

Melksham Road, Holt

Operations and Maintenance (O&M) Manual

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Job Number:	138078
Document	138078-MCS-XX-RP-OM-01
Reference:	
Date	Revision
October 2025	P02

Document Version Control

The issue status of this document is indicated by the version number in the header of this document, followed by the month & year of the most recent amendment, and in the footer where details of when the document was created are recorded.

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Issue	Page(s)	Issue Date	Additions/Alterations	Initials
P01	10	24/10/25	First issue	AM
P02	10	20/02/26	Updated to include latest architect's layout	AM

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1. Scope of the O&M Manual

Background

- 1.1 Morgan Civil and Structural Ltd were instructed by Redcliffe Homes Ltd to provide an Operations and Maintenance (O&M) Manual for a development on Land North of Melksham Road, Holt site drainage in support of planning.
- 1.2 This O&M Manual will confirm ownership and maintenance requirements for the drainage system for the future property owners and can be utilised as part of the conveyancing information during sales.

Scope

- 1.3 This manual is intended to give an overview of the operation and maintenance for the range of SuDs features included with the drainage strategy and in relation to typical details only.
- 1.4 Ownership and responsibilities of the drainage strategy features will be confirmed within this manual.
- 1.5 Where proprietary products are specified the manufacturer's instructions and recommendations should be followed in priority to this document unless specifically noted otherwise due to project constraints.
- 1.6 The recommended operations and frequencies are typical only and should be more frequent initially to ensure that there are no unforeseen issues with the operation and, then adjusted to suit the site requirements.

2 Proposed Drainage and Ownership

- 2.1 The proposed site layout has been included in **Appendix 1**. This layout shows the proposed development of Melksham Road, Holt which will provide 55 dwellings.
- 2.2 As part of Reserved Matter planning application, Morgan Civil and Structural produced a drainage design for the site with supporting technical note, ref 138078-MCS-XX-RP-TN-01. The latest issue of the Drainage Layout is included in **Appendix 2**.

Proposed Asset Ownership

- 2.3 As stated, this document will outline asset ownership and future maintenance responsibilities.
- 2.4 The following table specifies the ownership of proposed drainage assets included on the Drainage Layout drawing 138078-MCS-XX-DR-C-5100 within **Appendix 2**.

Asset(s)	Plot/Person(s) Responsible
- Chambers: S1 – S22 - Pipes: 1.000-1.013, 2.000-2.003, 3.000, 4.000-4.003	Wessex Water or NAV
- Chambers: F1 – F18 - Pipes: 1.000-1.06, 2.000-2.001, 3.000-3.001, 4.000-4.005	Wessex Water or NAV
Hydro-brake flow control (S19)	Wessex Water or NAV
3 x headwalls. 2 located in basin, 1 x outfall headwall	Wessex Water or NAV
- Attenuation Basin - Swale	Resident's management company

Table 2.1 Asset Ownership and Person(s) Responsible

3 Pipework and Inspection Chambers/Manholes

- 3.1 Pipes are the main conveyance across the site with the network as can be seen on the proposed drainage strategy in **Appendix 2**.
- 3.2 Inspection Chambers and Manholes are the main means of access to the underground drainage network. They are located at any change in direction of underground pipework, or where determined necessary due to pipe length by the Building Regulations Part H or Sewers for Adoption Appendix C.
- 3.3 Pipes, Inspection Chambers and Manholes are proprietary products, and the materials can vary across the site and as such, where used, the manufacturer's recommendations should be followed. Regardless of the product used the pipes and chambers will be fully compliant with the drainage specification.

Operation

- 3.4 Pipes are intended to be the main conveyance across the development and where oversized they form the attenuation volume required by the limitation of the discharge rate. They are intended to be dry except during rainfall events. These have been designed to be self-cleansing where possible for smaller diameter pipes, and for larger diameters the risk is reduced due to the overall pipe size.
- 3.5 Access for maintenance is provided through access chambers, manholes, rodding plates and rodding eyes.

Inspection and Maintenance Regime

- 3.6 Regular inspection and maintenance is important to identify areas which may have been obstructed/clogged and may not be draining correctly thus exposing the development to a greater level of flood risk. Maintenance responsibility for the pipes should be placed with the Plots/Persons as per **Table 3.1**.

