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SuDS Management Plan
for
White House Club
Phase 1
at
Manchester

For : Branley Homes Ltd
1 Bridgenorth Avenue
Urmston
Manchester
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10th March 2023

SuDS Management Plan at White House Club, Middleton Road, Manchester

Document Verification

Project Title	White House Club, Middleton Road, Manchester
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Prepared by



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*Senior Infrastructure Engineer***Document Revision**

Report Reference	Date	Description	Prepared	Checked and Approved
7424SMP_P1	10/03/2023	SuDS Management Plan	A Jones	A Jones

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1.0 Introduction

Coopers (Chester) Ltd have been appointed by Branley Homes Ltd to prepare a SuDS Management Plan for the proposed White House Club Phase 1 development and in Manchester.

The Phase 1 surface water drainage system provides storage for up to a 100-year storm event within oversized on-line pipes and manholes. The flow is restricted at the last manhole before discharging into the public sewer using a flow control device. This network will be adopted by United Utilities via a S104 Agreement and therefore will be maintained by United Utilities.

Branley Homes Ltd will be responsible for all the components until the final certificates have been issued at the end of the maintenance period.

Additional SUDS components have been incorporated into the design to provide interception and treatment to surface water flows. A section of macro permeable paving has been introduced into the club house car park and 2 No. above ground planters have been added to intercept flows from the RWP's on the front of the club house building. This will be maintained by a private management company set up by Branley Homes Ltd for which this report sets out the inspection and maintenance requirements.

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2.0 Operation and Maintenance

As with any drainage system, SuDS require regular inspection and maintenance to ensure that they continue to operate as designed and are fully functional at all times. The Phase 1 White House Club SuDS components will consist of SUDS planters, tanked macro pervious paving, channel drains and associated pipework / inspection chambers.

The SUDS Manual, CIRIA report C753, states that there are three types of maintenance activities associated with SUDS.

1. Regular Maintenance – ‘basic tasks undertaken on a frequent and predictable schedule’ including vegetation management, litter and debris removal, and inspections.’
2. Occasional Maintenance – ‘tasks that are likely to be required periodically, but on a much less frequent and predictable basis than the routine tasks (sediment removal is an example).
3. Remedial Maintenance – ‘intermittent tasks that may be required to rectify faults associated with the system, although the likelihood of faults can be minimised by good design. Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events, and as such timings are difficult to predict.

Pipe sizes and gradients have been designed to be self-cleansing albeit regular maintenance and inspections will be required to ensure the long-term efficiency of the systems.

Maintenance for the pipes and manholes includes:

- Inspection, cleaning and removal of sediments and obstructions etc. to restore hydraulic capacity and to prevent blockages; Jetting/vacuum of sewers to be undertaken as often as necessary to remove silts and/or ordinary debris.
- Local repair or replacement of damaged pipes in order to maintain the function of the onsite system and to prevent blockages.
- In the event that any extraordinary issues are encountered during an inspection, further information may be required such as a CCTV survey report to locate the exact cause of the issue.
- Maintenance to be undertaken on an annual schedule.

The SuDS components require regular inspection/clearing to prevent blockages due to accumulation of silt and debris. In general, it is recommended that they are initially inspected and cleared by a suitably trained person every 6 month for at least the first 2 years of operation and then establish a long-term regular inspection/clearing regime appropriate for the site:

Table 18.3 from CIRIA C753 The SuDS Manual provides a more detailed maintenance schedule for SUDS Planters. Inspection/clearing should also be carried out after every major storm event and to the manufacturer’s recommendations.

Table 20.15 from CIRIA C753 The SuDS Manual provides a more detailed maintenance schedule for pervious pavements. Inspections should be carried out monthly for the first 3 months after installation to inspect for evidence of poor operation and 48hr after any major storm event for the first six months. Annual cleaning of the effective are to be carried out after the autumn leaf fall and annual inspection

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of silt accumulation within silt traps and drainage channels.

Any debris obstructing or in danger of obstructing the surface water flow should be removed as soon as possible following inspection. Any blockage or partial blockages reported to the managing organisation for immediate action.

This maintenance plan is to be incorporated within the Health and Safety file, which, in addition to the details mentioned here, should include all the installed manufacturer's details and maintenance recommendations. In addition, it should hold the records of any inspections, together with any remedial measures undertaken. The drainage maintenance plan should be made available for inspection by the council if requested.

