



Salt Box, Bognor Regis

Unit 2 and Access Road

Operation and Maintenance

Drainage

For LandLink Estates

Date: 17 October 2019

Doc ref: SAL-HYD-XX-ZZ-RP-C-0011

DOCUMENT CONTROL SHEET

Issued by	
Client	LandLink Estates
Project name	Salt Box, Bognor Regis
Title	Unit 2 and Access Road Operation and Maintenance Drainage
Doc ref	SAL-HYD-XX-ZZ-RP-C-0011
Project no.	C-13319
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Date	17/10/2019

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Issue Number	02	Name
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Checked by		Laurence Daly
Approved by		Jason Walker

Document Revision Record			
Issue Number	Status	Date	Revision Details
01	S2	11/10/2019	Issued for planning
02	S2	17/10/2019	Updated to incorporate Arun DC comments

Hydrock Consultants Limited has prepared this report in accordance with the instructions of the above named client for their sole and specific use. Any third parties who may use the information contained herein do so at their own risk.

Introduction

The key elements of the surface water system will require periodic maintenance to prevent failure of the system and/or a reduction in capacity of the networks as a whole and the following matrix therefore sets out the various drainage items to be maintained, identifies whose is responsible and the frequency of maintenance.

It is anticipated that the drainage within the development will be maintained privately by a management company appointed by the owner / occupier as follows:

Unit 2

The occupier (Warburtons) will have direct responsibility for the maintenance and repair of the foul and surface water drainage system within their site boundary including ensuring compliance with any regulatory requirement with regards to the quality of surface water discharge.

Site Wide Drainage (inc Estate Road)

Management of the site wide drainage is the overall responsibility of the Landlords. The overall estate will be owned & managed by a management company who will be funded by the landlord. The management Company will derive income from the service charge obligations placed on the tenants on a due proportion basis.

The intention is that the Estate Road will eventually become adopted by West Sussex Local Authority Highways and all maintenance responsibilities with regards to the associated Estate Road drainage system will be passed over to the Local Authority. Until then, maintenance of the Estate Road drainage will be the responsibility of the Landlords as noted above.

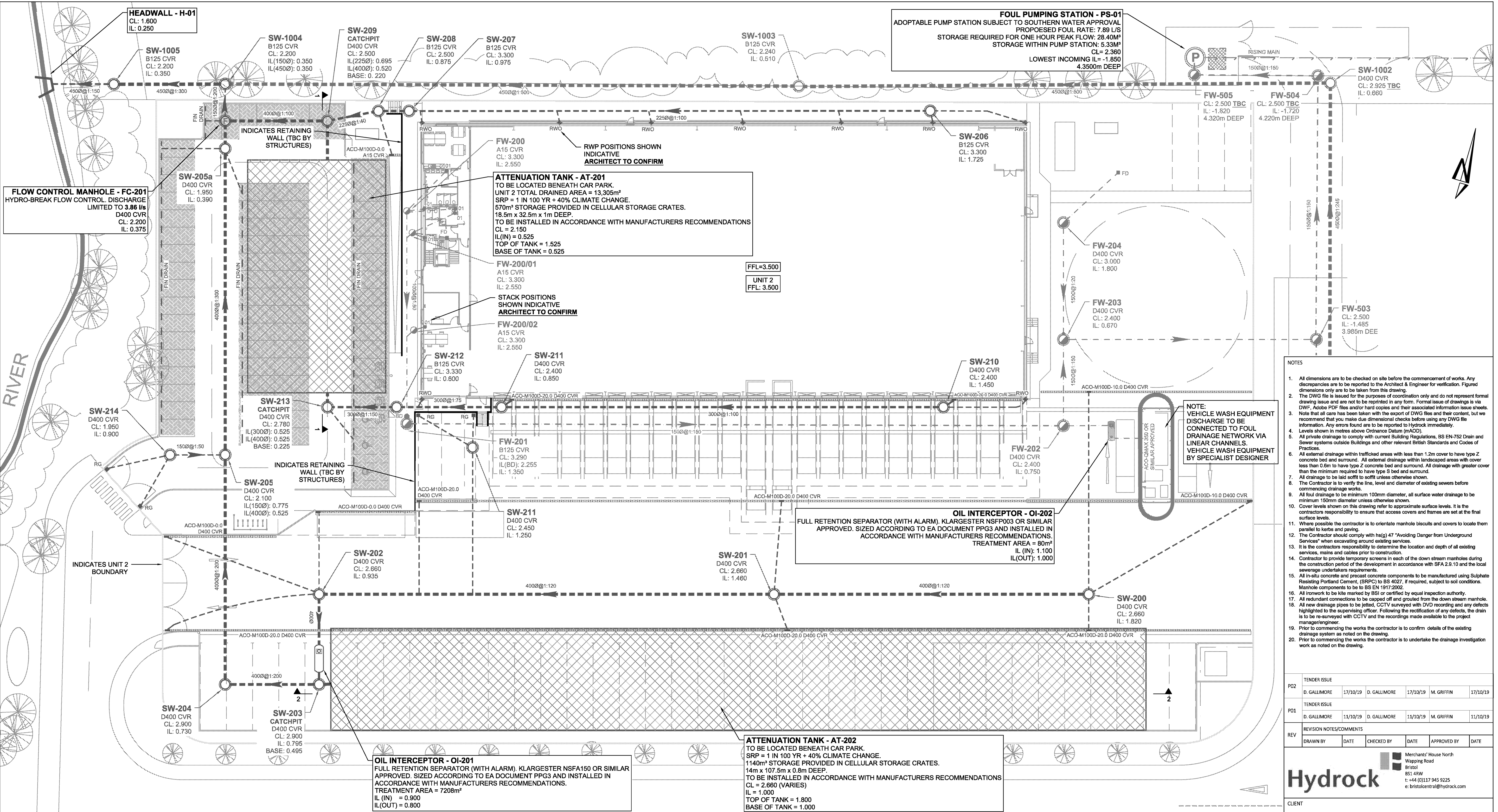
Ownership & Maintenance Responsibility Matrix

