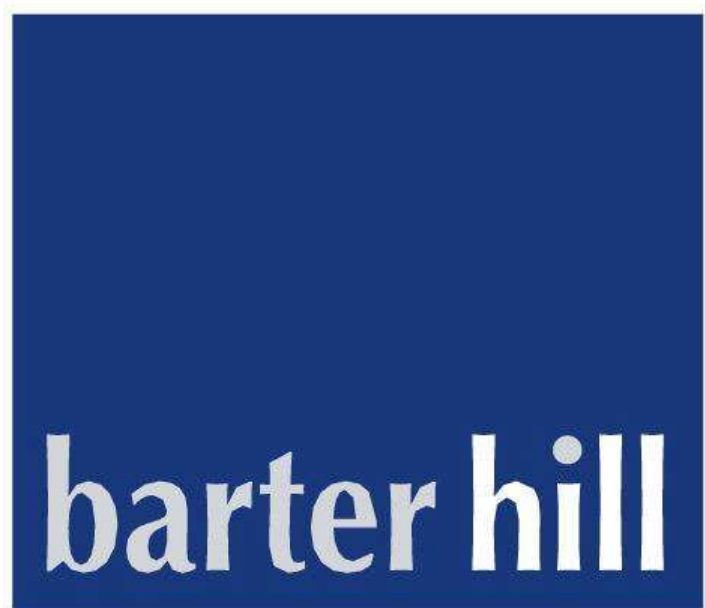




Surface Water and SuDS Verification Report (V.09)

Vistry Homes South East Ltd
Avisford Grange, Walberton, West Sussex

March 2023

Vistry South East Ltd

Avisford Grange, Walberton, West Sussex

March 2023



Quality Assurance

Site name: Avisford Grange, Walberton, West Sussex

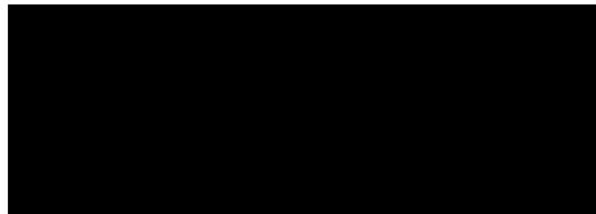
Client name: Vistry Homes South East Ltd

Type of report: Surface Water and SuDS Verification Report

Job Reference: 8804

Prepared by: John Russell

Signed



Date March 2023

Checked by: Rob Brusselen

Signed

Date March 2023

Rev	November 2022	Details	Prepared by	Checked by
V.01	March 2023	Draft issue for external review	JR	RB
V.02	July 2024	Phase 1 completion	JR	AB
V.03	November 2024	As Constructed Survey completion	JR	AB
V.04	November 2024	Updated for consultation comments	JR	AB
V.05	March 2025	Updated for consultation comments	JR	AB
V.06	June 2025	Additional As-Built information	JR	AB
V.07	September 2025	Phase 2 detail information added	JR	AB
V.08	September 2025	Updated for consultation comments	JR	AB
V.09	December 2025	Updated for consultation comments	JR	AB



Table of Contents

1	Introduction
2	Site Location
3	Description of Works
4	SuDS Features
5	Construction Quality and Assurance

Appendices

Appendix A	Drainage Infrastructure Layouts
Appendix B	Infrastructure Construction Details
Appendix C	Construction and Quality Assurance Images
Appendix D	As Constructed Surveys
Appendix E	Professional Indemnity Insurance
Appendix F	FFL Survey & Supplier Material Details

1 Introduction

- 1.1 Barter Hill Consulting Engineers have been commissioned by Vistry Homes Limited to prepare a Surface Water and Sustainable Urban Drainage Systems (SuDS) Verification Report. The aim of this report is to detail all the surface water drainage and surface water SuDS elements have been constructed in line with Ardent Consulting Engineers designs and specifications and the guidance set out within the CIRIA SuDS Manual 2015 and will inform those bodies responsible on how to manage and maintain these systems effectively in the future. This report will be submitted to Arun District Council's Planning Officer to enable discharge of condition 23b which states:

Immediately following implementation of the approved SuDS scheme for each design catchment agreed under (a) and prior to occupation of any part of the development which that catchment serves, the developer/applicant shall provide the Local Planning Authority with as-built drawings of the fully implemented scheme, together with a completion report prepared by an independent engineer that confirms that the scheme was built in accordance with the approved drawing/s and is fit for purpose.

- 1.2 This report will be a live document and as the works progress, the report will be updated in line with construction progress until such time as the development is complete and the finished submitted report agreed and accepted with the Local Authority. The Report is prepared in accordance with the Drainage Phasing Plan attached and seeks to address both Phases 1 and 2
- 1.3 The Author of the report, John Russell, has worked in the construction industry since 1979 for both Housing Developers and Consulting Engineers as a Civil Engineer and Company Director.

2 Site Location

- 2.1 The development is approximately 11.3 ha (28 acres) and was 100% Greenfield. It is located in Walberton, West Sussex (NGR 497286 106211) 500 m south from A27 (Arundel Road). The development site is currently bordered by the Avisford Park Golf course to the north, Tye Lane to the west and school and residential dwellings to the south and east.
- 2.2 The proposed development comprises the erection of 175 dwellings with access from B2132 Yapton Lane. Refer to Appendix A for a plan of the proposed development site consisting of residential dwellings and associated car parking, soft landscaping, private gardens and access roads.

3 Description of Works

- 3.1 The works comprise of a residential development consisting of 175 homes with associated infrastructure in the form of estate roads, traditional piped foul and surface water drainage, culverts and SuDS features out-falling to the proposed infiltration basins within the development boundaries. These basins which form the primary attenuation and water quality features for the overall development prior to final discharge at the prescribed greenfield run-off rate.
- 3.2 This report will focus on the construction and implementation of the on-site surface water drainage and SuDS features.

4 SuDS Features

- 4.1 Within the development SuDS features consist of a series of swales, under-drained swales and permeable paving all of which have been designed to convey and treat surface water run off together with providing some element of upstream attenuation and to eliminate the risk of flood to the development and the surrounding area. These features discharge surface water via infiltration both locally and to 2 larger basins. These are located as follows and highlighted as constructed at time of latest inspection visit.

i	Soakaway Tank	ii	Swale C
iii	Swale D	iv	Headwall 1A
v	Headwall 1B	vi	Swale E
vii	Swale F	viii	Headwall 1C
ix	Headwall 1D	x	Headwall 1E
xi	Permeable Paving 1A	xii	Permeable paving 1B
xiii	Permeable Paving 1C	xiv	Swale G
xv	Swale H	xvi	Headwall 1F
xvii	Headwall 1G	xviii	Headwall 1H
xix	Headwall 1I	xx	Eastern Basin
xxi	Swale I	xxii	Swale J-M
xxiii	Swale N	xxiv	Swale O
xxv	Swales P-R	xxvi	Headwalls 2C-2G
xxvii	Western Basin	xxviii	Eastern Basin

Vistry South East Ltd

Avisford Grange, Walberton, West Sussex

March 2023



xxix	Swale A-B	xxx	Permeable Paving 4A
xxxi	Swale Z	xxxii	Permeable Paving 4B
xxxiii	Swale Y	xxxiv	Permeable Paving Stedman Ave
xxxv	Headwall 3E-F	xxxvi	Swales U-W
xxxvii	Swale X	xxxviii	Swale B spur
xxxix	Headwall 3C		

4.2 The above SuDS features are identified on the following drawings:

LHS240-1235 SuDS Key Plan
LHS240-1201_C7 Main Drainage Sheet 1
LHS240-1202_C6 Main Drainage Sheet 2
LHS240-1221_C1 Drainage Construction Details Sheet 1
LHS240-1222_C1 Drainage Construction Details Sheet 2
LHS240-1223_C1 Drainage Construction Details Sheet 3

These drawings are located in Appendix A and B of this report.

5 Construction Quality and Assurance

- 5.1 Barter Hill were instructed to carry out periodic site inspections which would consist of visually inspecting, monitoring and recording via photographic evidence the construction of drainage throughout the various stages of the construction process.
- 5.2 The author of this report John Russell is a director of Barter Hill Partnership Limited and as a Civil Engineer has over 40 years of experience in the construction industry
- 5.3 An initial site meeting was held between Vistry Homes, Barter Hill and the Groundworks Contractor (BARAM) to ensure the strategy and construction details were fully understood and to establish the requirement for accurate records to be taken during the construction process to allow this document to be populated accordingly and to inform a final set of As-Constructed details.
- 5.4 As instructed Barter Hill will undertake periodic site inspections and record keeping at each key stage of the drainage construction. Following this we conclude that the construction of the drainage has been built in

Vistry South East Ltd

Avisford Grange, Walberton, West Sussex

March 2023



line with the Ardent approved design and specification and in line with the Water Authorities Association Sewer Sector Guidance

Evidence of the above inspections can be seen from the photos that were taken, and which can be located in Appendix C of this report.

- 5.5 As noted previously this report has been updated during the construction of the development through to completion. Once complete this report will be re-submitted to Arun District Council to allow full discharge of condition 23.
- 5.6 Following the t visit on 9 July 2024 it can be confirmed that phase 1 of the scheme has been constructed in accordance with the approved drawing/s and is fit for purpose.
- 5.7 Following the t visit on 16 July 2025 it can be confirmed that phase 2 of the scheme has been constructed in accordance with the approved drawing/s and is fit for purpose.
- 5.8 Site Inspection Information

Site Inspections	Date	Barter Hill Employee Attended
Meeting with Contractor and review on design details	17 January 2022	John Russell
Eastern pond under construction, phase 1 eastern features complete and functioning	21 March 2022	John Russell
Site Inspection Eastern Pond complete, phase 1 features partially complete and functioning.	1 February 2023	John Russell
Phase 1 completion all features constructed and functioning.	9 July 2024	John Russell
Phase 2 completion all features constructed and functioning.	16 July 2025	John Russell

- 5.9 During all the site inspections listed in 5.8 above, all SUDS features were inspected and conditions recorded. A summary of these can be found at the foot of the photographic evidence found in Appendix C.5.9 An As-Built Survey showing all SuDs features and finished levels has been compared with the design and other than the omission of Swale T, all are in accordance with the proposals.
- 5.10 A CCTV survey was carried out by the groundwork's contractor, and this has been reviewed and confirmed that no defects were identified.

Vistry South East Ltd

Avisford Grange, Walberton, West Sussex

March 2023



- 5.11 The omission of Swale T was referred to the designers (Ardent) they were able to remove the short section of swale due to the adjacent gully at the bottom of the ramp that the road can drain into. Design drawings in Appendix A updated accordingly.
- 5.12 Where shared driveways are located adjacent to swales, these are commonly design with longitudinal undulations and crossfalls towards the swale to ensure adequate drainage of the same are provided. All such driveways were inspected and found to be constructed and performing effectively.
- 5.13 Constructed site levels and Product information supplied by groundworks contractor shown in Appendix F.

