CONSULTING CIVIL AND STRUCTURAL ENGINEERS

LAND BETWEEN 76 & 78A, BRIGHTON ROAD, LANCING

EXTERNAL DRAINAGE MAINTENANCE MANUAL

SEPTEMBER 2025

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Client : Southern Rock Property
6 Grangeways
Brighton
BN1 8XN

Prepared by	Checked by	Approved by	Revision
Andrew Keen	**Max Baker**	**Andrew Keen**	**P1 29.09.2025**

1.0 INTRODUCTION

1.1 This maintenance manual has been prepared by HOP Consulting Ltd (HOP) to provide guidance for the general maintenance of the external foul and surface water drainage infrastructure serving the residential development at land between Nos. 76 and 78A, Brighton Road, Lancing, BN15 8JP.

1.2 The foul and surface water drainage systems are outlined in this manual together with guidance on good practice for maintenance.

1.3 The as-built record drawings should be referred to for the position of chambers, outfalls and other drainage features once the site is operational.

1.4 The recommended inspection and maintenance activities are presented in tabulated form in Appendix A.

1.5 It should be noted that all inspections and maintenance should be carried out by suitably competent personnel using appropriate equipment adhering to safety procedures. Most of the drainage assets are below ground and should therefore be considered as confined spaces with the associated safety hazards.

1.6 Most inspections are anticipated to be carried out from ground level without the need for entry into confined spaces.

2.0 DESCRIPTION OF DRAINAGE SYSTEM

Foul Water Drainage System

2.1 A new foul water drainage network will be constructed to serve the proposed residential units. Foul water discharges via gravity to the public foul water sewer located to the northeast of the site in the footpath on the south side of Brighton Road.

2.2 The foul drainage system serving the development remains private within the extent of the development site and its maintenance and repair are the responsibility of the site owner(s). Where the foul water drain crosses the property curtilage and discharges to the combined inspection chamber outside of the site boundary, this drainage infrastructure is adoptable and is the responsibility of the statutory sewerage undertaker. For Lancing the sewerage undertaker is Southern Water.

Surface Water System

2.3 The proposed surface water drainage serves the impermeable development areas including the roofs and external paving. Discharge is by gravity to the public sewer with a combined discharge pipe from the property boundary.

2.4 Hard standing areas are constructed as permeable paving to allow water to be collected below ground and stored in sub-base voids and a crate attenuation tank located under the front parking areas. Discharge to the public sewer is limited to a maximum of 0.7 litres/second for all storm events, as agreed with the sewerage undertaker. A Hydrobrake flow control unit is installed on the last surface water manhole to meet the parameters of the attenuation sustainable drainage (SuDS) arrangement.

2.5 The permeable paving system provides treatment to the trafficked areas of the site in line with guidance in the CIRIA SuDS Manual.

2.6 The surface water drainage system serving the development remains private within the extent of the development site and its maintenance and repair are the responsibility of the site owner(s). Where the surface water drain crosses the property curtilage and discharges to the combined inspection chamber outside of the site boundary, this drainage infrastructure is adoptable and is the responsibility of the statutory sewerage undertaker.

3.0 FOUL WATER DRAINAGE SYSTEM

3.1 **Gullies & Channel Drains**

Each item should be checked to make sure it is free from leaves and debris every three months and after heavy rainfall. Clean and unblock with a jet washer if necessary.

3.2 **Inspection Chambers & Manholes**

Chamber and manhole covers should be lifted and be visually inspected every three months. Any debris should be removed. If any blockages are found, the pipeline should be rodded or flushed out by jetting.

4.0 SURFACE WATER DRAINAGE SYSTEM

4.1 **Gullies, Rainwater Pipes & Channel Drains**

Each item should be checked to make sure it is free from leaves and debris every three months and after heavy rainfall. Sediment accumulation should be noted and inspection frequency updated if necessary. Clean and unblock with a jet washer as required.

