



Drainage Strategy

AEG6735_BN5_Henfield_07_A

Site Address: Stonepit Lane

Henfield

BN5 9QU

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UK Experts in Flood Modelling, Flood Risk
Assessments, and Surface Water Drainage Strategies

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Document Issue Record

Project: Drainage Strategy

Prepared for: Manorwood

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Site Location: Stonepit Lane, Henfield, BN5 9QU

Issue	Date	Author	Check	Auth.	Comments
1	03/03/2025	Daniel Buciak	James Mahoney	James Mahoney	First issue
2	10/04/2025	Daniel Buciak	James Mahoney	James Mahoney	Updated to latest layout for 3 No Pitch scheme

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1. Introduction

- 1.1. Aegaea were commissioned by the Client to prepare a Drainage Strategy to support a planning application associated with the proposed development on land at Stonepit Lane, Henfield, BN5 9QU.
- 1.2. The development proposals comprise the erection/stationing of 3 no. static caravans for residential purposes along with utility buildings, the formation of hardstanding and associated landscaping.
- 1.3. The proposed development layout drawings are contained within Appendix A.

Site Overview

- 1.4. The site of the proposed development is shown in the location plan, Figure 1, below.

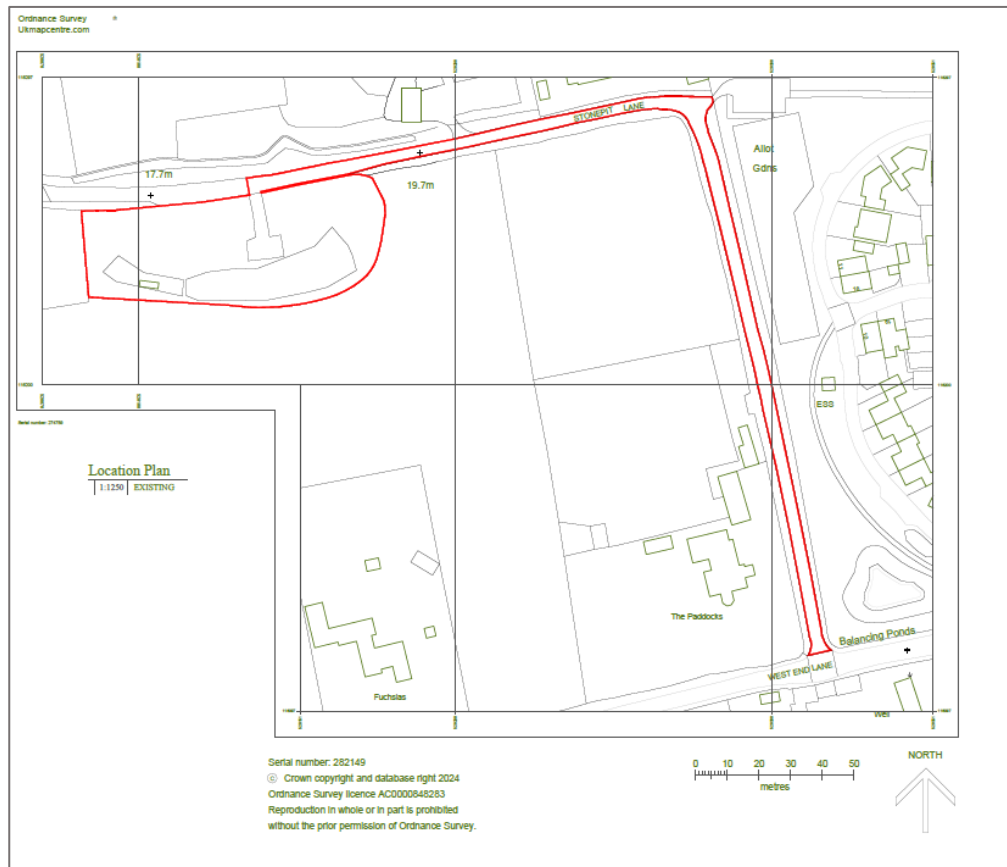


Figure 1: Site Location Plan

- 1.5. The site (excluding areas of Stonepit Lane) measures approximately 0.32 hectares and was previously part of a stone quarry. There is a small container/storage building to the western half of the site. The site has access and hardstanding onto Stonepit Lane and the remainder of the site is relatively open and laid to grass with several trees located within the site.
- 1.6. The general topography across the site comprises as fall northwards towards Stonepit Lane. There is also a fall from east to west across the site and relatively nominal fall within the central part of the site. A copy of the topographical survey is contained in Appendix A.

Existing Drainage Arrangements

- 1.7. No existing drainage arrangements have been identified within the vicinity of the site. A copy of the public sewer records is contained in Appendix B.

2. Surface Water Drainage Strategy

Ground Conditions

- 2.1. A review of publicly available information (LandIS – Soilscales) indicates that the site is located within an area of freely draining lime-rich loamy soils underlain by Lower Greensand Group – Sandstone bedrock formation.
- 2.2. An infiltration rate has been assumed using Soilscales mapping and the typical infiltration coefficients contained in Table 25.1 of The SuDS Manual (extract figure 2 below).
- 2.3. Based on Table 25.1 the freely draining slightly acid loamy soils characteristics correspond with an infiltration rate between 1×10^{-4} m/s and 3×10^{-5} m/s. For the purposes of this drainage strategy, the conservative rate of 3×10^{-5} m/s has been assumed. Infiltration tests in accordance with BRE Digest 365 will be undertaken prior to detailed design to confirm infiltration rates within the site.

Soil type/texture	ISO 14688-1 description (after Blake, 2010)	Typical infiltration coefficients (m/s)
Good infiltration media - gravel - sand - loamy sand - sandy loam	Sandy GRAVEL Slightly silty slightly clayey SAND Silty slightly clayey SAND Silty clayey SAND	$3 \times 10^{-4} - 3 \times 10^{-2}$ $1 \times 10^{-5} - 5 \times 10^{-5}$ $1 \times 10^{-4} - 3 \times 10^{-5}$ $1 \times 10^{-7} - 1 \times 10^{-5}$
Poor infiltration media - loam - silt loam - chalk (structureless) - sandy clay loam	Very silty clayey SAND Very sandy clayey SILT N/A Very clayey silty SAND	$1 \times 10^{-7} - 5 \times 10^{-6}$ $1 \times 10^{-7} - 1 \times 10^{-5}$ $3 \times 10^{-9} - 3 \times 10^{-6}$ $3 \times 10^{-10} - 3 \times 10^{-7}$
Very poor infiltration media - silty clay loam - clay - till	– – Can be any texture of soil described above	$1 \times 10^{-8} - 1 \times 10^{-6}$ $< 3 \times 10^{-8}$ $3 \times 10^{-9} - 3 \times 10^{-6}$
Other rock* (note mass infiltration capacity will depend on the type of rock and the extent and nature of discontinuities and any infill)	N/A	$3 \times 10^{-9} - 3 \times 10^{-5}$

Figure 2: Table 25.1 of The SuDS Manual - Typical Infiltration Coefficients

Proposed Drainage Strategy

- 2.4. Current guidance indicates that the following surface water disposal options should be considered, listed in order of preference:
- i. **Disposal via on-site infiltration systems:** It is proposed that surface water runoff from the proposed development is discharged to ground through onsite infiltration system.
 - ii. **Disposal to a watercourse/surface water body:** There are no watercourses or surface water bodies within the vicinity of the site.
 - iii. **Disposal to surface water sewer:** There are no public surface water sewers located within the vicinity of the site.
 - iv. **Disposal to combined sewer:** There are no public combined sewers located within the vicinity of the site.
- 2.5. The surface water runoff from the proposed development will be managed through a series of SuDS features. Runoff from roof areas would be conveyed to rainwater harvesting units that will provide grey water into the proposed development. The rainwater tank would have an overflow into the mains drainage which, in accordance with the SuDS hierarchy, will discharge surface water flows into the ground via a deepened permeable paving system.
- 2.6. The proposed drainage features have been sized to accommodate surface water runoff from all proposed impermeable areas on site, including all modelled 1 in 100-year storm events with an appropriate allowance (45%) made for climate change.
- 2.7. The proposed drainage layout and details can be found in Appendix C. Supporting drainage calculations are contained within Appendix D.