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Avisford Grange, Walberton, West Sussex

March 2023

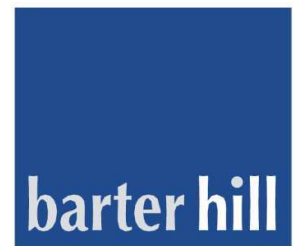


Appendices

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Avisford Grange, Walberton, West Sussex

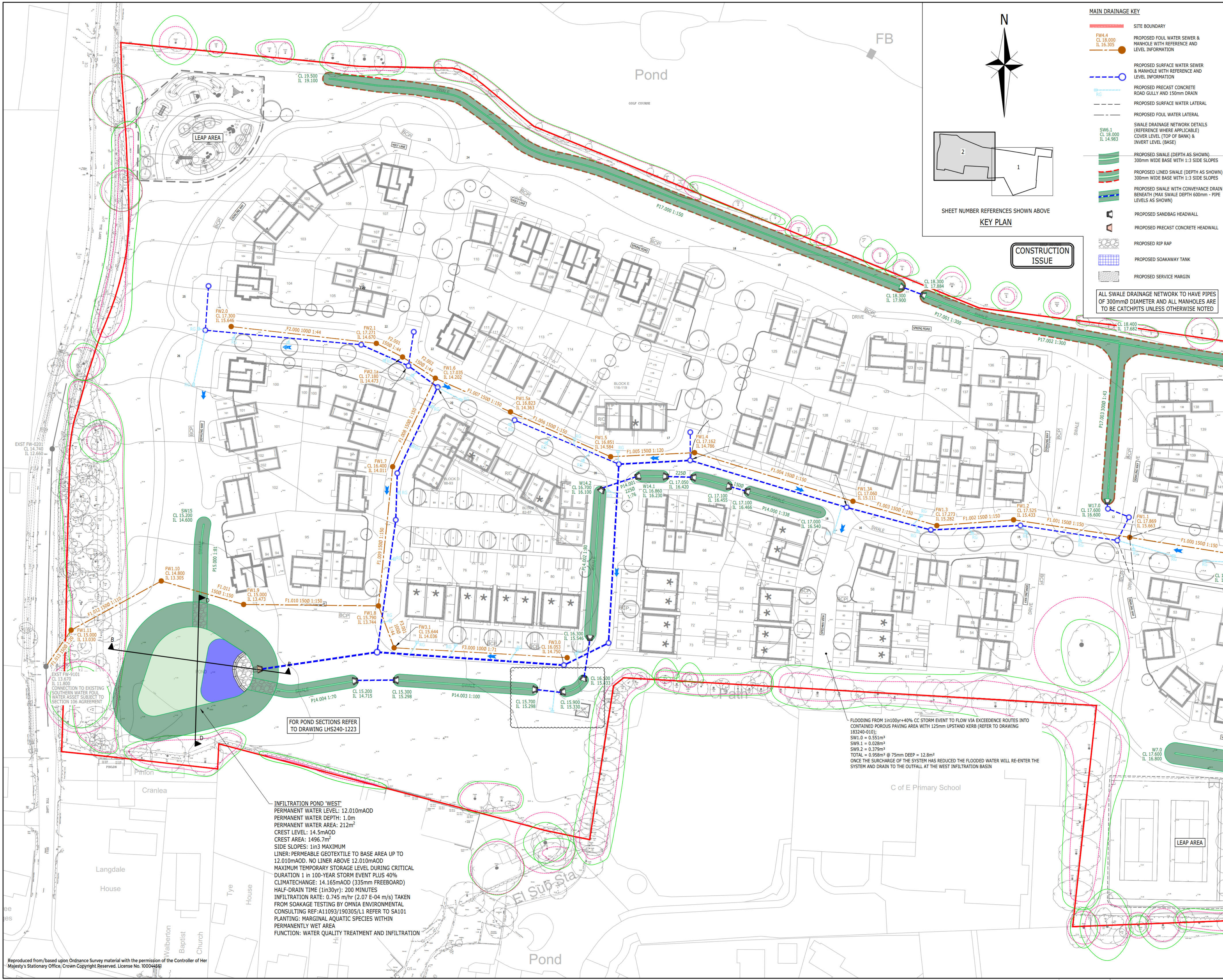
March 2023



Appendix A

Infrastructure Drainage Layouts with Asset Locations

- LHS240-1235 SuDS Key Plan
- LHS240-1201_C7 Main Drainage Sheet 1
- LHS240-1202_C6 Main Drainage Sheet 1



NOTES:

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION, INC. RISK ASSESSMENTS (SEE CDM NOTES) AND ALL OTHER RELATED DRAWINGS ISSUED BY THE ENGINEER.
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- ALL DIMENSIONS SHOWN ON THIS DRAWING ARE IN METRES UNLESS OTHERWISE STATED.
- ALL DIMENSIONS, LEVELS AND SURVEY GRID CO-ORDINATES ARE TO BE CHECKED ON SITE AND THE ENGINEER NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO THE COMMENCEMENT OF THE WORKS.
- NO DEVIATION FROM THE DETAILS SHOWN ON THIS DRAWING IS PERMITTED WITHOUT PRIOR PERMISSION FROM THE ENGINEER.
- ALL PRIVATE DRAINAGE IS TO COMPLY AND BE LAID IN ACCORDANCE WITH CURRENT PART H OF BUILDING REGULATIONS, BS 8301 AND BS 5955.
- REFER TO ARCHITECT'S HOUSE TYPE (WORKING) DRAWINGS FOR EXACT POSITION OF DRAINAGE POINTS.
- POSITION & INVERT LEVELS OF ALL EXISTING MANHOLES, SEWERS AND LATERALS TO BE CONFIRMED PRIOR TO CONSTRUCTION & ANY DISCREPANCIES REPORTED TO THE ENGINEER.
- ALL DRAIN AND SEWER PIPES ARE TO BE LAID SOFFIT TO SOFFIT, UNLESS SHOWN OTHERWISE (SEE ALSO MANHOLE SCHEDULE DRAWINGS).
- ALL PLOT DRAINAGE TO BE 100mm Ø UNLESS SHOWN OTHERWISE, LAID IN ACCORDANCE WITH BS 8301.
- ALL MATERIALS SHALL COMPLY TO THE BSI KITE MARK CERTIFICATION SCHEME AND MUST BE MARKED ACCORDINGLY.
- COVER AND FRAMES TO MANHOLES/INSPECTION CHAMBERS TO COMPLY WITH BS EN124. REFER TO PRIVATE DRAINAGE CONSTRUCTION DETAILS DRAWING.
- WHERE FINISHED GROUND LEVELS FALL TOWARDS BUILDING, AN OPEN GULLY IS TO BE PROVIDED AT THE FOOT OF ALL RAINWATER PIPES. ALL RAINWATER PIPES TO HAVE RODDING ACCESS.
- FINAL POSITIONS OF INSPECTION CHAMBERS WITHIN PRIVATE AREAS ARE SUBJECT TO CONFIRMATION ON SITE TO SUIT PIPE CONFIGURATIONS AND CHAMBER INLET POSITIONS.
- WHERE A DRAIN RUN PASSES THROUGH A WALL OR FOUNDATION IT IS NECESSARY TO:
 - FORM AN OPENING USING A CONCRETE LINTEL WITH AT LEAST 50mm CLEARANCE AROUND THE PIPE AND THE OPENINGS MASKED WITH RIGID SHEET MATERIAL TO PREVENT ENTRY OF FILL OR VERMIN, OR;
 - 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.
- 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.
- ALL DRAIN CONNECTIONS BENEATH THE HIGHWAY ARE TO HAVE MINIMUM 150mm CONCRETE BED AND SURROUND, WHERE COVER IS LESS THAN 1.2m.
- REFER TO PRE-TENDER HEALTH & SAFETY PLAN & CONSTRUCTION PHASE HEALTH & SAFETY PLAN PRIOR TO THE COMMENCEMENT OF WORKS.

CDM NOTES:

- THE ATTENTION OF THE CLIENT AND THE PRINCIPAL CONTRACTOR IS DRAWN TO THE FOLLOWING POTENTIAL RISKS IN CONJUNCTION WITH THE PROPOSED ON-SITE AND OFF-SITE WORKS AS DESIGNED FOR THIS PROJECT.
- WORKS IN THE VICINITY OF LIVE SERVICES WILL BE NECESSARY AND THE ADVICE OF ALL STATUTORY SERVICE COMPANIES MUST BE SOUGHT BEFORE ANY WORKS COMMENCE.
- 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.
- HAZARDOUS MATERIALS INCLUDING CEMENT AND BITUMINOUS MATERIALS ARE SPECIFIED AND THE MANUFACTURER'S 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 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.
- THE CONTRACTOR MUST ENSURE ALL WORKING AREAS ARE FULLY SECURE.

Rev	Description	MJR	CHK	APP	Date
C8	SWALE BY PLOT S8 REMOVED FOLLOWING CLIENT COMMENT/REQUEST	MJR	MJR	JEC	02.09.25
C7	GULLY TO SUBSTATION ADDED	MJR	MJR	JEC	16.05.23
C6	GULLY POSITION UPDATED TO SUIT REVISED TURNING HEAD FOLLOWING CLIENT COMMENTS	UN	MJR	JEC	27.05.22
C5	W14.1 & P14.001 UPDATED TO SUIT RFI	JM	JM	GH	01.07.20
C4	UPDATED AS PER REV CLOUDS TO SUIT RFI	JM	JM	GH	16.06.20
C3	SWALES UPDATED SEE REV CLOUD	UN	JM	GH	28.11.19
C2	REVISED TO SUIT COMBINED SERVICES LAYOUT	JM	JM	GH	22.08.19
C1	ISSUED FOR CONSTRUCTION	MJR	JM	GH	09.08.19

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

Client: **LINDEN HOMES SOUTH**

Project Title: **LAND EAST OF TYE LANE, WALBERTON**

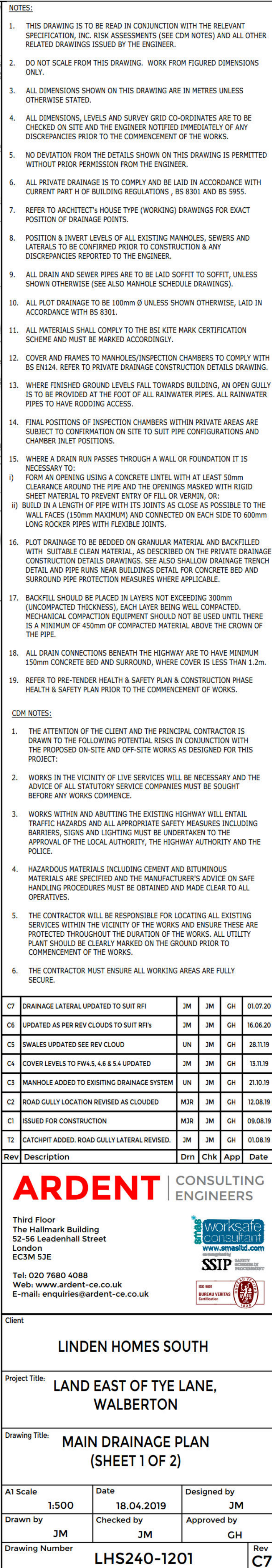
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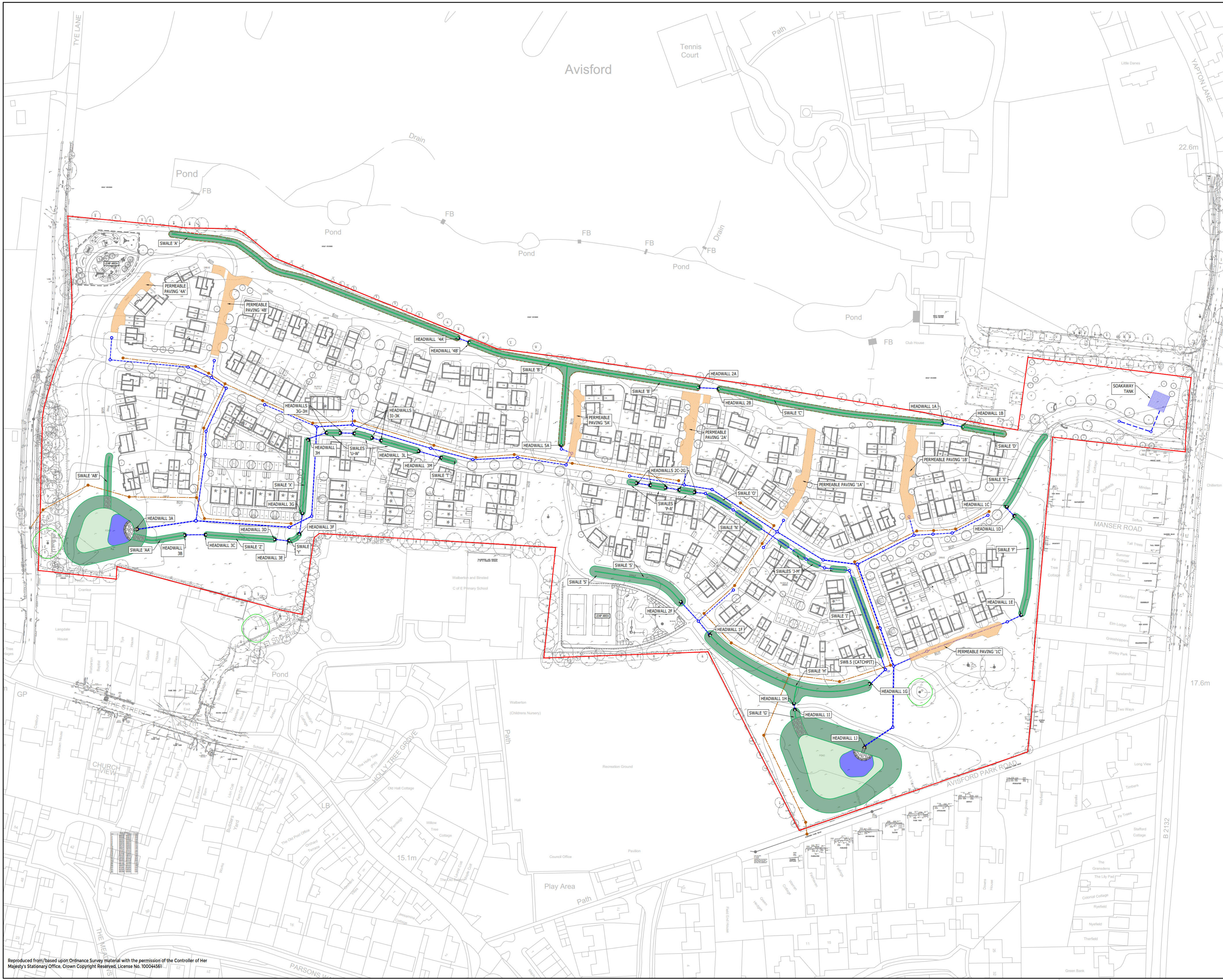
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Drawn by	Checked by	Approved by
JM	JM	GH