4.2 **Catchpits/Silt traps and filters**

Catch pits and silt traps should be inspected and emptied of solids build-up every three months. Sediment accumulation in the sump should be noted and the frequency of inspection amended if necessary. Additional inspection should be carried out after heavy rainfall. Clean and unblock removing all silt and debris.

4.3 **Inspection Chambers & Manholes**

Inspection chamber and manhole covers should be lifted and be visually inspected quarterly. Any debris should be removed. If any blockages are found the pipeline should be rodded or flushed out by jetting.

4.4 **Hydrobrake Manhole**

The Hydrobrake manhole should be visually inspected quarterly. Any debris should be removed. If any blockages are found the pipeline should be rodded or flushed out by jetting. Maintenance of the flow control device should be carried out as per the manufacturer's guidelines.

4.5 **Surface Water Attenuation Tank**

After an initial monthly inspection over the first year, a twice-yearly inspection of the inlet and outlet chambers/catchpits should be undertaken to monitor silt build up and check flow conditions. Silt and material should be removed through suction pumping and disposed of appropriately.

4.6 Every 5 years the tank should be remotely inspected through a CCTV survey and siltation or debris build-up jetted clear as required.

4.7 **Permeable Paving**

Litter and detritus should be removed from the surface of permeable paving on a weekly basis and generally after storms. A quarterly visual inspection via access points and chambers should be undertaken to assess the condition of the underdrains and inlet/outlet condition and to check for silt build up.

4.8 Quarterly inspection and removal of weeds and plant growth should be undertaken to keep the flow pathways though the permeable blocks clear.

4.9 Every six months a visual inspection of the blocks and bedding/infill grit should determine whether any top-up or local replacement is necessary.

4.10 Every 5 years the sub-base replacement units should be remotely inspected through a CCTV survey and siltation or debris build-up jetted clear as required.

4.11 Manufacturer's guidance should be followed for the replacement frequency of the permeable system to lift the blocks and refresh the granular sub-base material. This will also be dependent on the functionality of the system which should be assessed prior to replacement.

5.0 DRAINAGE COMPONENT DESIGN LIFE

5.1 It is not expected that the site will be subject to heavy traffic or abnormal loading conditions. According to data provided by manufacturers of below ground drainage infrastructure components, including foul and surface water pipework, chambers, gullies and outfalls a design life of 100 years can be expected under normal conditions and anticipated usage.

5.2 Cellular crate tank systems and sub- base replacement units are noted by the manufacturers of these components as having a 50-year design life.

5.3 Permeable paving systems are recommended to be refurbished after 20 years in-situ usage. This entails the lifting and re-laying of surface blocks and the cleaning of the sub surface granular materials for re-use.

5.4 The application of the inspection and maintenance activities detailed in this manual provide a mechanism by which any defects or maintenance issues can be identified and remediated in a timely manner. The predicted design life of drainage infrastructure should be achievable with the expected usage of the site. Any changes in end use of the development over its lifetime may require a review of the maintenance operations and the implications for component longevity.

6.0 APPOINTED MANAGEMENT COMPANY

6.1 The responsibility for the management and maintenance of the private foul and surface water drainage infrastructure serving the development has been confirmed by the Client as being;

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Brighton
BN1 8XN

7.0 HEALTH & SAFETY

7.1 All inspections and maintenance should be undertaken by competent personnel using appropriate procedures and safety equipment. It is anticipated that most of the regular inspections can be carried out from ground level without the requirement to enter underground inspections chambers, manholes or other structures.

7.2 Any electrical work should be carried out by an appropriately qualified electrician. Any mechanical work should be carried out by an appropriately qualified mechanical engineer.

7.3 The following hazards have been identified;

- Confined spaces
- Vehicle movements
- Standing water in chambers
- Contact with foul water

7.4 This list is not exhaustive and those carrying out inspection and maintenance activities should provide their own Risk Assessments and Method Statements prior to commencing work.