Responsibility	Feature	Maintenance	Frequency
Owner / Occupier Appointed Management Company	Private Drains	Inspection	CCTV survey every 5-10 years.
		Regular Maintenance	Jet clean system fully every 5-10 years. (Recommend prior to CCTV drainage survey is)
		Remedial / Occasional Maintenance	Carry out remedial works as identified in CCTV survey.
	Outfall pipes, non-return pipe flaps, and anti-scour mat flow channel	Inspection	Quarterly
		Regular Maintenance	Remove silt and debris as necessary to prevent build up.
		Remedial / Occasional Maintenance	Damage to pipes and headwall to be repaired as necessary
	Discharge orifice manholes/flow control devices	Inspection	Quarterly
		Regular Maintenance	Remove silt and debris as necessary to prevent build up.
	Gullies / Drainage Channels	Inspection	Quarterly
		Regular Maintenance	Remove silt and debris as necessary to prevent build up.
	Permeable Paving (Refer to specialist)	Inspection	Within 3 months of installation then annually
		Regular Maintenance	Sweep surface to remove debris and contamination 1-2 times a year, and typically after leaf fall in autumn.
		Occasional Maintenance	Removal of weeds. As required.
		Remedial Measures	Remediate areas of rutting and depressions. As required. Replace broken / damaged blocks. As required. Rehabilitate surface with sweeping and reapplication of clean gritstone. As required.
	Oil Interceptor	Inspection	Quarterly
		Regular Maintenance	Jet clean system fully every 5-10 years. (Recommend prior to CCTV drainage survey)
		Remedial / Occasional Maintenance	Carry out remedial works as identified in CCTV survey.
	In addition to the above, the following is a list of tasks associated with the maintenance of an Interceptor. This should be read in conjunction with the manufacturers own specific maintenance requirements and only carried out by a fully trained operative. Inspect the integrity of the separator and all mechanical parts.		

		• Inspect all filters and replace or repair as required. • Assess the amount of collected contaminants (oil and fuel) and silt. • Service any electrical systems including volume alarms and any interceptor management systems. • Conduct safe silt/contaminant removal in accordance with waste transit and disposal regulations. • Maintain industry standard documentation. • Maintain logs of inspections, maintenance, incidents, services and contaminant removal.
		<u>Interceptor Alarms:</u> Each interceptor will have a visual alarm indicator local to the interceptor as well as an alarm (visual or audible) linked either back to the adjacent building if maintenance responsibility resides with the tenant or to a remote supervisory point when maintenance responsibility resides with the estate management team.
	Reference should be made to the manufacturer recommendations where applicable	