Drawing Number	Rev
LHS240-1202	C8

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NOTES:

- THIS DRAWING IS BASED ON THE TOPOGRAPHIC SURVEY UNDERTAKEN BY GEOMATIC SURVEYORS DRAWING NUMBER 258WT01, DATED NOVEMBER 2019.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARDENT CONSULTING ENGINEERS' DRAWING NUMBER LHS240-1201, TITLED MAIN DRAINAGE PLAN DATED APRIL 2019.

LEGEND

- SITE BOUNDARY
- PERMEABLE PAVING
- PROPOSED SWALE
- PROPOSED LINED SWALE
- PROPOSED CONVEYANCE SWALE
- PROPOSED HEADWALLS
- CATCHPIT MANHOLE

FOR INFORMATION ONLY

Rev	Description	Dn	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 worksafe consultant www.smaistd.com SSIP ISO 9001 BUREAU VERITAS					
Client					
LINDEN HOMES SOUTH					
Project Title:					
LAND EAST OF TYE LANE, WALBERTON					
Drawing Title:					
SuDS KEY PLAN - OVERALL SITE					
A1 Scale	Date	Designed by			
1:1000	MARCH 23	MJR			
Drawn by	Checked by	Approved by			
MJR	MJR	JEC			
Drawing Number					Rev
LHS240-1235					—

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Vistry South East Ltd

Avisford Grange, Walberton, West Sussex

March 2023



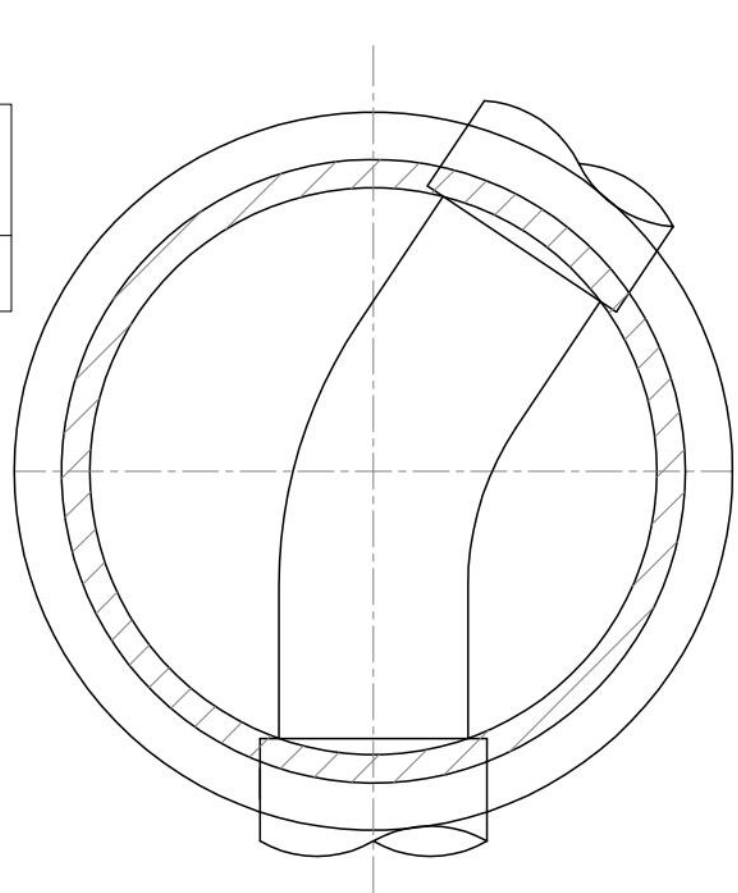
Appendix B

Infrastructure Construction Details

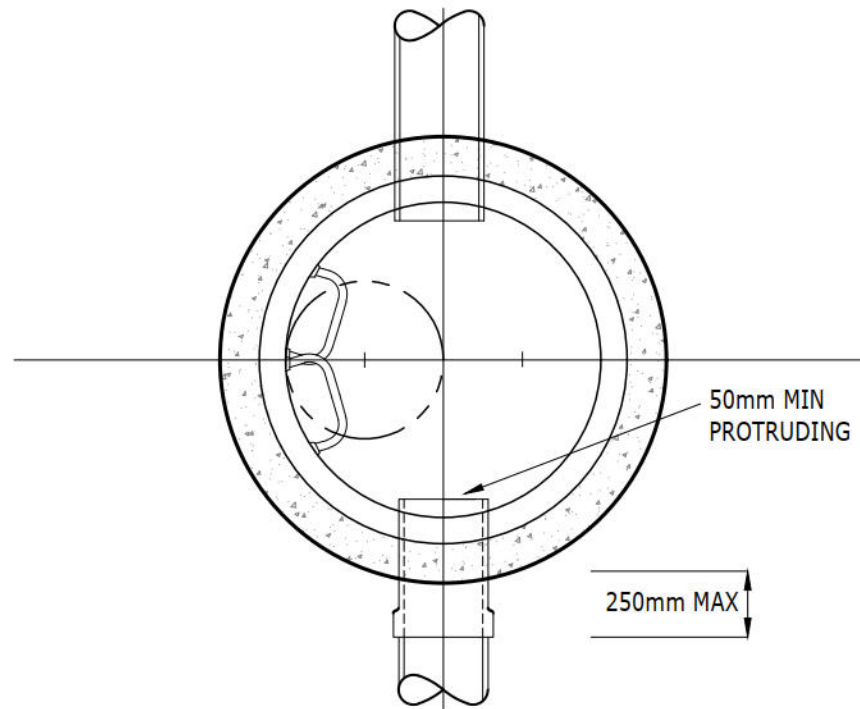
- LHS240-1221_C1 Drainage Construction Details Sheet 1
- LHS240-1222_C1 Drainage Construction Details Sheet 2
- LHS240-1223_C1 Drainage Construction Details Sheet 3

SHAFT DIAMETERS	
DIA OF LARGEST PIPE IN MH (mm)	INTERNAL DIA. OF MH (mm)
LESS THAN 375	1200

NOTE:
IF PIPE DIAMETER IS 375mm OR ABOVE
USE 1500mm DIAMETER TYPE B.

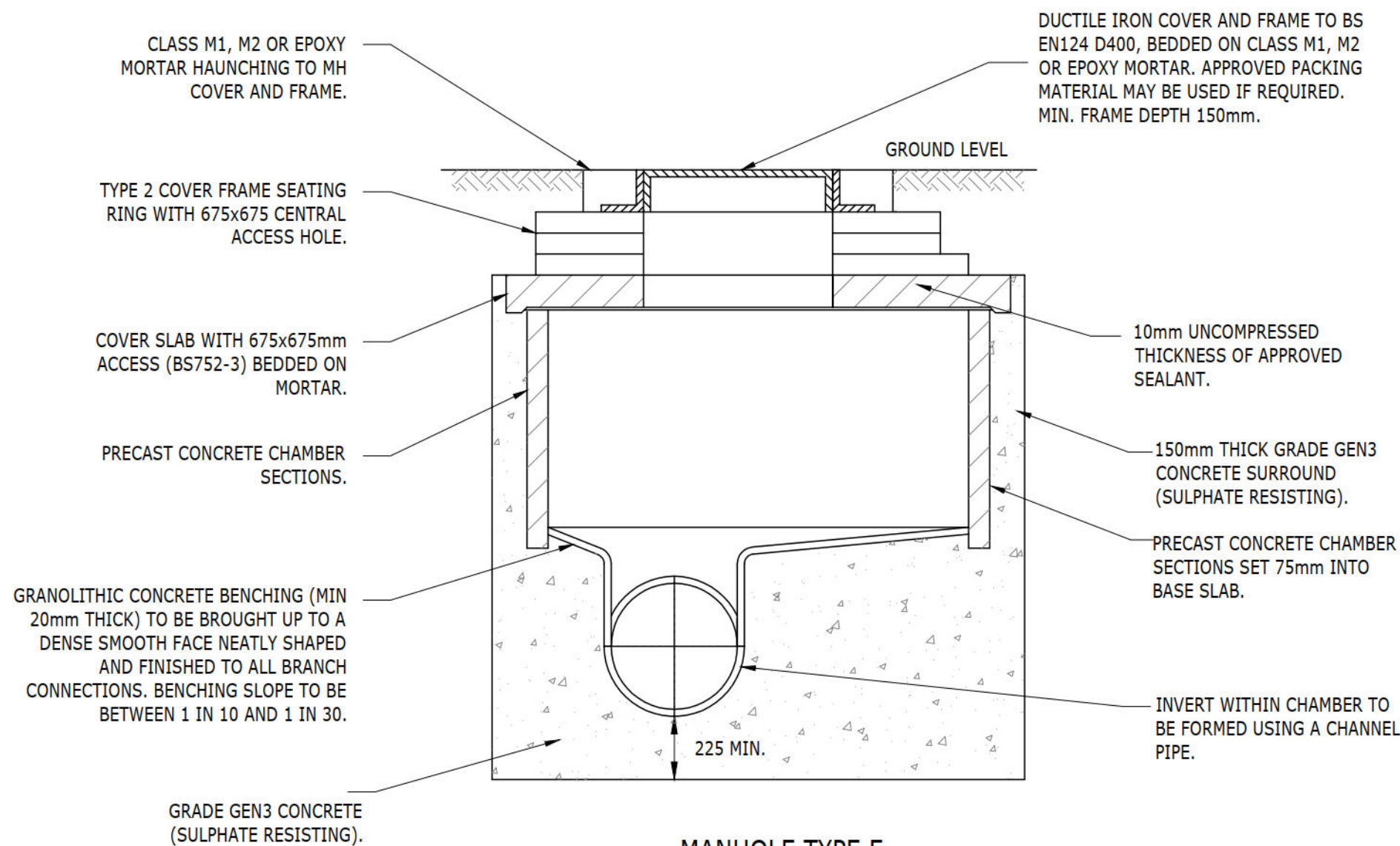


ALL PIPES ENTERING OR LEAVING
MANHOLES SHALL HAVE A FLEXIBLE
JOINT WITHIN 600mm OF THE INSIDE
FACE OF THE MANHOLE. THE NEXT
PIPE SHALL BE A SHORT 'ROCKER
PIPE' 600mm LONG.

