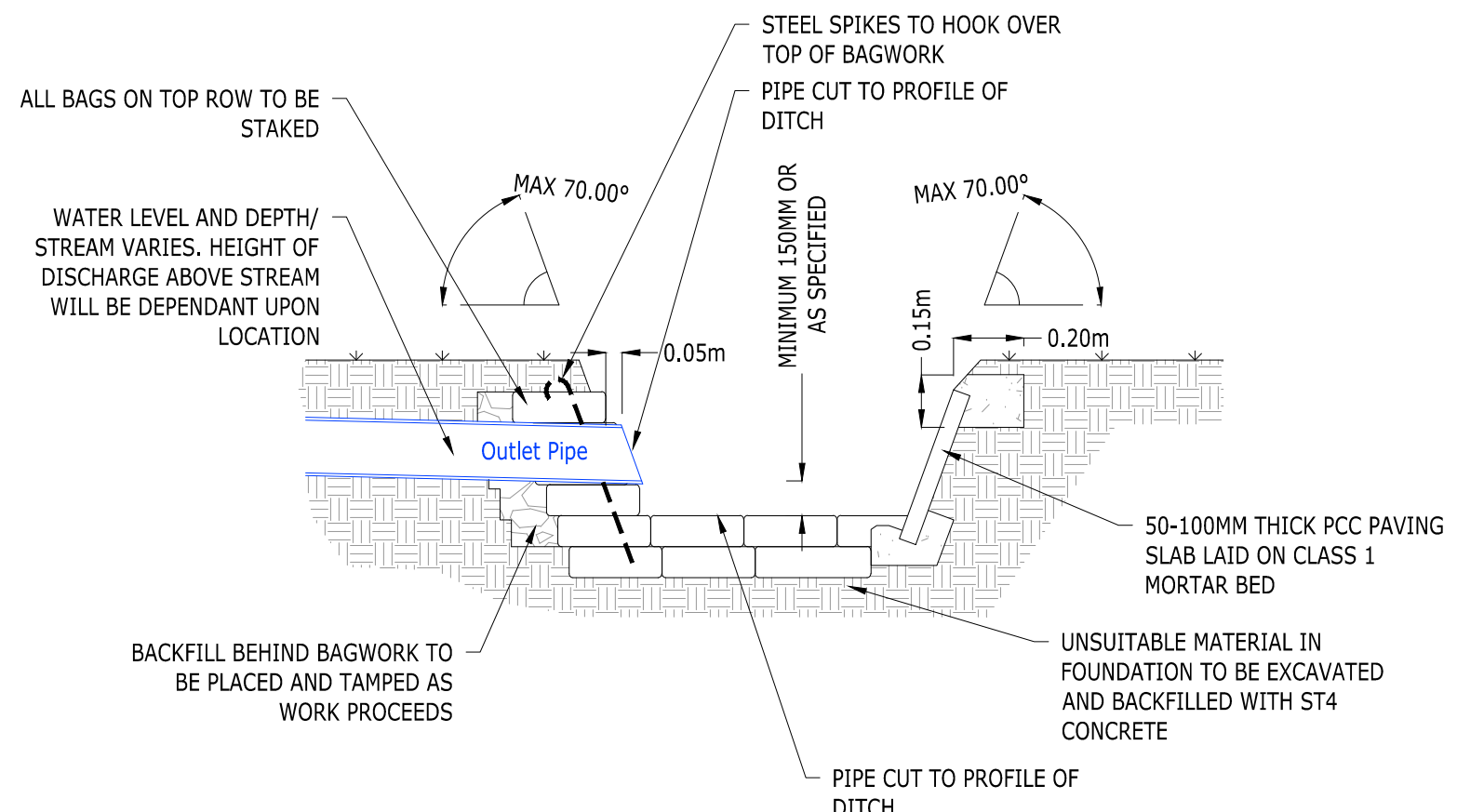
CONCRETE APRON LEVELS TO BE CONFIRMED
WITH THE LLFA AFTER DITCH CLEARANCE
AND CONFIRMATION OF TRUE DITCH BED
LEVELS



SECTION C-C ELEVATION
Scale 1:20

NOTES

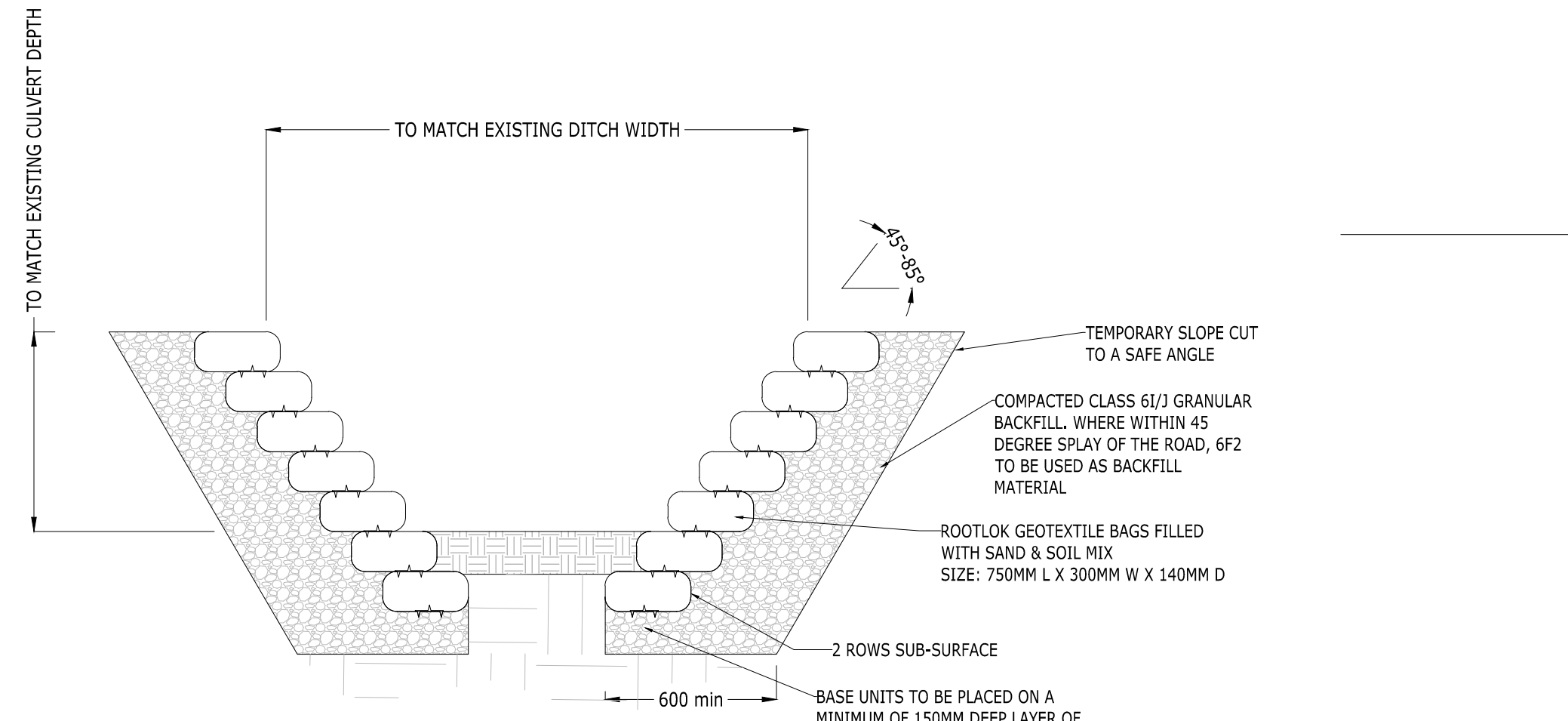
1. BAGS SHALL BE OF HESSIAN AND SHALL BE OF A SIZE TO PROVIDE A WALL THICKNESS OF 500MM
2. CONCRETE BAGWORK SHALL BE TO CLAUSE 519 AND BE THREE QUARTER FILLED WITH 25MM SLUMP ST4 CONCRETE IMMEDIATELY PRIOR TO PLACING WITH ENDS SEWN.
3. THE BAGS SHALL BE PLACED IN A MODIFIED FLEMISH BOND SO AS TO 'BREAK JOINT' WITH THE MOUTHS AWAY FROM THE SURFACE AND BE TAMPED INTO POSITION TO FORM A RECTANGULAR BLOCK
4. EXTENT OF OUTLET PROTECTION TO BE THE GREATER OF 1500mm OR PIPE DIAMETER + 1200mm SPANNING THE OUTLET PIPE.
5. DITCH TO BE REGRADED AS REQUESTED.
6. ALL EXPOSED PIPEWORK TO BE CERTIFIED UV STABLE.
7. ALL BAGS ON TOP ROWS TO BE STEEL SPIKED.
8. NO PART OF HEADWALL STRUCTURE TO ENCR OACH INTO THE PROFILE OF THE WATERCOURSE.



TYPICAL HEADWALL SECTION OUTFALL TO SIDE OF DITCH - IN ACCORDANCE
WITH ARUN DISTRICT COUNCIL DRAWING 80000102 Rev B
Scale 1:20

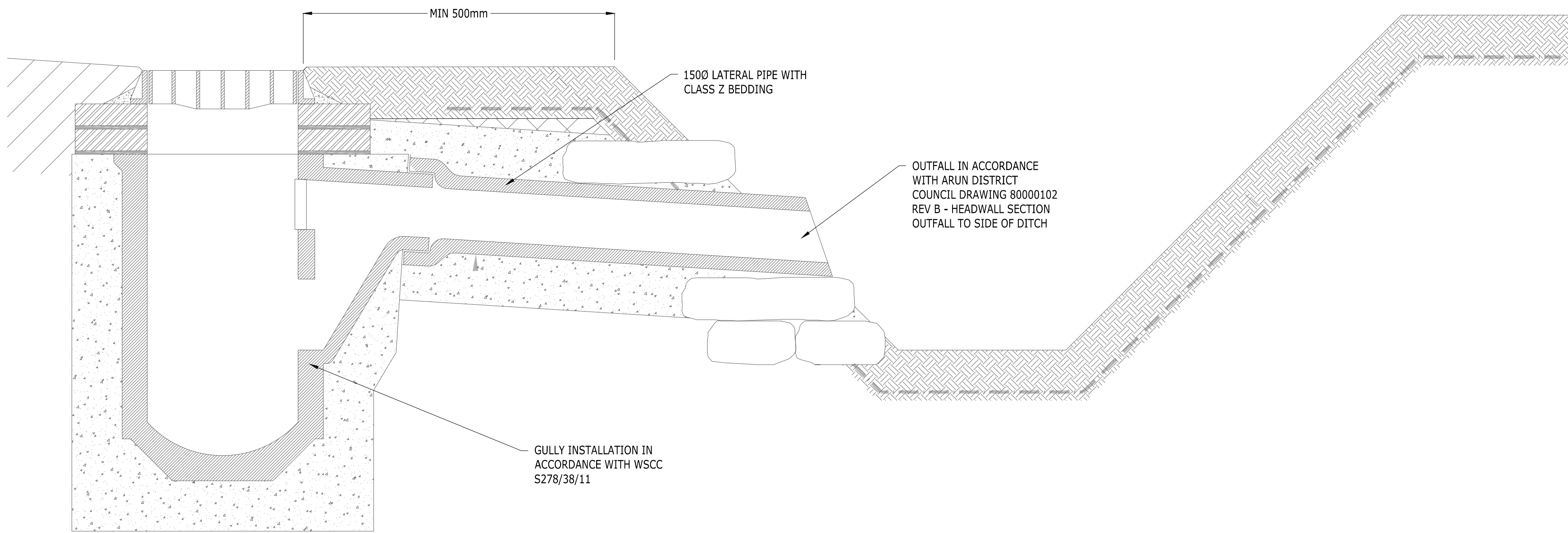
CONSTRUCTION NOTES

1. BAGS SHALL BE OF HESSIAN OR CANVAS AND SHALL BE OF A SIZE TO PROVIDE A WALL THICKNESS OF 500MM
2. CONCRETE BAGWORK SHALL BE TO CLAUSE 519 AND BE THREE QUARTER FILLED WITH 25MM SLUMP ST4 CONCRETE IMMEDIATELY PRIOR TO PLACING WITH THE ENDS SEWN
3. THE BAGS SHALL BE PLACED IN A MODIFIED FLEMISH BOND SO AS TO 'BREAK JOINT' WITH THE MOUTHS AWAY FROM THE SURFACE AND BE TAMPED INTO POSITION TO FORM A RECTANGULAR BLOCK
4. EXTENT OF OUTLET PROTECTION TO BE THE GREATER OF 1500MM OR PIPE DIAMETER + 1200MM SPANNING THE OUTLET PIPE
5. HEADWALL DESIGN MAY NEED TO BE ADJUSTED TO ON SITE CONDITIONS FOLLOWING APPROVAL FROM ADC ENGINEER.
6. DITCH TO BE REGRADED AS REQUESTED.
7. ALL EXPOSED PIPEWORK TO BE CERTIFIED UV STABLE.
8. PIPE DETAILS TO BE AS SPECIFIED ON SUPPORTING DRAWINGS.
9. ALL BAGS ON TOP ROWS TO BE STEEL SPIKED.
10. TRUE BED LEVEL IS ESTABLISHED IN AGREEMENT WITH THE LOCAL AUTHORITY ENGINEER AND NEEDS TO TAKE ACCOUNT OF EXISTING UPSTREAM AND CULVERT INVERT LEVELS AND HARD BED LEVELS OF THE WATERCOURSE.
11. NO PART OF HEADWALL STRUCTURE TO ENCR OACH INTO THE PROFILE OF THE WATERCOURSE.

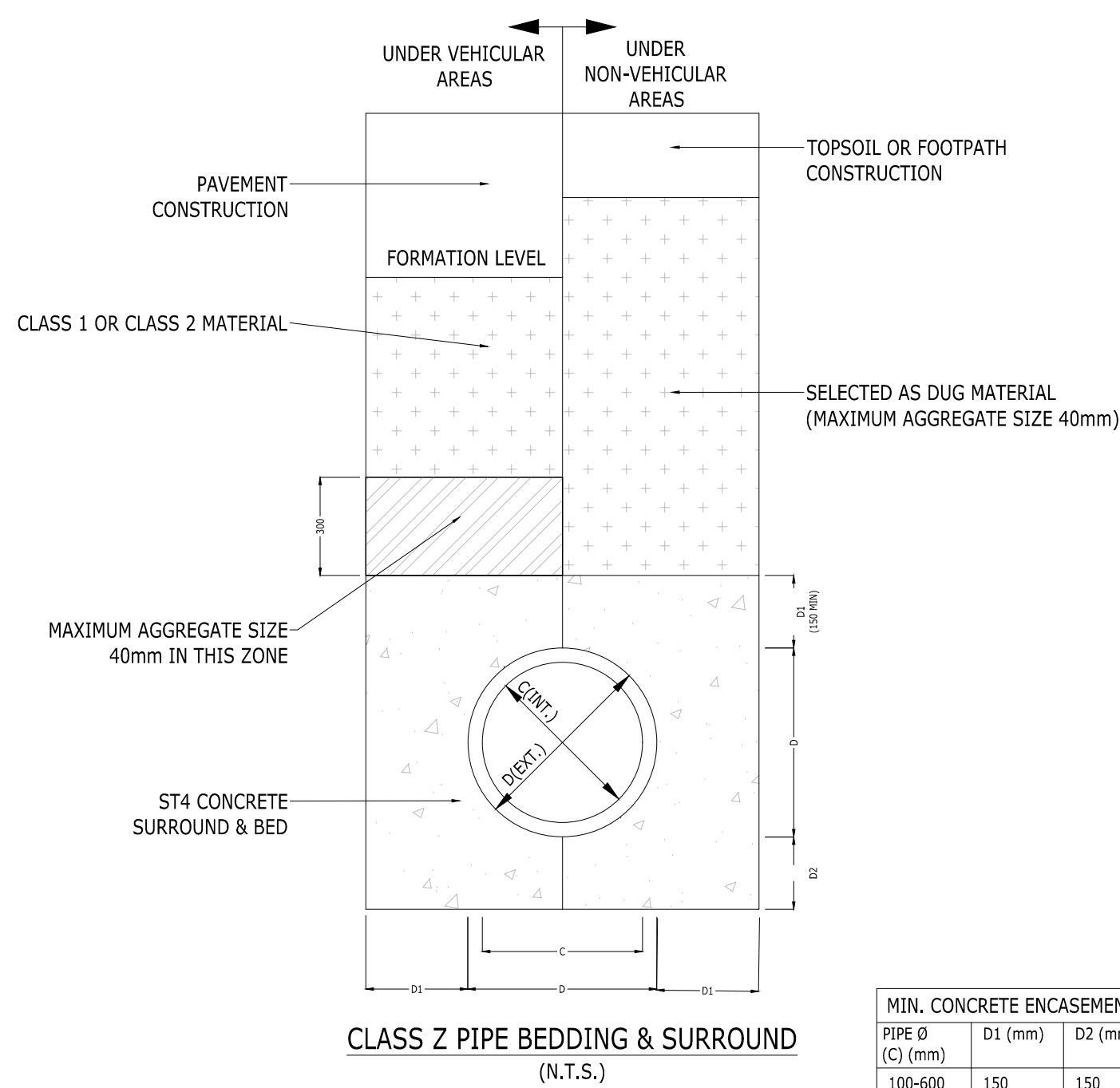


TYPICAL DITCH REINSTATEMENT (45-85°)*
Scale NTS

*FOR SLOPES UNDER 45 DEGREES, REFER
TO WEST SUSSEX COUNTY COUNCIL
DRAWING S278/38/25



WSSC GULLEY OUTFALL TO SIDE OF DITCH - IN ACCORDANCE WITH WSCC
S278/38/25
Scale: NTS



MIN. CONCRETE ENCASEMENT		
PIPE Ø (D) (mm)	D1 (mm)	D2 (mm)
100-400	150	150

TABLE 3

- TO BE USED UNDER:
1. EXTERNAL VEHICULAR AREAS (EXCEPT ADOPTABLE HIGHWAYS) WHERE COVER TO PIPE SOFFIT IS LESS THAN 1200mm
 2. ALL EXTERNAL NON-VEHICULAR AREAS WHERE COVER TO PIPE SOFFIT IS EQUAL TO OR LESS THAN 600mm