3. Future Maintenance Strategy

General Maintenance

- 3.1. The surface water drainage network will be managed throughout the lifetime by the owners of the proposed development in accordance with details set out below.
- 3.2. All drainage, whether piped or SuDS require regular maintenance. The tables below provide an overview of general maintenance tasks and frequency of which they need to be undertaken.

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Inspect for sediment and debris in catchpit manholes and gullies. Clean out as required	Twice Annually
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)
	Trimming any roots that may be causing blockages	Annually (or as required)
Occasional Maintenance	Remove sediment and debris in catchpits, gullies, attenuation devices and inside concrete manhole rings.	As required, based on inspections.
Remedial actions	Reconstruct and/or replace components, if performance deteriorates or failure/blockage occurs.	As required
	Replacement of clogged components (flow restriction)	As required
Monitoring	Inspect silt traps/gullies/catchpits and note rate of sediment accumulation.	Monthly in the first year and then annually
	Check attenuation devices	Annually

General maintenance for Surface Water Drainage Systems as per CIRIA C753.

- 3.3. The required maintenance for each component making up the drainage system is scheduled in the tables below, based on CIRIA report C753 – The SuDS manual.

SuDS Checklist

3.4. The following lists the SuDS components and extra features which are found on site:

- **Permeable Paving** treats and conveys surface water flows whilst utilising natural losses that promote infiltration into underlying soils.
- **Manholes and inspection chambers** are provided on pipe bends or junctions and will allow access and cleaning of the system as necessary.
- **Below ground drainage** pipes convey water and should be free from obstruction at all times to allow free flow.

Surface Water Drainage Systems

Maintenance Schedule	Required Action	Typical frequency
Regular Maintenance	Inspect for sediment and debris in catchpit manholes and gullies. Clean out as required	Twice Annually
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)
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Occasional Maintenance	Remove sediment and debris in catchpits, gullies, attenuation devices and inside concrete manhole rings.	As required, based on inspections.
Remedial actions	Reconstruct and/or replace components, if performance deteriorates or failure/blockage occurs.	As required
	Replacement of clogged components (flow restriction)	As required
Monitoring	Inspect silt traps/gullies/catchpits and note rate of sediment accumulation.	Monthly in the first year and then annually
	Check attenuation devices	Annually

Permeable Paving

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment.
Occasional Maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying.	As required – once per year on less frequently used pavements
Remedial Maintenance	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving.	As required
	Remediate work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material.	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action.	Three-monthly, 48 hr after large storms in the first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

4. Pollution Prevention & Water Quality Management

SuDS Mitigation Indices

- 4.1. Chapter 26 of the CIRIA C753 The SuDS Manual, provides design advice to meet water quality standards by adopting the SuDS train treatment mechanism and thereby reduce the risk of pollution by evaluating potential pollution hazards at the outset.
- 4.2. The proposed site layout provides the opportunity to introduce SuDS into the scheme to reduce potential contaminant risk further. Runoff from individual property driveways, residential car parks and low traffic roads are generally viewed as low risk (as per Table 26.2 of C753), shown in the tables below.

Land Use	Pollution Hazard Level	Total Suspended Solids (TSS)	Metals	Hydrocarbons
Individual property driveways, residential car parks and low traffic roads	Low	0.5	0.4	0.4

Pollutant Hazard Indices

	Mitigation Indices				Indices for Calculation		
	TSS	Metals	Hydrocarbons		TSS	Metals	Hydrocarbons
Permeable Paving	0.7	0.6	0.7	100%	0.7	0.6	0.7
Total Mitigation Indices score					0.7	0.6	0.7
Sufficiency of Pollution Mitigation Indices					Sufficient (No additional mitigation required)		

SuDS Mitigation Indices

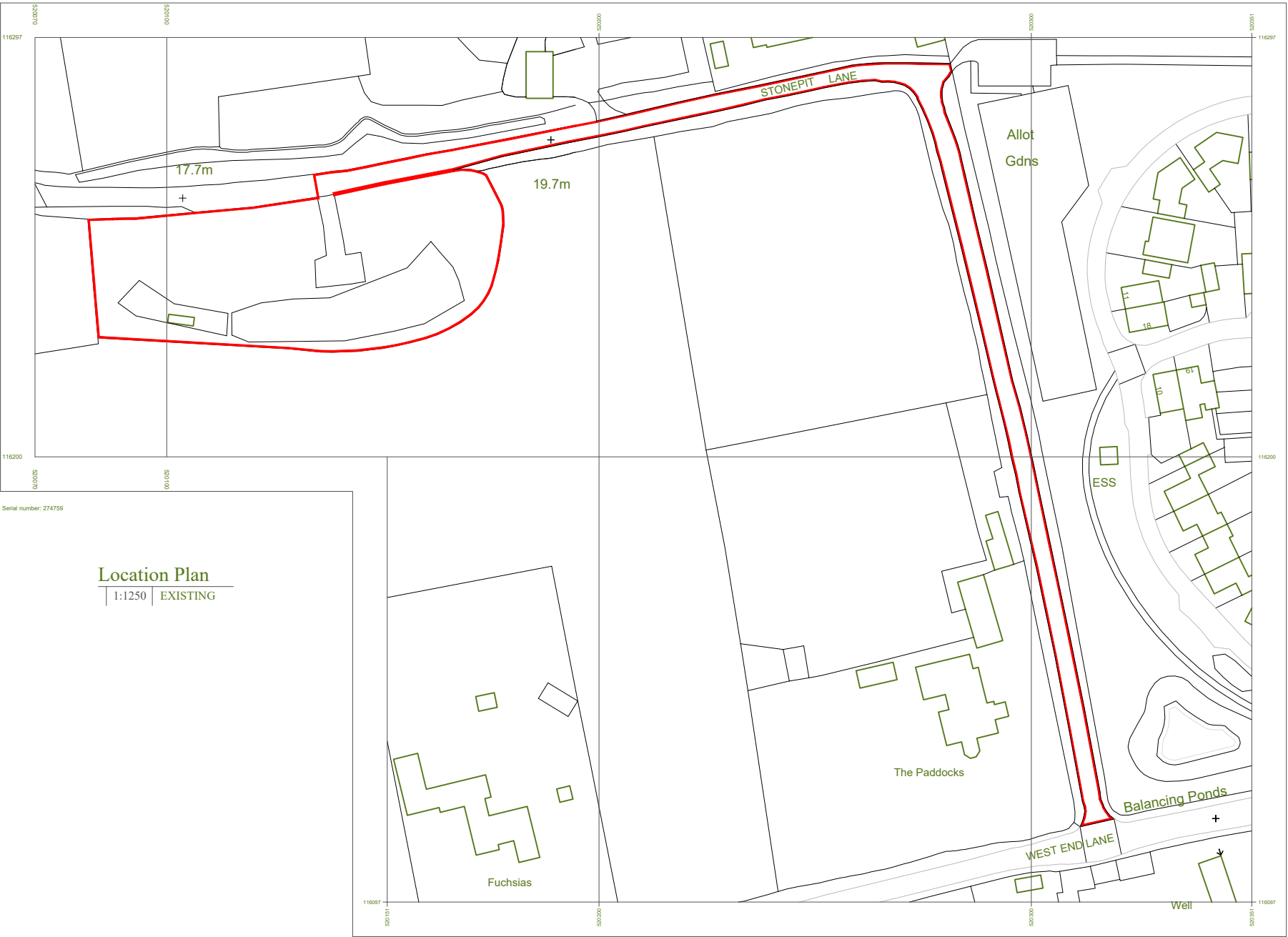
- 4.3. The mitigation indices offered by the proposed SuDS features exceed the hazard indices from roof areas and therefore provides adequate mitigation. It is therefore considered that the proposed SuDS features on site are appropriate and acceptable in terms of water quality.