Monitoring and maintenance of the SuDS components will be the responsibility of a management company set up by Branley Homes Ltd. Details are as follows:

Management Company

Contact details and address TBC

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3.0 Maintenance schedule

TABLE 20.15	Operation and maintenance requirements for pervious pavements		
	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 Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required
		Remedial 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 reduced due to significant clogging)
	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 h after large storms in first six months
		Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
		Monitor inspection chambers	Annually

Extract from CIRIA C753 'The SuDS Manual'

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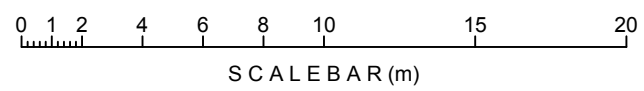
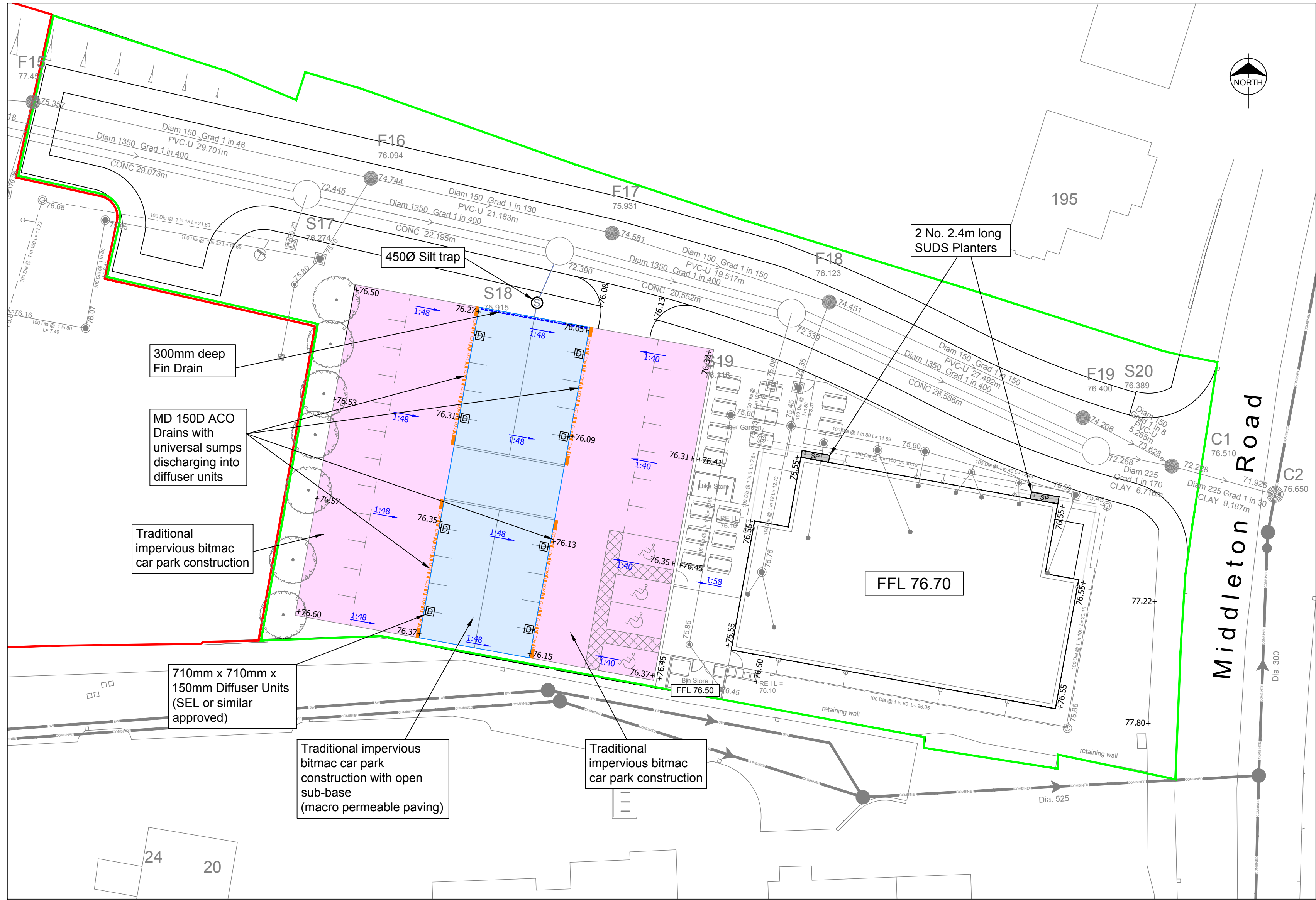
TABLE 18.3	Operation and maintenance requirements for bioretention systems		
	Maintenance schedule	Required action	Typical frequency
	Regular inspections	Inspect infiltration surfaces for silting and ponding, record de-watering time of the facility and assess standing water levels in underdrain (if appropriate) to determine if maintenance is necessary	Quarterly
		Check operation of underdrains by inspection of flows after rain	Annually
		Assess plants for disease infection, poor growth, invasive species etc and replace as necessary	Quarterly
		Inspect inlets and outlets for blockage	Quarterly
	Regular maintenance	Remove litter and surface debris and weeds	Quarterly (or more frequently for tidiness or aesthetic reasons)
		Replace any plants, to maintain planting density	As required
		Remove sediment, litter and debris build-up from around inlets or from forebays	Quarterly to biannually
	Occasional maintenance	Infill any holes or scour in the filter medium, improve erosion protection if required	As required
Repair minor accumulations of silt by raking away surface mulch, scarifying surface of medium and replacing mulch		As required	
Remedial actions	Remove and replace filter medium and vegetation above	As required but likely to be > 20 years	