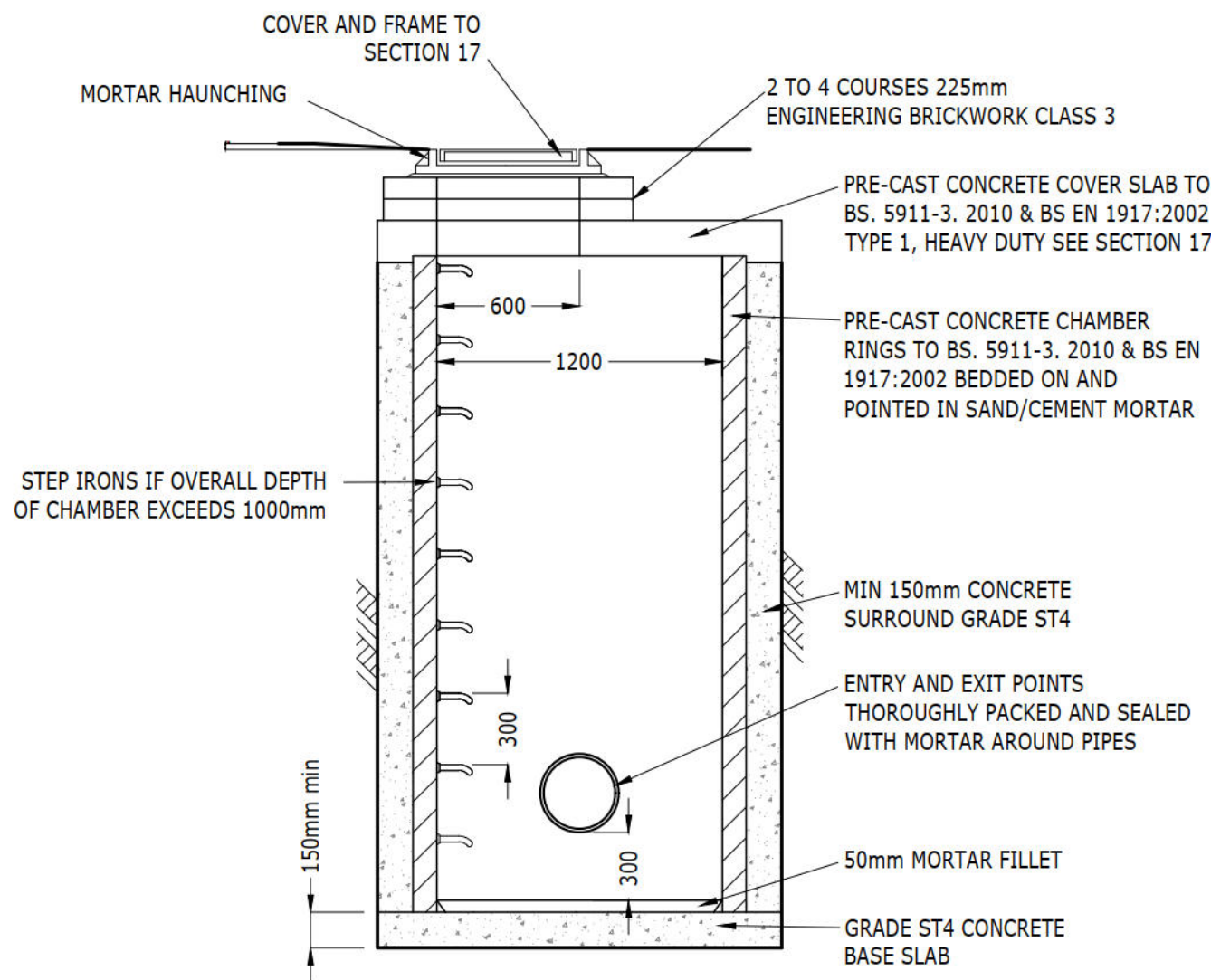


- NOTES:
- MANHOLE RINGS, SLAB AND ST 1 CONCRETE TO BE MADE USING SULPHATE RESISTING CONCRETE.
 - EXCESS EXCAVATION CONCRETE BACKFILL TO BE ST 1 CONCRETE REFER TO MANHOLE SCHEDULES FOR RING DIAMETER

PLAN

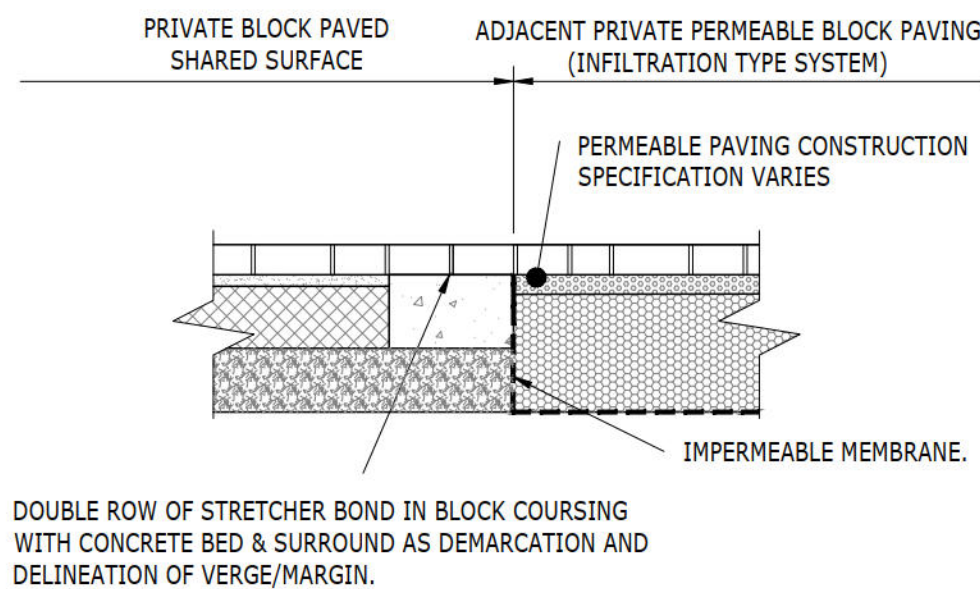


MANHOLE TYPE E
(DEPTH TO SOFFIT 1.00m TO 1.50m)
(1:20)

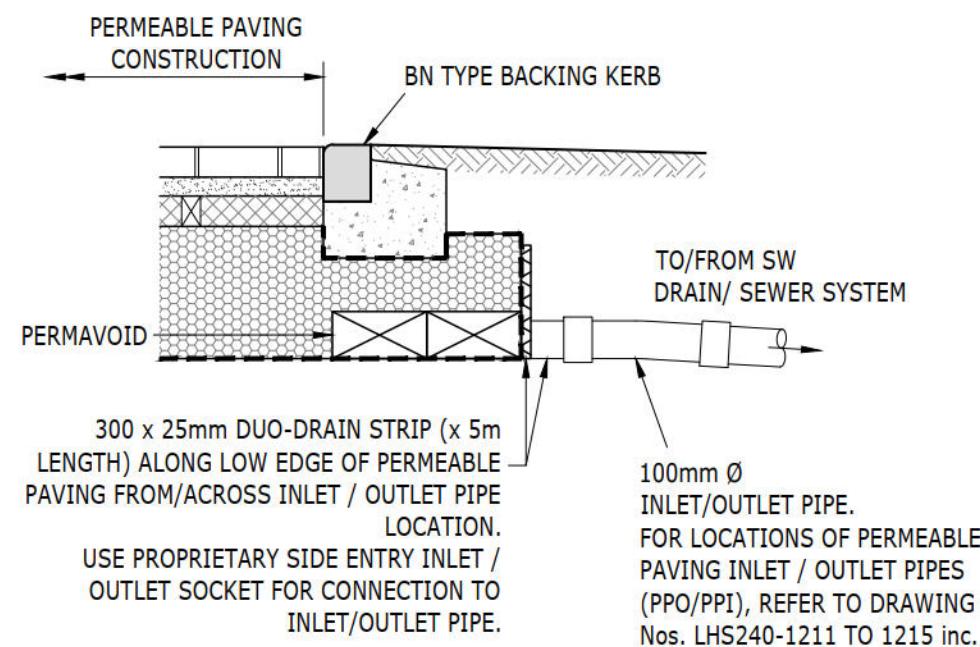


SECTION

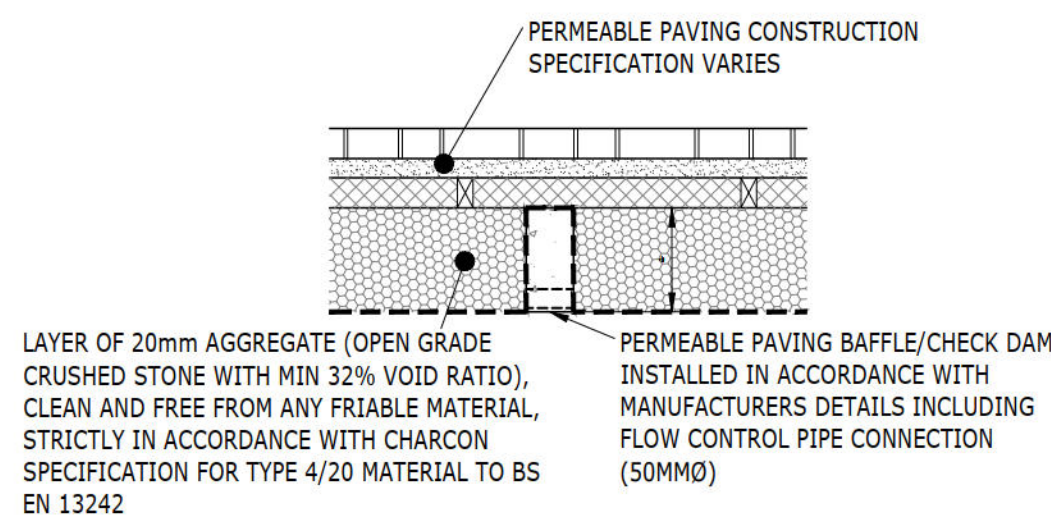
TYPICAL CATCHPIT DETAIL
(1:10)