5. Foul Drainage Strategy

- 5.1. Public sewer records contained in Appendix B show there are no foul sewers within the vicinity of the site.
- 5.2. Discharge to ground, i.e. drainage field, has been considered; however, due to site constraints, including root protection areas, and offsets from buildings and boundaries, this is not considered to be a feasible option.
- 5.3. Based on the above it is proposed that foul flows are conveyed towards a cesspool for regular emptying. Each plot is proposed to be served by its own cesspool.
- 5.4. The required cesspool capacity has been calculated in accordance with British Flows and Loads. The calculations are based on 5 no. users per plot, at 150 litres per person per day. A 30-day emptying frequency has been used.
- 5.5. The required cesspool volume = $5 \times 150 \times 30 = 22,500$ litres.

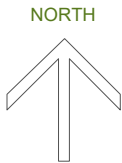
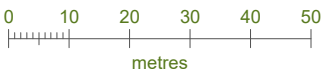
Appendix A - Site Layout Plans & Topographical Survey

Ordnance Survey
Ukmapcentre.com



Location Plan
1:1250 EXISTING

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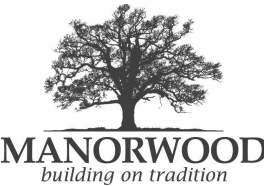
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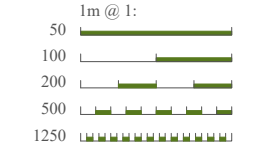


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Drawing No.	2311ST_R3_000
Scale @ A3	1:1250
Job No.	2311ST_R3
Drawn By	MD
Checked By	BK
Drawn On	12.02.2025
Issued On	12.02.2025
Status	Existing
Drawing	Location Plan
Submission	Planning
Revision	
00	12.02.2025





Block Plan
1:500 | EXISTING



Block Plan
1:500 | PROPOSED

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Drawing No. 2311ST_R3_001

Scale @ A3 1:500

Job No. 2311ST_R3

Drawn By MD

Checked By BK

Drawn On 08.04.2025

Issued On 08.04.2025

Status Existing & Proposed

Drawing Block Plan

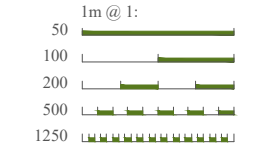
Submission Planning

Revision 000

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Indicative: 0.0°



Appendix B - Sewer Records



(c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122 Date: 27/01/25 Scale: 1:1250 Map Centre: 520130,116243 Data updated: 21/01/25 Our Ref: 1671432 - 1 Wastewater Plan A1 Powered by digipal

The positions of pipes shown on this plan are believed to be correct, but Southern Water Services Ltd accept no responsibility in the event of inaccuracy. The actual positions should be determined on site. This plan is produced by Southern Water Services Ltd (c) Crown copyright and database rights 2025 Ordnance Survey AC0000808122. This map is to be used for the purposes of viewing the location of Southern Water plant only. Any other uses of the map data or further copies is not permitted.

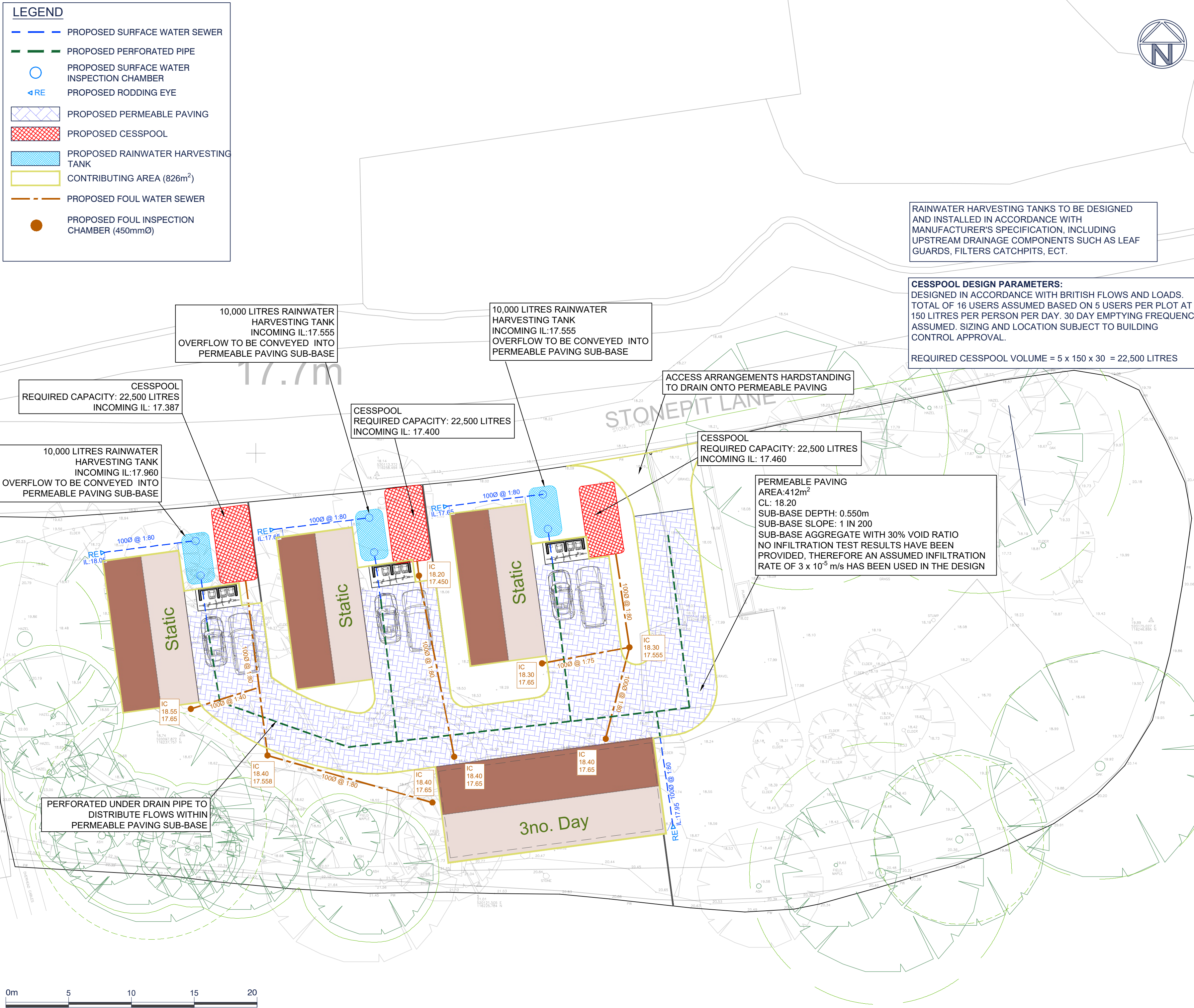
WARNING: BAC pipes are constructed of Bonded Asbestos Cement.
WARNING: Unknown (UNK) materials may include Bonded Asbestos Cement.

