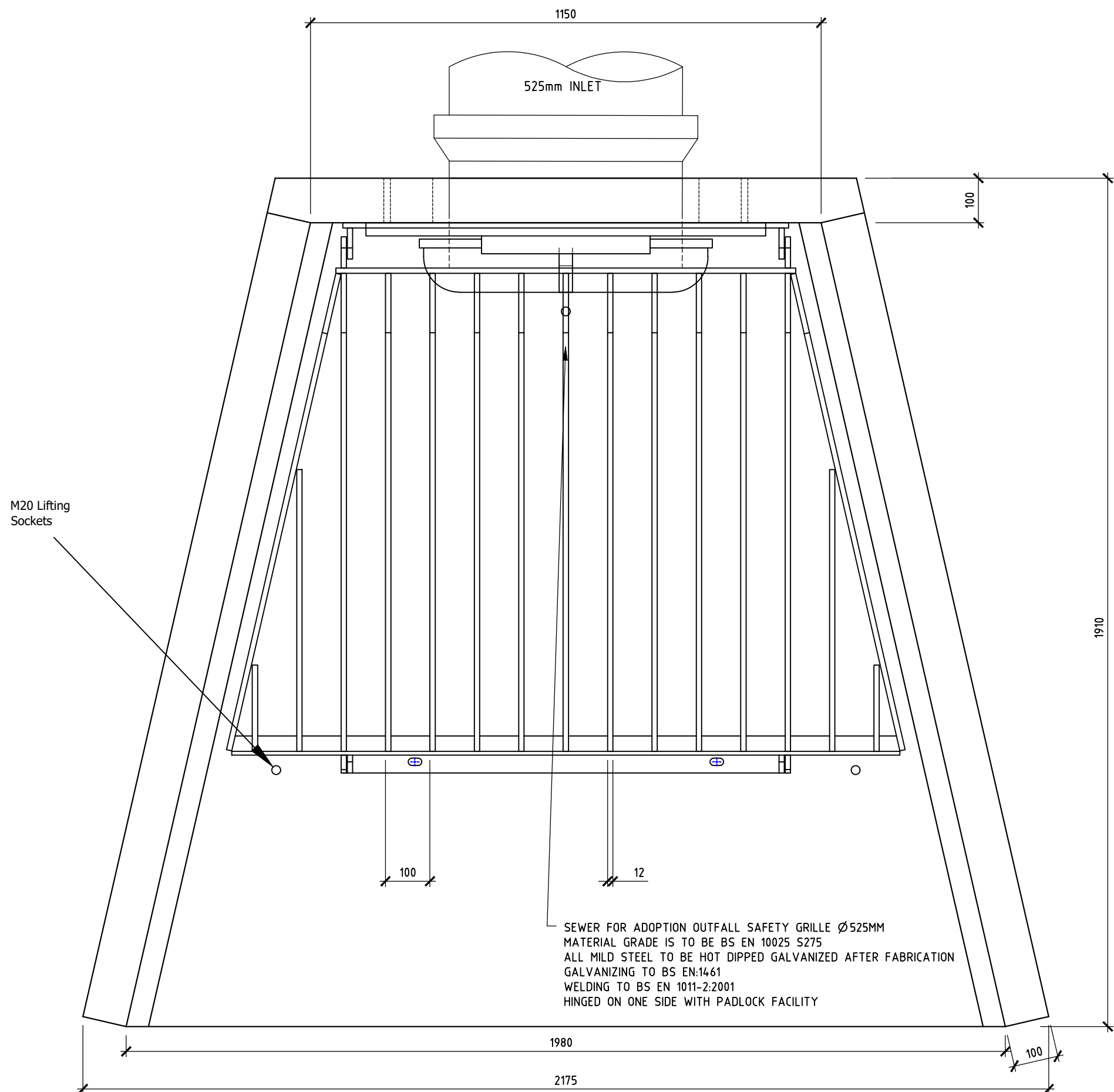