**TYPICAL FLUSH INTERFACE BETWEEN PRIVATE BLOCK PAVED
CARRIAGEWAY & PRIVATE PERMEABLE PAVED CONSTRUCTION**
(1:20)

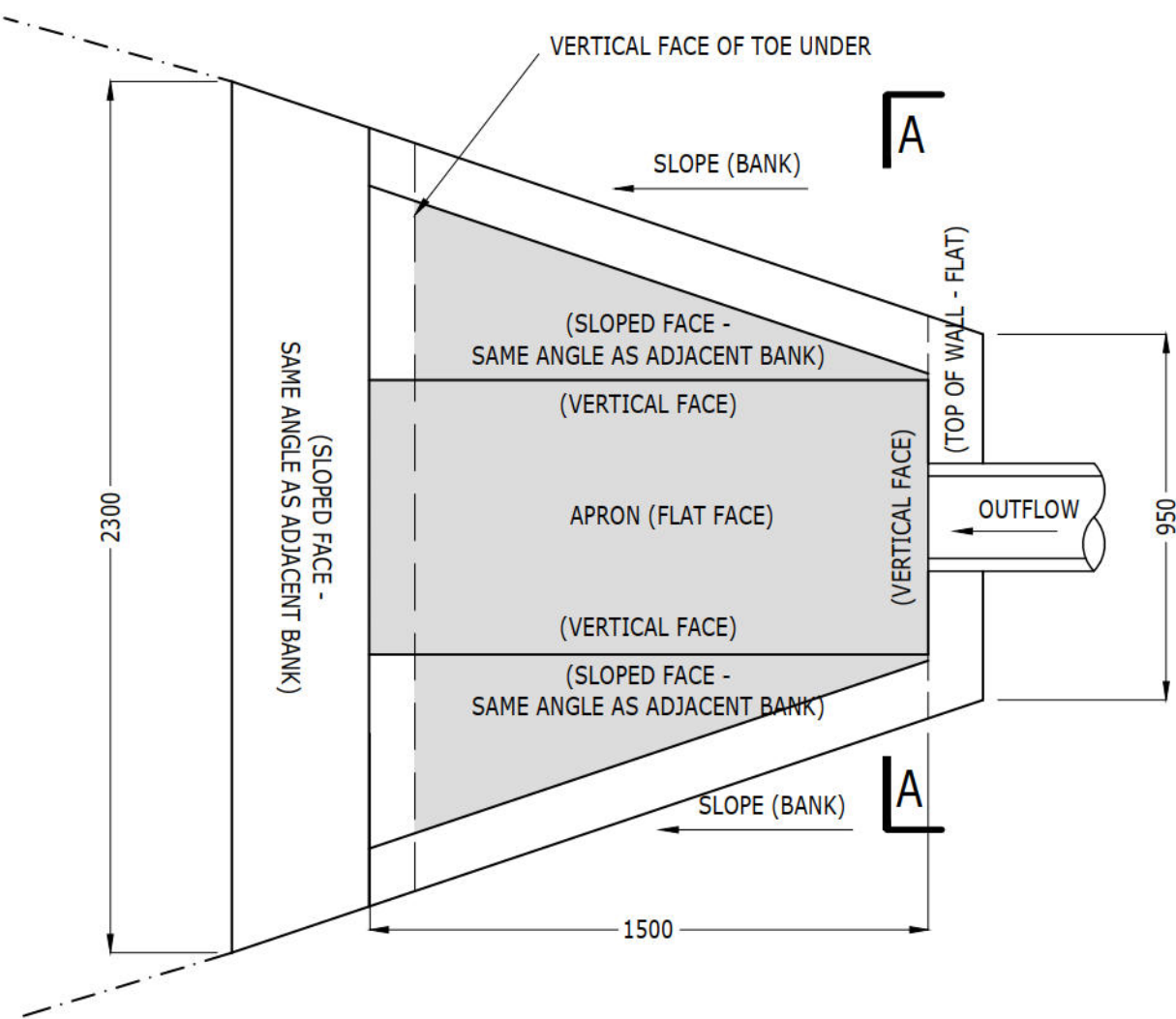


**TYPICAL PERMEABLE PAVING
INLET / OUTLET PIPE DETAIL**
(1:20)

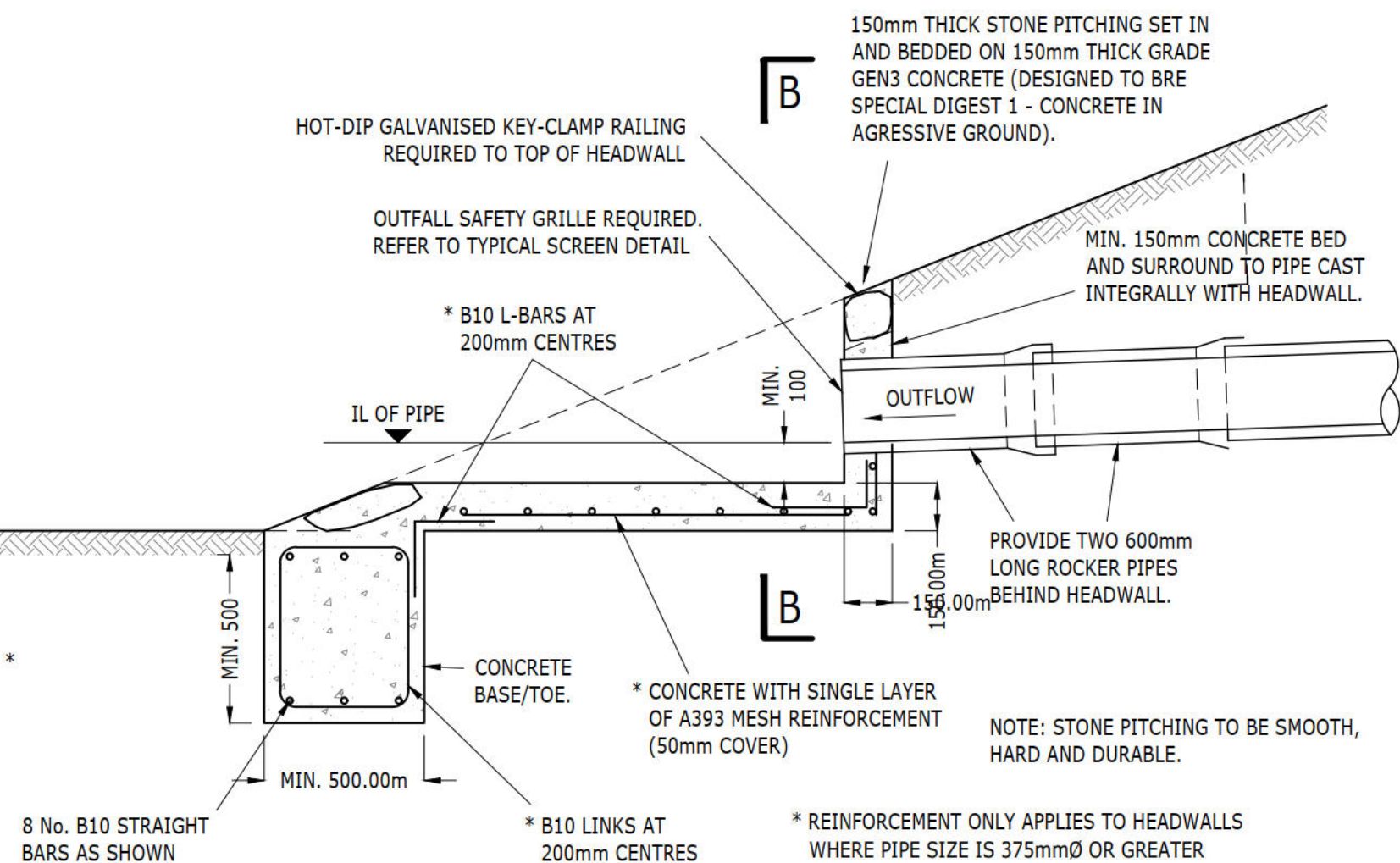


**TYPICAL PERMEABLE PAVING
BAFFLE / CHECK DAM DETAIL**
(1:20)

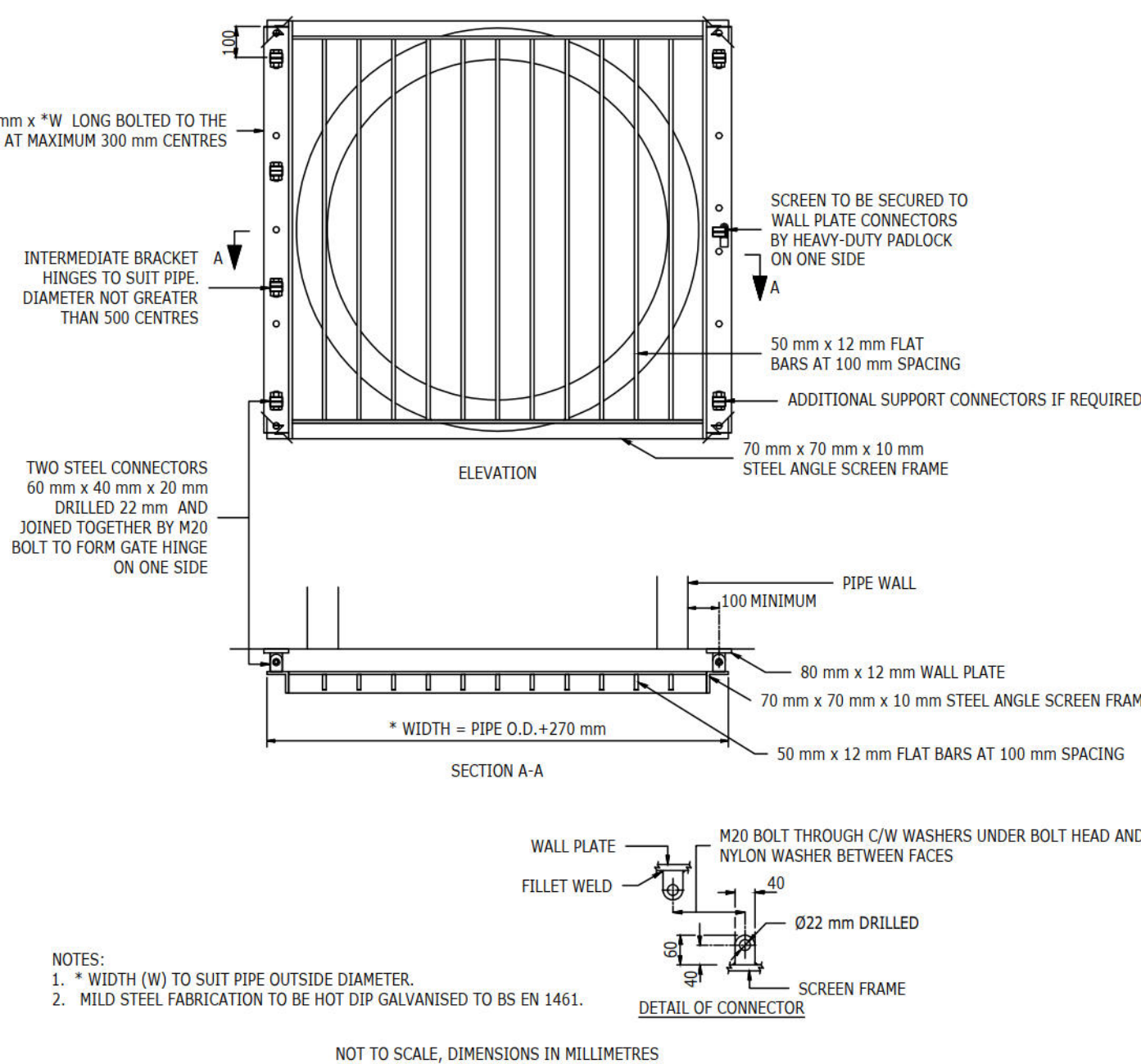
CONSTRUCTION
ISSUE



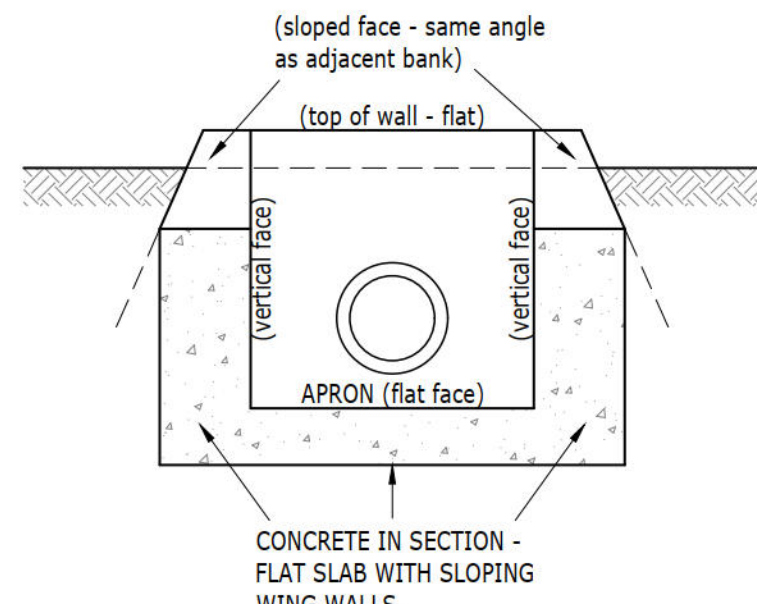
HEADWALL / OUTFALL TO POND



**TYPICAL SECTION A-A THROUGH
HEADWALL / PIPE OUTFALL TO POND**



TYPICAL OUTFALL SAFETY GRILLE



SECTION B-B

- NOTES:
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT SPECIFICATION, INC. RISK ASSESSMENTS (SEE CDM NOTES) AND ALL OTHER RELATED DRAWINGS ISSUED BY THE ENGINEER.
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 - REFER TO ARCHITECT'S HOUSE TYPE (WORKING) DRAWINGS FOR EXACT POSITION OF DRAINAGE POINTS.
 - POSITION & INVERT LEVELS OF ALL EXISTING MANHOLES, SEWERS AND LATERALS TO BE CONFIRMED PRIOR TO CONSTRUCTION & ANY DISCREPANCIES REPORTED TO THE ENGINEER.
 - ALL DRAIN AND SEWER PIPES ARE TO BE LAID SOFFIT TO SOFFIT, UNLESS SHOWN OTHERWISE (SEE ALSO MANHOLE SCHEDULE DRAWINGS).
 - ALL PLOT DRAINAGE TO BE 100mm Ø UNLESS SHOWN OTHERWISE, LAID IN ACCORDANCE WITH BS 8301.
 - ALL MATERIALS SHALL COMPLY TO THE BSI KITE MARK CERTIFICATION SCHEME AND MUST BE MARKED ACCORDINGLY.
 - COVER AND FRAMES TO MANHOLES/INSPECTION CHAMBERS TO COMPLY WITH BS EN124. REFER TO PRIVATE DRAINAGE CONSTRUCTION DETAILS DRAWING.
 - WHERE FINISHED GROUND LEVELS FALL TOWARDS BUILDING, AN OPEN CULLY IS TO BE PROVIDED AT THE FOOT OF ALL RAINWATER PIPES. ALL RAINWATER PIPES TO HAVE RODDING ACCESS.
 - FINAL POSITIONS OF INSPECTION CHAMBERS WITHIN PRIVATE AREAS ARE SUBJECT TO CONFIRMATION ON SITE TO SUIT PIPE CONFIGURATIONS AND CHAMBER INLET POSITIONS.
 - WHERE A DRAIN RUN PASSES THROUGH A WALL OR FOUNDATION IT IS NECESSARY TO:
 - FORM AN OPENING USING A CONCRETE LINTEL WITH AT LEAST 50mm CLEARANCE AROUND THE PIPE AND THE OPENINGS MASKED WITH RIGID SHEET MATERIAL TO PREVENT ENTRY OF FILL OR VERMIN, OR:
 - 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.
 - PLOT DRAINAGE TO BE BEDDED ON GRANULAR MATERIAL AND BACKFILLED WITH SUITABLE CLEAN MATERIAL, AS DESCRIBED ON THE PRIVATE DRAINAGE CONSTRUCTION DETAILS DRAWINGS. SEE ALSO SHALLOW DRAINAGE TRENCH DETAIL AND PIPE RUNS NEAR BUILDINGS DETAIL FOR CONCRETE BED AND SURROUND PIPE PROTECTION MEASURES WHERE APPLICABLE.