Extract from CIRIA C753 'The SuDS Manual'

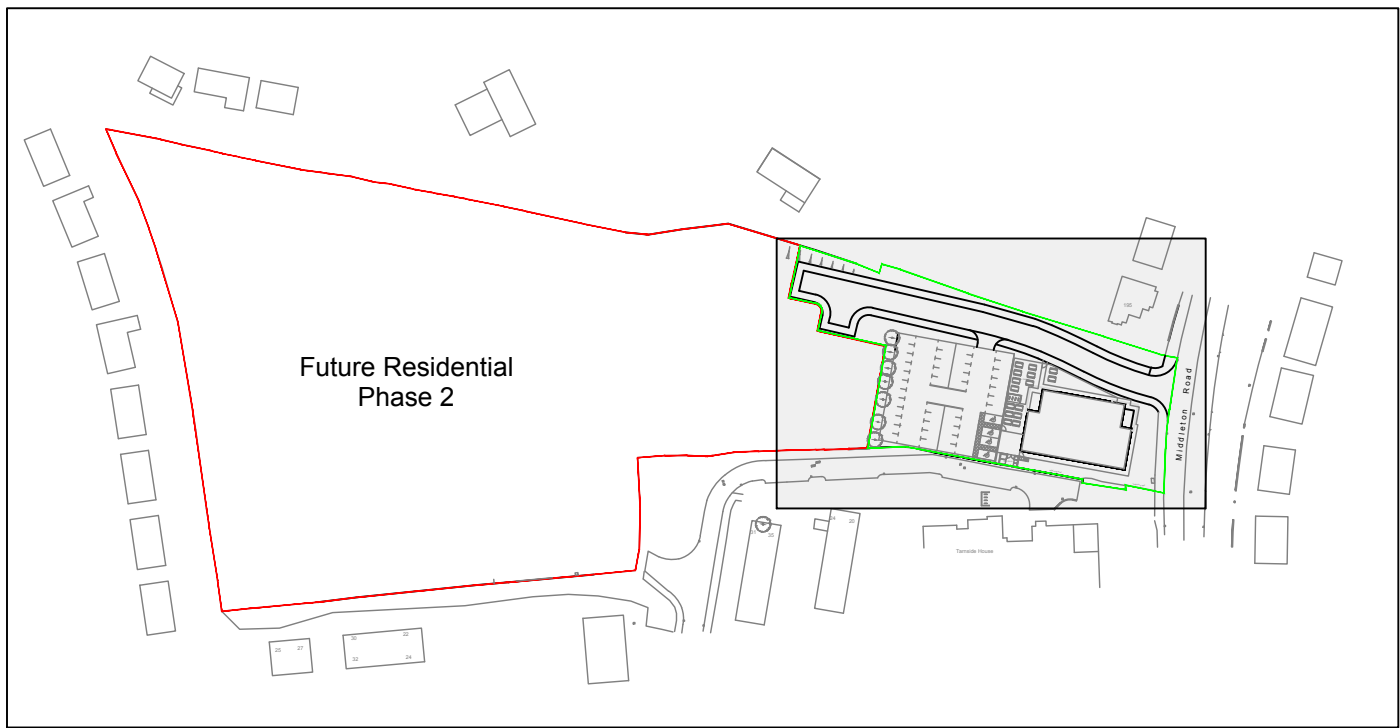
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4.0 Reference Drawings