NOTE:
ALL PIPEWORK WITH CLASS Z SURROUND SHALL HAVE FLEXIBLE COUPLINGS WITH FLEXI-BOARDS ON ALL JOINTS

APPROVAL

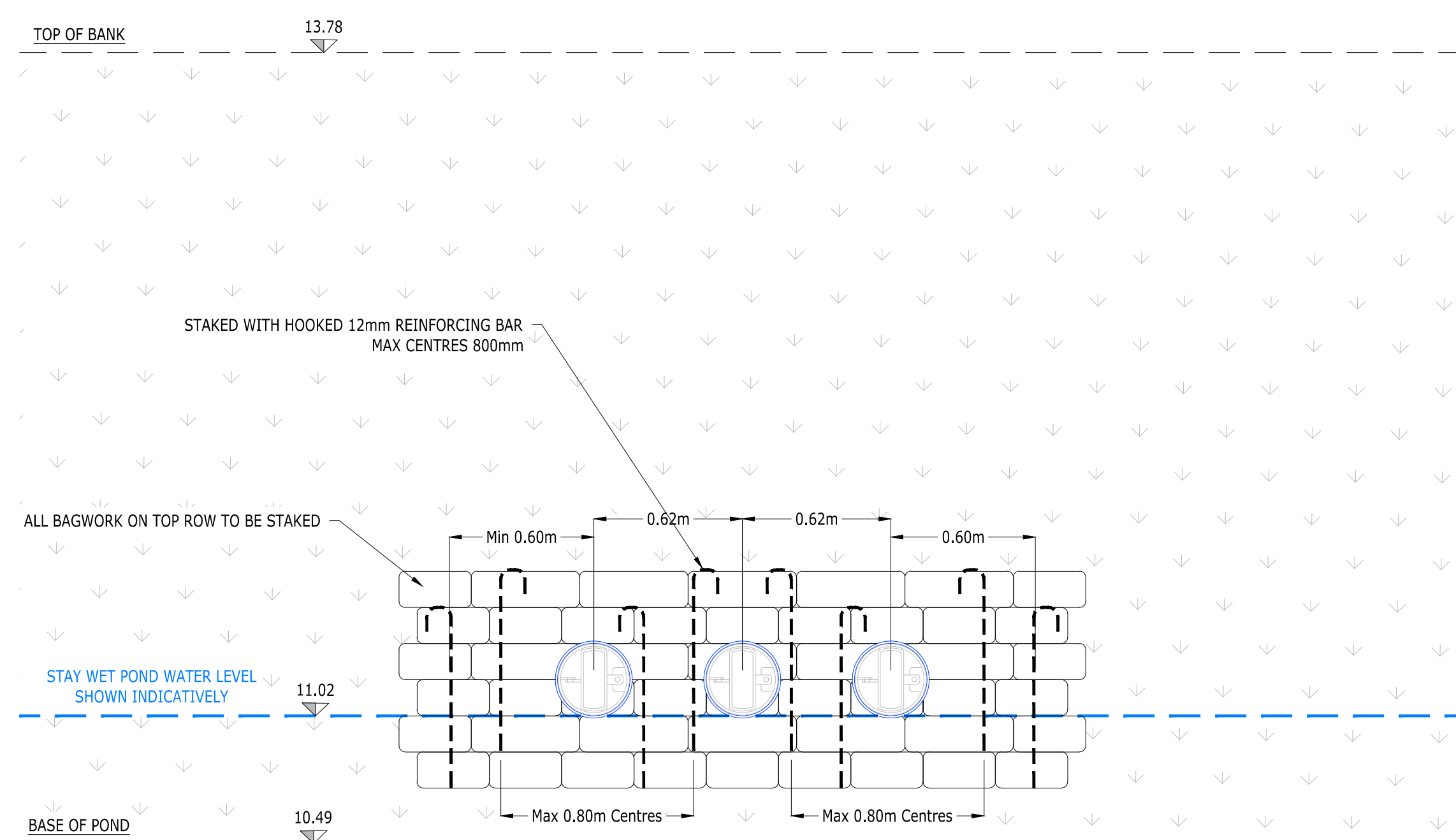
Rev	Description	Drn	Chk	App	Date
ARDENT CONSULTING ENGINEERS Third Floor The Helixmark Building 52-56 Leadenhall Street London EC3M 5JE Tel: 020 7680 4088 Web: www.ardent-ce.co.uk E-mail: enquiries@ardent-ce.co.uk					
Client ESQUIRE DEVELOPMENTS					

Project Title:
**ARUNDEL GATE,
FORD ROAD, ARUNDEL**

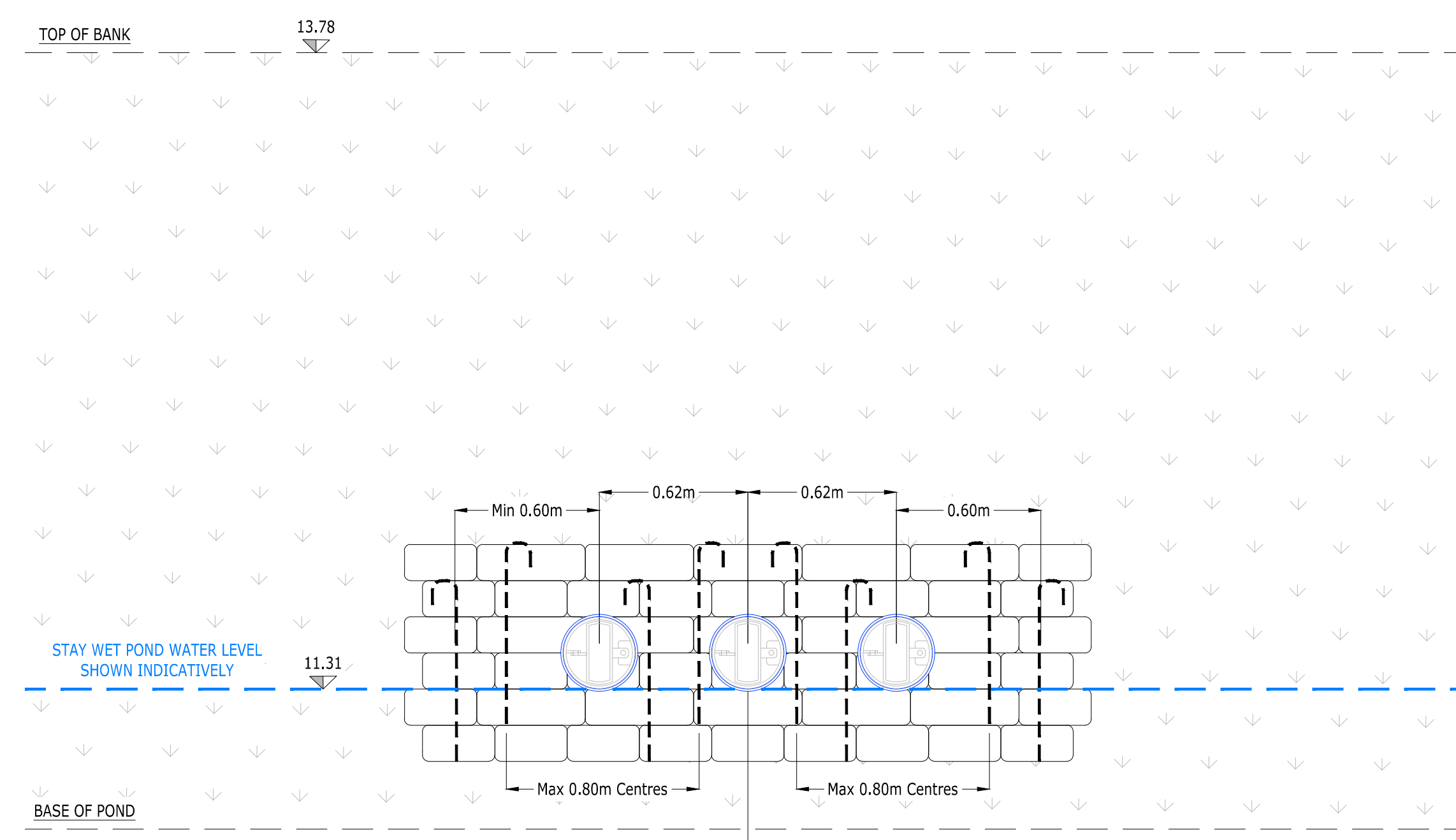
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**LAND DRAINAGE CONSENT -
SECTION VIEWS - SHEET 2**

Scale	Date	Designed by
AS SHOWN	08-07-24	AMC
Drawn by	Checked by	Approved by
AMC	AMC	AD
Drawing Number		
2107940-160		
Rev		

NOTE
PLEASE REFER TO DRAWING
2107940-032 FOR PLAN VIEW OF ALL
SECTIONS.
FOR OWC HEADWALL DETAILS REFER
TO DRAWING 2107940-033.



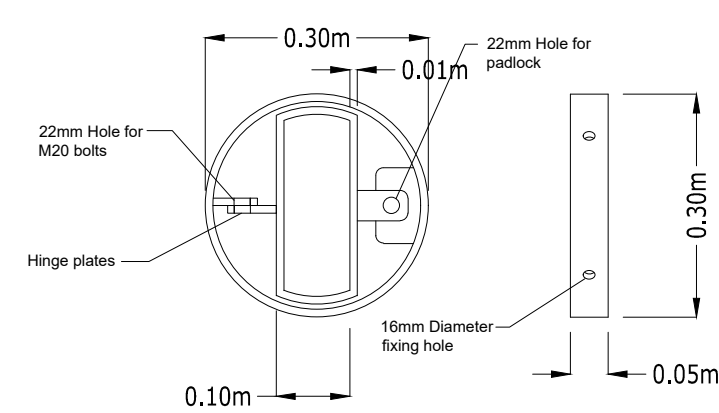
SECTION D-D ELEVATION
SCALE 1:20



SECTION D-D ELEVATION
SCALE 1:20

- ## NOTES

1. BAGG SHALL BE OF HESSIAN AND SHALL BE OF A SIZE TO PROVIDE A WALL THICKNESS OF 500MM
2. CONCRETE BAGWORK SHALL BE TO CLAUSE 519 AND BE THREE QUARTER FILLED WITH 25MM SLUMP ST4 CONCRETE IMMEDIATELY PRIOR TO PLACING WITH END SEW.
3. THE BAGG SHALL BE PLACED IN A MODIFIED FLEMISH BOND SO AS TO 'BREAK JOINT' WITH THE MOUTHS AWAY FROM THE SURFACE AND BE TAMPED INTO POSITION TO FORM A RECTANGULAR BLOCK
4. EXTENT OF OUTLET PROTECTION TO BE THE GREATER OF 1500mm OR PIPE DIAMETER + 1200mm SPANNING THE OUTLET PIPE.
5. DITCH TO BE REGRADED AS REQUESTED.
6. ALL EXPOSED PIPEWORK TO BE CERTIFIED UV STABLE.
7. ALL BAGS ON TOP ROWS TO BE STEEL SPIKED.
8. NO PART OF HEADWALL STRUCTURE TO ENCOACH INTO THE PROFILE OF THE WATERCOURSE.



ALTHON 300mm PIPE MOUNTED GRATING
SCALE 1:10

APPROVAL

A	ADDED ADDITIONAL ELEVATIONS/ PLAN VIEWS AS REQUESTED BY LFLA. ADDED ADDITIONAL SHEETS TO ACCOMMODATE.	AMC	AMC	AD	08.07.24
	SECTION D-D - ADDED PIPE MOUNTED GRATINGS SECTION E-E - CHANGED HEADWALL TO ALTHON SFA15 A HEADWALL + SFA1 603 CUTTAL SAFETY GRILLE SECTION F-F - CHANGED HEADWALL TO H5C A + HINGED CLOSE COUPLED GRATING SECTION G-G - CHANGED HEADWALL TO H5C A + HINGED CLOSE COUPLED GRATING SECTION H-H - ADDED PIPE MOUNTED GRATINGS SECTION I-I - ADDED PIPE MOUNTED GRATINGS				

Rev	Description	Drn	Chk	App	Date
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Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Phone: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

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INSTITUTE

ISO 9001
NATIONAL METEOROLOGICAL
INSTITUTE



Client	
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ESQUIRE DEVELOPMENTS

Project Title:	
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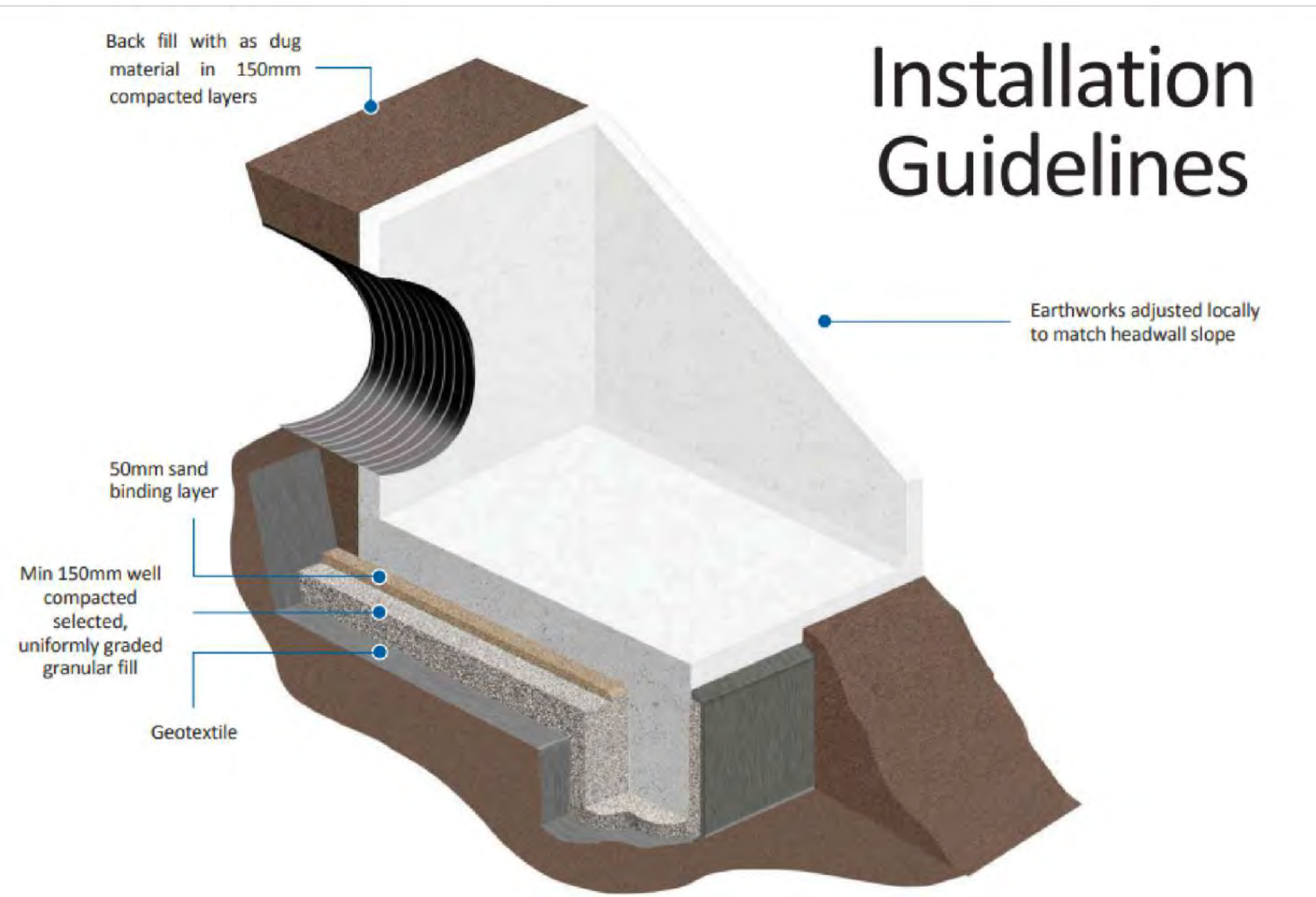
ARUNDEL GATE,
FORD ROAD, ARUNDEL

Drawing Title:

HEADWALL SECTIONS - SHEET 1

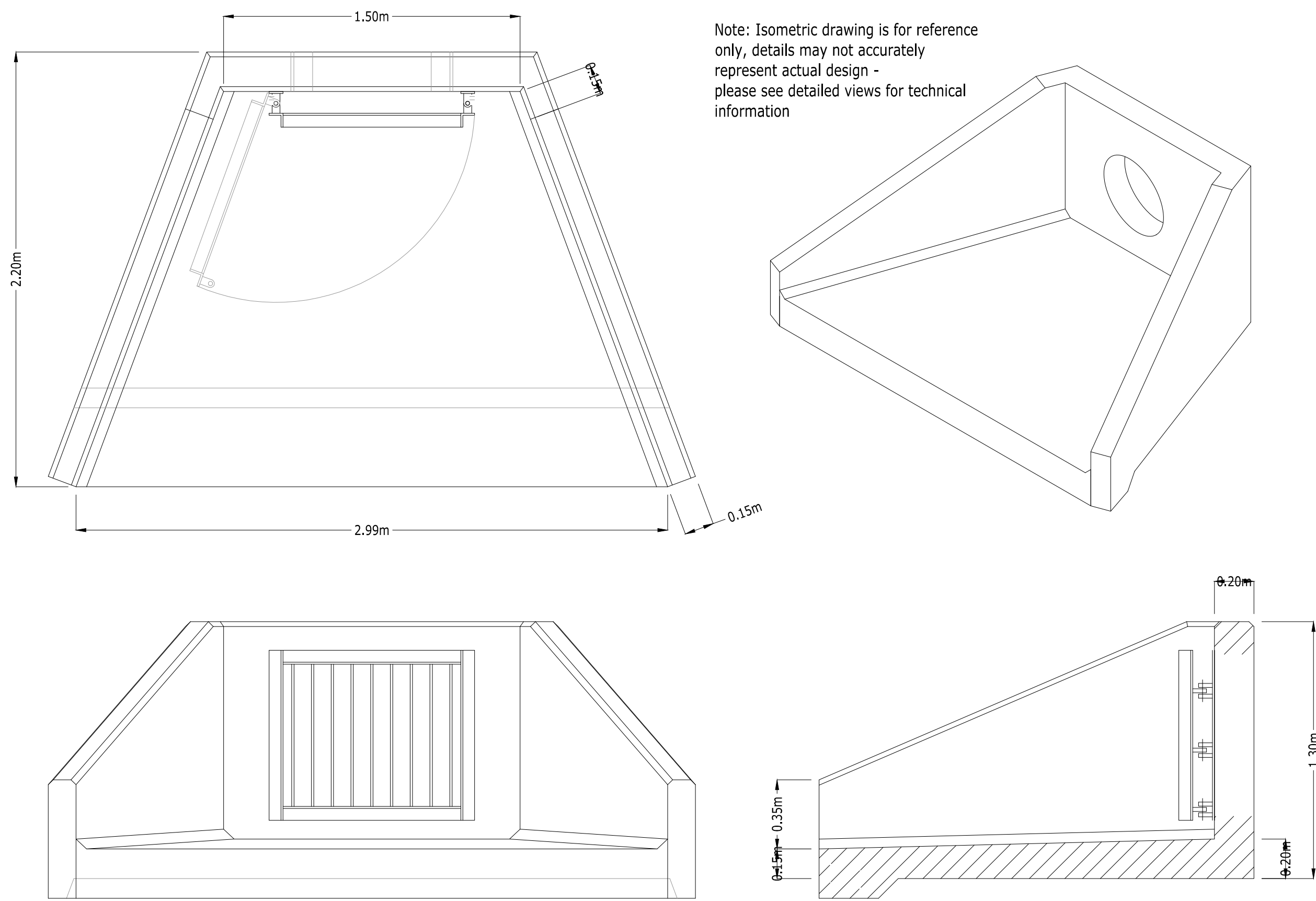
Scale AS SHOWN	Date 02/05/24	Designed by ADS
Drawn by AMC	Checked by AMC	Approved by AD
Drawing Number 2107940-150		Rev A

NOTE
PLEASE REFER TO DRAWING
2107940-032 FOR PLAN VIEW OF ALL
SECTIONS.
FOR OWC HEADWALL DETAILS REFER
TO DRAWING 2107940-033.