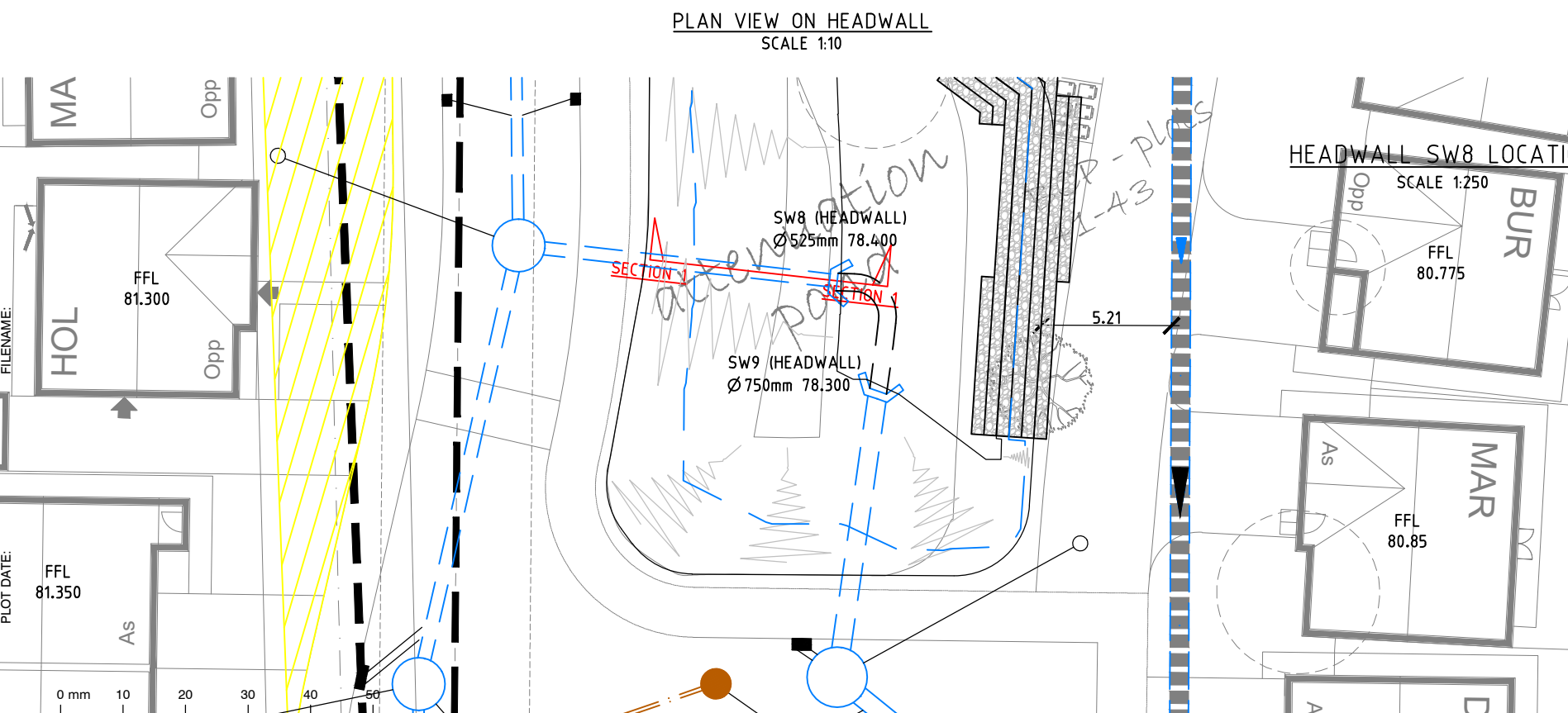