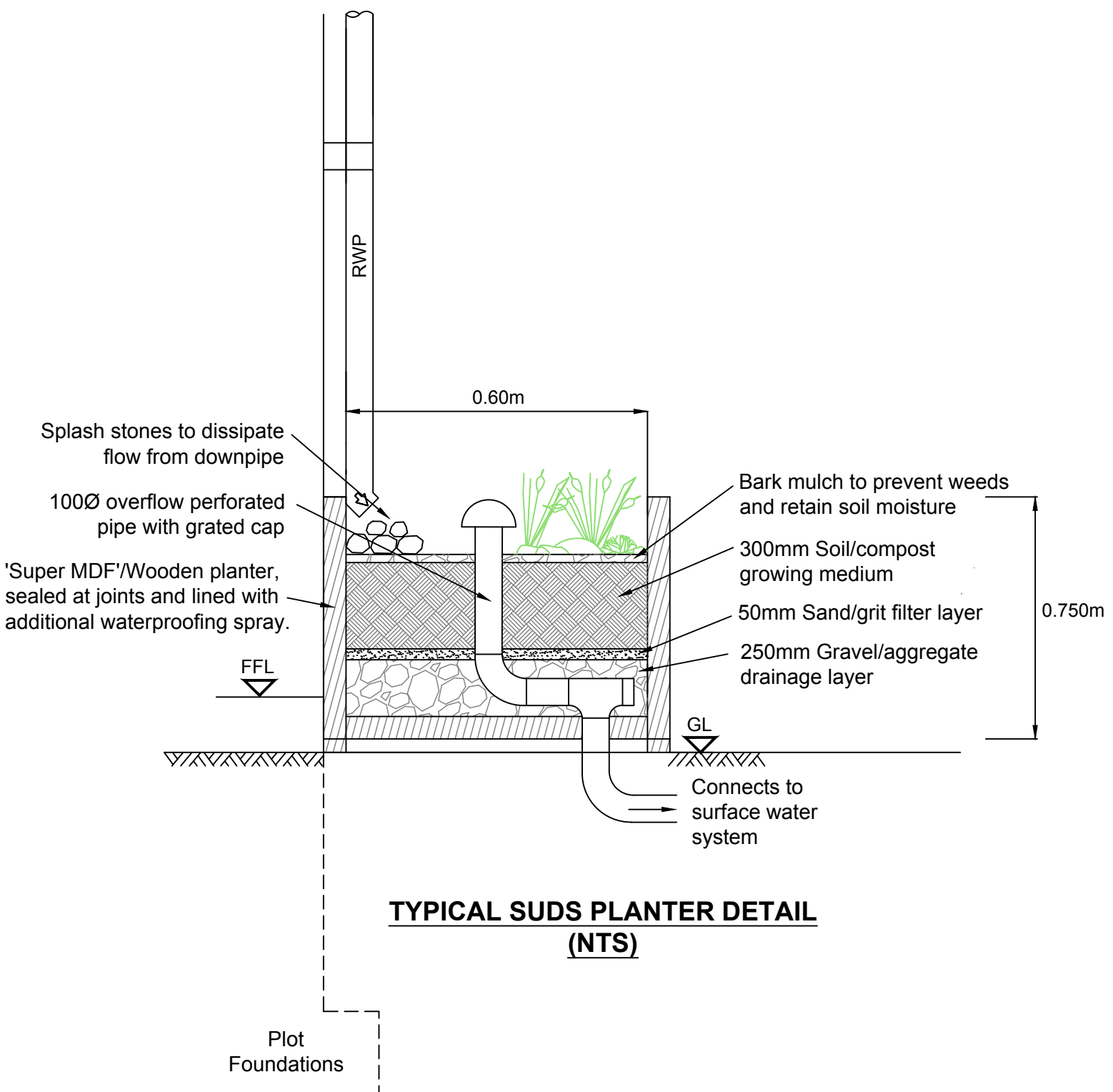
DO NOT SCALE



DRAINAGE LAYOUT



KEY PLAN



TYPICAL SUDS PLANTER DETAIL (NTS)