- | | | | | | | | |
|--|--|--|--|--|--|--|--|
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| | | | | | | | |

nick@aegaea.com
6735



Appendix C - Proposed Drainage Arrangements



- LEGEND**
- PROPOSED SURFACE WATER SEWER
 - PROPOSED PERFORATED PIPE
 - PROPOSED SURFACE WATER INSPECTION CHAMBER
 - PROPOSED RODDING EYE
 - PROPOSED PERMEABLE PAVING
 - PROPOSED CESSPOOL
 - PROPOSED RAINWATER HARVESTING TANK
 - CONTRIBUTING AREA (826m²)
 - PROPOSED FOUL WATER SEWER
 - PROPOSED FOUL INSPECTION CHAMBER (450mmØ)

RAINWATER HARVESTING TANKS TO BE DESIGNED AND INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION, INCLUDING UPSTREAM DRAINAGE COMPONENTS SUCH AS LEAF GUARDS, FILTERS CATCHPITS, ECT.

CESSPOOL DESIGN PARAMETERS:
DESIGNED IN ACCORDANCE WITH BRITISH FLOWS AND LOADS. TOTAL OF 16 USERS ASSUMED BASED ON 5 USERS PER PLOT AT 150 LITRES PER PERSON PER DAY. 30 DAY EMPTYING FREQUENCY ASSUMED. SIZING AND LOCATION SUBJECT TO BUILDING CONTROL APPROVAL.

REQUIRED CESSPOOL VOLUME = 5 x 150 x 30 = 22,500 LITRES

PERMEABLE PAVING
AREA: 412m²
CL: 18.20
SUB-BASE DEPTH: 0.550m
SUB-BASE SLOPE: 1 IN 200
SUB-BASE AGGREGATE WITH 30% VOID RATIO
NO INFILTRATION TEST RESULTS HAVE BEEN PROVIDED, THEREFORE AN ASSUMED INFILTRATION RATE OF 3 x 10⁻⁵ m/s HAS BEEN USED IN THE DESIGN

ACCESS ARRANGEMENTS HARDSTANDING TO DRAIN ONTO PERMEABLE PAVING

CESSPOOL
REQUIRED CAPACITY: 22,500 LITRES
INCOMING IL: 17.460

10,000 LITRES RAINWATER HARVESTING TANK
INCOMING IL: 17.555
OVERFLOW TO BE CONVEYED INTO PERMEABLE PAVING SUB-BASE

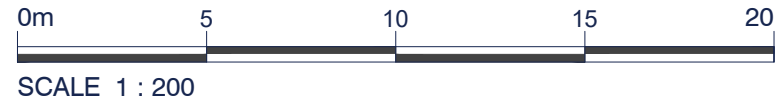
CESSPOOL
REQUIRED CAPACITY: 22,500 LITRES
INCOMING IL: 17.400

10,000 LITRES RAINWATER HARVESTING TANK
INCOMING IL: 17.555
OVERFLOW TO BE CONVEYED INTO PERMEABLE PAVING SUB-BASE

CESSPOOL
REQUIRED CAPACITY: 22,500 LITRES
INCOMING IL: 17.387

10,000 LITRES RAINWATER HARVESTING TANK
INCOMING IL: 17.960
OVERFLOW TO BE CONVEYED INTO PERMEABLE PAVING SUB-BASE

PERFORATED UNDER DRAIN PIPE TO DISTRIBUTE FLOWS WITHIN PERMEABLE PAVING SUB-BASE



DO NOT SCALE THIS DRAWING. USE FIGURED DIMENSIONS ONLY. THE CONTRACTOR MUST CHECK & VERIFY ALL DIMENSIONS ON SITE. ANY DISCREPANCIES MUST BE REPORTED IMMEDIATELY TO THE ENGINEER FOR CLARIFICATION BEFORE PROCEEDING. THIS DRAWING IS COPYRIGHT AND OWNED BY AEGAEA.

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- THIS DRAWING IS SCHEMATIC FOR CLARITY ONLY, POSITIONS OF PIPE RUNS AND MANHOLES MAY VARY ON SITE DUE TO SITE CONDITIONS.
- WHERE EXISTING OR PROPOSED TREES ARE ADJACENT TO ACCESS ROADS OR DRAINAGE, ROOT BARRIERS (TYPE TO BE APPROVED) ARE REQUIRED TO PREVENT STRUCTURAL DAMAGE.
- ANY ANOMALY OR CONTRADICTIONS BETWEEN ANY OF THE ABOVE IS TO BE REPORTED IMMEDIATELY.
- THE DESIGN IS TO COMPLY IN ALL ASPECTS WITH THE CURRENT BRITISH STANDARDS, BUILDING REGULATIONS AND BUILDING LEGISLATION ETC.
- ALL PIPE SIZES, CHAMBER DEPTHS, SIZE & QUANTITY SUBJECT TO REVIEW AND DETAILED DESIGN. ALL ADOPTED PIPE WORK ROUTING AND ANY EASEMENTS SUBJECT TO FULL DESIGN REVIEW AND APPROVAL BY THE RELEVANT BODIES.
- DRAINAGE DESIGN SUBJECT TO DETAILED LEVELS AND EXTERNAL WORKS DESIGN.
- SUBJECT TO DETAILED DESIGN AND APPROVAL.