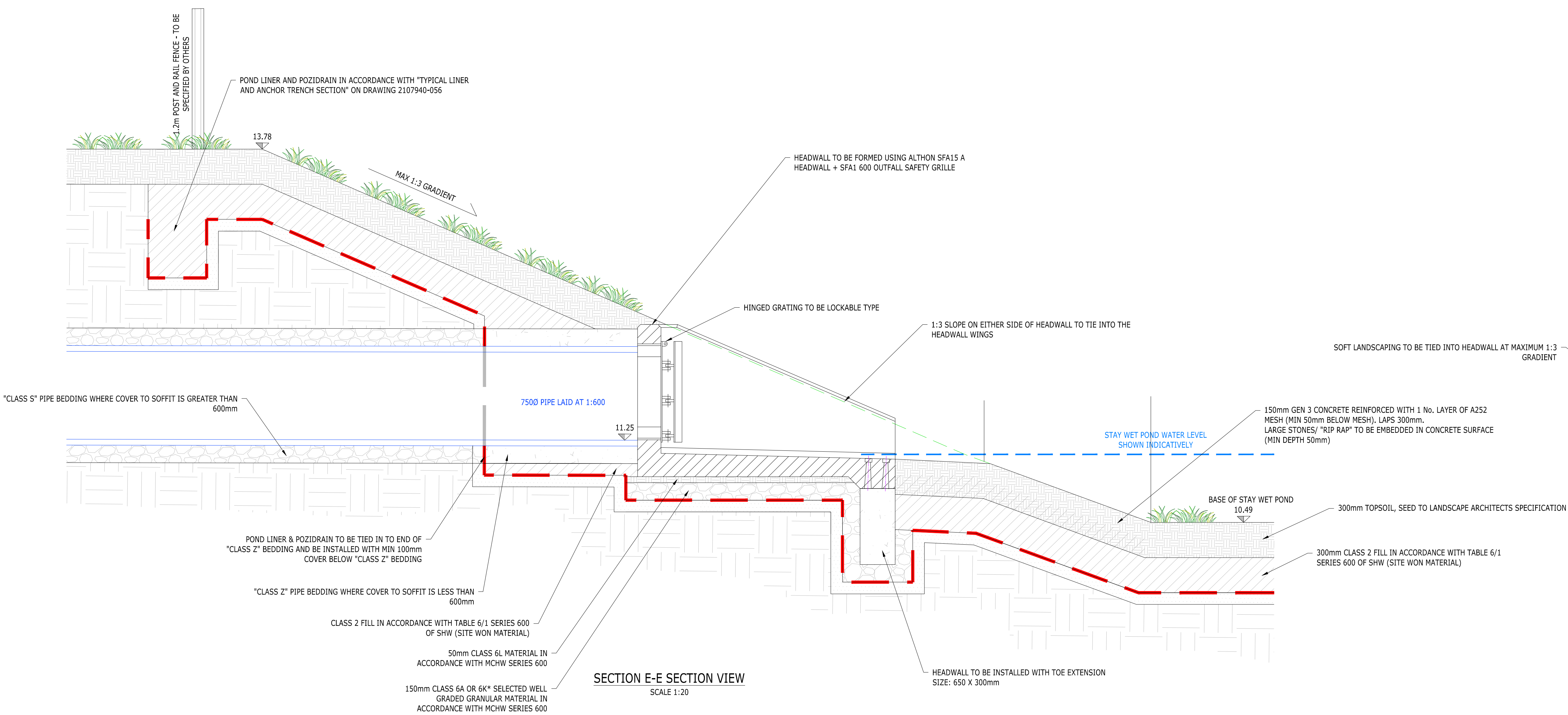
- 1 Ensure that first or last spigot/butt or socket/butt pipe that is to be fitted to the Headwall is in position and free from backfill.
- 2 Dig out the bank of the watercourse to take the size of the headwall making sure that the Headwall will not protrude into the path of the water flow. The angle of the excavation to the rear of the Headwall should be roughly the same as the existing bank profile.
- 3 Dig out sufficient size trench to take the toe along the front of the foundation.
- 4 Line toe foundation with Geotextile then place selected, uniformly graded granular fill in the base and compact well. Lift Toe into position and level then fill around the toe with selected, uniformly graded granular fill and compact well. Insert supplied threaded rod into the sockets cast into the top of the toe.
- 5 Line the base of the rest of excavation with Geotextile then place a minimum bed of 150mm Class 6A or 6K* Selected Well Graded Granular Material on the base & compact well, especially around the back of the toe, then a 50mm topping of fine material (Class 6L*) to ensure units are level and stable. Lift Headwall into position, over the end of the pipe & locate over threaded rod protruding from the toe and level. Place washer over threaded rod (SFA10 8 No) in recess in Headwall apron and tighten nut. Fill recess with high strength non-shrink grout.
- 6 The pipe should be flush with the front of the back wall if fitting grating or flap valve, or protruding by 50mm if not.
- 7 Shim the pipe until it is central within the opening then fill void with sand cement mortar or high strength non-shrink grout.
- 8 If flap valve or grating is supplied, this will need to be removed before the pipe is inserted and sealed into place. Then reinstall using stainless steel fixing bolts into cast in sockets. (When bolting flap valves against headwall, use a good quality sealant but do not over tighten bolts or distortion may occur resulting in the valve not seating correctly.)
- 9 Backfill pipe section first then backfill all around Headwall with as dug material. Make good at front of toe with as dug material ensuring river bank is returned to its original profile. It may be necessary to provide protection in front of the toe, please refer to engineers' recommendation.

*Manual of Contract Documents for Highway Works: Volume 1 (MCHW1), Specification for Highway Works, Series 600 (Nov 09)

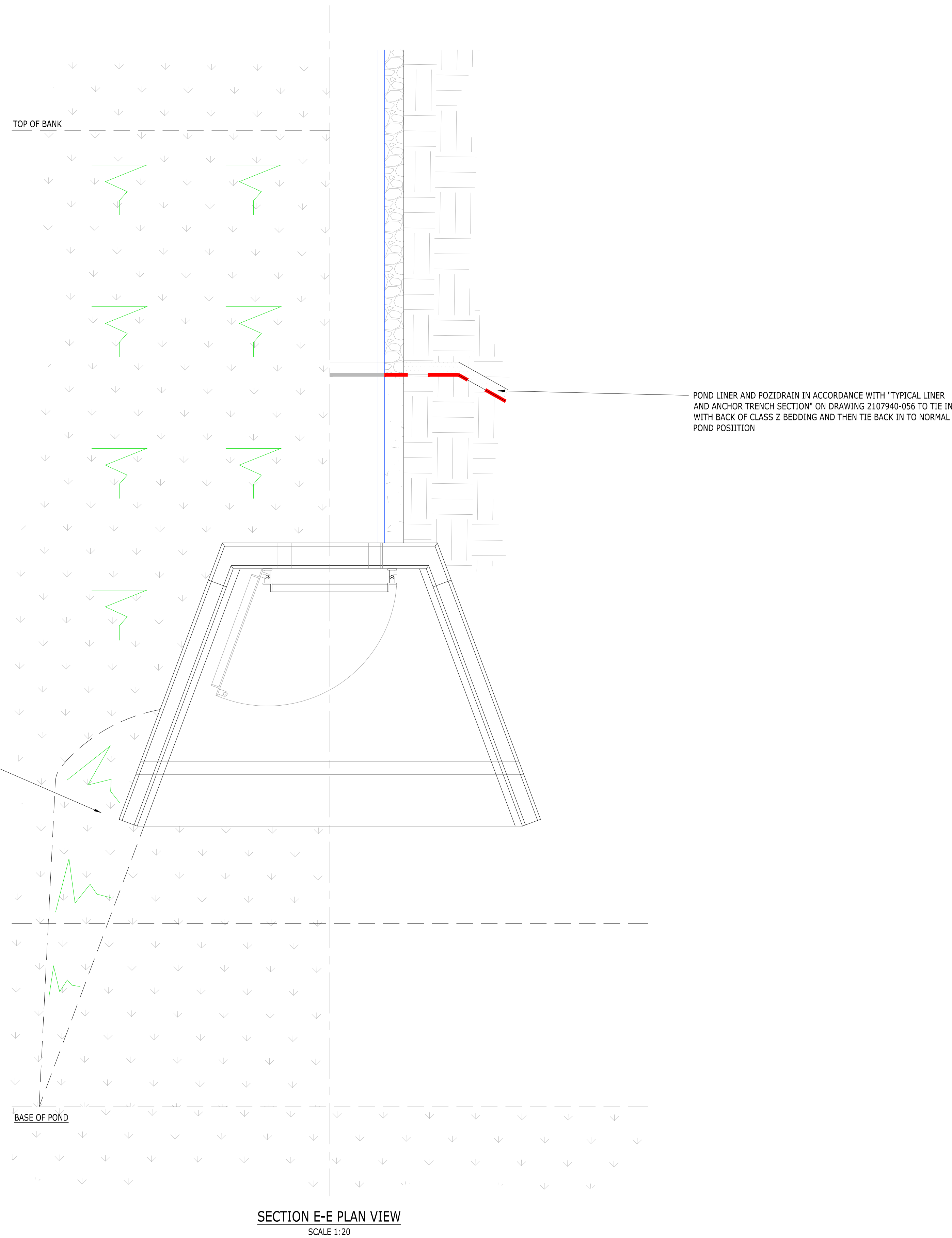


Note: Isometric drawing is for reference only, details may not accurately represent actual design - please see detailed views for technical information

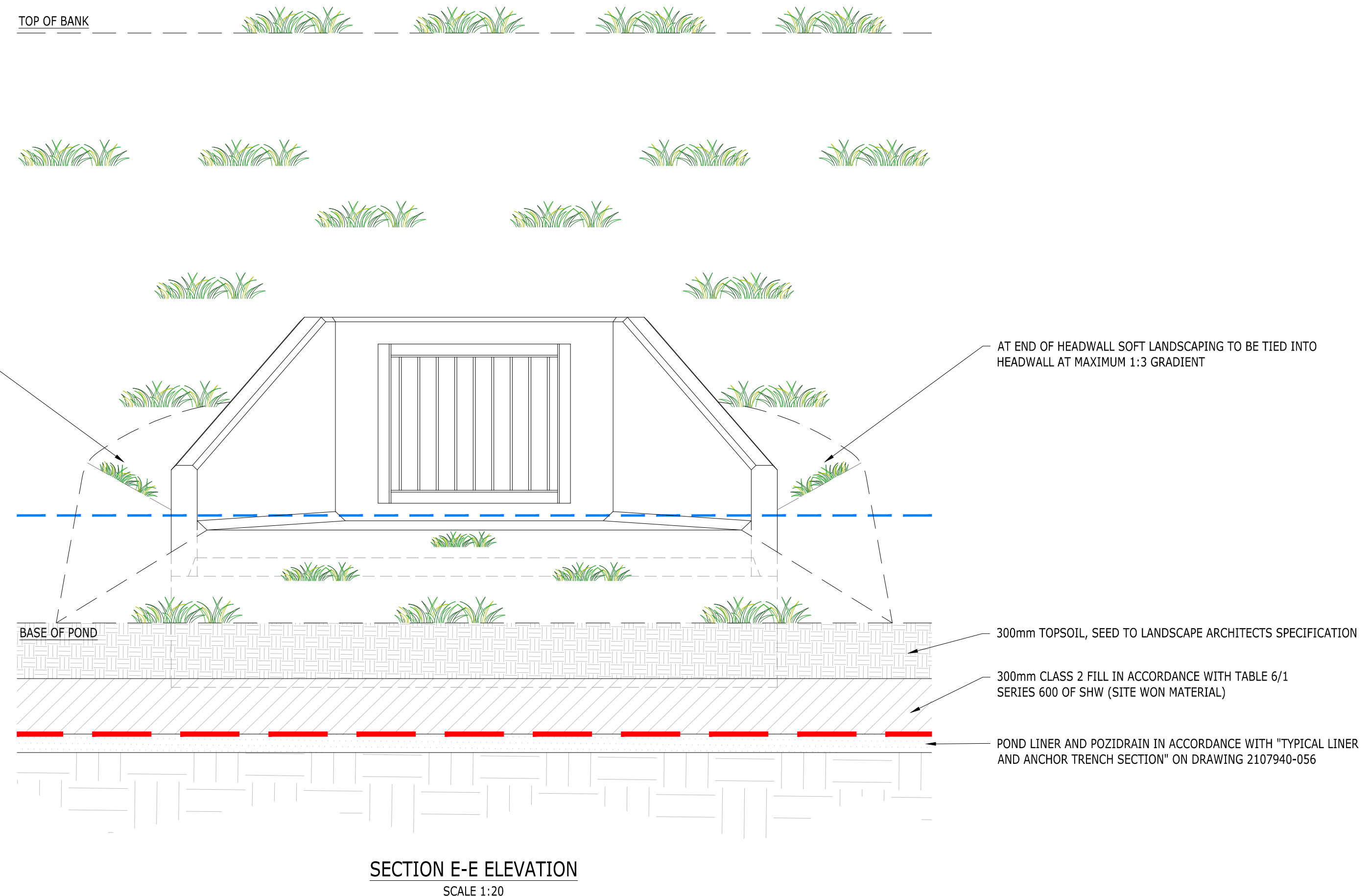
ALTHON SFA15 A HEADWALL + SFA 600 OUTFALL SAFETY GRILL
SCALE 1:20



SECTION E-E SECTION VIEW
SCALE 1:20



SECTION E-E PLAN VIEW
SCALE 1:20



SECTION E-E ELEVATION
SCALE 1:20

APPROVAL

A REFER TO DRAWING 155, REV A NOTES

Rev Description

AMC AMC AD

Drn Chk App Date

ARDENT CONSULTING ENGINEERS

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

Client

ESQUIRE DEVELOPMENTS

Project Title:

ARUNDEL GATE,
FORD ROAD, ARUNDEL

Drawing Title:

HEADWALL SECTIONS - SHEET 2

Scale

AS SHOWN

Date

02/05/24

Designed by

ADS

Drawn by

AMC

Checked by

AMC

Approved by

AD

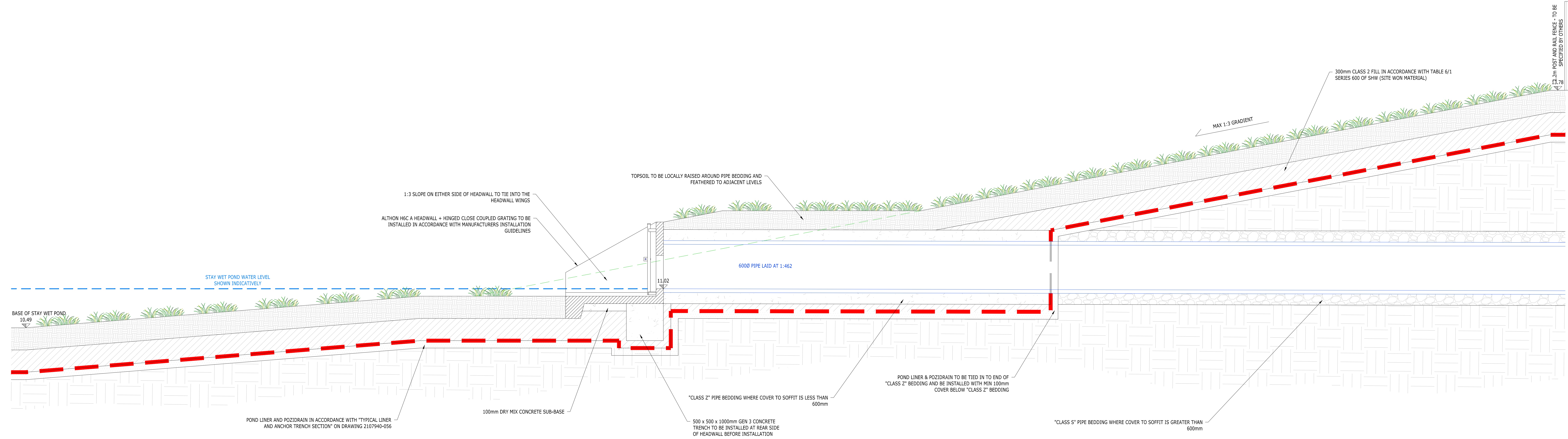
Drawing Number

2107940-151

Rev

A

NOTE
PLEASE REFER TO DRAWING
2107940-032 FOR PLAN VIEW OF ALL
SECTIONS.
FOR OWC HEADWALL DETAILS REFER
TO DRAWING 2107940-033.



SECTION F-F SECTION VIEW
SCALE 1:20

INSTALLATION GUIDE

Once installed correctly the ground pressure of a headwall is low (approximately 7kn/m2) Althon suggest a minimum sub base of 100mm dry mix concrete to give a foundation to sit the headwall onto

1. Ensure that the pipe is fully fitted leaving either the first (or last) section of pipe free from backfill in order to attach to the headwall

2. Dig out the bank of the watercourse to take the size of the headwall making sure that the headwall will not protrude into the path of the water flow

3. Dig out sufficient size trench to take the toe along the front of foundation allowing for sufficient room to manoeuvre the headwall over the end of the pipe

- If an extended toe is to be fitted then increase the depth of the excavation as required
- If very large pipes are being used, it is recommended that a 500mm wide x 500mm deep trench filled with mass concrete is constructed under the back edge of the headwall to cover the possibility of the heavy pipe resting upon the opening within the back wall of the headwall.

4. Lay a minimum (varies with ground conditions) of 100mm thick bed of dry mix concrete as a foundation to rest the headwall on, Althon recommend creating a slight fall of 1:50 from pipe to spill mouth

5. Prior to lifting and positioning the headwall all attachments such as gratings and water control gear should be removed

- If there is a bolt on extended toe fully thread the M16 stainless steel studding into the fixing sockets of the toe and lift this into position first. Once the headwall is installed on top of the toe use washers and nuts to fix the headwall and toe together. Once the nuts have been sufficiently tightened fill the holes with mortar
- Do not exceed a torque setting of 40Nm/m² when tightening bolts.

6. Lift the headwall into position using 3no RD20 threaded lifting eyes, long adjustable chains and suitable machinery. Before carrying out the lifting operation all relevant personnel involved should read the installation and lifting guide in this document and a detailed lift plan and risk assessment should be completed by a competent person

- The 3no RD20 threaded lifting sockets are all located in the base of the headwall
- Placing a shim at the bottom of the pipe will assist with centring it in position
- If attachments such as water control gear or gratings are to be fitted to the headwall - the pipe must be fitted flush with the inside of the back wall

7. When satisfied with positioning backfill in front and under the headwall toe with mass concrete

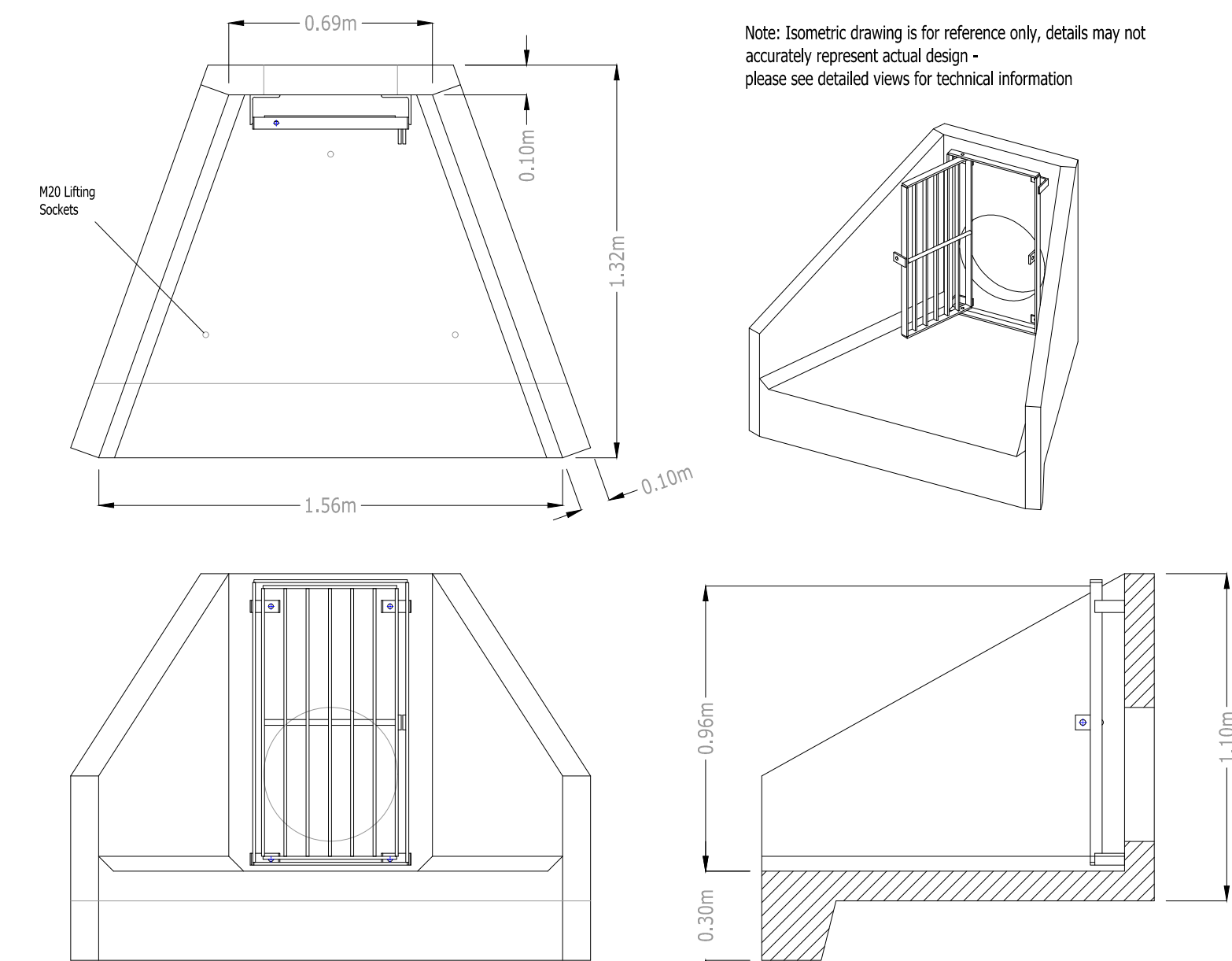
8. Backfill around the pipe with either mass concrete or well-compacted impervious clay. If concrete has been used around the pipe then proceed with soil backfilling to the top level of the structure ensuring good compaction as you go

9. Depending on soil conditions and specific site requirements Althon recommend backfilling around wing walls with well compacted impervious clay

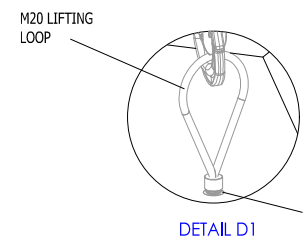
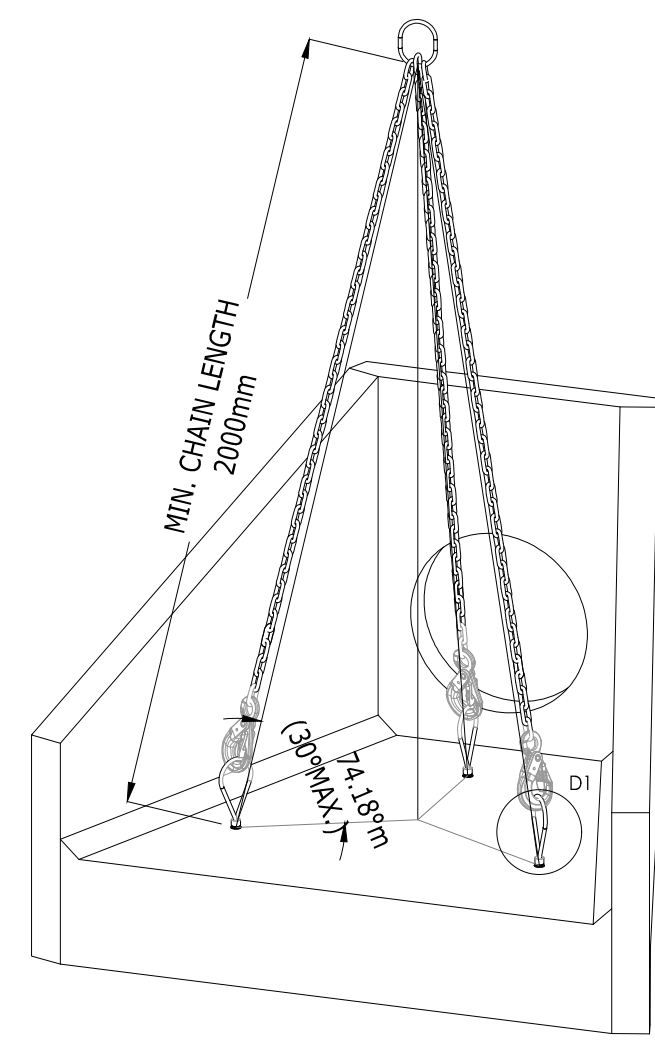
10. Using an appropriate mortar or resin fill in the gap between the pipe and headwall around the opening in the back wall of the headwall

11. For fitting gratings and other fabricated metal components

- Position the grating using appropriate lifting equipment
- Use the correct size and length of stainless steel bolts with washers to fix
- Gratings to the threaded fixing sockets cast into headwalls
 - To prevent bolts binding in threaded fixing sockets copper slip must be applied to the thread of all bolts
- Do not exceed a torque setting of 40Nm/m² when tightening bolts.