Notes

- All SVP and RWP connections are indicative and shall be confirmed by architect.
- Pipe gradients out of the building to connecting manhole to be laid at 1:40 in accordance with Building Regulations, Part H, Table 6.
- Where pipe sizes are not indicated 1000 to be used for surface and foul unless stated otherwise.
- Minimum surface water gradients shall be:
1000 laid at 1:100
1500 laid at 1:150
- Minimum 1000 foul drainage gradient to be 1:80 with the exception of the first connection which shall be maximum 1:40.
- Manhole covers to be marked FWS or SW as appropriate.
- All manhole covers and frames shall comply with BS EN124. Covers in roads to be grade D400 and be 150mm deep. Manhole covers in car parking areas and drives to be grade B125 and covers in landscaping areas to be grade A15. All to be sized in accordance with Building Regulations Part H, Tables 11 & 12.
- Precast concrete rings to be reinforced.
- Backdrops in private manholes / inspection chambers to be internal
- Private drains laid under adopted / private roads to be Class S granular bed and surround with a minimum of 1.2m cover, where this cannot be achieved a Class Z concrete bed and surround shall be provided.
- Private drains located under landscape areas or driveways / car parking bays to be Class F granular bed and surround with a minimum 0.6m cover, where this cannot be achieved a Class Z concrete bed and surround shall be provided.

Legend

- 2250 IC 4500 IC 4500 Lateral MH Private Surface Water Drain
- Private Foul Drain
- SVP
- BIG
- RWP
- Rodding Eye
- MD 150D ACO Linear Drainage Channels with universal sump
- SP 2.4m SUDS Planters
- FFL 67.80 Plot Slab Level
- Macro Paving Bitmac Car Park Construction
- Bitmac Car Park Construction
- D Diffuser Units (SEL or similar approved)

CONSTRUCTION



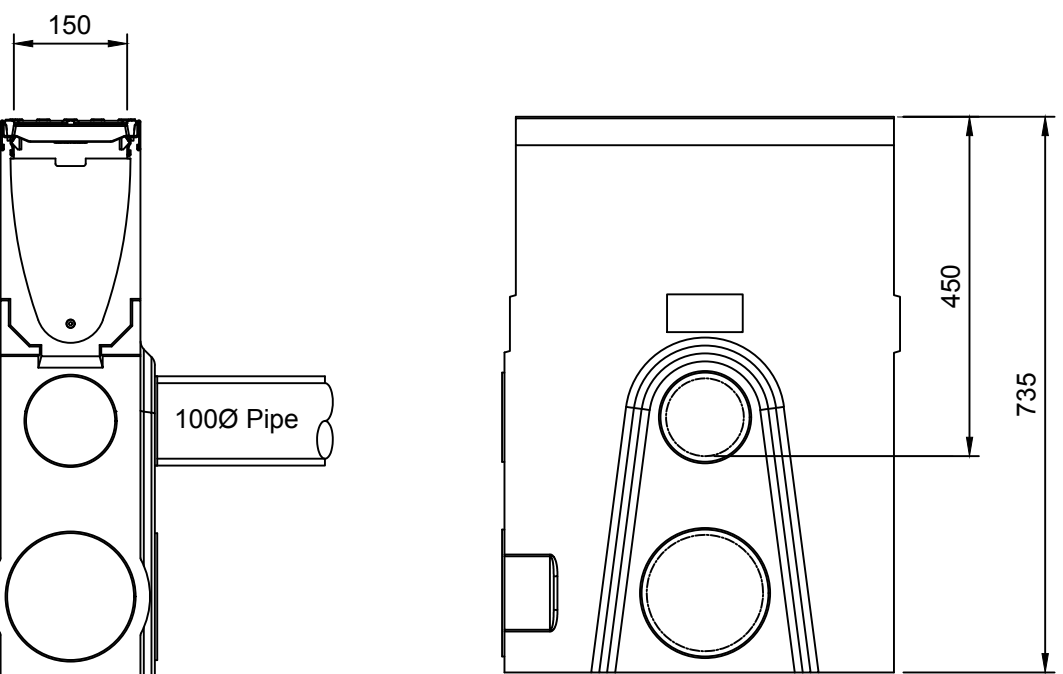
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Client
BRANLEY HOMES LTD