FRONT ELEVATION
SCALE 1:10



M20 Lifting
Sockets

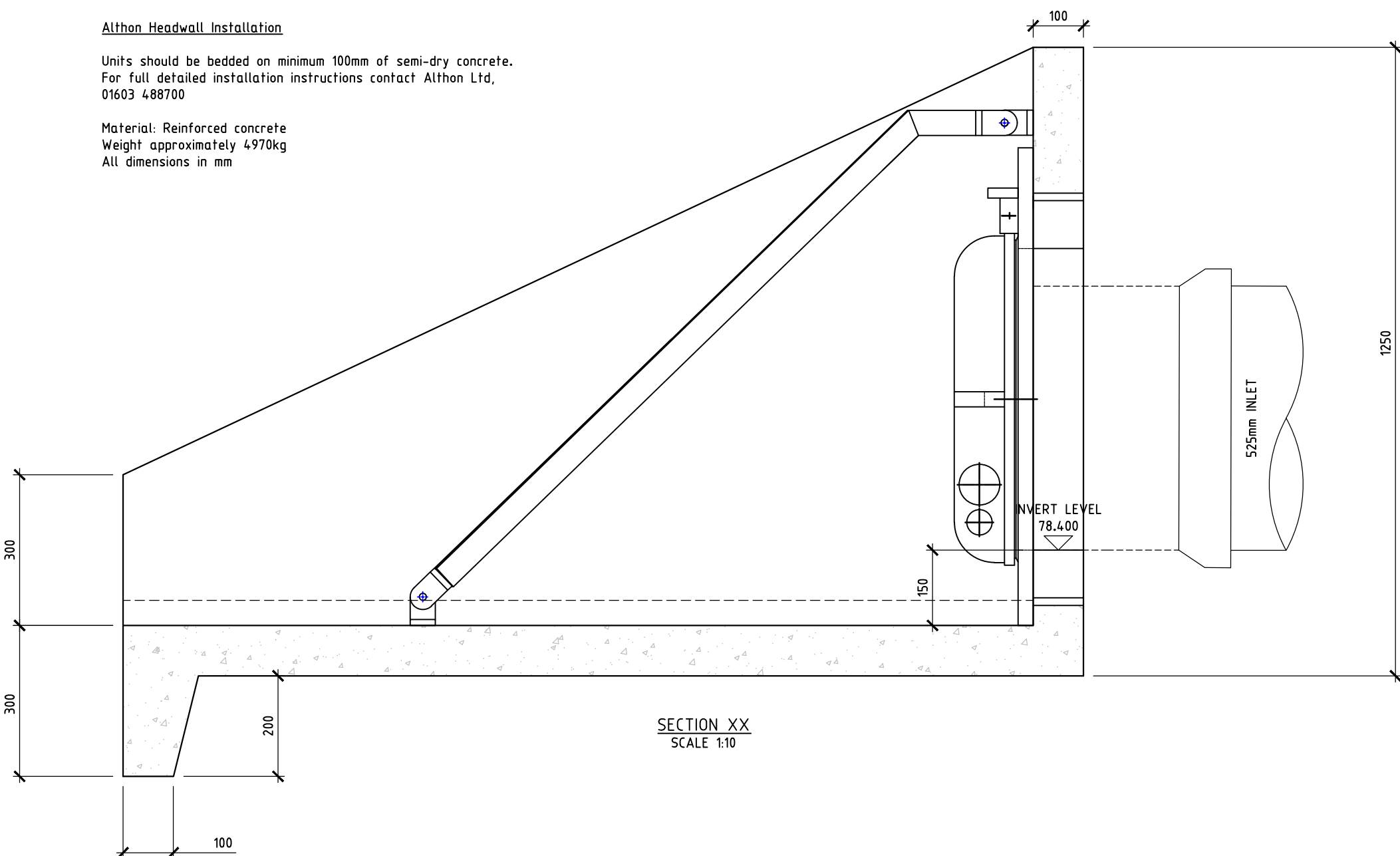
SEWER FOR ADOPTION OUTFALL SAFETY GRILLE Ø525MM
MATERIAL GRADE IS TO BE BS EN 10025 S275
ALL WILD STEEL TO BE HOT DIPPED GALVANIZED AFTER FABRICATION
GALVANIZING TO BS EN1461
WELDING TO BS EN 1011-2:2001
HINGED ON ONE SIDE WITH PADLOCK FACILITY