Maintenance Schedule	Required Action	Typical Frequency
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 Actions	Rod through poorly performing runs as initial remediation.	As required
	If continued poor performance jet and CCTV survey poorly performing runs.	As required
	Seek advice as to remediation techniques suitable for the type of performance issue and location.	As required if above does not improve performance
Monitoring	Initial inspection should be provided as post construction CCTV survey.	Monthly for three months after installation
	Inspect for evidence of poor operation via water level in chambers and if required, take remedial action	Three monthly, 48 hours after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

Table 3.2 Maintenance Schedule for Pipes and Inspection Chambers/Manholes

4 Attenuation Basin

- 4.1 The attenuation basin is intended to be a surface water storage feature to attenuate the discharge from the site up to and including the 1 in 100 year plus 45% climate change event and 10% urban creep. As standing water can be present, care should be taken when undertaking maintenance operations.
- 4.2 Access for maintenance can be attained from the entire perimeter of the basin. No planting should be present within 3.0m of the basin at any time in the future.

Inspection and Maintenance Regime

- 4.3 Regular inspection and maintenance is important for the effective operation of the attenuation basin as designed. Maintenance responsibility for the basin and its surrounding area should be placed with the authority/management company adopting the feature.
- 4.4 Regular mowing in and around basins is required only along maintenance access routes, amenity areas (e.g. footpaths), and across some embankments. The remaining areas can be managed as "meadow", unless additional management is required or desired for landscaping purposes.
- 4.5 Plant management, to achieve the required habitat/appearance, should be specified clearly in a maintenance schedule by the landscape architect planned to coincide with other site wide maintenance operations.
- 4.6 Sediment/material removal should be undertaken in consultation with the environmental regulator to confirm appropriate protocols, especially where run-off is taken from potentially contaminated areas such as car parks/service yards.
- 4.7 The following table outlines general maintenance requirements for the attenuation basin:

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove litter, debris and trash	Monthly
	Cut grass - for landscaped areas and access routes	Monthly (during growing season) or as required
	Cut grass - meadow grass in and around basin	Half yearly; spring (before nesting season) and autumn
	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
Occasional Maintenance	Reseed areas of poor vegetation growth	Annually, or as required
	Prune and trim trees and remove cuttings	As required
	Remove sediment from pre-treatment system when 50% full	As required
Remedial Actions	Repair erosion or other damage by reseeding or re-turfing	As required
	Realign the rip-rap	As required
	Repair or rehabilitate inlets, outlets and overflows	As required
	Rehabilitate infiltration surface using scarifying and spiking techniques if performance deteriorates	As required
	Relevel uneven surfaces and reinstate design levels	As required
Monitoring	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect banksides, structures, pipework etc for evidence of physical damage	Monthly
	Inspect inlets and pre-treatment systems for silt accumulation- establish appropriate silt removal frequencies	Annually
	Inspect infiltration surfaces for compaction and ponding	Annually

Table 4.1 Maintenance Schedule for an Attenuation Basin.

5 Flow Control Chamber (Hydro-brake)

- 5.1 The flow control chamber is located downstream of the proposed attenuation basin, as can be seen on the Drainage Layout in **Appendix 2**.
- 5.2 Flow control chambers are proprietary products and as such, where used, the manufacturer's recommendations should be followed. Regardless of the flow control used it will be fully compliant with the drainage specification.

Operation

- 5.3 Flow control chambers are intended to restrict the surface water runoff discharge rate from the site to a designed rate utilising techniques such as an orifice plate, vortex separator or mechanical float control.
- 5.4 For this strategy, a Hydro-brake flow control device has been specified in chamber S19.