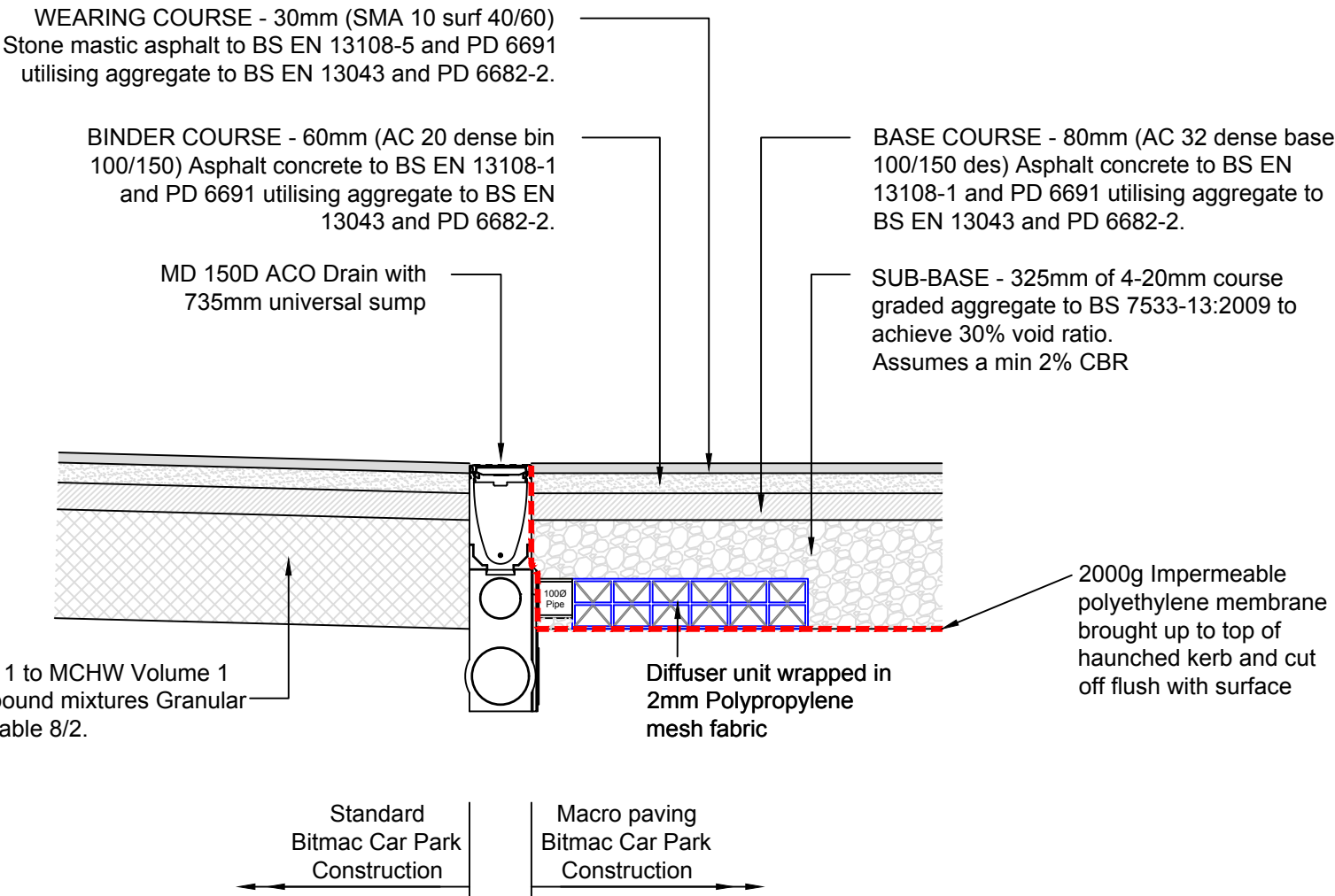
Project
White House Club, Middleton Road, Manchester.