Althon Headwall Installation

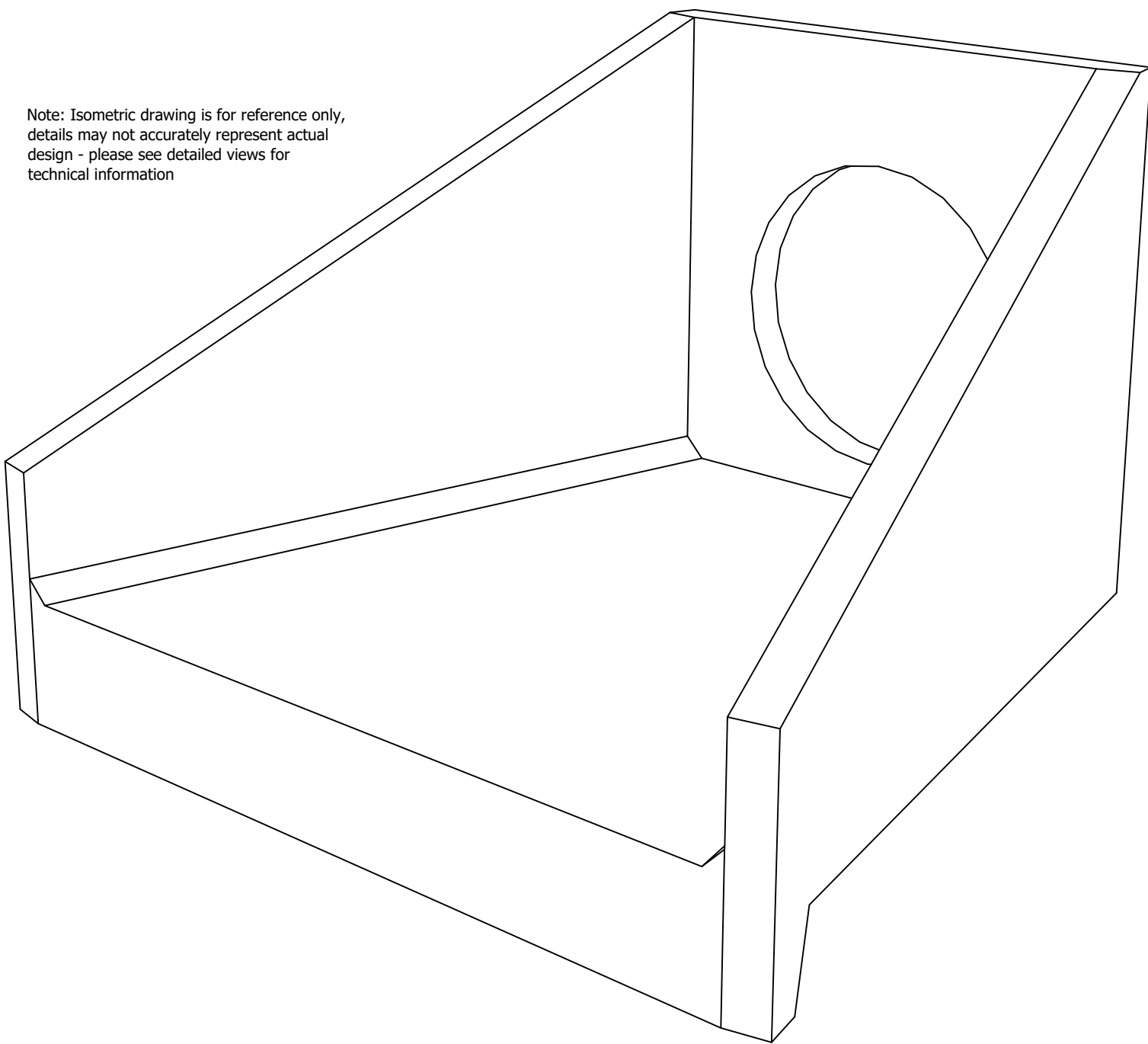
Units should be bedded on minimum 100mm of semi-dry concrete.
For full detailed installation instructions contact Althon Ltd,
01603 488700