Inspection and Maintenance Regime

- 5.5 Regular inspection and maintenance is important for the effective operation of the tanks.
- 5.6 The following table outlines general maintenance requirements for flow control chambers:

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove sediment and debris from flow control chambers and upstream manholes	Monthly (for the first 12 months, then 6 monthly).
Remedial Actions	Replace or clean Hydro-brake if performance deteriorates or failure occurs.	As necessary.
Monitoring	Check flow control to ensure emptying is occurring.	Quarterly and post high intensity storm event.
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually

Table 5.1 Maintenance Schedule for Flow Control Chambers

6 Swale

- 6.1 Swales have been used as a method of conveyance within the site and can be seen serving the central highway of the development along with numerous plots in the proposed drainage strategy at **Appendix 2**.

Operation

- 6.2 The swale is intended for interception, slowing of flows at source and water quality treatment to site runoff. It is meant to be a dry planted feature except during rainfall events. This has been designed to be a surface feature without perforated underdrains.
- 6.3 Access for maintenance is provided through upstream and downstream chambers, and via surface level.

Inspection and Maintenance Regime

- 6.4 Regular inspection and maintenance is important to identify areas which may have been obstructed/clogged and may not be draining correctly thus exposing the development to a greater level of flood risk. Maintenance responsibility for the pipes should be placed with the Plots/Persons as per **Table 2.1**.
- 6.5 The following table outlines general maintenance requirements for swales:

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Remove litter and debris	Monthly, or as required
	Cut grass – to retain grass height within specified design range	Monthly (during growing season) or as required
	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
	Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours	Monthly, or when required
	Inspect vegetation coverage	Monthly for 6 months, quarterly for 2 years, then half yearly
	Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies	Half yearly
Occasional Maintenance	Reseed areas of poor vegetation growth, alter plant types to better suit conditions, if required	As required or if bare soil is exposed over 10% or more of the swale treatment area
Monitoring	Repair erosion or other damage by re-turfing or reseed	As required
	Relevel uneven surfaces and reinstate design levels	As required
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface	As required
	Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip	As required
	Remove and dispose of oils or petrol residues using safe standard practices	As required

Table 6.1 Maintenance Schedule for Swales.

APPENDIX 1

Proposed Development Layout



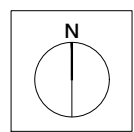
SITE LEGEND:

- | | |
|---|---|
|  | Application Boundary |
|  | Fence Line - Ref Boundary Materials Layout and details for detailed specification |
|  | Estate Railings - Ref Boundary Materials Layout and details for detailed specification |
|  | Boundary Walling - Ref Boundary Materials Layout and details for detailed specification |
|  | 900mm Low level Boundary Wall - Ref Boundary Materials Layout and details for detailed specification |
|  | Rumble Strip / Surface Change |
|  | Social Rent |
|  | Shared Ownership |
|  | Parking Space |
|  | <p>Circle grid provided - to be <u>500mm</u> (max) spacing & the same repeat in the adjacent fencing. Must be capable of being fixed.</p> |

scale 1:500



A horizontal scale bar with markings at 0, 10m, 20m, and 30m. The bar is divided into segments, with the first 10m segment further subdivided into smaller units.



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Rev	Description	Date	Au	Ch	Rev	Description	Date	Au	Ch
A	Planning Issue	16.10.25	ZC						
A1	Garden sizes of plots 8,22,40,50,52,59 increased, bays added to plots 4,7,15,30,40,53, stone walls added to plots 11-14 and 2,3,5,6, collection point for plots 47-52 adjusted, landscaping bays added between parking, parking court containing plot 14 renumbered.	16.10.25	ZC						
A2	Bay added to plots 16 and 54, nibs added in parking court for trees, turning head realigned.	28.01.26	ZC						
A3	Parking for plot 49 swapped with Vis space and Vis space relocated	28.01.26	ZC						
A4	Turning head adjusted and driveway lines added	28.01.26	ZC						
A5	Proposed LAP position shown	04.02.26	ZC						
A6	Parking to plots 8/9/10/21 moved, gate to plot 23 moved	18.02.26	ZC						

Project	Melksham Road, Holt				
Drawing	Site Layout				
Client	Redcliffe Homes Ltd				
Job no.	REDC250527			Date	21.08.25
Dwg no.	SL01			Rev.	A6
Author	MK/SC	Checked	-	Scale	1:500 at A1
Status	PLANNING			Office	Romsey
Client ref.					