A03	08.04.25	UPDATED TO 3No PITCH LAYOUT	DB
A02	05.03.25	UPDATED IN ACCORDANCE WITH LATEST LAYOUT	DB
A01	05.02.25	FIRST ISSUE	DB

Rev	Date	Description	By
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Client
MANORWOOD

Project
**STONEPIT LANE
HENFIELD**

Title
DRAINAGE STRATEGY PLAN

Project No.	Drawing No.	Revision
AEG6735	CIV-001	A03

Drawn	Checked	Approved	Date	Scale @ A2
DB	JM	JM	JAN 2025	1:200

Drawing Status
FOR PLANNING

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FIGURE B.19
TYPICAL INSPECTION CHAMBER DETAIL - TYPE D

FLEXIBLE MATERIAL CONSTRUCTION ALTERNATIVE TOP DETAILS FOR USE IN AREAS OF LIGHT VEHICLE LOADING
OR LANDSCAPED AREAS

PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH CLAUSE E2.31

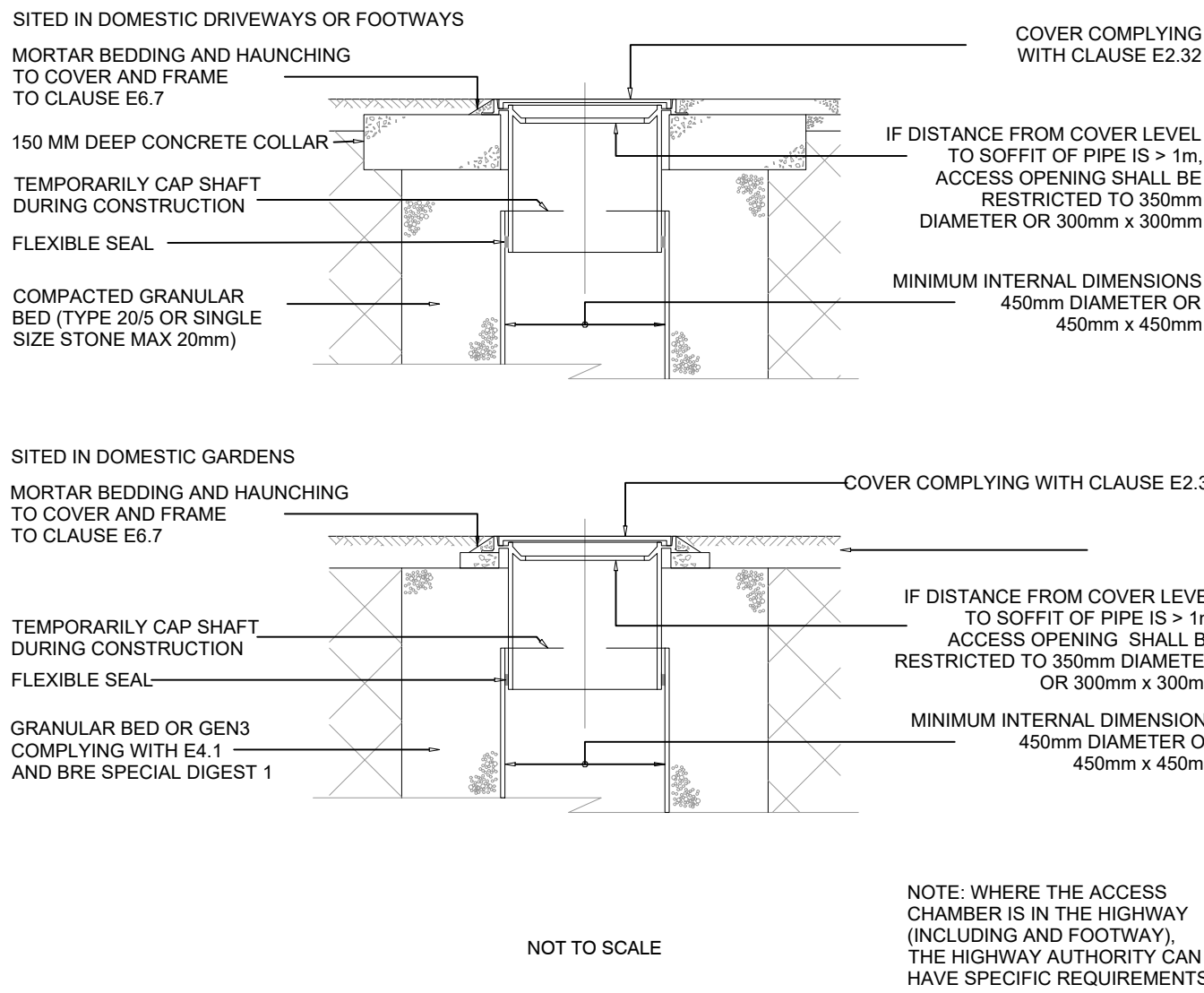
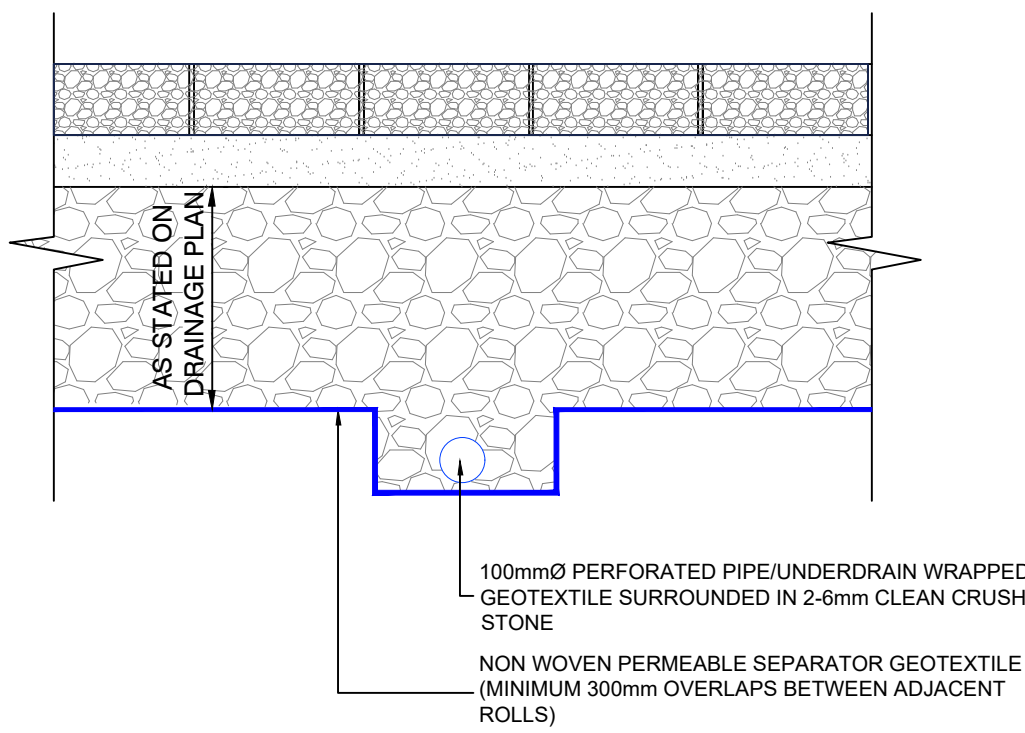
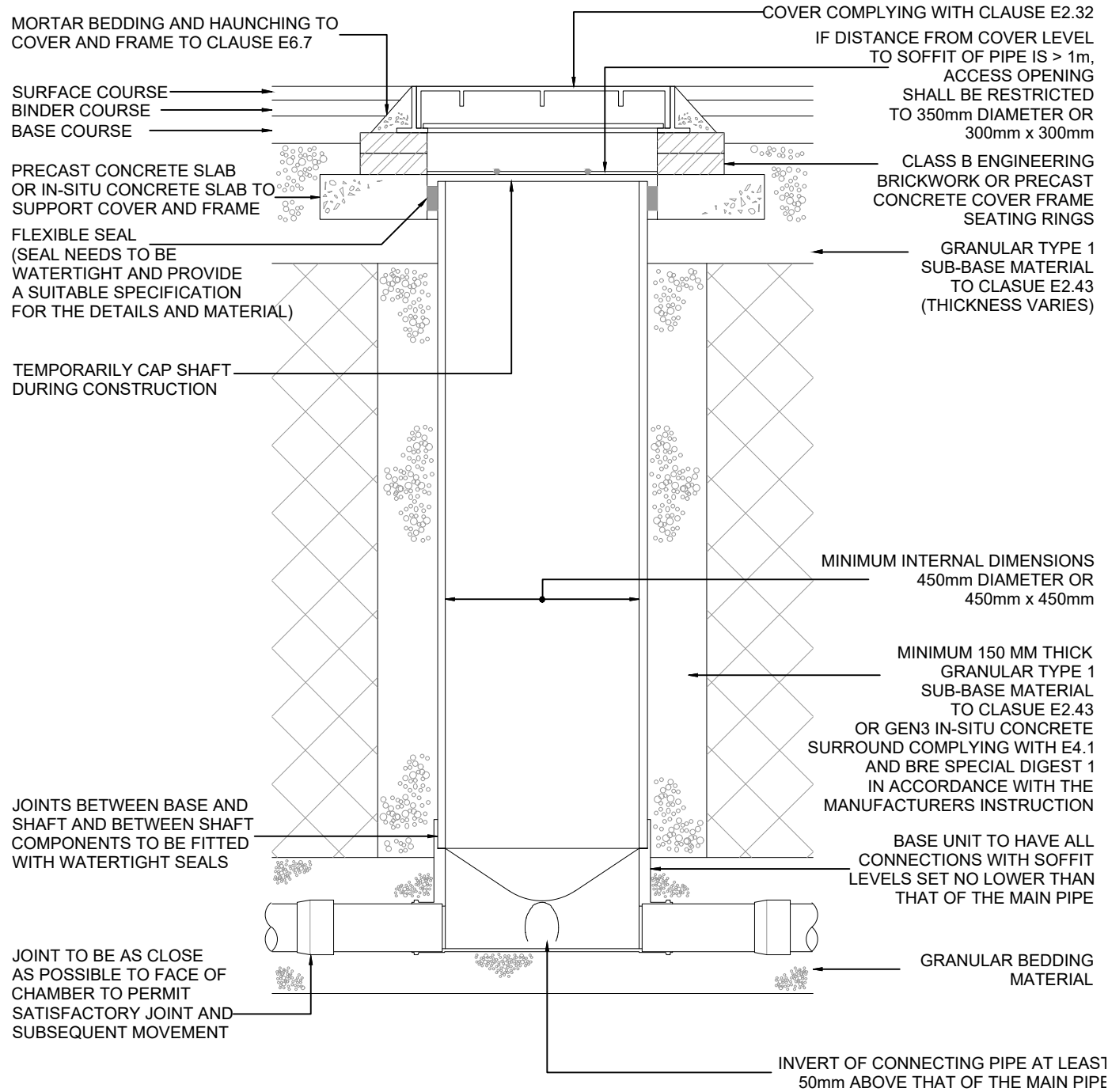