Title
Proposed SUDS Details

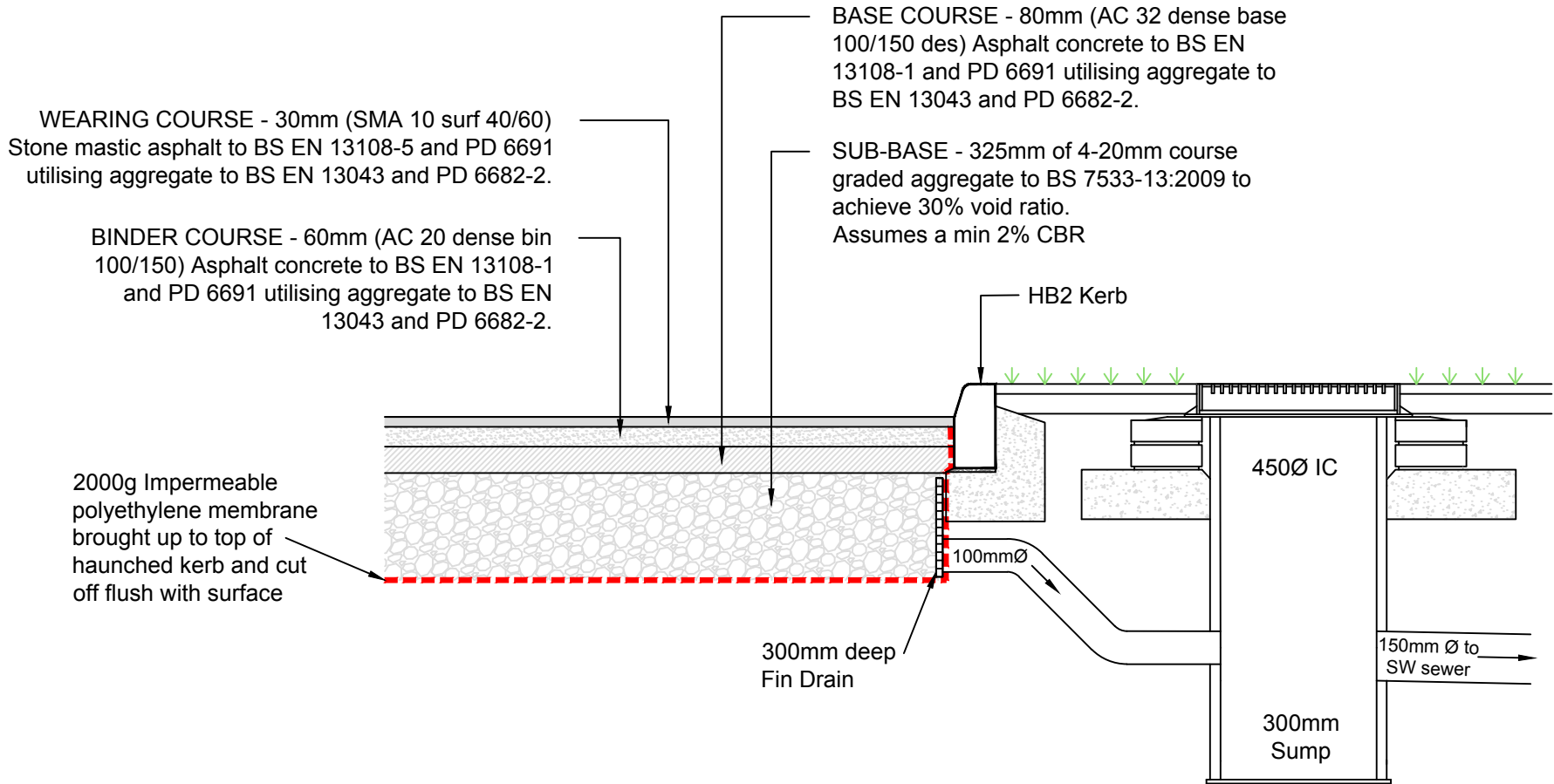
DRAWING NUMBER	SCALE at A1	Varies
7424 / P1 / 19	DATE	07.03.23
	DRAWN	PJN
	CHECKED	AJ
	REVISION	-



ACO DRAIN DETAIL
Scale 1:10



CLUB HOUSE CAR PARK CONSTRUCTION DETAIL



MACRO PAVING OUTFALL DETAIL