Material: Reinforced concrete
Weight approximately 4970kg
All dimensions in mm



SECTION XX
SCALE 1:10

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



ALTHON SFA15A HEADWALL AND SFA1 750 OUTFALL SAFETY GRILLE NOTES

- ALL DIMENSIONS IN MM
- ALL MEASUREMENTS ± 1MM

SPECIFICATION INFORMATION

- OPENING IN BACK WALL CAST TO SUIT OUTSIDE DIAMETER OF THE PIPEWORK
- INVERT LEVEL OF PIPE CAN BE SET TO YOUR SPECIFICATION

HEADWALL INSTALLATION

UNITS SHOULD BE BEDDED ON MINIMUM 200MM THICK WELL COMPACTED CLASS 6A+ SELECTED WELL GRADED GRANULAR MATERIAL.
*MANUAL OF CONTRACT DOCUMENTS FOR HIGHWAY WORKS: VOLUME (MCHW1)
SPECIFICATION FOR HIGHWAY WORKS, SERIES 600 (NOV.09).
SIT THE HEADWALL LEVEL OR WITH A SLIGHT FALL 150 FROM PIPE TO SPILL MOUTH.

HANDLING

- WEIGHT OF CONCRETE IS BASED ON 2.4 TONNE/M³ 5% IS RECOMMENDED FOR SIZING LIFTING EQUIPMENT.
- ALL LIFTING POINTS SHALL BE USED AS SPECIFIED BELOW
- UNIT TO BE LIFTED AS PER LIFTING DIAGRAM

CONCRETE

- MIX REF: SELF-COMPACTING DC4/DS4 MIX
- LIFTING STRENGTH BASED ON 2 CUBES ± 20N/MM²
- CHARACTERISTIC 28 DAY CUBE STRENGTH ± 50N/MM²
- CONCRETE PROVIDES DESIGN CHEMICAL CLASS 4 (DC4) TO SPECIAL DIGEST 1, TABLE F2.

REINFORCEMENT

- REINFORCEMENT TO BS EN 13369
- SCHEDULING, DIMENSIONING, BENDING & CUTTING TO BS8666
- CAGE TO BE MACHINE TIED WITH STEEL WIRE

MANUFACTURE

- MANUFACTURE TO BS EN 15258:2008 PRECAST CONCRETE PRODUCTS - RETAINING WALL ELEMENTS, FACTORY PRODUCTION CONTROL CERTIFICATE NUMBER: 0086-CPR-650448 & BS EN 13369
- TOLERANCES TO BS EN 13369 (CLAUSE 4.3.1.1)
- FINISHING:

Code	Top	Side	Base	Back of back wall
1	1	1	1	1

- MARKING: UNITS SHALL BE INDIVIDUALLY MARKED TO SHOW:

- MOULD REFERENCE CODE
- DE-MOULD DATE
- JOB REFERENCE NUMBER & UNIQUE PRODUCT NUMBER
- UNIT WEIGHT (KG)

DESIGN

- CONCRETE DESIGN TO EC2
- ALTHON HAVE DESIGNED THE CONCRETE UNITS ONLY, THE SITE CONDITIONS SHOULD BE ASSESSED FOR SUITABILITY BY THE SCHEME DESIGNER
- UNITS ARE DESIGNED TO WITHSTAND A VERTICAL LIVE LOAD SURCHARGE OF 10KN/M²
- WEIGHT OF SOIL ± 18KN/M²
- ANGLE OF INTERNAL FRICTION ± 30 DEG.
- DESIGN LIFE: >100 YEARS