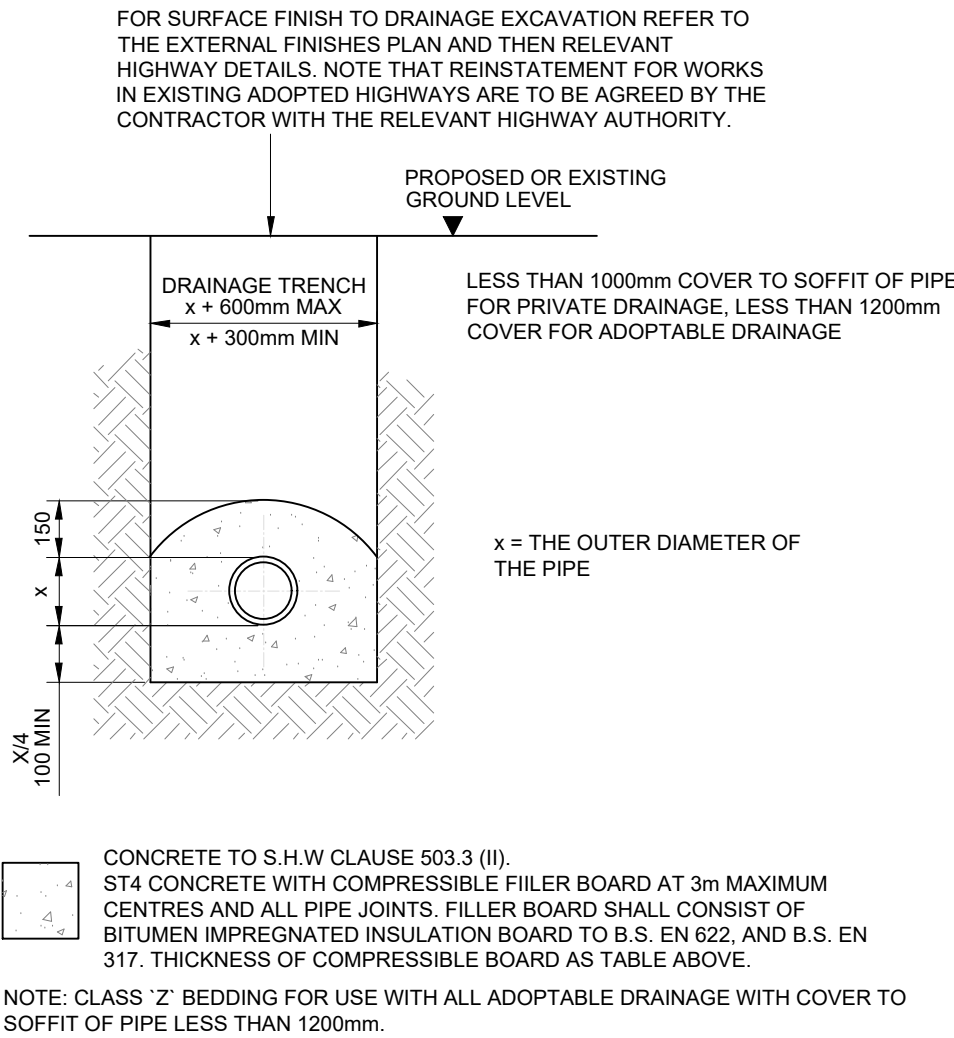
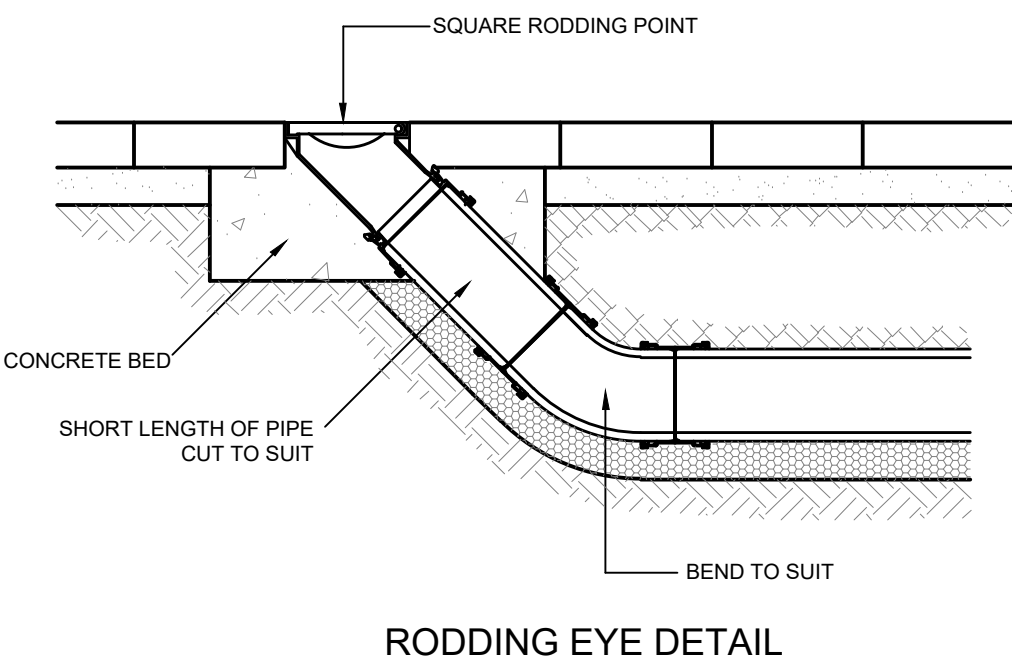
FIGURE B.18
TYPICAL INSPECTION CHAMBER DETAIL - TYPE D