APPENDIX A – DRAINAGE MAINTENANCE AND INSPECTION SCHEDULE

LAND BETWEEN 76 & 78A BRIGHTON ROAD, LANCING

PROPOSED MAINTENANCE & INSPECTION SCHEDULE FOR BELOW GROUND DRAINAGE (FOUL WATER AND SURFACE WATER) INCLUDING SUSTAINABLE DRAINAGE SYSTEMS (SuDS)

Item	Required Maintenance/Monitoring	Suggested Frequency	Responsibility
Foul Water Drainage	Check inspection chambers and manholes for damage, condition and function.	Every six months	Management Company
	Undertake a CCTV drainage survey of the drainage network to establish condition.	Every ten years	Specialist
	Replace or repair malfunctioning parts or structures	As required	Specialist
Surface Water Drainage	Check inspection chambers and manholes for damage, condition and function.	Every six months	Management Company
	Undertake a CCTV drainage survey of the drainage network to establish condition.	Every ten years	Specialist
	Replace or repair malfunctioning parts or structures.	As required	Specialist
Surface Water Soakaways	Check silt traps and inspection chambers and note the rate of sediment accumulation.	Every month for the first year and then annually, or as conditions require	Facilities Management
	Undertake a CCTV drainage survey of tanks and soakaway chambers. Note sediment build up and remove sediment/debris if present.	Every five years, or as conditions require	Specialist
	Full service and general inspection with separator system emptied.	Every 5 years	
Permeable Block Paving	Sweep clean of debris and inspect integrity of bedding grit. Replace bedding grit locally if required.	Every six months	Management Company
	Lift blocks and remove bedding grit and replace and re-bed paving.	Full bedding replacement currently recommended by manufacturers every 20 years	Specialist
	Check underdrains are free-flowing and inlets/outlets are blockage free.	Quarterly	Management Company
	Assess plants for health and invasive weed growth replace/remove as necessary.	Quarterly	Management Company
	Remove litter and general detritus.	Quarterly and after heavy storms	Management Company
	Remove and replace filter medium and vegetation	As required – SuDS Manual recommends every 20 years	Specialist
General	Remove sediment, litter, debris and vegetation from the surface of pathways areas	As necessary and after heavy rainfall	Management Company
Flood Flow Routes	Ensure flood flow routes are not obstructed (i.e. lower lying portions of the land that will direct surface water runoff away from vulnerable assets in the event of drainage failure).	Every six months and during periods of heavy rainfall	Management Company

NOTES

The Management Company has been confirmed by the Client as being;

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The Management Company will be responsible for the implementation of the maintenance schedule for the shared below ground drainage infrastructure, by appointing appropriate persons and/or sub-consultants that are qualified to undertake these operations.