Min Cover	Top	Side	Base	Back of back wall	Min Cover	Top	Side	Base	Back of back wall
40	20	20	20	20	40	20	20	20	20

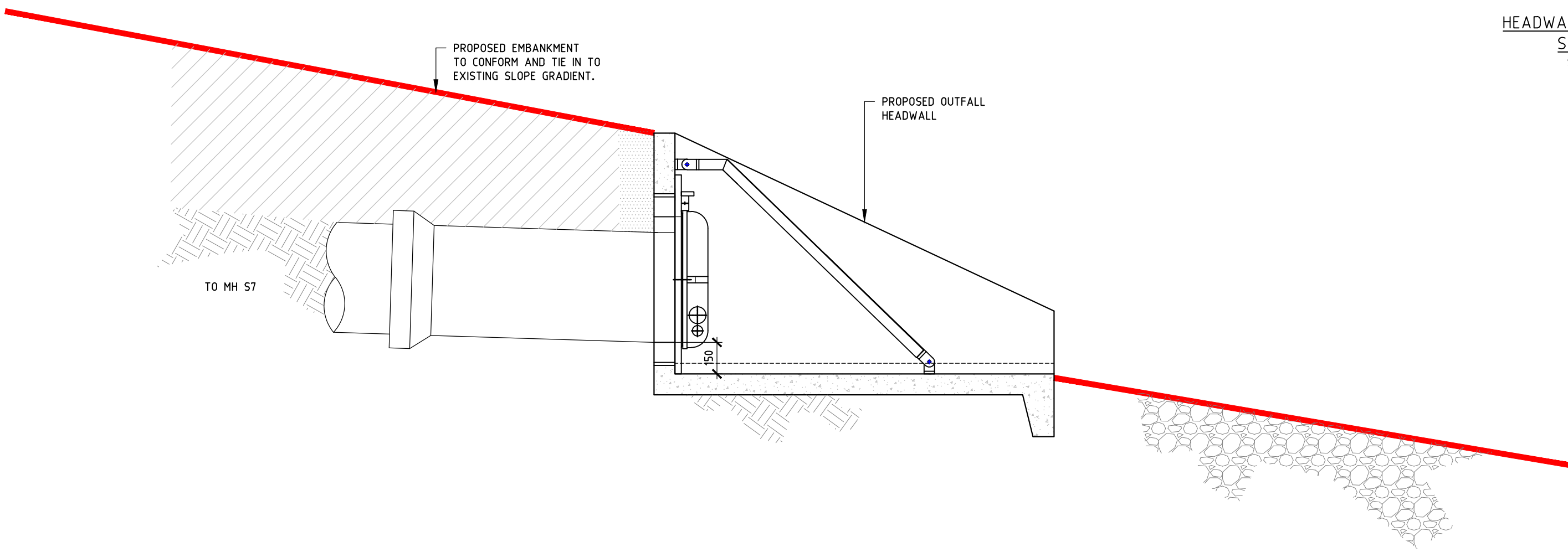
FABRICATION SPECIFICATION

- MANUFACTURE IAW EN 1090-2 EXC CLASS 1
- MATERIAL GRADE IS TO BE BS EN 10025 S275
- WELDING CARRIED OUT IAW EN 1090-2 PARA 7.5.4 - 7.5.18
- ALL FILLET AND BUTT WELDS TO HAVE A MINIMUM THROAT THICKNESS OF 6MM & JOINTS TO BE FULLY WELDED WHERE POSSIBLE.
- ENSURE VERTICAL FLATS ARE FULLY WELDED BOTH SIDES WHERE POSSIBLE.
- ALL SHARP EDGES AND BURRS ARE TO BE REMOVED.
- REMOVE ALL WELD SPATTER.
- HOLES BY PUNCHING ARE PERMITTED WITH REAMING.
- GALVANISING IS CARRIED OUT AFTER FABRICATION TO BS EN ISO 1461