DEPTH FROM COVER LEVEL TO SOFFIT OF PIPE UP TO 3m
FLEXIBLE MATERIAL CONSTRUCTION FOR USE IN AREAS SUBJECT TO VEHICLE LOADING

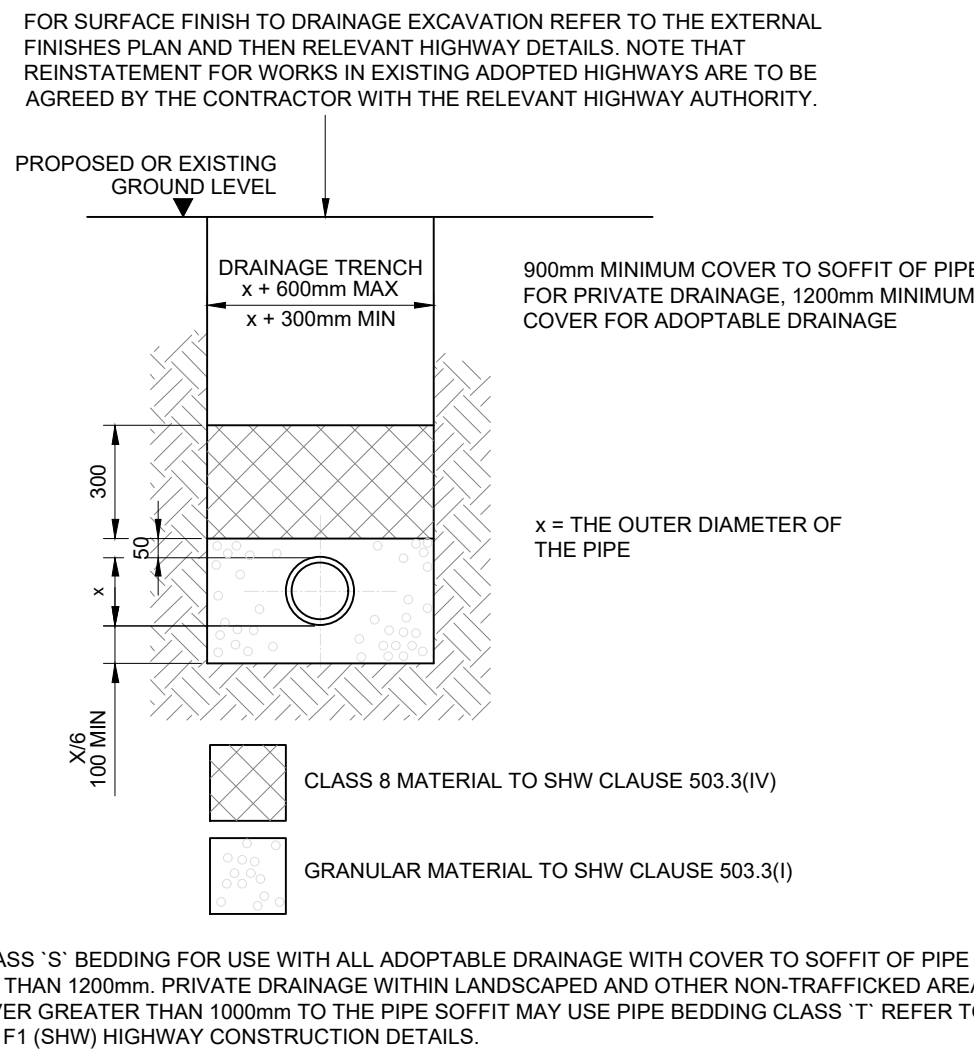
PLASTIC CHAMBERS AND RINGS SHALL COMPLY WITH CLAUSE E2.31



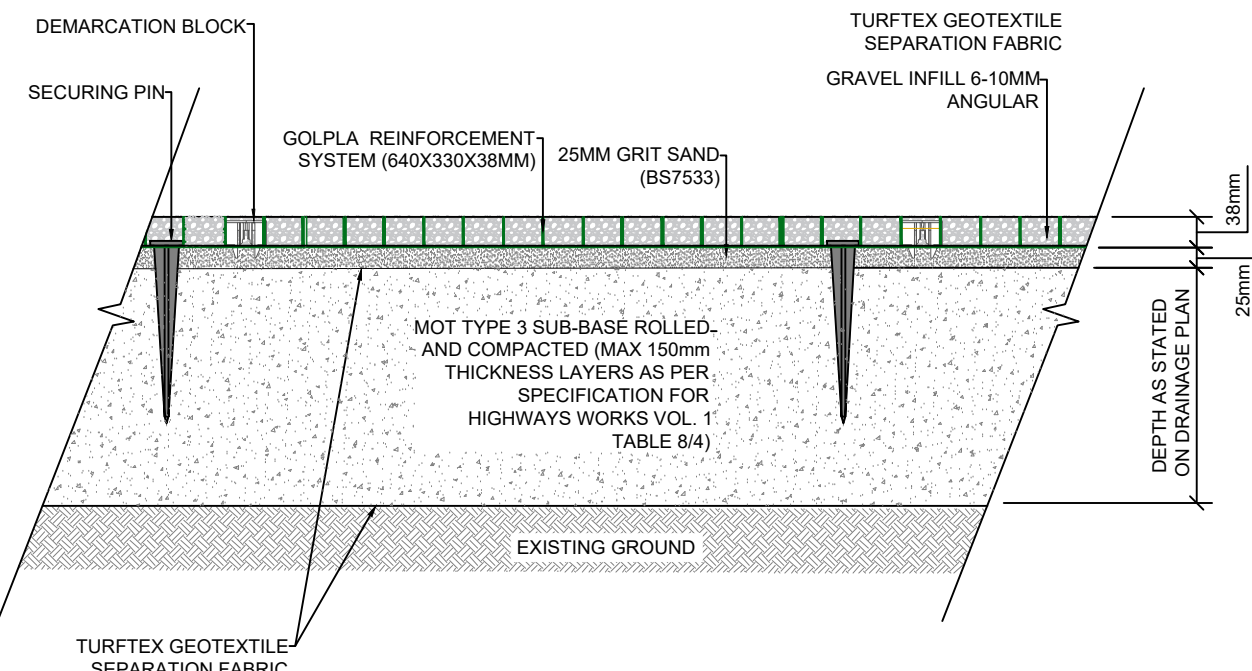
DRAINAGE TRENCH WITHIN PERMEABLE PAVING



CLASS 'Z' PIPE BEDDING



CLASS 'S' PIPE BEDDING



PROPOSED GRAVEL DRIVES
PERMEABLE SURFACE

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IT IS ASSUMED THAT ALL WORKS ON THIS DRAWING WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR, WORKING WHERE APPROPRIATE TO AN APPROVED METHOD STATEMENT.
- NOTES
1. ALL ADOPTABLE DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE DESIGN AND CONSTRUCTION GUIDANCE FOR FOUL AND SURFACE WATER SEWERS (DCG).
 2. LOCATION AND INVERT LEVELS OF DOWNSTREAM DRAINAGE CONNECTION POINTS ARE TO BE CONFIRMED.
 3. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS/SPECIFICATIONS.
 4. DO NOT SCALE FROM THIS DRAWING. USE FIGURED DIMENSIONS ONLY. ALL DIMENSIONS ARE IN METERS.
 5. ALL THE ABOVE REQUIREMENTS SHALL APPLY UNLESS OTHERWISE STATED IN THE GENERAL ARRANGEMENT DRAWINGS/SPECIFICATION. IN THE EVENT OF A CONTRADICTION THE CONTRACT SPECIFIC DOCUMENTS SHALL BE DEEMED TO PREVAIL.
 6. THE CONTRACTOR IS TO CHECK AND VERIFY ALL SITE DIMENSIONS AND LEVELS, INCLUDING EXISTING SEWER INVERT LEVELS AND UTILITIES, PRIOR TO START ON SITE.
 7. POSITIONS OF EXISTING SERVICES/STATUTORY UNDERTAKERS APPARATUS ADJACENT TO OR CROSSING PROPOSED EXCAVATIONS ARE TO BE CONFIRMED PRIOR TO START ON SITE.
 8. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH AND CHECKED AGAINST ALL ENGINEERING DETAILS, SPECIFICATIONS, GEOTECHNICAL AND OTHER RELEVANT DOCUMENTATION PROVIDED.
 9. THIS DRAWING IS SCHEMATIC FOR CLARITY ONLY. POSITIONS OF PIPE RUNS AND MANHOLES MAY VARY ON SITE DUE TO SITE CONDITIONS.
 10. WHERE TREES ADJACENT TO DRAINAGE ARE PROPOSED, ROOT BARRIERS ARE REQUIRED TO PREVENT STRUCTURAL DAMAGE.
 11. ANY ANOMALY OR CONTRADICTIONS BETWEEN ANY OF THE ABOVE IS TO BE REPORTED IMMEDIATELY.
 12. THE CONTRACTOR IS TO COMPLY IN ALL ASPECTS WITH THE CURRENT BRITISH STANDARDS, BUILDING REGULATIONS AND BUILDING LEGISLATION ETC.
 13. SUBJECT TO APPROVAL.

A03	08.04.25	PERMEABLE SURFACE/SUB-BASE DETAILS UPDATED	DB
A02	03.03.25	UPDATED TO LATEST LAYOUT	DB
A01	06.02.25	FIRST ISSUE	DB
Rev	Date	Description	By

Client				MANORWOOD	
Project				STONEPIT LANE HENFIELD	
Title				DRAINAGE DETAILS	
Project No.		Drawing No.		Revision	
AEG6735		CIV-002		A03	
Drawn	Checked	Approved	Date	Scale @ A1	
DB	JM	JM	JAN 2025	1:200	
Drawing Status				FOR PLANNING	
					

Appendix D - Proposed Drainage Calculations

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	5	Maximum Rainfall (mm/hr)	550.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	1.000	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.082	5.00	18.250	Manhole	450	346.515	-37.511	0.050