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APPENDIX 2

Proposed Drainage Strategy

Proposed Hydrobrake control chamber restricting flows to 6l/s.
Invert Level : 45.044m AOD
Design Head : 0.95m
Unit reference: CTL-SHE-0116-6000-0950-6000.
Max discharge at 1.5m water depth = 7.4l/s (QBar)

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SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
Refer to the relevant Construction (Design and Management)
documentation where applicable.
It is assumed that all works on this drawing will be carried out by
competent contractor, working where appropriate to an approved
method statement.

1. Scale for planning purposes only.
2. All adoptable drainage shall be in accordance with Sewer Service Guide Appendix C: The Design and Construction Guidance and standards underlines requirements.
3. All stormwater drainage shall be in accordance with ESDS301 and relevant sections of approved Document H of the building regulations.
4. The contractor is to check the level of existing sewers being used as outfalls or for stormwater drainage to be sure prior to laying any pipes. Any discrepancies are to be reported to the engineer.
5. All connections for private drainage shall be 100mm unless otherwise stated. All stormwater drainage shall be 150mm unless otherwise stated.
6. All stormwater drainage shall be constructed in accordance with BS5951 and BS5533 for stormwater.
7. All stormwater cover to pipes is to be not less than 100mm in vehicular areas or 600mm in other areas provision of the form of "Type 2" landing shall be used.
8. Where pipes pass through screen walls, footings and retaining walls limits are to be set to the face of the wall. Where pipes are laid in the ground, the limits are to be set to the granular material. Where drains pass within 1m of building the wall foundation shall be the limit.
9. All gutters and rainwater downpipes connected directly to drains are to be notodible.
10. All drains shall be laid uphill and shall be carried under manholes shall be laid downhill. All drains shall be laid uphill and shall be carried under manholes shall be laid downhill. The level and services shall run out prior to works commencing.
11. Internal drainage to be laid at a minimum gradient of 1 in 40 in accordance with BS830

Key:

-  Site Boundary
-  Major Contour (0.50m)
-  Minor Contour (0.10m)
-  Plot Finished Floor Level
-  Garage Finished Floor Level
-  Centreline
-  Existing Wessex Water Foul Water Sewer
-  Existing Wessex Water - Water Main
-  Foul Water Sewer (S104 Adoptable)
-  Foul Water Manhole (S104 Adoptable)
-  Surface Water Sewer (S104 Adoptable)
-  Surface Water Manhole (S104 Adoptable)
-  Hydrobrake (S104 Adoptable)
-  Headwall
-  Highway Gully and Connection
-  Concrete Protection (Pipe)
-  Easement