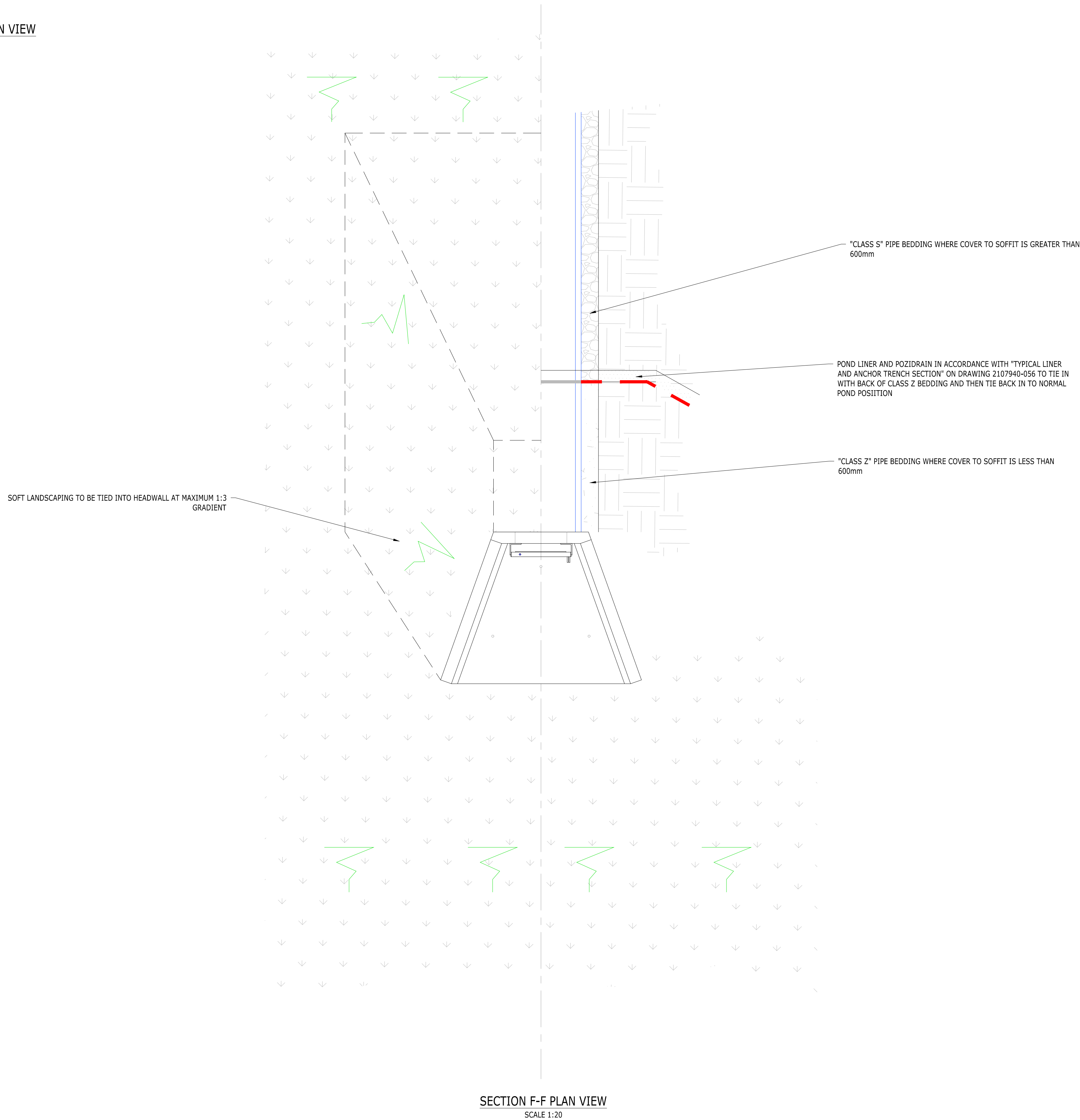


ALTHON H6C A HEADWALL
SCALE 1:20



RD20 Threaded Lifting Loop
Set working load: 2000kg wgt
Not to be used for any other work and use only with a purpose made steel threaded rod. Threaded lifting loops are only used to lift and they must be used in accordance with the lifting plan.

Use and Caution
The threaded lifting loops must be fully threaded into the lifting socket prior to commencing lifting operation. It is imperative that the lifting surface is parallel to the lifting socket.



SECTION F-F PLAN VIEW
SCALE 1:20

APPROVAL

Rev Description Dwn Chk App Date

ARDENT CONSULTING ENGINEERS

Third Floor
The Helixmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

Client

ESQUIRE DEVELOPMENTS

Project Title:

ARUNDEL GATE,
FORD ROAD, ARUNDEL

Drawing Title:

HEADWALL SECTIONS - SHEET 3

Scale Date Designed by

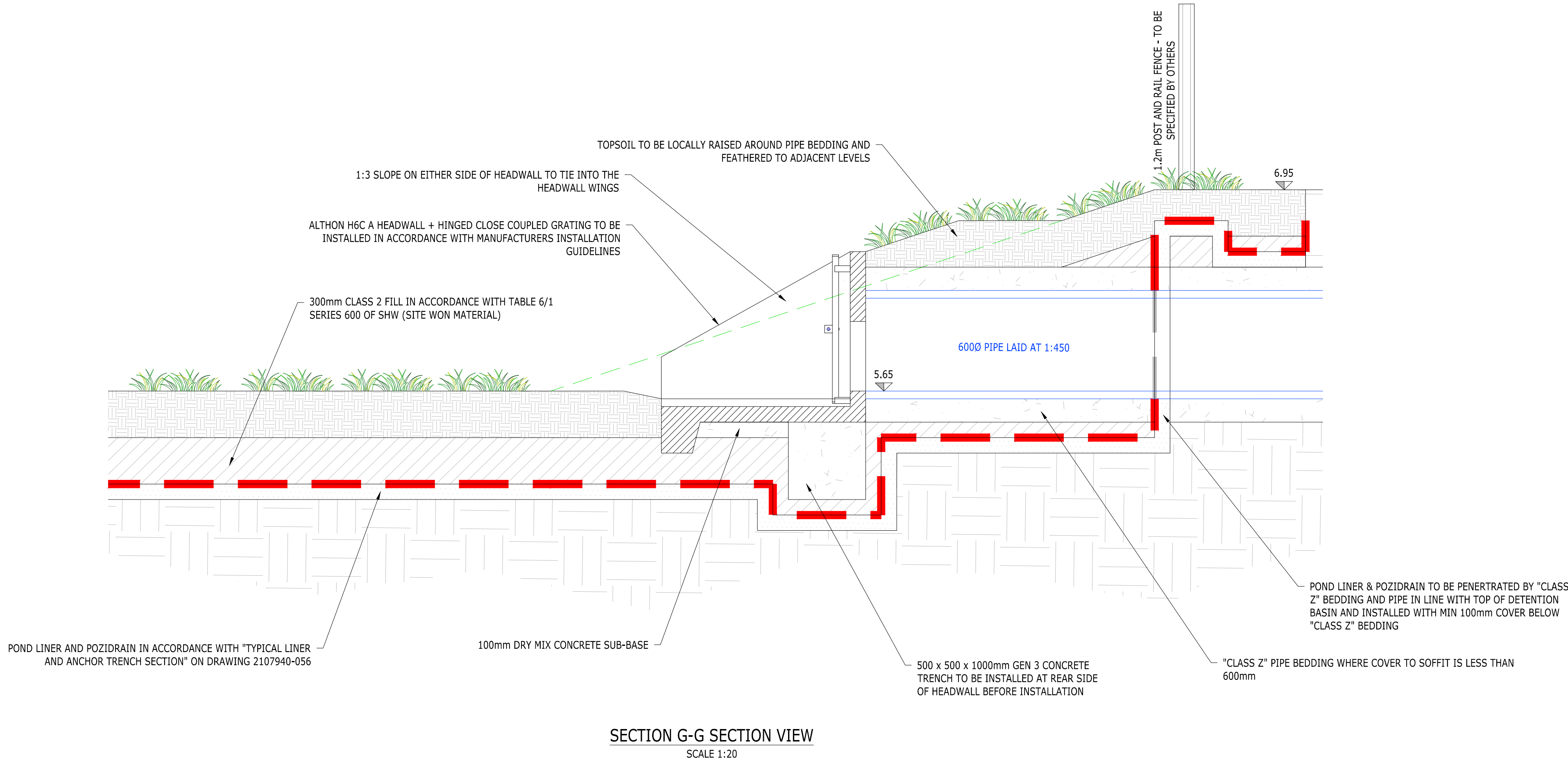
AS SHOWN 08/07/24 AMC

Drawn by Checked by Approved by

AMC AMC AD

Drawing Number 2107940-152 Rev

NOTE
PLEASE REFER TO DRAWING
2107940-032 FOR PLAN VIEW OF ALL
SECTIONS.
FOR OWC HEADWALL DETAILS REFER
TO DRAWING 2107940-033.



INSTALLATION GUIDE

Once installed correctly the ground pressure of a headwall is low (approximately 7kn/m2) Althon suggest a minimum sub base of 100mm dry mix concrete to give a foundation to sit the headwall onto

1. Ensure that the pipe is fully fitted leaving either the first (or last) section of pipe free from backfill in order to attach to the headwall

2. Dig out the bank of the watercourse to take the size of the headwall making sure that the headwall will not protrude into the path of the water flow

3. Dig out sufficient size trench to take the toe along the front of foundation allowing for sufficient room to manoeuvre the headwall over the end of the pipe

- If an extended toe is to be fitted then increase the depth of the excavation as required
- If very large pipes are being used, it is recommended that a 500mm wide x 500mm deep trench filled with mass concrete is constructed under the back edge of the headwall to cover the possibility of the heavy pipe resting upon the opening within the back wall of the headwall.

4. Lay a minimum (varies with ground conditions) of 100mm thick bed of dry mix concrete as a foundation to rest the headwall on. Althon recommend creating a slight fall of 1:50 from pipe to spill mouth

5. Prior to lifting and positioning the headwall all attachments such as gratings and water control gear should be removed

- If there is a bolt on extended toe fully thread the M16 stainless steel studding into the fixing sockets of the toe and lift this into position first. Once the headwall is installed on top of the toe use washers and nuts to fix the headwall and toe together. Once the nuts have been sufficiently tightened fill the holes with mortar
- Do not exceed a torque setting of 40Nm² when tightening bolts.

6. Lift the headwall into position using 3no RD20 threaded lifting eyes, long adjustable chains and suitable machinery. Before carrying out the lifting operation all relevant personnel involved should read the installation and lifting guide in this document and a detailed lift plan and risk assessment should be completed by a competent person

- The 3no RD20 threaded lifting sockets are all located in the base of the headwall
- Placing a shim at the bottom of the pipe will assist with centring it in position
- If attachments such as water control gear or gratings are to be fitted to the headwall – the pipe must be fitted flush with the inside of the back wall

7. When satisfied with positioning backfill in front and under the headwall toe with mass concrete

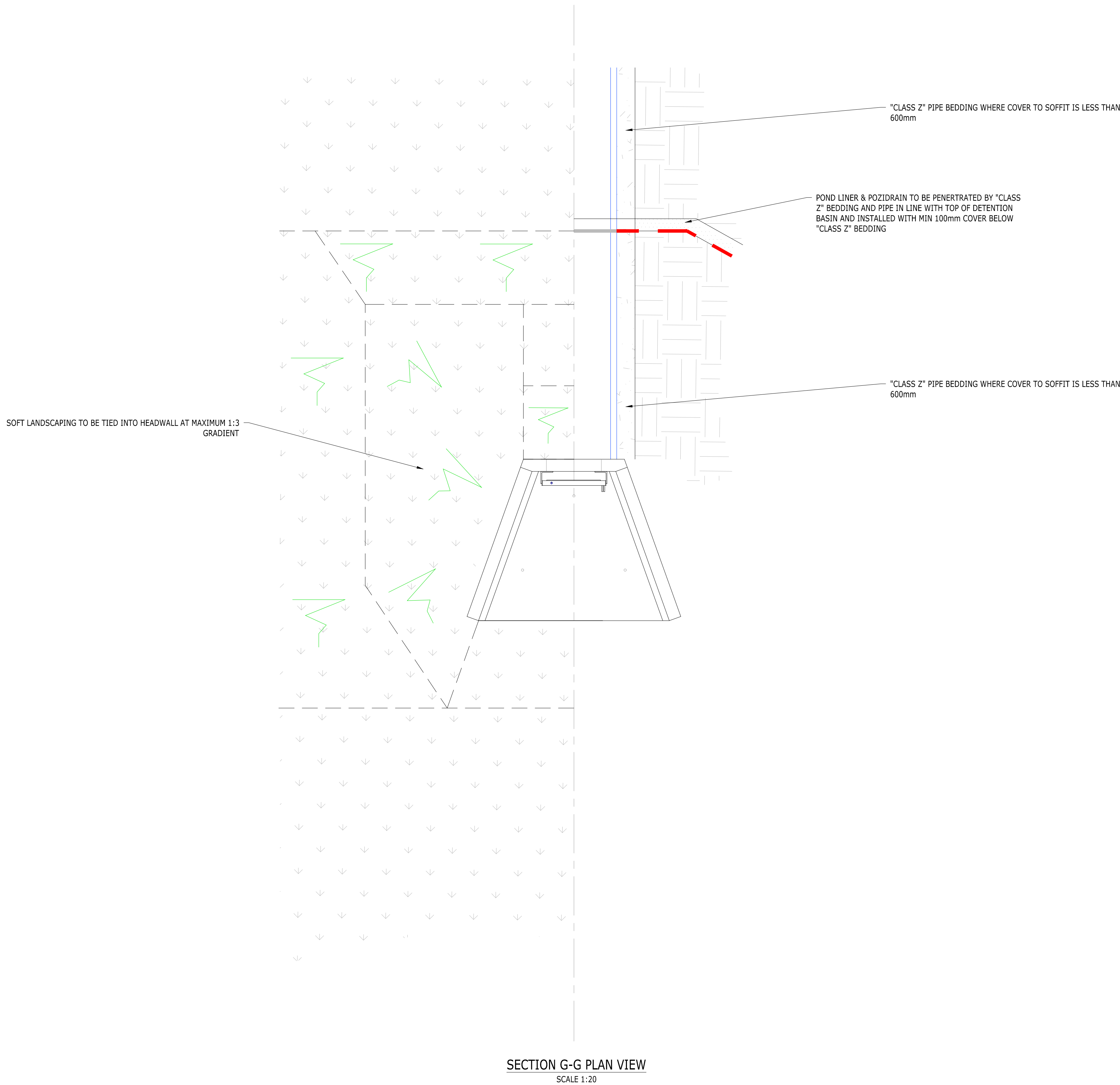
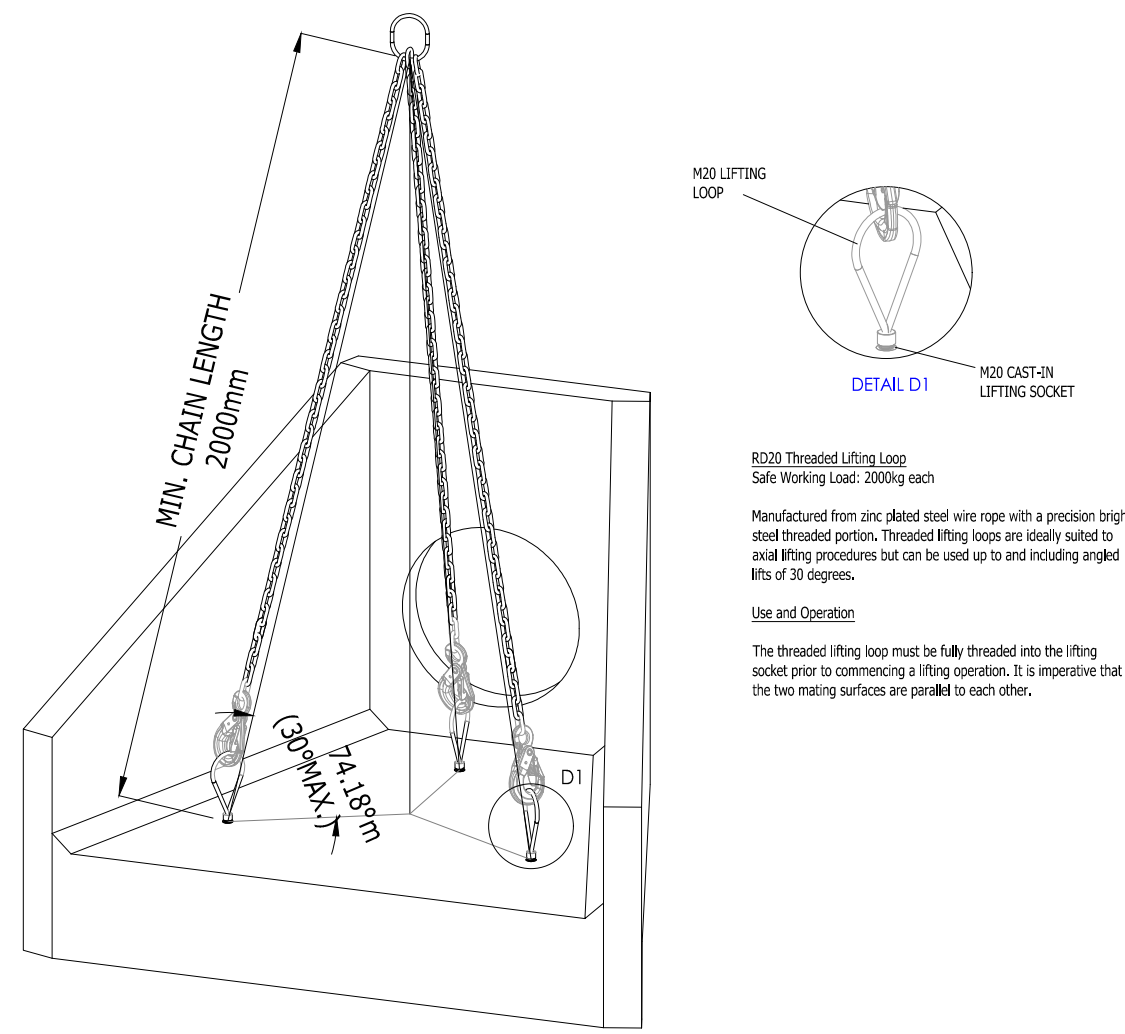
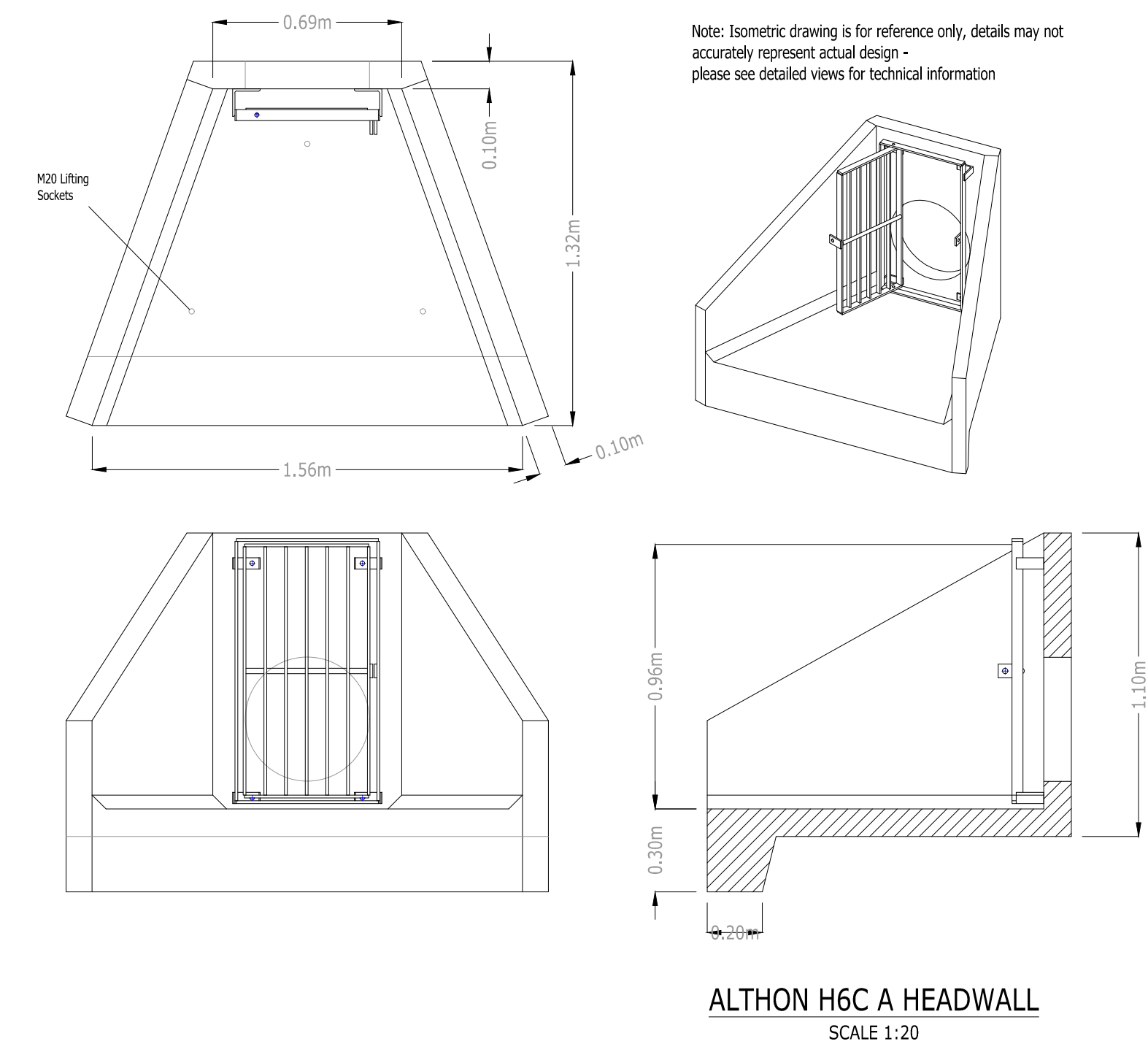
8. Backfill around the pipe with either mass concrete or well-compacted impervious clay. If concrete has been used around the pipe then proceed with soil backfilling to the top level of the structure ensuring good compaction as you go