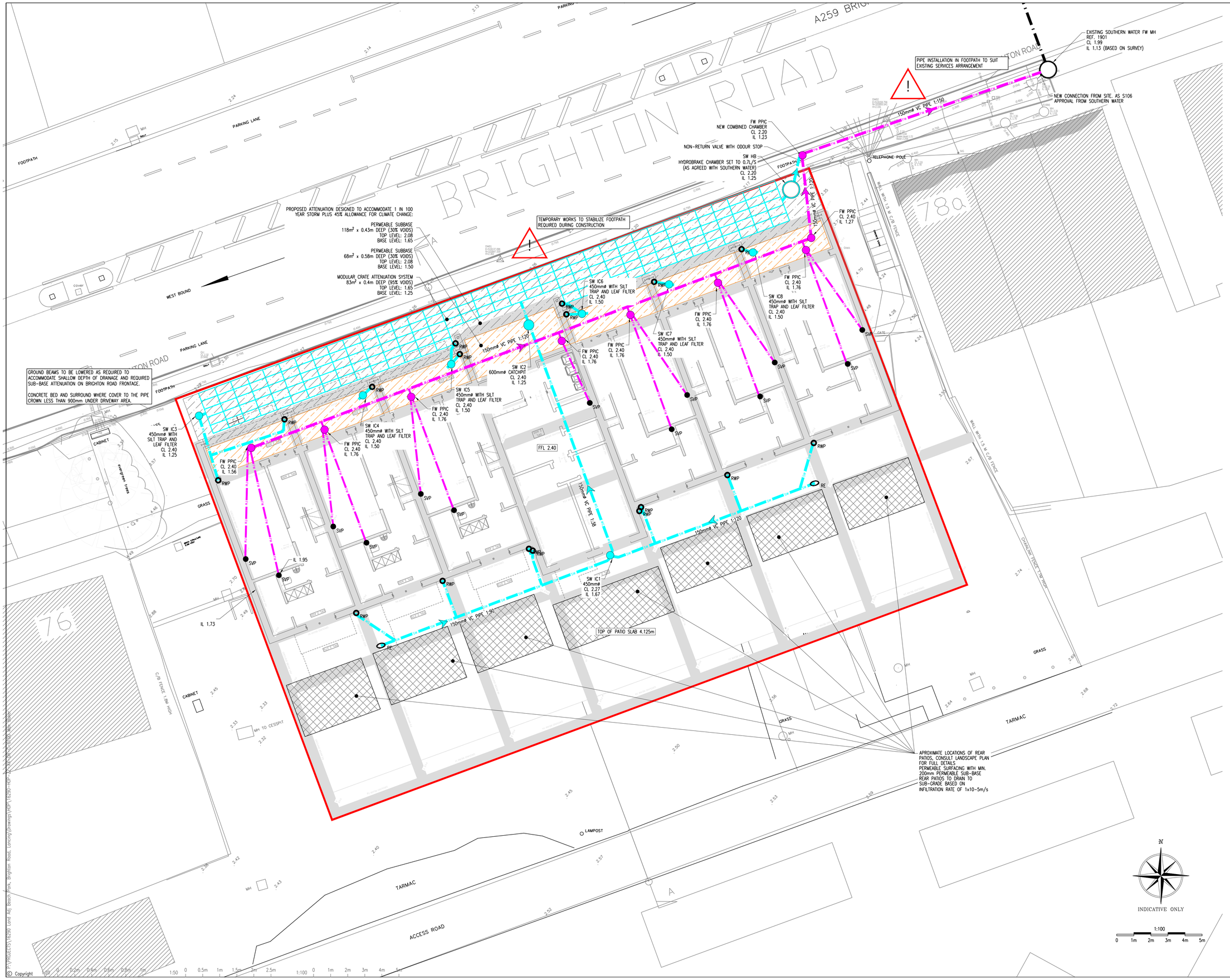
Maintenance is to be carried out by the Management Company or by a specialist contractor, as noted in Responsibility column above.

This maintenance schedule has been produced with reference to the guidelines outlined in 'The SuDS Manual' (CIRIA C753: 2015). The suggested frequency of maintenance is considered a guide, and should not replace the guidance from manufacturers of proprietary systems.

Refer to Engineering drawings for location and details of below ground drainage assets and SuDS features.

(Issued September 2025 – Version 2.0)

APPENDIX B – DRAINAGE LAYOUT PLAN



Project/Task No. 16290/01 Scale: 1:100 ORIGINAL DRAWING SIZE A1

1. GENERAL

(i) This drawing is not to be scaled, work to figured dimensions only, confirmed on site.

(ii) This drawing is to be read in conjunction with all relevant architectural drawings, detailed specifications where applicable and all associated drawings in this series.

(iii) Any discrepancy on this drawing is to be reported immediately to the partnership for clarification.

(iv) The contractor is responsible for all temporary works and for the stability of the works in progress.