2			18.300	Junction	400	356.139	-36.219	0.200

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)
DUMMY OVERFLOW	1	2	9.710	0.600	18.200	18.100	0.100	97.1	50	Circular	5.33	10.0

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
DUMMY OVERFLOW	1	2	0.488	1.0	3.0	0.000	0.150	0.082	0.0

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
DUMMY OVERFLOW	9.710	97.1	50	Circular	18.250	18.200	0.000	18.300	18.100	0.150

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type
DUMMY OVERFLOW	1	450	Manhole	Adoptable	2	400	Junction

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
1	346.515	-37.511	18.250	0.050	450				
							0 DUMMY OVERFLOW	18.200	50
2	356.139	-36.219	18.300	0.200	400				
							1 DUMMY OVERFLOW	18.100	50

Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	240	Check Discharge Rate(s)	x
Rainfall Events	Singular	Analysis Speed	Detailed	Additional Storage (m³/ha)	0.0	Check Discharge Volume	x
Summer CV	1.000	Skip Steady State	x	Starting Level (m)			

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0	30	0	0	0
5	0	0	0	100	45	10	0
10	0	0	0				

Node 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.10800	Porosity	0.30	Width (m)	12.480	Depth (m)	0.550
Side Inf Coefficient (m/hr)	0.10800	Invert Level (m)	17.650	Length (m)	33.000	Inf Depth (m)	
Safety Factor	5.0	Time to half empty (mins)		Slope (1:X)	200.0		

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Results for 1 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	1	116	17.771	-0.429	4.6	5.4669	0.0000	OK
15 minute summer	2	1	18.100	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	1	DUMMY OVERFLOW	2	0.0	0.000	0.000	0.0000	0.0
180 minute summer	1	Infiltration		1.8				

Results for 5 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	1	84	17.837	-0.363	11.5	12.9172	0.0000	OK
15 minute summer	2	1	18.100	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	1	DUMMY OVERFLOW	2	0.0	0.000	0.000	0.0000	0.0
120 minute summer	1	Infiltration		2.5				

Results for 10 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	1	88	17.868	-0.332	14.1	16.7574	0.0000	OK
15 minute summer	2	1	18.100	0.000	0.0	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	1	DUMMY OVERFLOW	2	0.0	0.000	0.000	0.0000	0.0
120 minute summer	1	Infiltration		2.5				

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute summer	1	94	17.919	-0.281	18.0	23.0177	0.0000	OK
15 minute summer	2	1	18.100	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	1	DUMMY OVERFLOW	2	0.0	0.000	0.000	0.0000	0.0
120 minute summer	1	Infiltration		2.6				

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	1	172	18.189	-0.011	18.4	56.4097	0.0000	OK
15 minute summer	2	1	18.100	0.000	0.0	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	1	DUMMY OVERFLOW	2	0.0	0.000	0.000	0.0000	0.0
180 minute winter	1	Infiltration		2.7				