9. Depending on soil conditions and specific site requirements Althon recommend backfilling around wing walls with well compacted impervious clay

10. Using an appropriate mortar or resin fill in the gap between the pipe and headwall around the opening in the back wall of the headwall

11. For fitting gratings and other fabricated metal components

- Position the grating using appropriate lifting equipment
- Use the correct size and length of stainless steel bolts with washers to fix
- Gratings to the threaded fixing sockets cast into headwalls
- To prevent bolts binding in threaded fixing sockets copper slip must be applied to the thread of all bolts
- Do not exceed a torque setting of 40Nm² when tightening bolts.



APPROVAL

Rev Description Dwn Chk App Date

ARDENT CONSULTING ENGINEERS

Third Floor
The Halkmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

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consultant
www.worksafe.co.uk

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Client

ESQUIRE DEVELOPMENTS

Project Title:

ARUNDEL GATE,
FORD ROAD, ARUNDEL

Drawing Title:

HEADWALL SECTIONS - SHEET 4

Scale

AS SHOWN

Date

08/07/24

Designed by

AMC

Drawn by

AMC

Checked by

AMC

Approved by

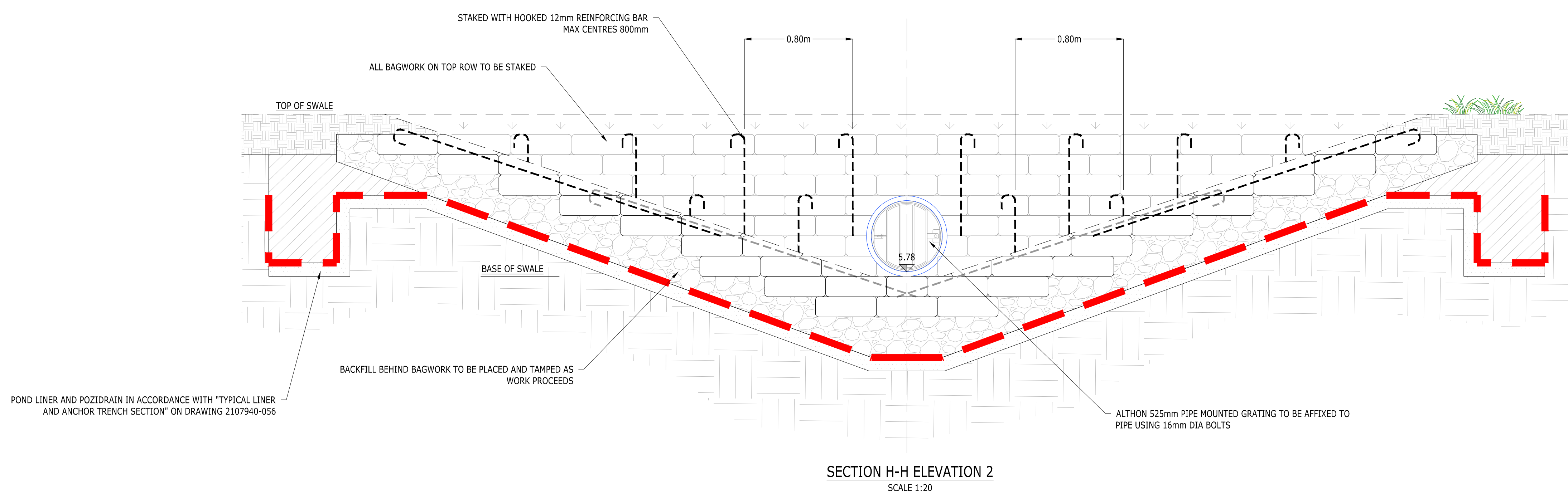
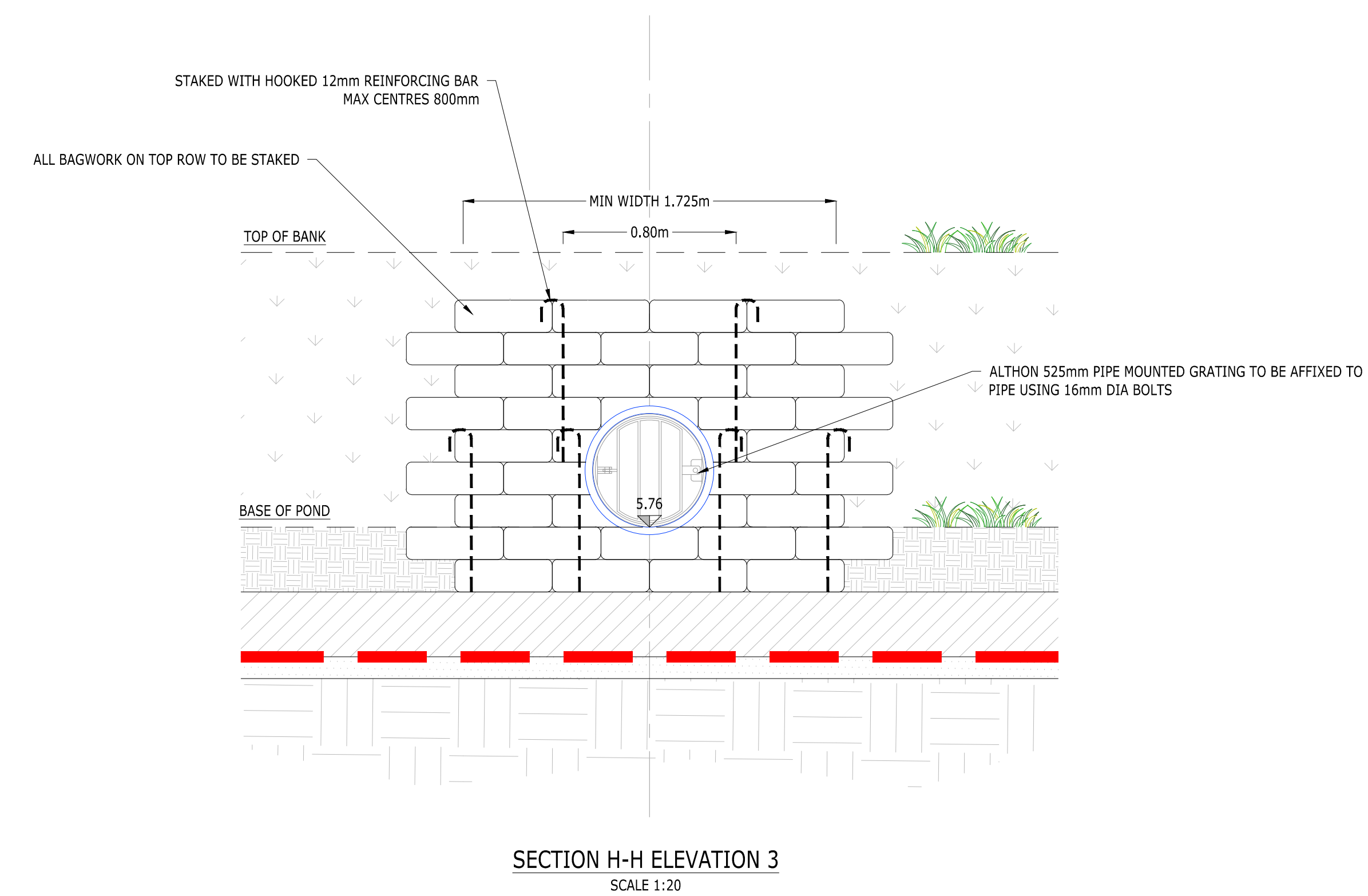
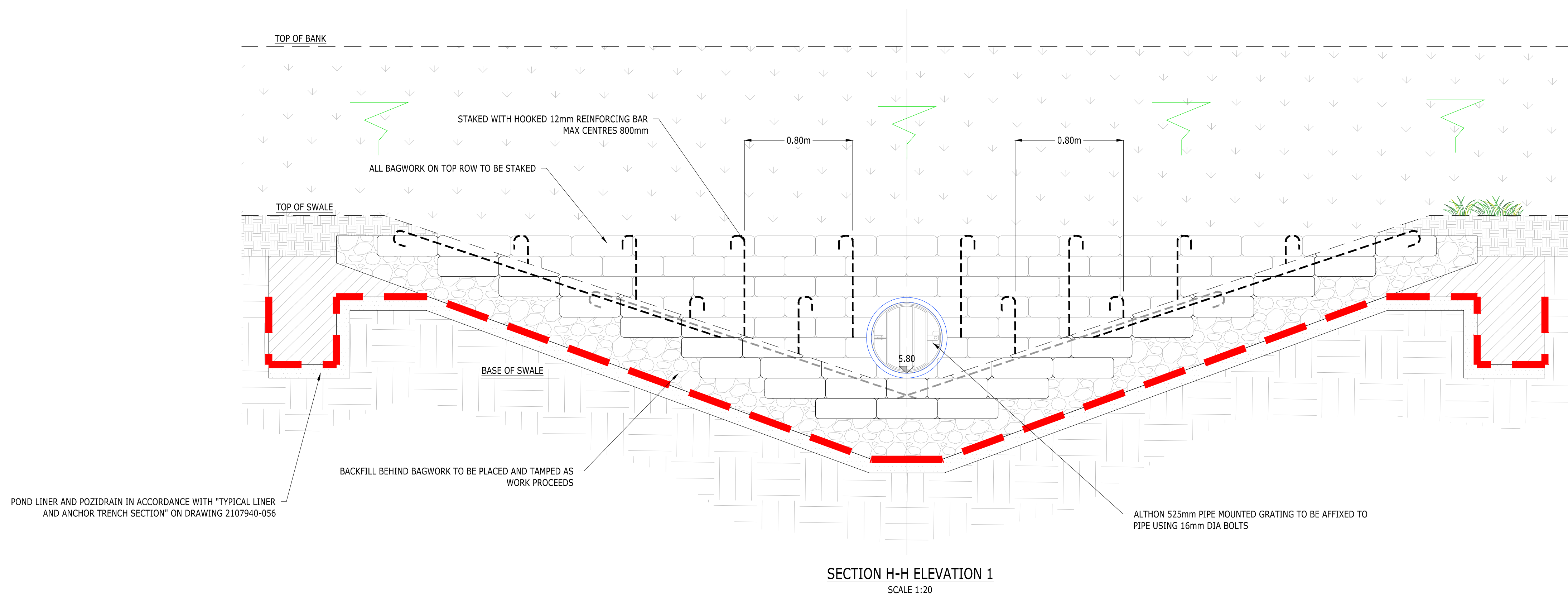
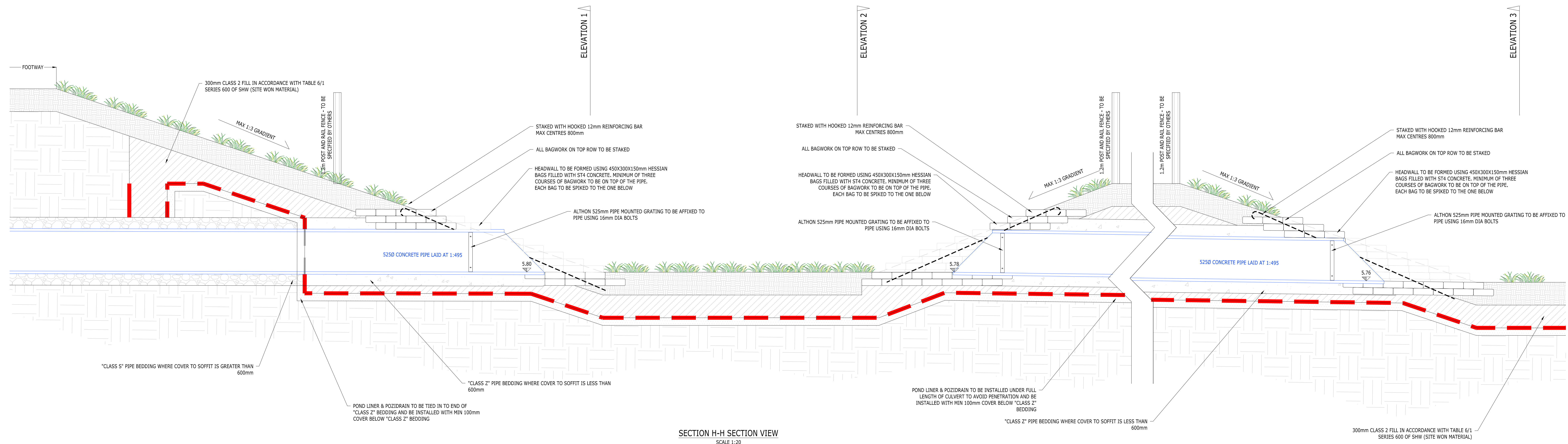
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Drawing Number

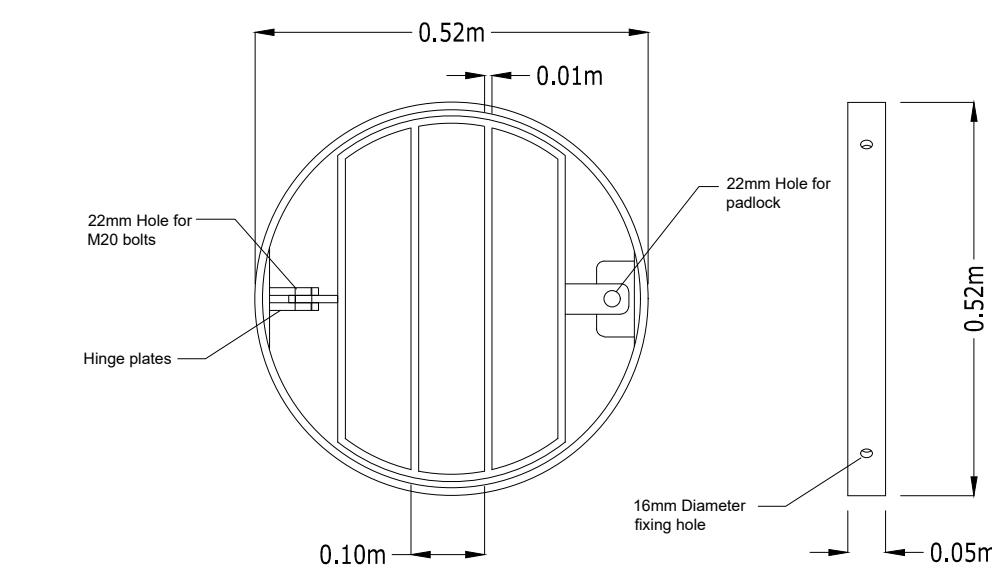
2107940-153

Rev

NOTE
PLEASE REFER TO DRAWING
2107940-032 FOR PLAN VIEW OF ALL
SECTIONS.
FOR OWC HEADWALL DETAILS REFER
TO DRAWING 2107940-033.



- NOTES**
1. BAGS SHALL BE OF HESSIAN AND SHALL BE OF A SIZE TO PROVIDE A WALL THICKNESS OF 500MM
 2. CONCRETE BACKFILL SHALL BE TO CLASS 15/20 AND BE THREE QUARTS FILLED WITH 25MM SLUMP ST4 CONCRETE IMMEDIATELY PRIOR TO PLACING WITH ENDS SEW.
 3. THE BAGS SHALL BE PLACED IN A MODIFIED FLEMISH BOND SO AS TO BREAK JOINT 'WITH THE MOUTHS AWAY FROM THE SURFACE AND BE TAPPED INTO POSITION TO FORM A RECTANGULAR BLOCK
 4. EXTENT OF OUTLET PROTECTION TO BE THE GREATER OF 1500mm OR PIPE DIAMETER + 1200mm SPANNING THE OUTLET PIPE.
 5. DITCH TO BE REGRADED AS REQUESTED.
 6. ALL EXPOSED PIPEWORK TO BE CERTIFIED UV STABLE.
 7. ALL BAGS ON TOP ROWS TO BE LINE SPREAD.
 8. NO PART OF HEADWALL STRUCTURE TO ENCRoACH INTO THE PROFILE OF THE WATERCOURSE.