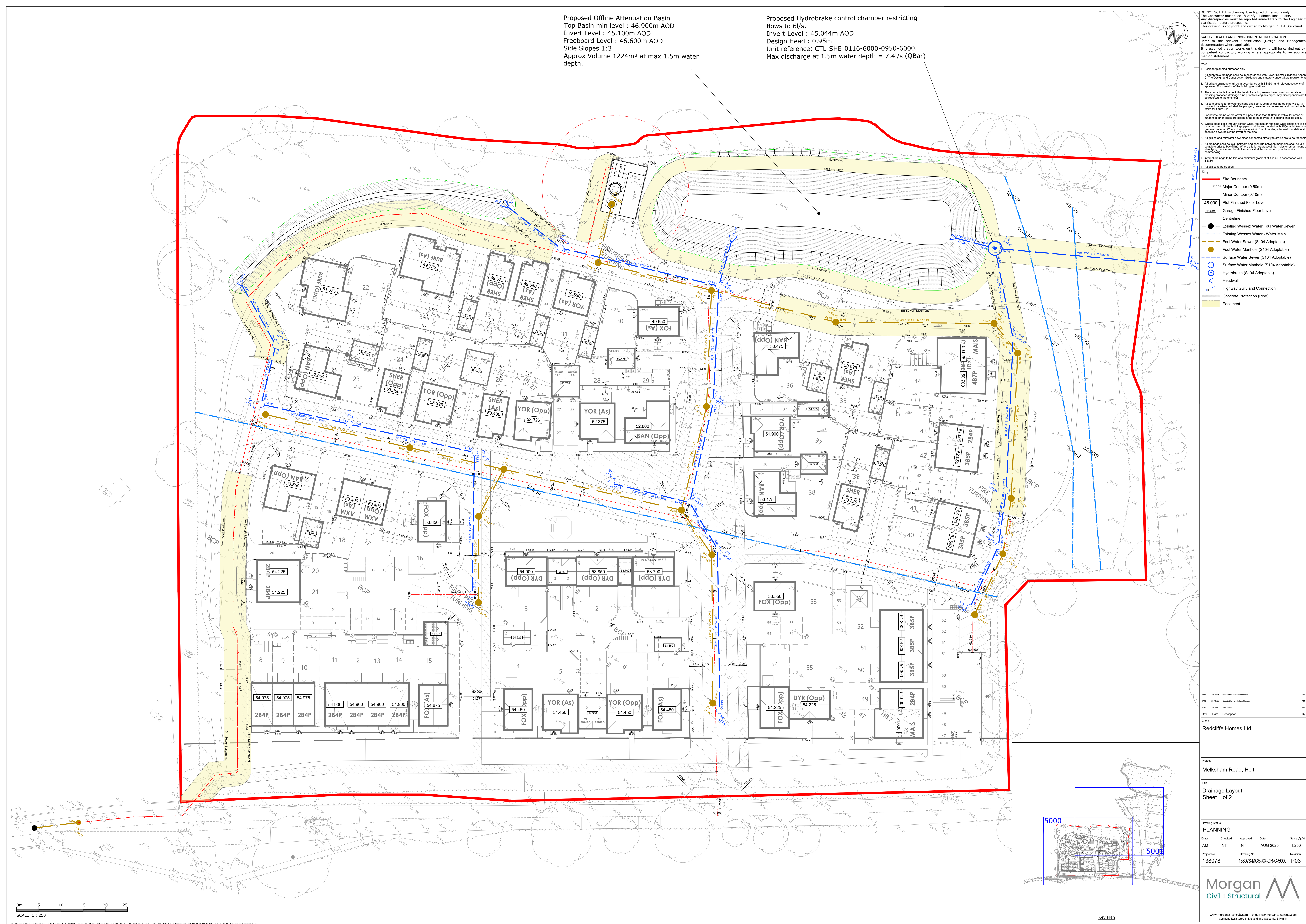
P03	20/10/25	Updated to include latest layout	AM
P02	24/10/25	Updated to include latest layout	AM
P01	16/10/25	Final issue	AM
Rev	Date	Description	By
Client			
Redcliffe Homes Ltd			

Project	Melksham Road, Holt
Title	Drainage Layout Sheet 1 of 2

Drawing Status				
PLANNING				
Drawn	Checked	Approved	Date	Scale @ A0
AM	NT	NT	AUG 2025	1:250
Project No.		Drawing No.		Revision
138078		138078-MCS-XX-DR-C-5000		P03

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Refer to the relevant Construction (Design and Management) documentation where applicable.
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**
- Scale for planning purposes only.
 - All adoptable drainage shall be in accordance with Sewer Society Guidance Appendix C: The Design and Construction Guidance and statutory undertakers requirements.
 - All private drainage shall be in accordance with BS5501 and relevant sections of approved Document H of the building regulations.
 - The Contractor is to check the level of existing sewers being used as outfalls or crossing proposed drainage runs prior to laying any pipes. Any discrepancies are to be reported to the Engineer.
 - All connections for private drainage shall be 100mm unless noted otherwise. All connections where laid shall be plugged, protected as necessary and marked with a stake for future use.
 - For private drains where cover to pipes is less than 100mm in vehicular areas or 400mm in other areas protection in the form of Type 'C' bedding shall be used.
 - Where pipes pass through screen walls, footings or retaining walls limits are to be provided (note: Under buildings pipes shall be surrounded with 150mm thickness of granular material. Where drains pass within 1m of buildings the wall foundation shall be taken down below the invert of the pipe).
 - All gullies and rainwater downpipes connected directly to drains are to be roddable.
 - All drainage shall be laid upstream and each run between manholes shall be laid complete prior to backfilling. Where this is not practical the holes or other means of commencing.
 - Where pipes pass through screen walls, footings or retaining walls limits are to be provided (note: Under buildings pipes shall be surrounded with 150mm thickness of granular material. Where drains pass within 1m of buildings the wall foundation shall be taken down below the invert of the pipe).
 - Internal drainage to be laid at a minimum gradient of 1 in 40 in accordance with BS5501.
 - All gullies to be trapped.