HANDRAIL SPECIFICATION

- KEE KLAMP® GALVANISED SIZE 8 FITTINGS
- SIZE 8 48.3MM OD 3.2MM WALL THICKNESS GALVANISED MEDIUM DUTY TUBE TO BS EN 10255
- 360N/M DESIGN LOAD AT STATED IN BS 8118, BS 6180, BS 6399 & BS 7818, CIVIL ENGINEERING SPECIFICATION FOR THE WATER INDUSTRY (CESW) 7TH EDITION, CLAUSE 2.60 HANDRAILS & BALUSTERS & THE ENGINEERING EQUIPMENT AND MATERIALS USERS' ASSOCIATION (EEMUA) PUBLICATION 105 7TH EDITION FACTORY STAIRWAYS, LADDERS AND HANDRAILS
- OTHER DESIGN LOADS AVAILABLE ON REQUEST
- GRP/FRP HANDRAILS ALSO AVAILABLE

HEADWALL SW8 DETAIL
SECTION 1
SCALE 1:20



NOTES:

- ALL SEWERS ARE DESIGNED IN ACCORDANCE WITH SEWERS FOR ADOPTION 6TH EDITION AND UNITED UTILITIES GUIDELINES AND STANDARD DETAILS.
- ALL CO-ORDINATES AND LEVELS SHOWN ARE RELATIVE TO THE TOPOGRAPHIC SURVEY.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THE LINE AND LOCATION OF ANY EXISTING SEWERS, AS WELL AS ANY EXISTING GROUND AND INVERT LEVELS SHOWN ON THE DRAWING ARE CORRECT PRIOR TO THE COMMENCEMENT OF ANY WORKS. ANY DISCREPANCIES MUST BE MUST BE REPORTED IMMEDIATELY.
- PRIOR TO THE COMMENCEMENT OF ANY ON SITE WORKS THE CONTRACTOR MUST CONTACT THE STATUTORY UNDERTAKER AND BE IN POSSESSION OF THE LATEST DRAWINGS SHOWING THEIR APPARATUS.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ALLOW FOR THE SUPERVISION OF THE CONSTRUCTION WORKS BY UNITED UTILITIES AND/ OR THE HIGHWAYS AUTHORITY. THE CONTRACTOR WILL NOTIFY THE SUPERVISING OFFICER GIVING NOTICE WHICH WILL BE IN ACCORDANCE WITH THE AUTHORITIES REQUIREMENTS.
- THE PROPOSED SEWERS WILL BE CLAY PIPE WORK AND SHALL BE EXTRA STRENGTH TO BS EN 2951991 PART 1.
- ANY PCC PIPE WORK WILL BE IN ACCORDANCE WITH BS EN 1916:2002.
- ALL MANHOLES AND CHAMBERS SHALL BE IN ACCORDANCE WITH BS EN 1917:2002.
- SEWERS WITH COVER TO SOFFIT GREATER THAN 1.2m IN ROADS AND 0.9m IN FIELDS SHALL HAVE BED AND SURROUND AS FOLLOWS: RIGID PIPE EMBEDMENT SHALL BE CLASS 5. SEMI RIGID PIPE EMBEDMENT SHALL BE CLASS 5 ALL IN ACCORDANCE WITH UNITED UTILITIES STANDARD DETAIL STD/05/001.
- PRIVATE DRAINAGE CONNECTIONS TO THE SEWER WILL BE 150MM DIAMETER AND LAID TO THE SPECIFIED INVERT.
- THE INVERT LEVELS SPECIFIED AT THE DRAG OUT CHAMBER ARE INCOMING LEVELS.
- WHEREVER POSSIBLE PRIVATE DRAINAGE RUNS WILL REMAIN WITHIN THE CURTLAGE OF THE DWELLING FOR WHICH THEY SERVE.
- THE CONNECTION TO THE ADOPTABLE SEWER SHALL BE MANUFACTURED JUNCTION PIPES A SADDLE CONNECTION IS NOT PERMITTED UNLESS IT IS CLEARLY SPECIFIED.
- ANY SEWER FOR ADOPTION WITH A COVER OF LESS THAN 1.2M TO PIPE SOFFIT IN ROADS OR 0.9m TO PIPE SOFFIT IN FIELDS WILL HAVE A MINIMUM 150mm GEN 3 CONCRETE BED AND SURROUND WITH FLEXIBILITY MAINTAINED WITH FLEXCELL EXPANSION JOINT FILLER OR SIMILAR APPROVED AT EACH PIPE JOINT.
- CONNECTIONS TO THE EXISTING SEWER WILL BE IN ACCORDANCE WITH SECTION 104. APPROVAL GRANTED BY UNITED UTILITIES.
- THE CONNECTION TO THE EXISTING WATERCOURSE WILL BE IN ACCORDANCE WITH APPROVAL GRANTED BY THE EA.