ALTHON 525mm PIPE MOUNTED GRATING
SCALE 1:10

APPROVAL

Rev	Description	Drn	Chk	App	Date
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Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

Client

ESQUIRE DEVELOPMENTS

Project Title:

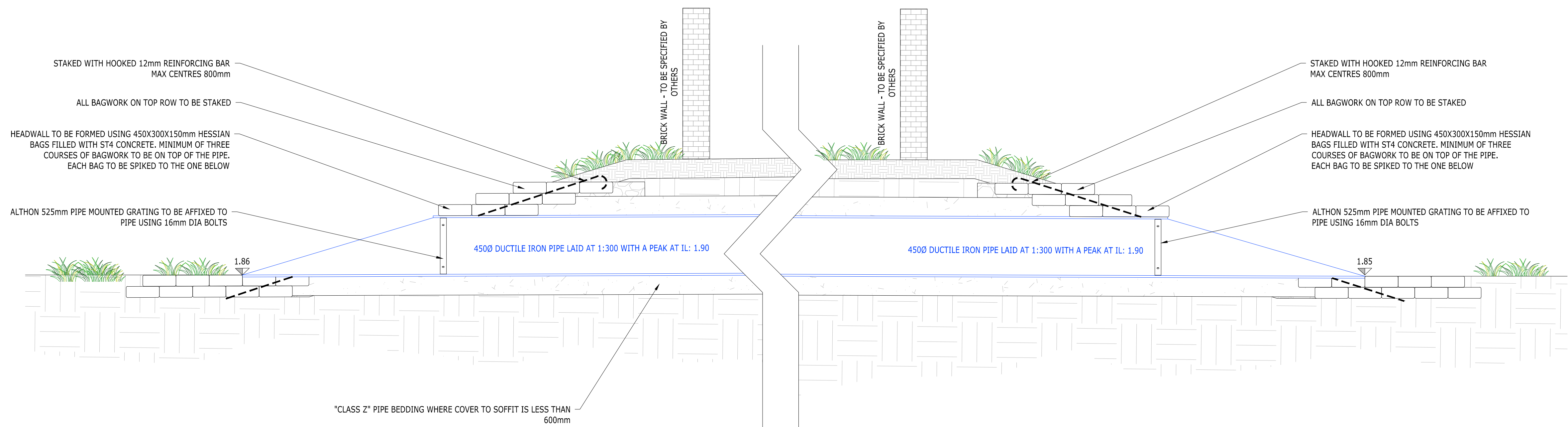
ARUNDEL GATE,
FORD ROAD, ARUNDEL

Drawing Title:

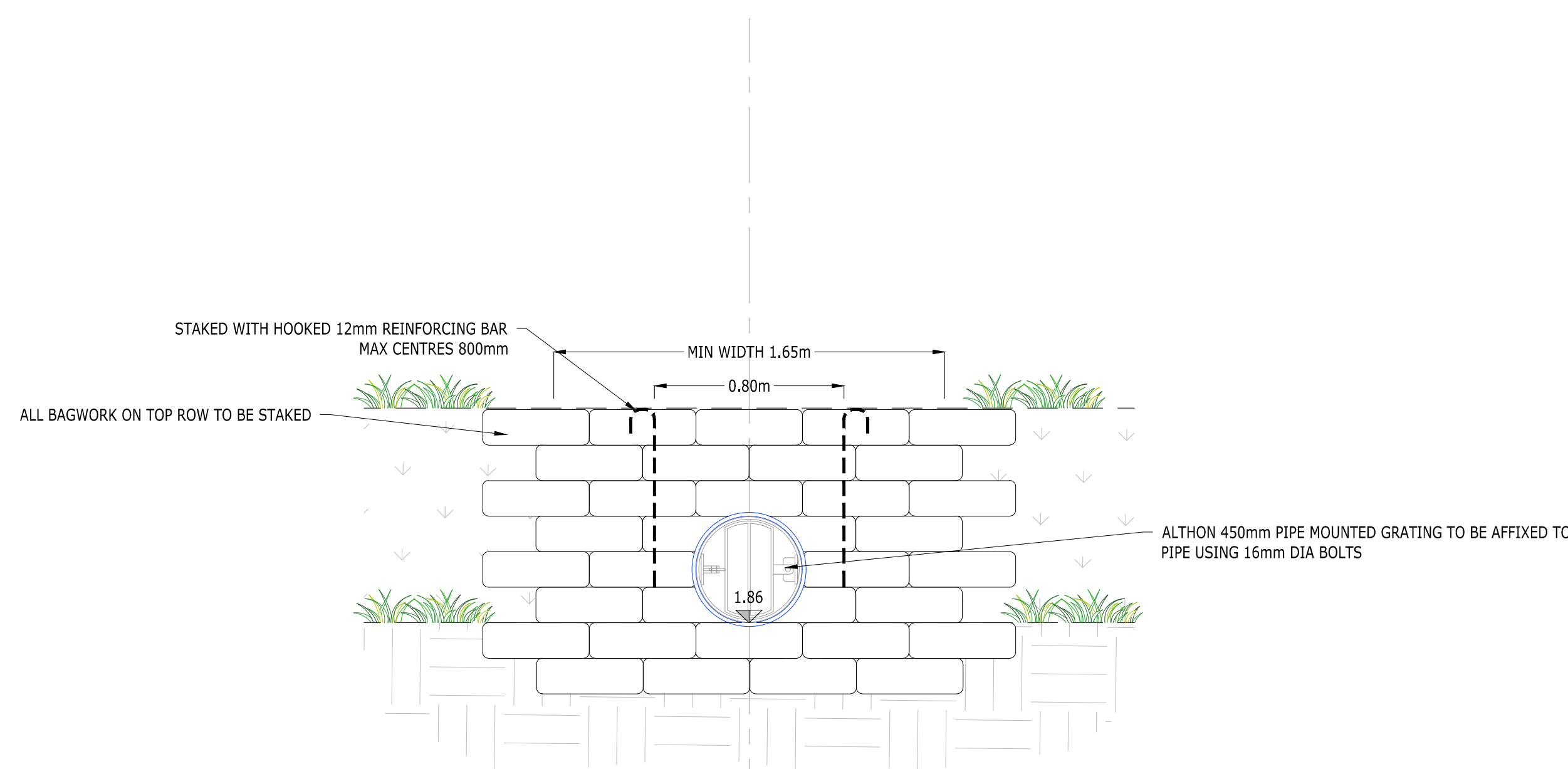
HEADWALL SECTIONS - SHEET 5

Scale AS SHOWN	Date 08/07/24	Designed by AMC
Drawn by AMC	Checked by AMC	Approved by AD
Drawing Number 2107940-154		Rev -

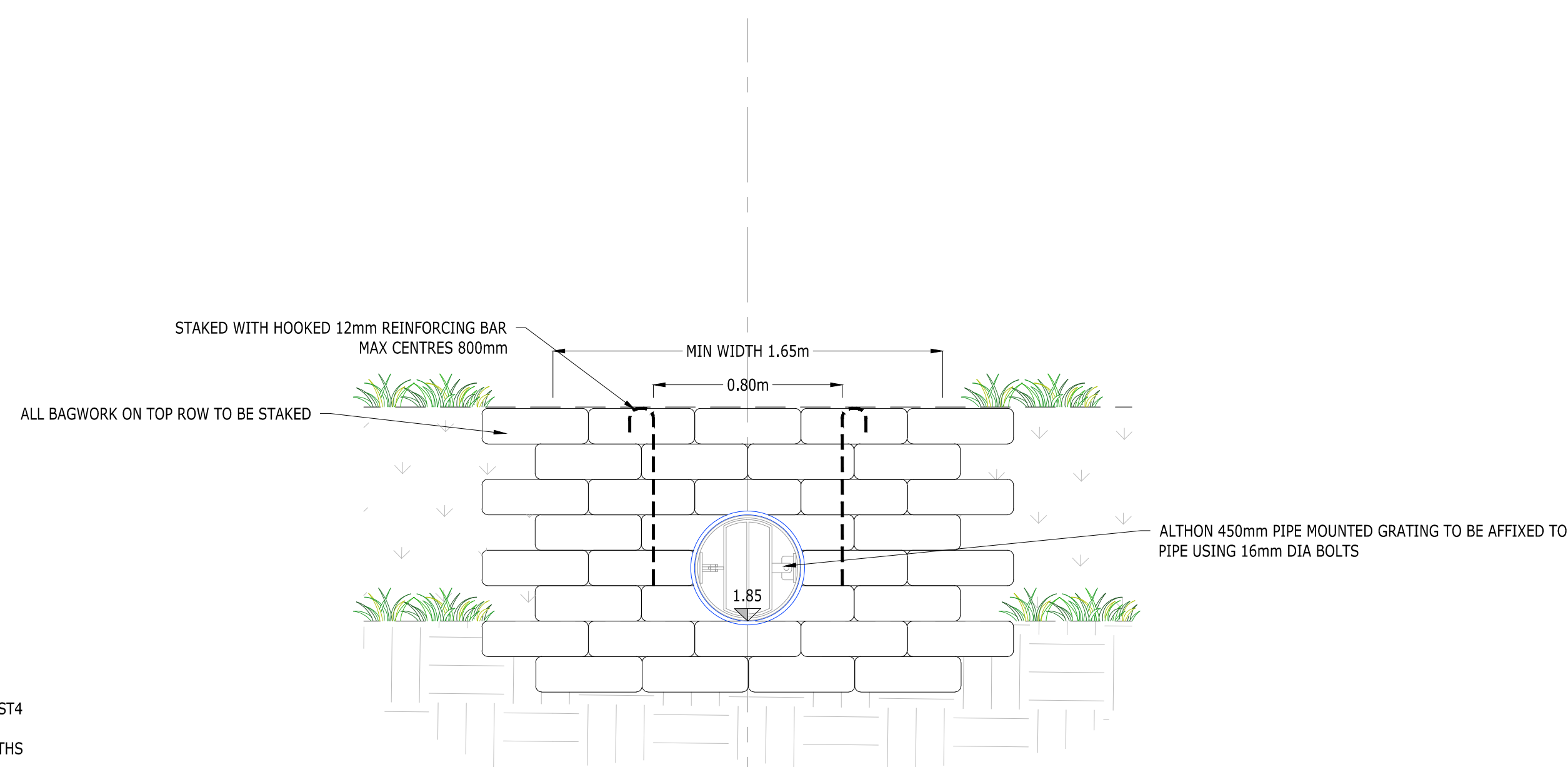
NOTE
PLEASE REFER TO DRAWING
2107940-032 FOR PLAN VIEW OF ALL
SECTIONS.
FOR OWC HEADWALL DETAILS REFER
TO DRAWING 2107940-033.



SECTION ACCESS ROAD CULVERT - SECTION VIEW

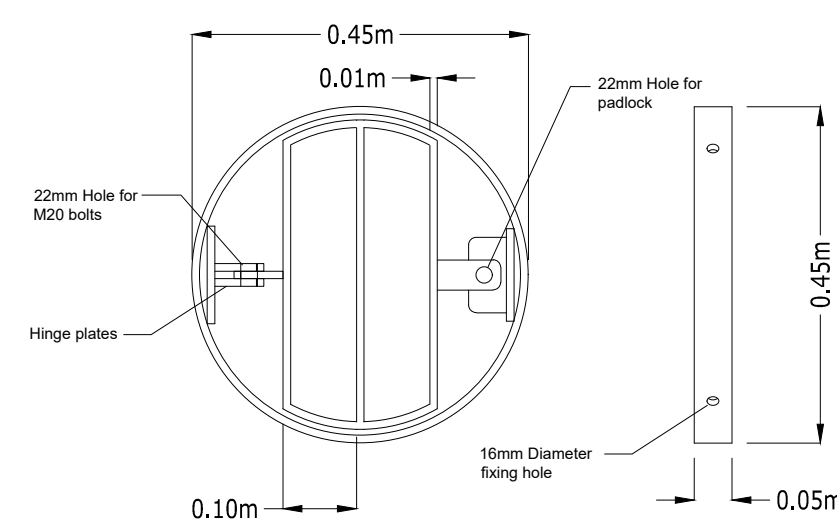


SECTION ACCESS ROAD CULVERT ELEVATION
SCALE 1:20



SECTION ACCESS ROAD CULVERT ELEVATION
SCALE 1:20

- NOTES
1. BAGS SHALL BE OF HESSTON AND SHALL BE OF A SIZE TO PROVIDE A WALL THICKNESS OF 500MM
 2. CONCRETE BAGWORK SHALL BE TO CLAUSE 519 AND BE THREE QUARTER FILLED WITH 25MM SLUMP ST14
 3. CONCRETE BAGWORK IMMEDIATELY PRIOR TO PLACING WITH ENDS SEW.
 4. THE BAGS SHALL BE PLACED IN A MODIFIED FLEMISH BOND SO AS TO 'BREAK' JOINT WITH THE MOUTHS
 5. 150MM FROM THE SURFACE AND BE SPACED TO POSITION TO FORM A RECTANGULAR BAG
 6. EXTENT OF OUTLET PROTECTION TO BE THE GREATER OF 1500mm OR PIPE DIAMETER + 1200mm
 7. SPANNING THE OUTLET PIPE.
 8. DITCH TO BE REGRADED AS REQUESTED.
 9. ALL EXPOSED PIPEWORK TO BE CERTIFIED UV STABLE.
 10. ALL BAGS ON TOP OF ROOF TO BE STEEL SPIKED.
 11. NO PART OF HEADWALL STRUCTURE TO ENCRUCH INTO THE PROFILE OF THE WATERCOURSE.



ALTHON 450mm PIPE MOUNTED GRATING
SCALE 1:10

APPROVAL

Rev	Description	Dwg	Chk	App	Date
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ARDENT

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

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Client

ESQUIRE DEVELOPMENTS

Project Title:

ARUNDEL GATE,
FORD ROAD, ARUNDEL

Drawing Title

HEADWALL SECTIONS - SHEET 6

Scale AS SHOWN	Date 08/07/24	Designed by AMC
Drawn by AMC	Checked by AMC	Approved by AD
Drawing Number 2107940-155		Rev -

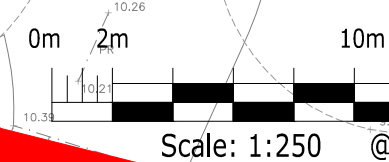
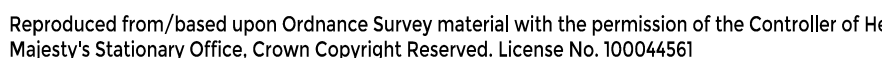
LAND AT FORD ROAD, ARUNDEL

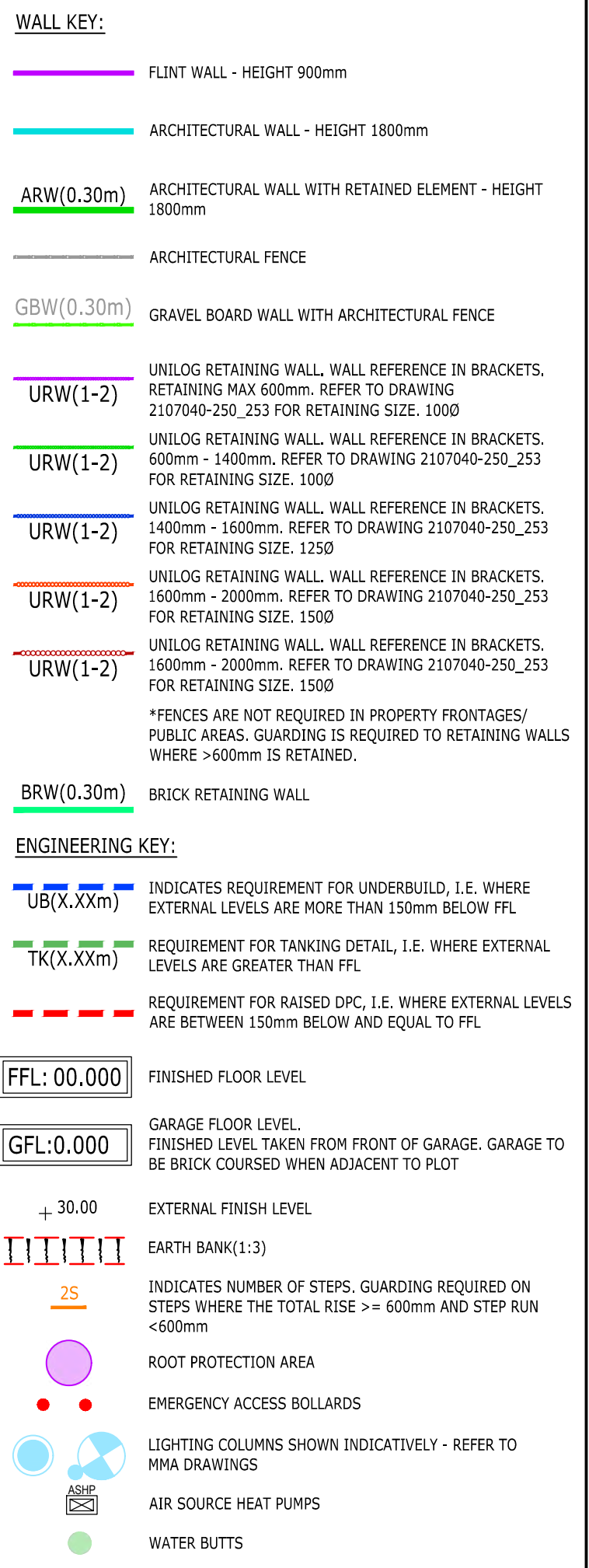
SuDS VERIFICATION REPORT



Appendix C – ACE Construction Drawings



[illegible]



LEGEND NOTES

FENCE TYPES

FOR FENCE TYPES, REFER TO ARCHITECT'S EXTERNAL WORKS DRAWING. WHERE VEHICULAR LOADING OCCURS ON HIGHER SIDE OF A FENCE (EVEN < 150mm) CONCRETE POSTS AND GRAVEL BOARDS MUST BE USED - NOT TIMBER.

UNILOG RETAINING WALLS

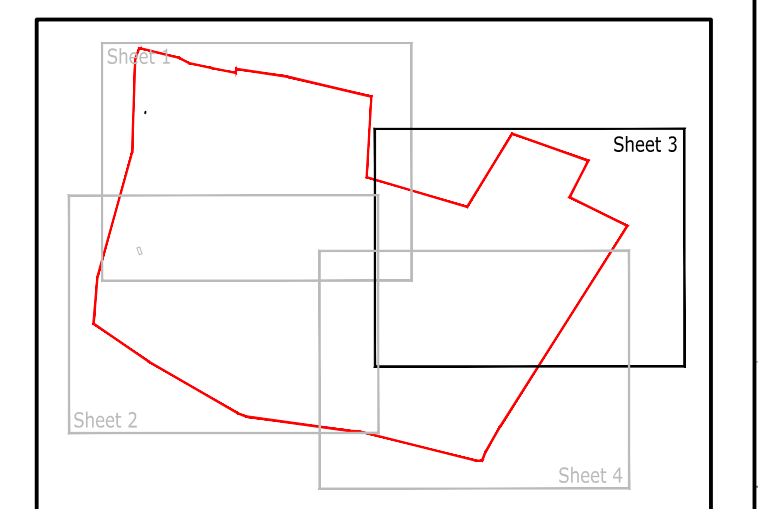
NOT SUITABLE WHERE VEHICULAR LOADING OCCURS ON THE HIGH SIDE OF THE RETAINING WALL.

- ## NOTES
1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION AND ALL OTHER RELATED DRAWINGS
 2. DESIGN IS FOR PLANNING PURPOSES ONLY AND NOT SUITABLE FOR CONSTRUCTION.
 3. DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
 4. ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METRES, UNLESS OTHERWISE STATED.
 5. ALL WORKS OUTSIDE RED SITE BOUNDARY ARE FOR INFORMATION PURPOSES ONLY. UNLESS SPECIFICALLY NOTED, ALL WORKS OUTSIDE THE SITE BOUNDARY WILL BE UNDERTAKEN BY OTHERS UNDER A SEPARATE CONTRACT.