 - 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.
 - ALL DRAIN CONNECTIONS BENEATH THE HIGHWAY ARE TO HAVE MINIMUM 150mm CONCRETE BED AND SURROUND, WHERE COVER IS LESS THAN 1.2m.
 - REFER TO PRE-TENDER HEALTH & SAFETY PLAN & CONSTRUCTION PHASE HEALTH & SAFETY PLAN PRIOR TO THE COMMENCEMENT OF WORKS.

CI	ISSUED FOR CONSTRUCTION	MJR	JM	GH	09.08.19
Rev	Description	Dwn	Chk	App	Date

ARDENT CONSULTING
ENGINEERS

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

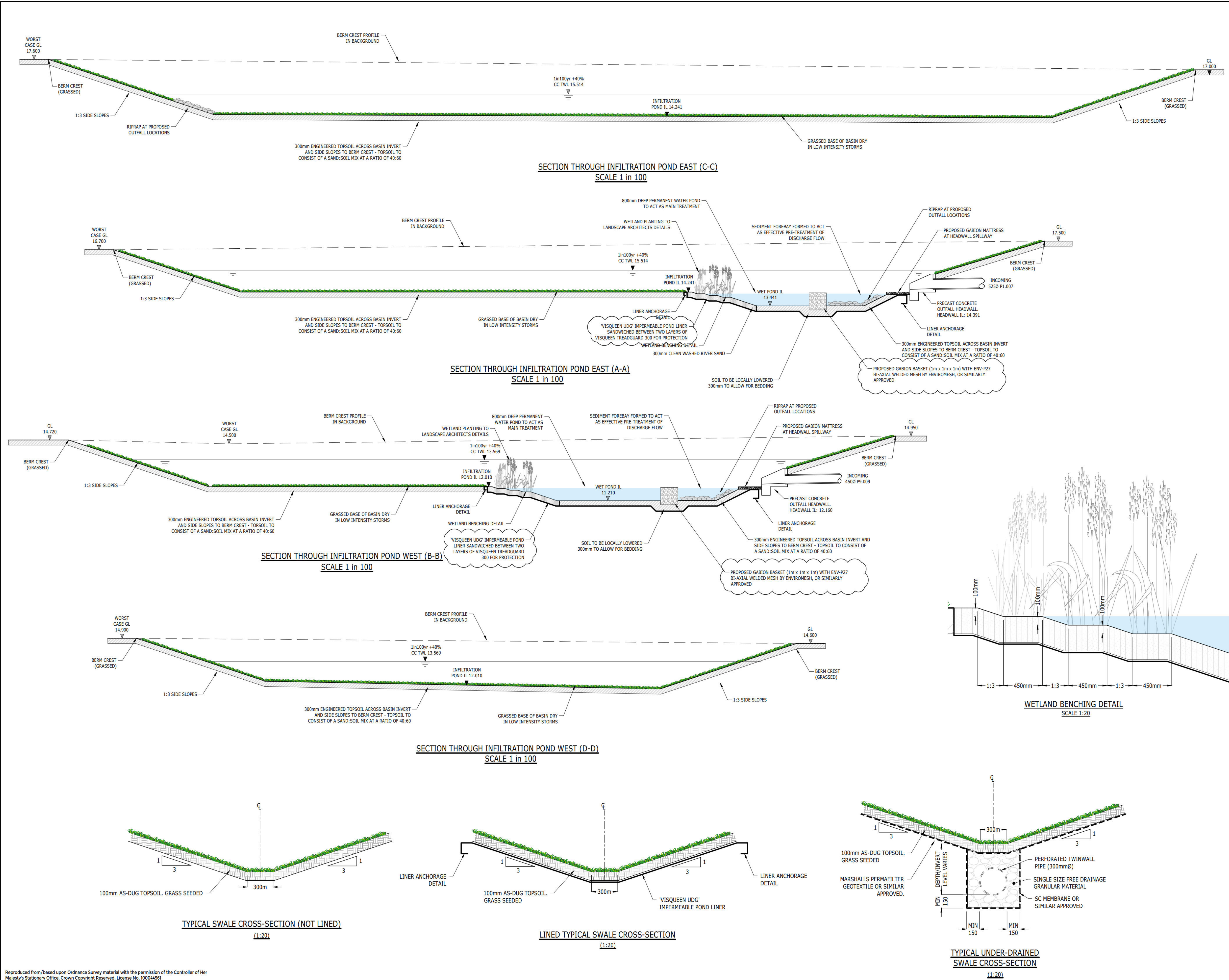
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worksafe
consultant
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SSIP

ISO 9001
REGISTERED
COMPANY

Client					
LINDEN HOMES SOUTH					
Project Title:					
LAND EAST OF TYE LANE, WALBERTON					
Drawing Title:					
MAIN DRAINAGE CONSTRUCTION DETAILS (SHEET 2 OF 3)					
A1 Scale	Date	Designed by			
1:20	APRIL 2019	JM			
Drawn by	Checked by	Approved by			
MJR	JM	GH			
Drawing Number					Rev
LHS240-1222					C1



- NOTES:
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 - ALL MATERIALS SHALL COMPLY TO THE BS1 KITE MARK CERTIFICATION SCHEME AND MUST BE MARKED ACCORDINGLY.
 - COVER AND FRAMES TO MANHOLES/INSPECTION CHAMBERS TO COMPLY WITH BS EN124. REFER TO PRIVATE DRAINAGE CONSTRUCTION DETAILS DRAWING.
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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.
 - PLOT DRAINAGE TO BE BEDDED ON GRANULAR MATERIAL AND BACKFILLED WITH SUITABLE CLEAN MATERIAL, AS DESCRIBED ON THE PRIVATE DRAINAGE CONSTRUCTION DETAILS DRAWINGS. SEE ALSO SHALLOW DRAINAGE TRENCH DETAIL AND PIPE RUNS NEAR BUILDINGS DETAIL FOR CONCRETE BED AND SURROUND PIPE PROTECTION MEASURES WHERE APPLICABLE.
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 - ALL DRAIN CONNECTIONS BENEATH THE HIGHWAY ARE TO HAVE MINIMUM 150mm CONCRETE BED AND SURROUND, WHERE COVER IS LESS THAN 1.2m.
 - REFER TO PRE-TENDER HEALTH & SAFETY PLAN & CONSTRUCTION PHASE HEALTH & SAFETY PLAN PRIOR TO THE COMMENCEMENT OF WORKS.

CONSTRUCTION
ISSUE

C2	POND LINER UPDATED AND LIMESTONE BOULDERS CHANGED TO GABIONS FOLLOWING COMMENTS	MJR	MJR	JEC	13.01.21
C1	ISSUED FOR CONSTRUCTION	MJR	JM	GH	09.08.19
T2	WETLAND BENCHES ADDED TO SECTIONS	JS	JM	GH	19.07.19
Rev	Description	Dn	Chk	App	Date