- Key:**
- Site Boundary
 - Major Contour (0.50m)
 - Minor Contour (0.10m)
 - Plot Finished Floor Level
 - Garage Finished Floor Level
 - Contreline
 - Existing Wessex Water Foul Water Sewer
 - Existing Wessex Water - Water Main
 - Foul Water Sewer (S104 Adoptable)
 - Foul Water Manhole (S104 Adoptable)
 - Surface Water Sewer (S104 Adoptable)
 - Surface Water Manhole (S104 Adoptable)
 - Hydrobrake (S104 Adoptable)
 - Headwall
 - Highway Gully and Connection
 - Concrete Protection (Pipe)
 - Easement

Rev	Date	Description	By
1	20/10/20	Updated to include latest report	AM
2	24/10/20	Updated to include latest report	AM
3	08/08/25	Final	AM

Client: Redcliffe Homes Ltd

Project: Melksham Road, Holt

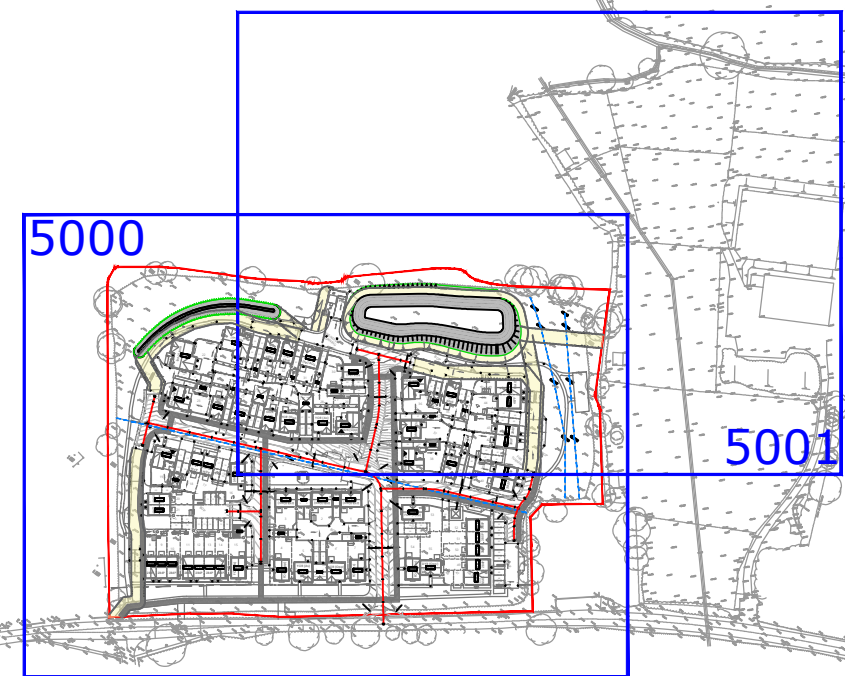
Title: Drainage Layout Sheet 2 of 2

Drawn	Checked	Approved	Date	Scale
AM	NT	NT	AUG 2025	1:250

Project No: 138078 Drawing No: 138078-MCS-XX-DR-C-5001 Revision: P03

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Key Plan

Proposed Offline Attenuation Basin
Top Basin min level : 46.900m AOD
Invert Level : 45.100m AOD
Freeboard Level : 46.600m AOD
Side Slopes 1:3
Approx Volume 1224m³ at max 1.5m water depth.

Proposed Hydrobrake control chamber restricting flows to 6l/s.
Invert Level : 45.044m AOD
Design Head : 0.95m
Unit reference: CTL-SHE-0116-6000-0950-6000.
Max discharge at 1.5m water depth = 7.4l/s (QBar)

0m 0.5 1 1.5 2 2.5
SCALE 1 : 25