2. DRAINAGE GENERAL

(i) All foul and storm water drains which are not to be adopted as public sewers under a section 104 Agreement must be constructed in accordance with the Building Regulations, BS EN 752 and where appropriate the relevant agreement certificates.

(ii) Manholes, gullies, gully connections, sewers and other sewerage structures intended to convey surface water are to be constructed in accordance with the Water Authorities Association Specification 'Sewers for Adoption' 7th Edition and relevant Council Design Guide.

(iii) All concrete used in drainage works to comply with BRE Digest 363 for Class 2 sulphate conditions.

3. BELOW GROUND DRAINAGE

(i) Pipework to be UPVC-U pipes to BS 4660 : 2000 and Inspection Chambers to BS 7158 : 2001.

(ii) All adoptable drainage to be constructed in accordance with 'Sewers for Adoption' 7th Edition and the relevant Council Design Guide.

(iii) All private surface water sewers to be laid at 1 in 80 unless otherwise stated on the drawing.

(iv) All private foul water sewers to be laid at 1 in 40 at the head of pipe runs and 1 in 80 elsewhere unless otherwise stated.

(v) All private foul sewer pipes to be 100mm diameter unless otherwise stated on the drawing. All private surface water sewer pipes to be 100mm diameter from downpipes and 150mm diameter elsewhere unless otherwise stated on the drawing.

(vi) Allow for rodding access above ground where rainwater downpipes do not have a direct connection to an inspection chamber.

(vii) Existing sewer pipe to be re-used to be surveyed and levelled prior to commencement of the drainage works and refurbished if necessary.

(viii) Connections to an adopted sewer only to be made following approval from the relevant adopting Authority.

(ix) All drains, sewer pipes and manholes to be cleaned and tested for water tightness on completion of construction.

4. MANHOLE COVERS & FRAMES

(i) Manhole covers to be class D400 in highways, class B125 in footways and verges, class C250 in external maintenance vehicle access areas and verges, and class A15 in non-trafficked areas.

(ii) Manhole covers and frames to be bedded and surrounded in 1:3 mortar.

5. PIPES

(i) Plastic pipes shall be of unplasticised polyvinyl chloride (UPVC) complying with the requirements of BS EN 1401-1:2009.

(ii) Concrete pipes shall be spun by a centrifugal process or be vertically pressed. They shall possess self inverting sockets and shall comply with the requirements of and be tested in accordance with BS 5911:2002.

LEGEND

FOUL WATER	SURFACE WATER	
FW	SW	PROPOSED DRAIN
		EXISTING SEWER
		PROPOSED CONCRETE MANHOLE
		PROPOSED TYPE 3 INSPECTION CHAMBER 450mmø (PPIC)
SVP		SOIL AND VENT PIPE
	RWP	RAIN WATER PIPE
	RE	RODDING EYE
		APPROX. SITE BOUNDARY
		0.20m DEEP PERMEABLE PAVING (REAR PATIOS ONLY)
		0.43m DEEP PERMEABLE PAVING
		0.58m DEEP PERMEABLE PAVING
		PROPOSED CELLULAR ATTENUATION

Description	By	Aprvd.	Date	Rev.
REAR PATIO PAVING SHOWN, IC1 UPSIZED	MB	AK	16.08.24	P6
ISSUED FOR INFORMATION	BK	AK	26.04.24	P5
UPDATED FOR S106 APPLICATION	OFK	AK	05.04.24	P4
ISSUED FOR S106 APPLICATION	OFK	AK	01.02.24	P3
ISSUED FOR INFORMATION	OFK	AK	19.12.23	P2
ISSUED WITH FRA & SuDS REPORT	BK	AK	13.05.22	P1

ISSUED FOR INFORMATION

Title
DRAINAGE LAYOUT

Project
LAND BETWEEN 76 & 78A
BRIGHTON ROAD, LANCING

Client
SOUTHERN ROCK PROPERTY LIMITED

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