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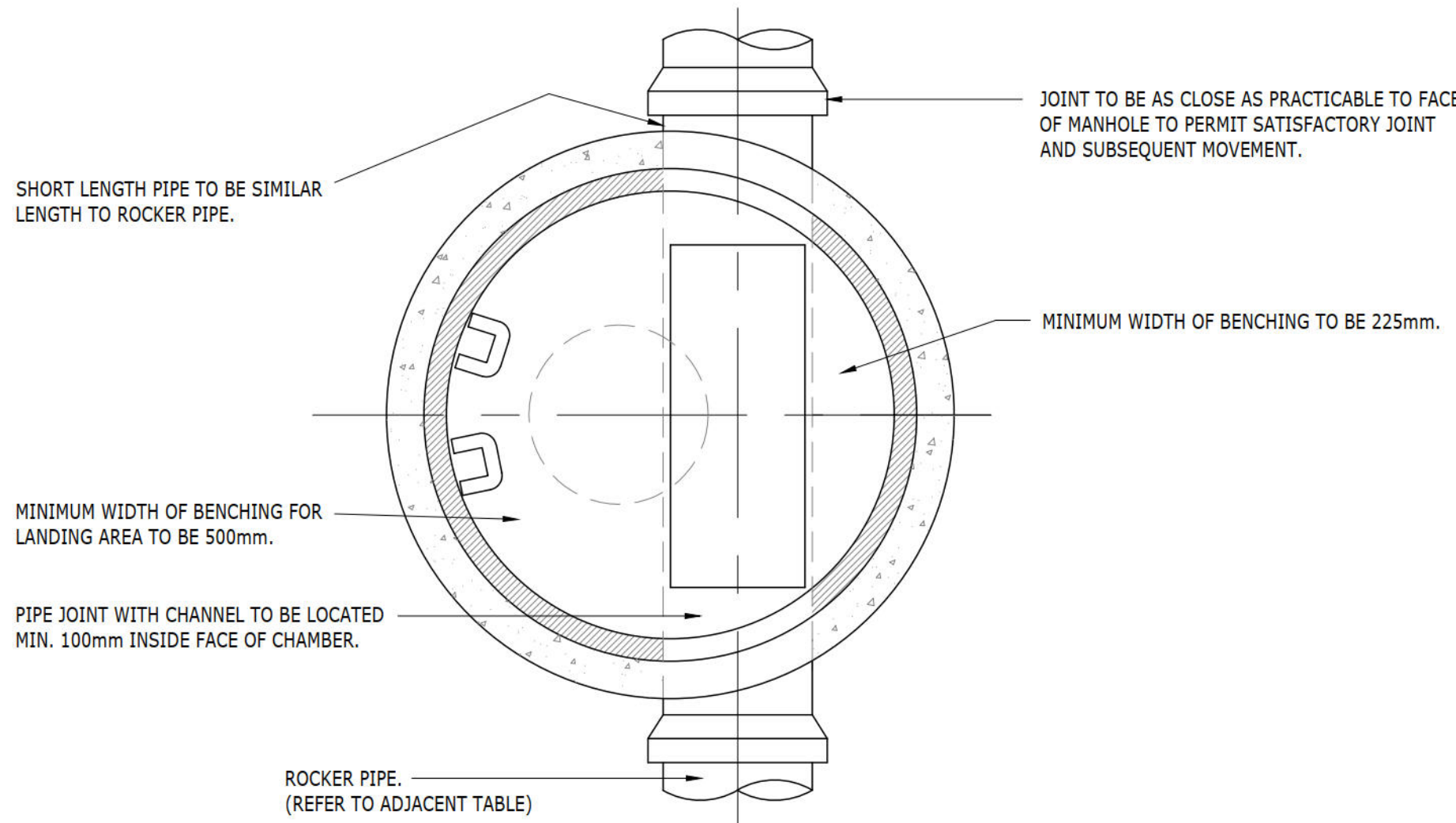
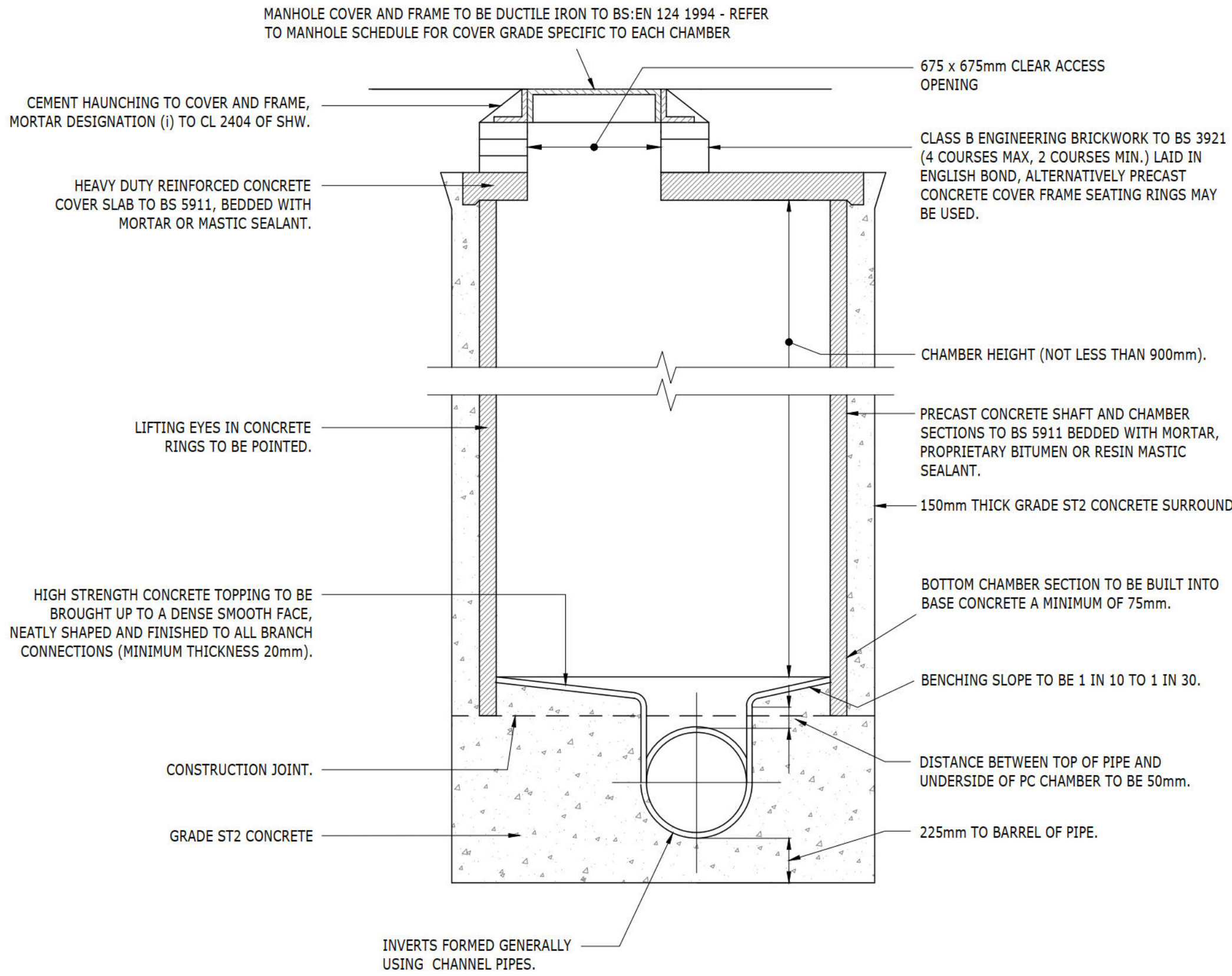


Client
LINDEN HOMES SOUTH

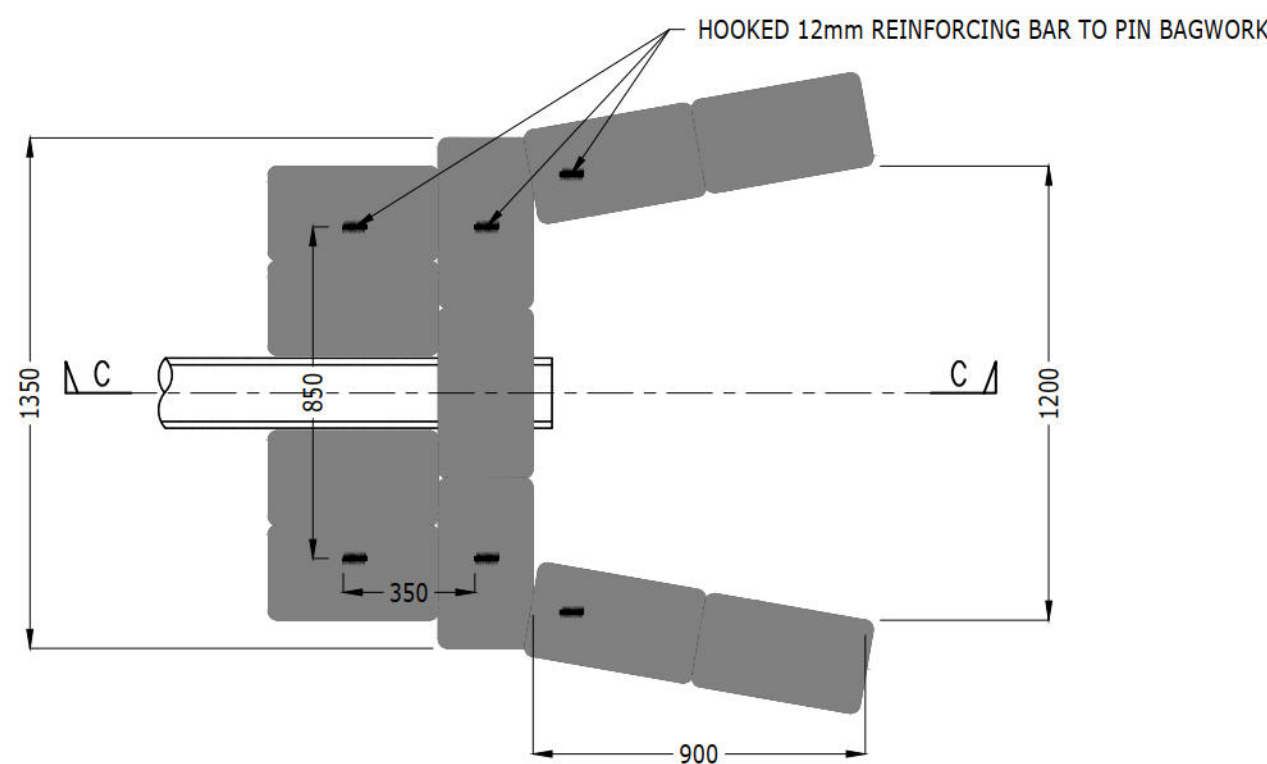
Project Title
LAND EAST OF TYE LANE, WALBERTON

Drawing Title
MAIN DRAINAGE CONSTRUCTION DETAILS (SHEET 3 OF 3)

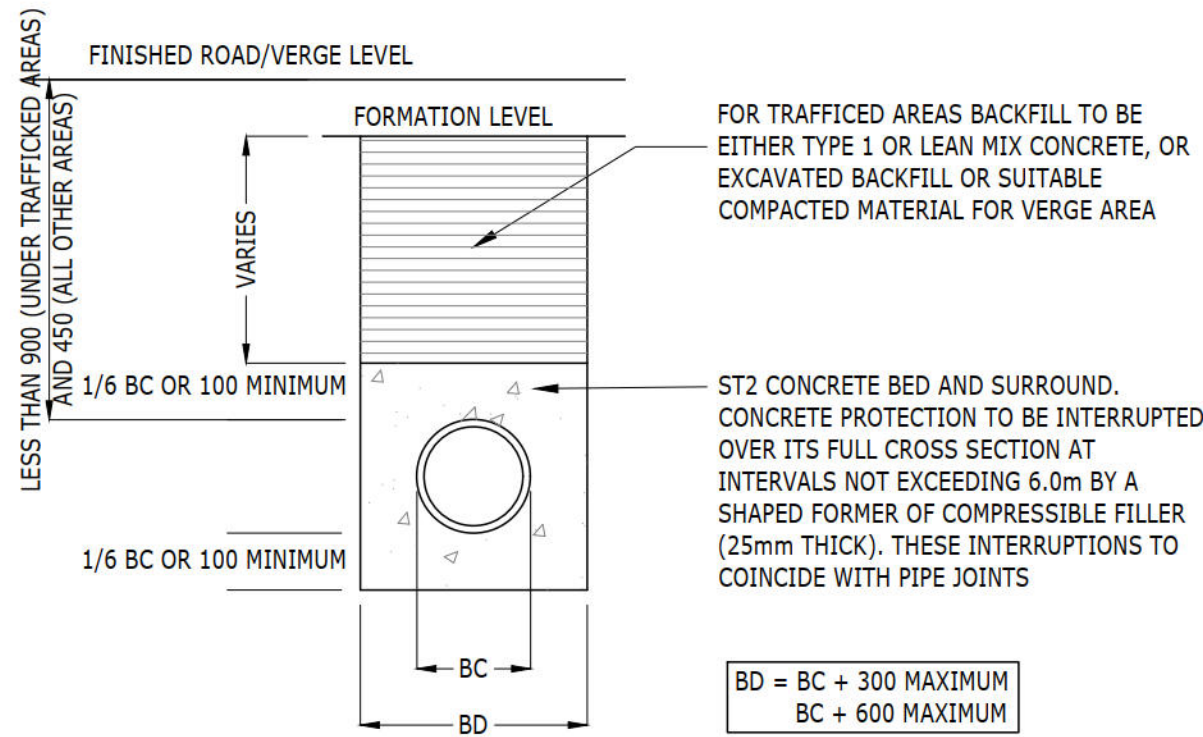
A1 Scale	1:20	Date	APRIL 2019	Designed by	JM
Drawn by	JS	Checked by	JM	Approved by	GH
Drawing Number	LHS240-1223	Rev	C2		



PRIVATE MANHOLE TYPE B
(MAX DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE 3.0m)