CDM NOTES

THE ATTENTION OF THE CLIENT, PRINCIPAL DESIGNER, PRINCIPAL CONTRACTOR, DESIGNERS AND CONTRACTORS IS DRAWN TO THE FOLLOWING POTENTIAL RISKS IN CONJUNCTION WITH THE PROPOSED ON-SITE AND OFF-SITE WORKS AS DESIGNED FOR THIS PROJECT:

1. THE WORKS IN THE VICINITY OF LIVE SERVICES INCLUDING GAS, ELECTRICITY AND BT WILL BE NECESSARY AND THE ADVICE OF ALL STATUTORY SERVICE COMPANIES MUST BE SOUGHT BEFORE ANY WORKS COMMENCE.
2. WORKS WITHIN AND ABOUT THE EXISTING HIGHWAY WILL ENTAIL TRAFFIC HAZARDS AND ALL APPROPRIATE SAFETY MEASURES INCLUDING SIGNAGE AND LIGHTING MUST BE UNDERTAKEN TO THE APPROVAL OF THE LOCAL AUTHORITY, THE HIGHWAY AUTHORITY AND THE POLICE DEPARTMENT.
3. HAZARDOUS MATERIALS INCLUDING CEMENT AND BITUMINOUS MATERIALS ARE SPECIFIED AND THE MANUFACTURERS ADVICE ON SAFE HANDLING PROCEDURES MUST BE OBTAINED AND MADE CLEAR TO ALL OPERATIVES.
4. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING ALL EXISTING SERVICES WITHIN THE VICINITY OF THE WORKS HAND DUG AND ENSURE THESE ARE PROTECTED THROUGHOUT THE DURATION OF THE WORKS. ALL UTILITY PLANT SHOULD BE CLEARLY MARKED ON THE GROUND PRIOR TO COMMENCEMENT OF THE WORKS.
5. THE CONTRACTOR MUST ENSURE ALL WORKING AREAS ARE FULLY SECURED.



KEYPLAN		CONSTRUCTION ISSUE			
M	LIGHTED ROAD T JUNCTION AND LEVELS, UPGRADE EASES TO COMPLY WITH A2 ROAD RULES (ON ROADS 1, 2, 3, 21, 37, 40, 45, 48, 50, 54, 56, 59, 60, 68, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100)	AMC	AMC	DM	18-04-24
L	LIGHTED SITE LAYOUT BASED ON REVISED L11 CRUISE TIRE, ROPS 18, 22, 44, 81 & 88, REVIEW OF GRADING LEVELS BEFORE ELEVATING TOWARDS ROPS	AMC	AMC	DM	18-04-24
K	EXTRA STOP LEVELS ADDED	IN	AMC	AD	09-02-24
3	UPDATED RETAINING WALL POSITIONS	AMC	AMC	AD	05-02-24
L	LAYOUT UPDATE	AMC	AMC	AD	10-01-24
H	LAYOUT UPDATE	AMC	AMC	AD	07-01-24
G	CONSTRUCTION ISSUE	AMC	AMC	AD	28-03-23
F	UPDATED LAYOUT BASED ON CLIENT COMMENTS	AMC	AMC	AD	06-06-23
E	UPDATED PLANT WALL POSITIONS	AMC	AMC	AD	14-03-23
D	DESIGNER ISSUE	AMC	AMC	AD	10-03-23
Rev		DM	CHN	APP	DATE

ARDENT

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Teli: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

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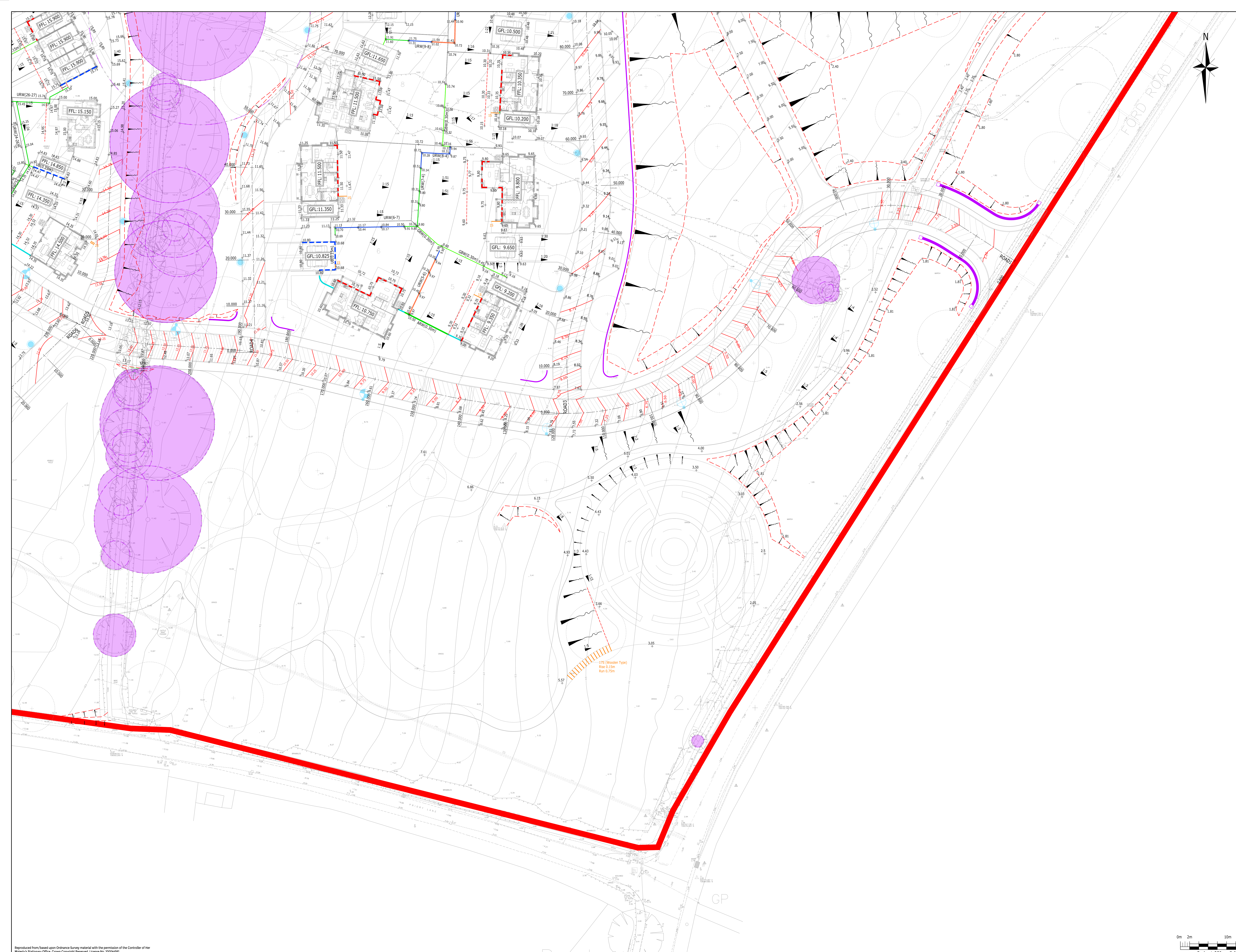


UKAS
Quality Management
Certificate



UKAS
Structural Engineering
Certificate

Client			
ESQUIRE DEVELOPMENTS			
Project Title			
LAND AT FORD ROAD, ARUNDEL			
Drawing Title			
ENGINEERING LAYOUT - SHEET 3			
AO Scale	1:250	Date	18-11-22
Designed by	AMC	Checked by	AMC
Drawn by	AMC	Approved by	AD
Drawing Number	2107940-037		Rev M



WALL KEY:

- FLINT WALL - HEIGHT 900mm
- ARCHITECTURAL WALL - HEIGHT 1800mm
- ARCHITECTURAL FENCE

ARW(0.30m) ARCHITECTURAL WALL WITH RETAINED ELEMENT - HEIGHT 1800mm

GBW(0.30m) GRAVEL BOARD WALL WITH ARCHITECTURAL FENCE

URW(1-2) UNILOG RETAINING WALL. WALL REFERENCE IN BRACKETS. RETAINING MAX 600mm. REFER TO DRAWING 2107940-250_253 FOR RETAINING SIZE. 1000

URW(1-2) UNILOG RETAINING WALL. WALL REFERENCE IN BRACKETS. 600mm - 1400mm. REFER TO DRAWING 2107940-250_253 FOR RETAINING SIZE. 1200

URW(1-2) UNILOG RETAINING WALL. WALL REFERENCE IN BRACKETS. 1400mm - 1800mm. REFER TO DRAWING 2107940-250_253 FOR RETAINING SIZE. 1500

URW(1-2) UNILOG RETAINING WALL. WALL REFERENCE IN BRACKETS. 1800mm - 2000mm. REFER TO DRAWING 2107940-250_253 FOR RETAINING SIZE. 1500

URW(1-2) UNILOG RETAINING WALL. WALL REFERENCE IN BRACKETS. 2000mm - 2500mm. REFER TO DRAWING 2107940-250_253 FOR RETAINING SIZE. 1500

*FENCES ARE NOT REQUIRED IN PROPERTY FRONTAGES/ PUBLIC AREAS. GUARDING IS REQUIRED TO RETAINING WALLS WHERE >600mm IS RETAINED.

BRW(0.30m) BRICK RETAINING WALL

ENGINEERING KEY:

- UB(X,X,m) INDICATES REQUIREMENT FOR UNDERBUILD, I.E. WHERE EXTERNAL LEVELS ARE MORE THAN 150mm BELOW FFL.
- TR(X,X,m) REQUIREMENT FOR TANKING DETAIL, I.E. WHERE EXTERNAL LEVELS ARE GREATER THAN FFL.
- REQUIREMENT FOR RAISED DPC, I.E. WHERE EXTERNAL LEVELS ARE BETWEEN 150mm BELOW AND EQUAL TO FFL.

FFL: 00.000 FINISHED FLOOR LEVEL

GFL: 0.000 GARAGE FLOOR LEVEL. FINISHED LEVEL TAKEN FROM FRONT OF GARAGE. GARAGE TO BE BRICK COURSED WHEN ADJACENT TO PLOT.

+ 30.00 EXTERNAL FINISH LEVEL

EARTH BANK(1:3)

25 INDICATES NUMBER OF STEPS. GUARDING REQUIRED ON STEPS WHERE THE TOTAL RISE >= 600mm AND STEP RUN <600mm

ROOT PROTECTION AREA

EMERGENCY ACCESS ROLLARDS

LIGHTING COLUMNS SHOWN INDICATIVELY - REFER TO HMA DRAWINGS

AIR SOURCE HEAT PUMPS

WATER BUTTS

LEGEND NOTES

FENCE TYPES

FOR FENCE TYPES, REFER TO ARCHITECT'S EXTERNAL WORKS DRAWING, WHERE VEHICULAR LOADING OCCURS ON HIGHER SIDE OF A FENCE (EVEN <150mm) CONCRETE POSTS AND GRAVEL BOARDS MUST BE USED - NOT TIMBER.

UNILOG RETAINING WALLS

NOT SUITABLE WHERE VEHICULAR LOADING OCCURS ON THE HIGH SIDE OF THE RETAINING WALL.

NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION AND ALL OTHER RELATED DRAWINGS.
- DESIGN IS FOR PLANNING PURPOSES ONLY AND NOT SUITABLE FOR CONSTRUCTION.
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CDM NOTES

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- WORKS WITHIN AND ADJUTING THE EXISTING HIGHWAY WILL entail TRAFFIC HAZARDS AND ALL APPROPRIATE SAFETY MEASURES INCLUDING BARRIERS, SIGNS AND LIGHTING MUST BE UNDERTAKEN TO THE APPROVAL OF THE LOCAL AUTHORITY, THE HIGHWAY AUTHORITY AND THE POLICE DEPARTMENT.
- HAZARDOUS MATERIALS INCLUDING CEMENT AND BITUMINOUS MATERIALS ARE SPECIFIED AND THE MANUFACTURERS ADVICE ON SAFE HANDLING PROCEDURES MUST BE OBTAINED AND MADE CLEAR TO ALL OPERATIVES.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING ALL EXISTING SERVICES WITHIN THE VICINITY OF THE WORKS HAND OUG AND INSURE THESE ARE PROTECTED THROUGHOUT THE DURATION OF THE WORKS. ALL UTILITY PLANT SHOULD BE CLEARLY MARKED ON THE GROUND PRIOR TO COMMENCEMENT OF THE WORKS.
- THE CONTRACTOR MUST ENSURE ALL WORKING AREAS ARE FULLY SECURE.

KEYPLAN

CONSTRUCTION ISSUE

Rev	Description	Drn	Chk	App	Date
M	LOCATED ROAD 7 ALIGNMENT AND LEVELS. UPDATED LEVELS TO COMPLY WITH AD PLOT AND PLOTS 1-14, 27-31, 37-40, 41, 46, 50, 54-56, 59-60, 60-72, 82-84 & 89-90.	AMC	AMC	DM	18-04-24
L	UPDATED SITE LAYOUT BASED ON REVISED LLY PLOT THE PLOTS 18, 20, 21, 44, 45, 48, 50, 54-56, 59-60, 60-72, 82-84 & 89-90.	AMC	AMC	DM	18-03-24
K	UPDATED RETAINING WALL POSITIONS MOVED PLOT 76 IN RETAINING WALL LOCATION	AMC	AMC	AD	06-02-24
J	UPDATE DMLA UNITS 15, 24, 36, 47, 51, 60, 67, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	AMC	AMC	AD	05-01-24
I	LAYOUT UPDATE	AMC	AMC	AD	03-01-23
H	LAYOUT UPDATE	AMC	AMC	AD	07-09-23
G	CONSTRUCTION ISSUE	AMC	AMC	AD	26-07-23
F	UPDATED WALLS BASED ON CLIENT COMMENTS	AMC	AMC	AD	14-09-23
E	UPDATED FLINT WALL POSITIONS	AMC	AMC	AD	06-06-23
D	TENDER ISSUE	AMC	AMC	AD	30-05-23

ARDENT CONSULTING ENGINEERS

Third Floor
The Hallmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Tel: 020 7680 4088
Web: www.ardent-ce.co.uk
E-mail: enquiries@ardent-ce.co.uk

SSIP

WORKSAFE CONSULTANT

Client

ESQUIRE DEVELOPMENTS

Project Title:

LAND AT FORD ROAD, ARUNDEL

Drawing Title:

ENGINEERING LAYOUT - SHEET 4

AD Scale	Date	Designed by
1:250	18-11-22	AMC

Drawn by	Checked by	Approved by
AMC	AMC	AD

Drawing Number 2107940-038

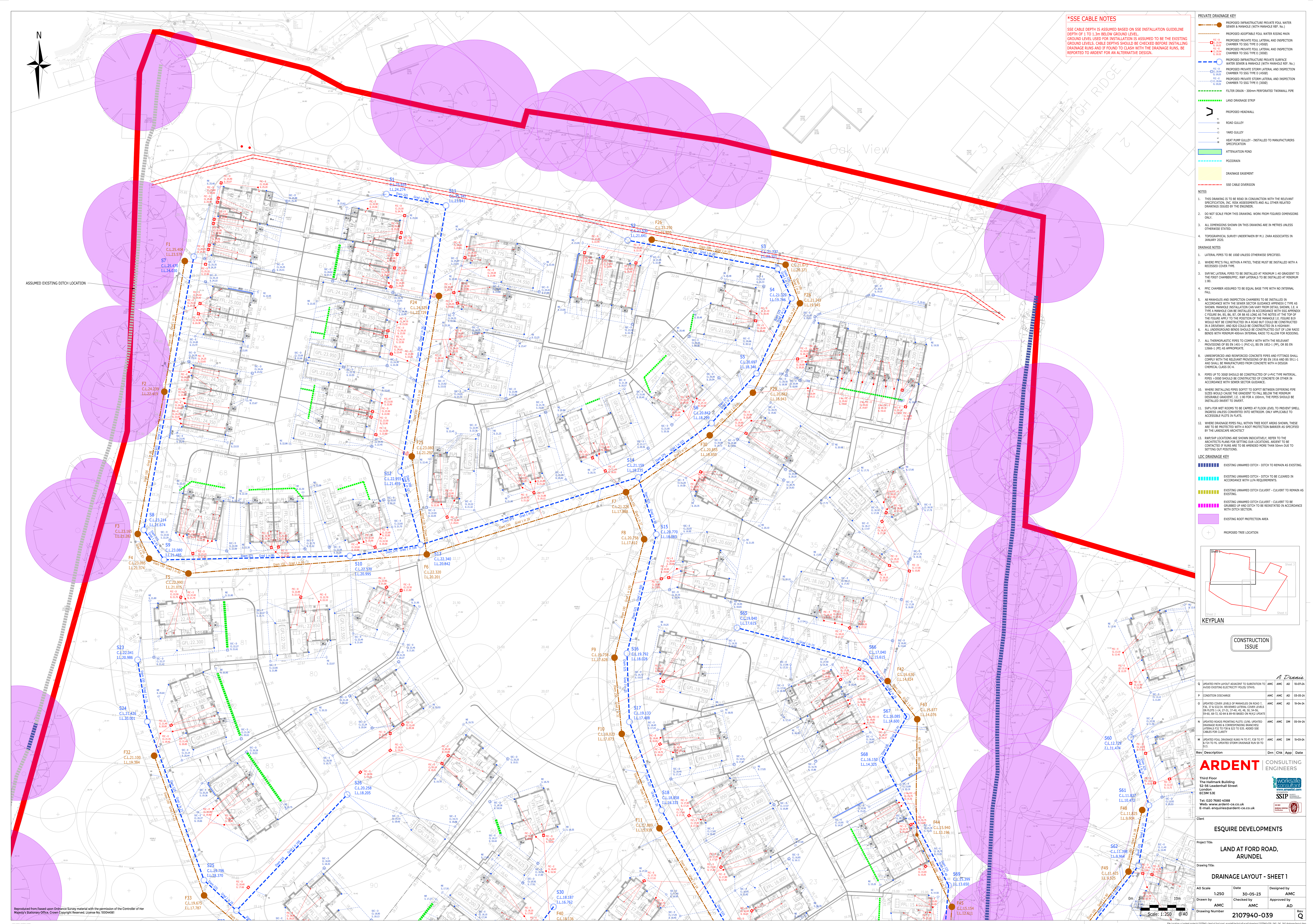
Rev M

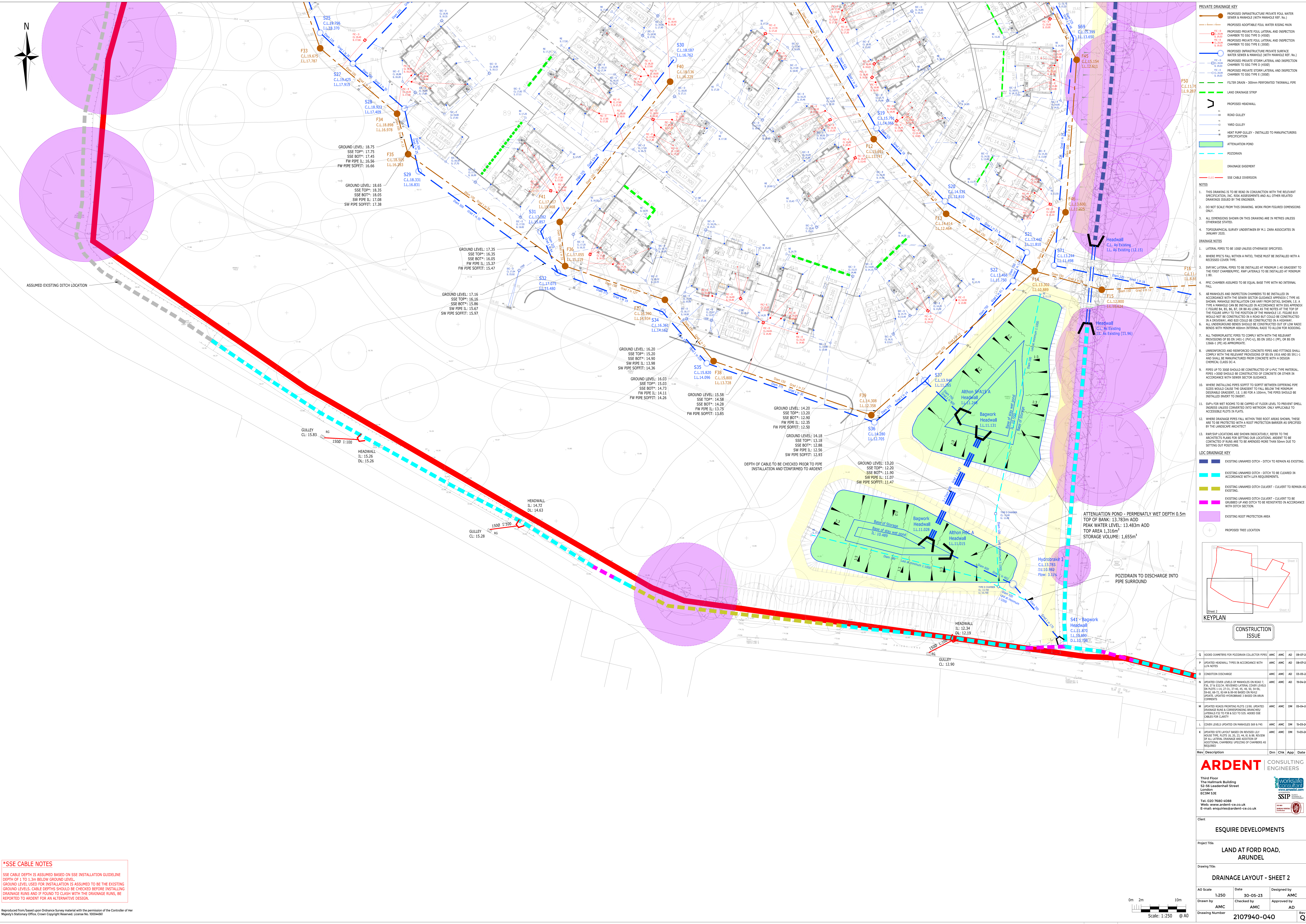
0m 2m 10m

Scale: 1:250 @ A0

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The location of the project is shown on the map of Great Britain at the scale of 1:500,000. The map is published by the Ordnance Survey and is available from the Ordnance Survey website.