HIGHWAY NOTES

- STUB AND ROCKER PIPES ARE REQUIRED WHERE CONNECTIONS ARE MADE INTO, AND THROUGH MANHOLES, PIPES AND STRUCTURES.
- ALL GULLY GRATINGS SHALL BE END HINGED TOWARDS THE ONCOMING TRAFFIC. HAVE A MINIMUM DEPTH OF FRAME OF 100mm AND A MINIMUM WATERWAY ARE OF 1020cm². CLAUSE 3.11, AND SHALL COMPLY WITH (BS) EN 124 CLASS D400.
- ONLY CONCRETE GULLY POTS SHOULD BE USED AND THESE SHOULD CONFORM TO BS 5911 PART 230. DIMENSIONS WILL BE 450mm DIA. X 760mm DEEP. CLAUSE 3.10 (ii).
- GULLY CONNECTIONS SHALL BE SURROUNDED WITH CONCRETE FOR FULL LENGTH OF THE CONNECTION.
- PRE-CAST CONCRETE HIGHWAY MANHOLE CHAMBERS AND SHAFTS SHALL BE SURROUNDED WITH 150mm OF ST44 CONCRETE. CLAUSE 3.22 (i).
- MANHOLE COVERS IN CARRIAGEWAYS SHALL HAVE A MINIMUM DEPTH OF FRAME OF 150mm.
- JET AND PROVE ALL EXISTING GULLY CONNECTIONS THAT ARE TO BE RE-USED.

PO6	21.04.22	Drainage updates	H.S. M.A.	
PO5	15.02.22	Updated to latest pond design information	D.A. R.A.	
PO4	24.06.20	PRELIMINARY - Updated to suit S.104 comments	D.A. R.A.	
PO3	16.04.20	PRELIMINARY - Updated to suit S.104 comments	D.A. R.A.	
PO2	23.03.20	PRELIMINARY - Updated to suit S.104 comments	D.A. R.A.	
PO1	24.01.20	PRELIMINARY - Issued for information	D.A. R.A.	
Rev	Date	Description	By	Chk
			Manchester, UK 3rd Floor, Compass Court, 12 Blackfriars Street, Manchester, M3 5BQ, United Kingdom	
			T: +44 (0) 161 834 1938 E: manchester@edgece.com	
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Project Name HAWTHORNE FARM CLITHEROE				
Client PERSIMMON HOMES				
Designed	Drawn	Checked	Scale @ A1	
D.A	D.A	R.A	AS SHOWN	
Drawing Title HEADWALL SW8 DETAILS				
Project No. 19310				
<div><div>PRELIMINARY NOT FOR CONSTRUCTION</div></div>				
Drawing No. 19310-EDGE-XX-XX-DR-C-C2203				Revision P06