INLET/OUTLET SWALE HEADWALL PLAN

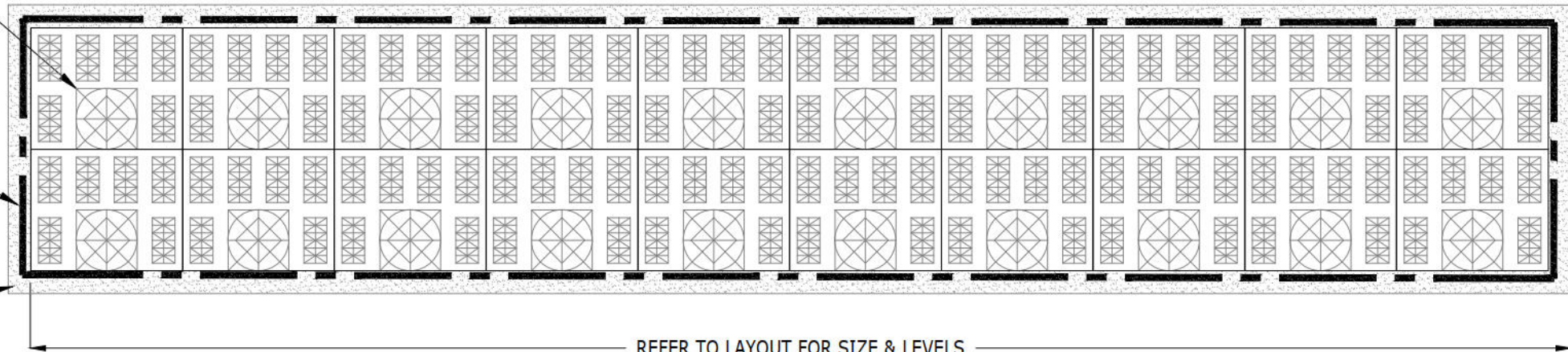


SHALLOW TRENCH DETAIL

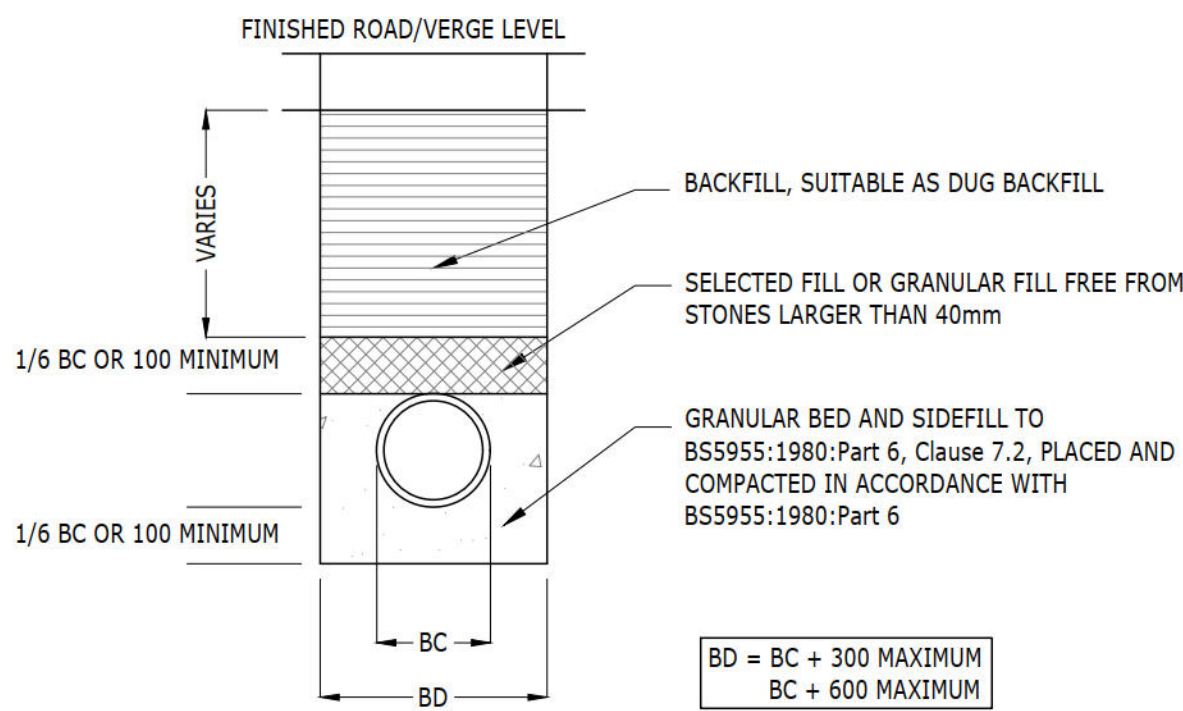
1.0m x 0.5m x 0.4m(D) WAVIN AQUACELL PLUS GEO-CELLULAR PLASTIC STORAGE CRATES OR SIMILAR APPROVED TO SUIT DEPTH OF CRATE INVERT - INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS

WRAPPED IN PERMEABLE GEOMEMBRANE - INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS AND DETAILS

100mm MIN. WELL COMPACTED COARSE SAND CUSHION LAYER



TYPICAL CELLULAR SOAKAWAY DETAIL
(1:20)



TYPICAL TRENCH DETAIL

ALL PIPES ENTERING OR LEAVING MANHOLES SHALL HAVE A FLEXIBLE JOINT WITHIN 600mm OF THE INSIDE FACE OF THE MANHOLE. THE NEXT PIPE SHALL BE A SHORT "ROCKER PIPE" WITH LENGTH AS TABLE BELOW.

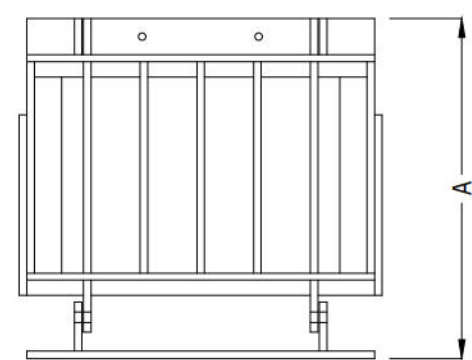
ROCKER PIPES	
SEWER DIAMETER (mm)	EFFECTIVE LENGTH (mm)
150 TO 600	600
675 TO 750	1000
825 AND OVER	1250

TABLE 1

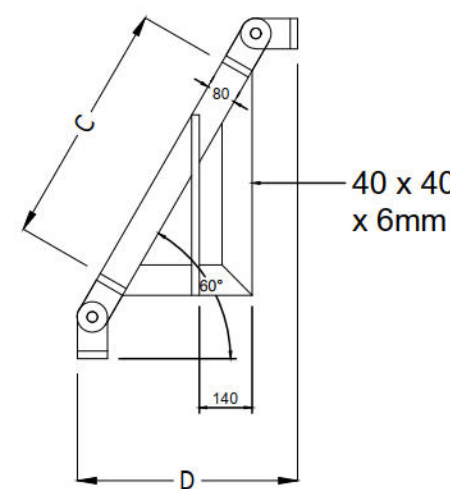
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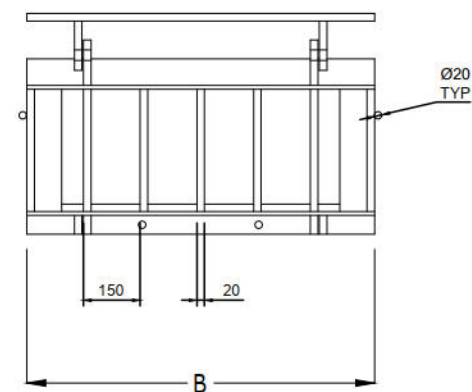
CONSTRUCTION
ISSUE



FRONT
ELEVATION

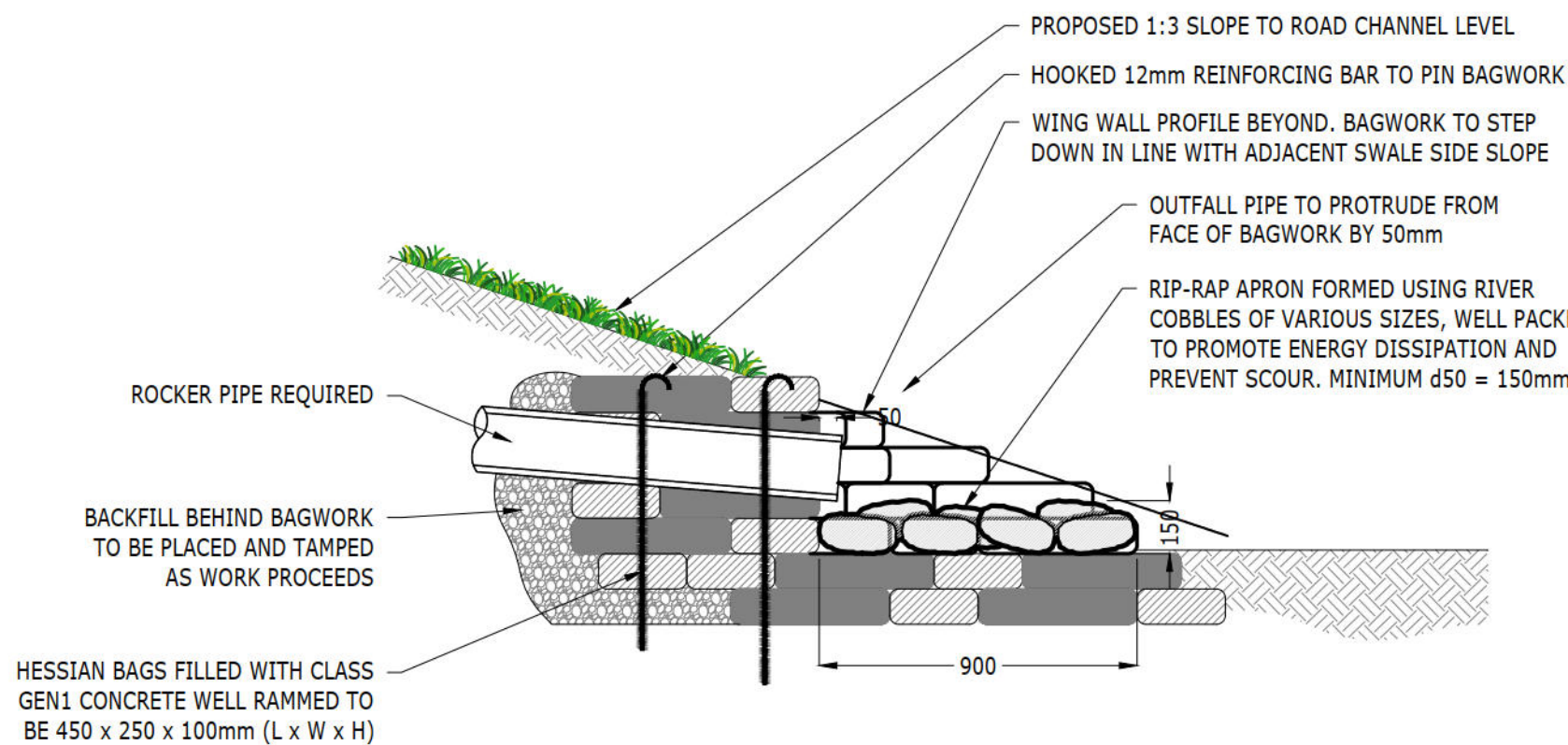


SIDE ELEVATION



PLAN

DEBRIS SCREEN DIMENSIONS						
HEADWALL	PIPE Ø	DIMENSION 'A'	DIMENSION 'B'	DIMENSION 'C'	DIMENSION 'D'	ALTHON LTD PRODUCT NAME
SWALE	300	600	610	496	378	300mm SLOPED TRASH SCREEN & SIDES (60° RAKE)



HEADWALL : SECTION C-C

Vistry South East Ltd

Avisford Grange, Walberton, West Sussex

March 2023



Appendix C

QA Images

Vistry South East Ltd

Avisford Grange, Walberton, West Sussex

March 2023

barter hill



Swale E - 17 January 2022 - complete and functioning