***SSE CABLE NOTES**

SSE CABLE DEPTH IS ASSUMED BASED ON SSE INSTALLATION GUIDELINE DEPTH OF 1 TO 1.3m BELOW GROUND LEVEL

GROUND LEVEL USED FOR INSTALLATION IS ASSUMED TO BE THE EXISTING GROUND LEVELS. CABLE DEPTHS SHOULD BE CHECKED BEFORE INSTALLING DRAINAGE RUNS AND IF FOUND TO CLASH WITH THE DRAINAGE RUNS, BE REPORTED TO ARDENT FOR AN ALTERNATIVE DESIGN.

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PRIVATE DRAINAGE KEY

- PROPOSED INFRASTRUCTURE PRIVATE FOUL WATER SEWER & MANHOLE (WITH MANHOLE REF. No.)
- PROPOSED ADAPTABLE FOUL WATER RISING MAIN
- PROPOSED PRIVATE FOUL LATERAL AND INSPECTION CHAMBER TO SSG TYPE D (4500)
- PROPOSED PRIVATE FOUL LATERAL AND INSPECTION CHAMBER TO SSG TYPE E (3000)
- PROPOSED INFRASTRUCTURE PRIVATE SURFACE WATER SEWER & MANHOLE (WITH MANHOLE REF. No.)
- PROPOSED PRIVATE STORM LATERAL AND INSPECTION CHAMBER TO SSG TYPE D (4500)
- PROPOSED PRIVATE STORM LATERAL AND INSPECTION CHAMBER TO SSG TYPE E (3000)
- FILTER DRAIN - 300mm PERFORATED TWINWALL PIPE
- LAND DRAINAGE STRIP
- PROPOSED HEADWALL
- ROAD GULLEY
- YARD GULLEY
- HEAT PUMP GULLEY - INSTALLED TO MANUFACTURERS SPECIFICATION
- ATTENUATION POND
- POTDRAIN
- DRAINAGE EASEMENT
- SSE CABLE DIVERSION

- NOTES**
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION, INC. RISK ASSESSMENTS AND ALL OTHER RELATED DRAWINGS ISSUED BY THE ENGINEER.
 - DO NOT SCALE FROM THIS DRAWING. WORK FROM FIGURED DIMENSIONS ONLY.
 - ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METRES UNLESS OTHERWISE STATED.
 - TOPOGRAPHICAL SURVEY UNDERTAKEN BY M.J. ZARA ASSOCIATES IN JANUARY 2020.
- DRAINAGE NOTES**
- LATERAL PIPES TO BE 1000 UNLESS OTHERWISE SPECIFIED.
 - WHERE PIPES FALL WITHIN A PAVEMENT, THESE MUST BE INSTALLED WITH A RECESSED COVER TYPE.
 - SW/VC LATERAL PIPES TO BE INSTALLED AT MINIMUM 1:40 GRADIENT TO THE FIRST CHAMBER/PPIC. RAMP LATERALS TO BE INSTALLED AT MINIMUM 1:80.
 - PPIC CHAMBER ASSUMED TO BE EQUAL BASE TYPE WITH NO INTERNAL FALL.
 - ALL MANHOLES AND INSPECTION CHAMBERS TO BE INSTALLED IN ACCORDANCE WITH THE SEWER SECTOR GUIDANCE APPROXIMATE C TYPE AS SHOWN. MANHOLE INSTALLATION CAN VARY FROM DETAIL SHOWN, I.E. A TYPE A MANHOLE CAN BE INSTALLED IN ACCORDANCE WITH S50 APPENDIX C FIGURE BA, BB, BB, B7, OR BB AS LONG AS THE NOTES AT THE TOP OF THE FIGURE APPLY TO THE POSITION OF THE MANHOLE I.E. FIGURE B7B WOULD NOT BE CONSTRUCTED IN A ROAD BUT COULD BE CONSTRUCTED IN A DRIVEWAY, AND B20 COULD BE CONSTRUCTED IN A HIGHWAY.
 - ALL UNDERGROUND BENDS SHOULD BE CONSTRUCTED OUT OF LOW RADIUS BENDS WITH MINIMUM 400mm INTERNAL RADIUS TO ALLOW FOR ROODING.
 - ALL THERMOPLASTIC PIPES TO COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1401-1 (PPC/L), BS EN 1348-1 (PP), OR BS EN 12666-1 (PE) AS APPROPRIATE.
 - UNREINFORCED AND REINFORCED CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 1916 AND BS EN 1911-1 AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4.
 - PIPES UP TO 3000 SHOULD BE CONSTRUCTED OF U-PVC TYPE MATERIAL. PIPES >3000 SHOULD BE CONSTRUCTED OF CONCRETE OR OTHER IN ACCORDANCE WITH SEWER SECTOR GUIDANCE.
 - WHERE INSTALLING PIPES SOFFIT TO SOFFIT BETWEEN DIFFERING PIPE SIZES WOULD CAUSE THE GRADIENT TO FALL BELOW THE MINIMUM DESIRABLE GRADIENT, I.E. 1:80 FOR A 100mm, THE PIPES SHOULD BE INSTALLED INVERT TO INVERT.
 - SO/PS FOR WET ROOMS TO BE CAPPED AT FLOOR LEVEL TO PREVENT SMELL INGRESS UNLESS CONVERTED INTO WETROOM. ONLY APPLICABLE TO ACCESSIBLE PLAYS IN FLATS.
 - WHERE DRAINAGE PIPES FALL WITHIN TREE ROOT AREAS SHOWN, THESE ARE TO BE PROTECTED WITH A ROOT PROTECTION BARRIER AS SPECIFIED BY THE LANDSCAPE ARCHITECT.
 - RAMP/SPV LOCATIONS ARE SHOWN INDICATIVELY. REFER TO THE ARCHITECT'S PLANS FOR SETTING OUT LOCATIONS. ARDENT TO BE CONTACTED IF PLANS ARE TO BE AMENDED MORE THAN 50mm DUE TO SETTING OUT POSITIONS.

LDC DRAINAGE KEY

- EXISTING UNNAMED DITCH - DITCH TO REMAIN AS EXISTING.
- EXISTING UNNAMED DITCH - DITCH TO BE CLEARED IN ACCORDANCE WITH LPA REQUIREMENTS.
- EXISTING UNNAMED DITCH CULVERT - CULVERT TO REMAIN AS EXISTING.
- EXISTING UNNAMED DITCH CULVERT - CULVERT TO BE CHANGED UP AND DITCH TO BE REINSTATED IN ACCORDANCE WITH DETAIL SECTION.
- EXISTING ROOT PROTECTION AREA
- PROPOSED TREE LOCATION

KEYPLAN

CONSTRUCTION ISSUE

Q	NOTED DIAMETERS FOR POTDRAIN COLLECTOR PIPES	AMC	AMC	AD	09-07-24
P	REPEATED HEADWALL TYPES IN ACCORDANCE WITH LPA NOTES	AMC	AMC	AD	08-07-24
O	CONDITION DISCHARGE	AMC	AMC	AD	05-05-24
N	UPDATED COVER LEVELS OF MANHOLES ON ROAD 7, PIR, 31 & S32/34. REVERSED LATERAL COVER LEVELS (PIR/PIES 1/4, 2/3/3, 2/4/4, 4/5, 4/6, 5/5, 5/6/6, 5/6/6, 6/6/2, 6/6/4 & 6/6/4) BASED ON M402 UPDATE. UPDATED WORKS/BAE 3 BASED ON ARDENT COMMENTS	AMC	AMC	AD	19-04-24
M	UPDATED ROADS POINTING PLOTS 13/90. UPDATED DRAINAGE RUNS & CORRESPONDING BRANCHES/ LATERALS F22 TO F28 & S22 TO S25. ADDED SSE CABLES FOR CLARITY	AMC	AMC	DM	05-04-24
L	COVER LEVELS UPDATED ON MANHOLES 560 & F45	AMC	AMC	DM	15-03-24
K	UPDATED SITE LAYOUT BASED ON REVISED LELY HOUSE TYPE, PLOTS 18, 21, 23, 44, & 46. REVIEW OF ALL LATERAL DRAINAGE AND ADDITION OF ADDITIONAL CHAMBERS/ UPSIZING OF CHAMBERS AS REQUIRED	AMC	AMC	DM	19-02-24

Rev Description Dm Chk App Date

ARDENT CONSULTING ENGINEERS

Third Floor
The Halkmark Building
52-56 Leadenhall Street
London
EC3M 5JE

Web: www.ardent-ce.co.uk
Tel: 020 7680 4088
E-mail: enquiries@ardent-ce.co.uk

worksafe consultant
SSIP
SPECIALIST INSTITUTE FOR THE SEWERAGE INDUSTRY

Client

ESQUIRE DEVELOPMENTS

Project Title:

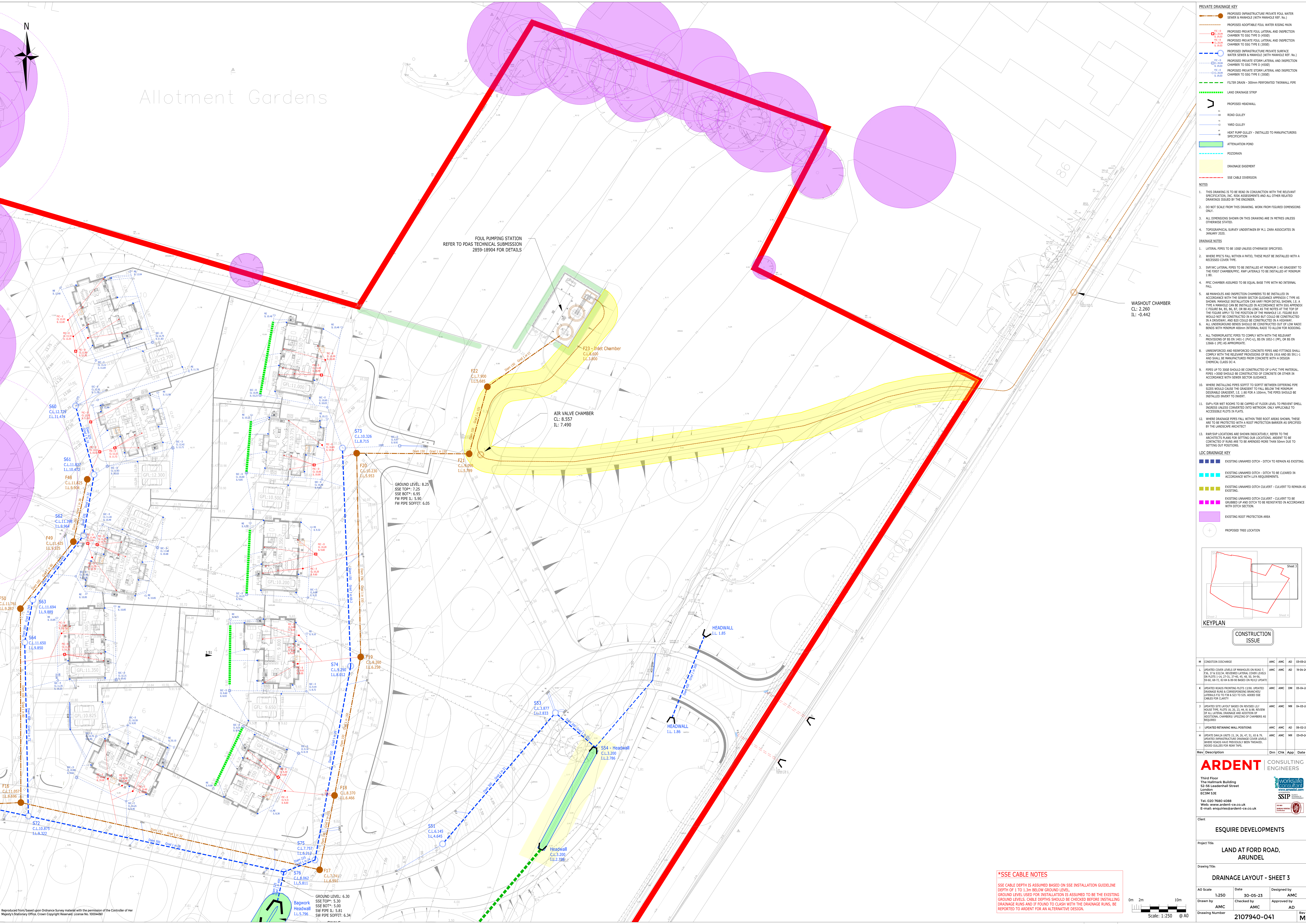
LAND AT FORD ROAD, ARUNDEL

Drawing Title:

DRAINAGE LAYOUT - SHEET 2

AO Scale	Date	Designed by
1:250	30-05-23	AMC
Drawn by	Checked by	Approved by
AMC	AMC	AD
Drawing Number	2107940-040	
Rev	Q	

0m 2m 10m
Scale: 1:250 @ A0



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- PROPOSED ADOPTABLE FOUL WATER RISING MAIN
- PROPOSED PRIVATE FOUL LATERAL AND INSPECTION CHAMBER TO SSG TYPE D (4500)
- PROPOSED PRIVATE FOUL LATERAL AND INSPECTION CHAMBER TO SSG TYPE E (3000)
- PROPOSED INFRASTRUCTURE PRIVATE SURFACE WATER SEWER & MANHOLE (WITH MANHOLE REF. No.)
- PROPOSED PRIVATE STORM LATERAL AND INSPECTION CHAMBER TO SSG TYPE D (4500)
- PROPOSED PRIVATE STORM LATERAL AND INSPECTION CHAMBER TO SSG TYPE E (3000)
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- LAND DRAINAGE STRIP
- PROPOSED HEADWALL
- ROAD GULLY
- YARD GULLY
- HEAT PUMP GULLY - INSTALLED TO MANUFACTURERS SPECIFICATION
- ATTENUATION POND
- POTDRAIN
- DRAINAGE EASEMENT
- SSC CABLE DIVERSION

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 - ALL UNDERGROUND BENDS SHOULD BE CONSTRUCTED OUT OF LOW RADIUS BENDS WITH MINIMUM 400mm INTERNAL RADIUS TO ALLOW FOR RODDING.
 - ALL THERMOPLASTIC PIPES TO COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 14011 (PPC), BS EN 18251 (PP), OR BS EN 12666-1 (PE) AS APPROPRIATE.
 - UNREINFORCED AND REINFORCED CONCRETE PIPES AND FITTINGS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS EN 12450 AND BS EN 12451-1 AND SHALL BE MANUFACTURED FROM CONCRETE WITH A DESIGN CHEMICAL CLASS DC-4.
 - PIPES UP TO 3000 SHOULD BE CONSTRUCTED OF U-PVC TYPE MATERIAL. PIPES >3000 SHOULD BE CONSTRUCTED OF CONCRETE OR OTHER IN ACCORDANCE WITH SEWER SECTOR GUIDANCE.
 - WHERE INSTALLING PIPES SOFFIT TO SOFFIT BETWEEN DIFFERING PIPE SIZES WOULD CAUSE THE GRADIENT TO FALL BELOW THE MINIMUM DESIRABLE GRADIENT, I.E. 1:80 FOR A 100mm, THE PIPES SHOULD BE INSTALLED INVERT TO INVERT.
 - SAPs FOR WET ROOMS TO BE CAPPED AT FLOOR LEVEL TO PREVENT SMELL INGRESS UNLESS CONVERTED INTO WETROOM. ONLY APPLICABLE TO ACCESSIBLE PLAYS IN FLATS.
 - WHERE DRAINAGE PIPES FALL WITHIN THE ROOF AREAS SHOWN, THESE ARE TO BE PROTECTED WITH A ROOT PROTECTION BARRIER AS SPECIFIED BY THE LANDSCAPE ARCHITECT.
 - RWP/SPV LOCATIONS ARE SHOWN INDICATIVELY. REFER TO THE ARCHITECTS PLANS FOR SETTING OUT LOCATIONS. ARDENT TO BE CONTACTED IF PLANS ARE TO BE AMENDED MORE THAN 50mm DUE TO SETTING OUT POSITIONS.

LDC DRAINAGE KEY

- EXISTING UNPAVED DITCH - DITCH TO REMAIN AS EXISTING.
- EXISTING UNPAVED DITCH - DITCH TO BE CLEARED IN ACCORDANCE WITH LPA REQUIREMENTS.
- EXISTING UNPAVED DITCH CULVERT - CULVERT TO REMAIN AS EXISTING.
- EXISTING UNPAVED DITCH CULVERT - CULVERT TO BE CHURBED UP AND DITCH TO BE REINSTATED IN ACCORDANCE WITH DITCH SECTION.
- EXISTING ROOT PROTECTION AREA
- PROPOSED TREE LOCATION

KEYPLAN

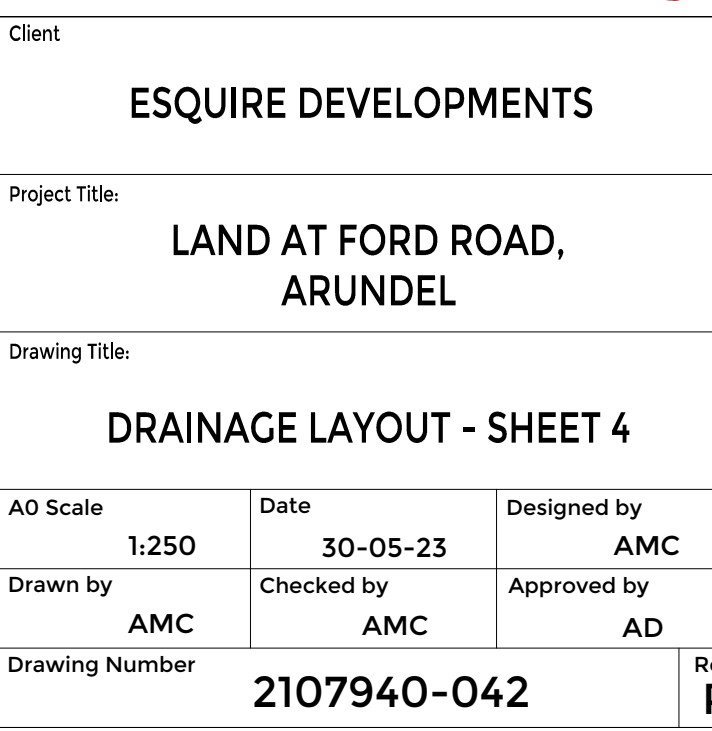
Sheet 2

Sheet 3

Sheet 4

CONSTRUCTION ISSUE

Rev	Description	Drn	Chk	App	Date
M	CONDITION DISCHARGE	AMC	AMC	AD	05-05-24
L	LOCATED COVER LEVELS OF MANHOLES ON ROAD 7, PAL 37 & 532 PAL. REVIEWED LATERAL COVER LEVELS (PP/PPS) 27-31, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 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437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 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