Appendix A Drainage Layouts

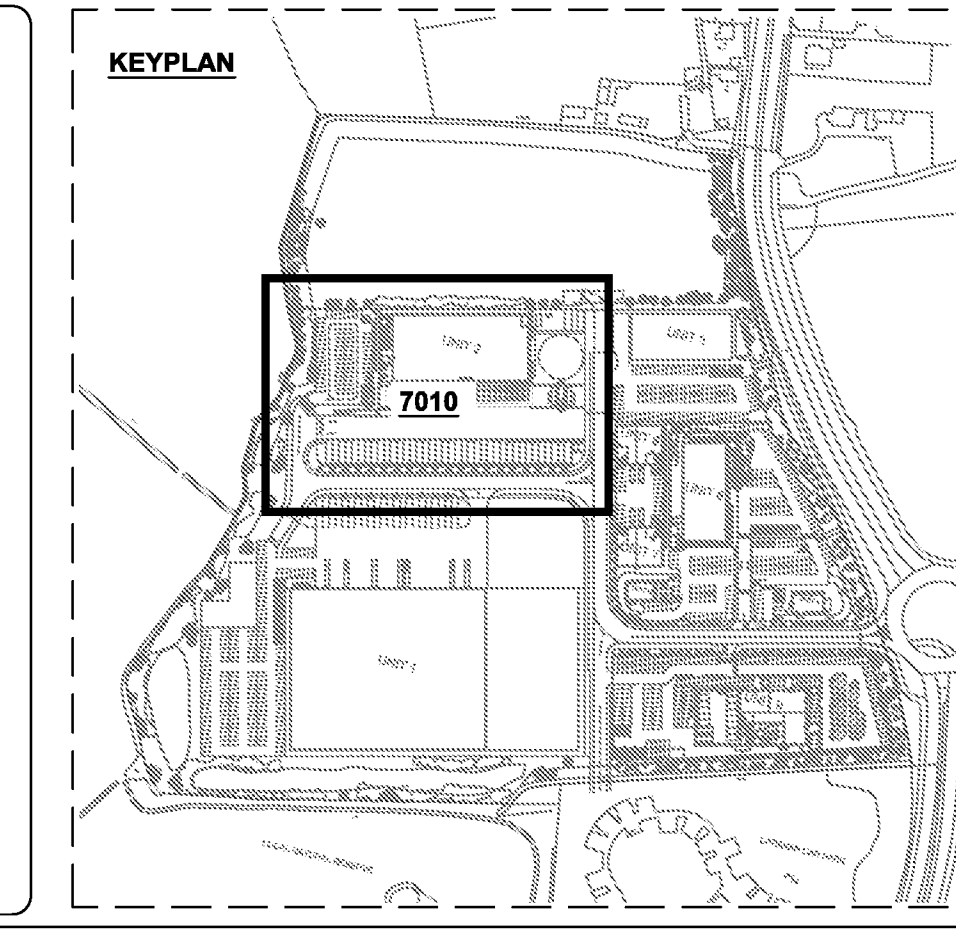
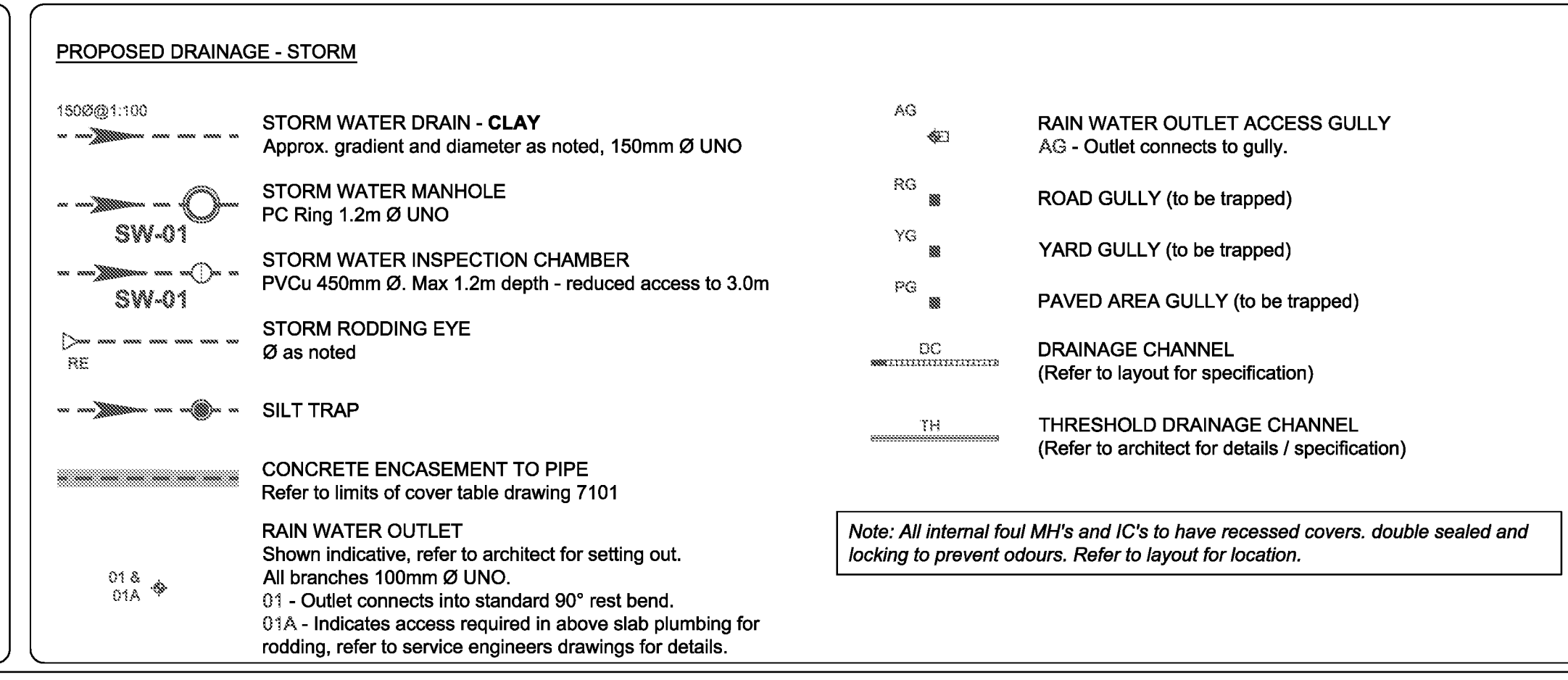
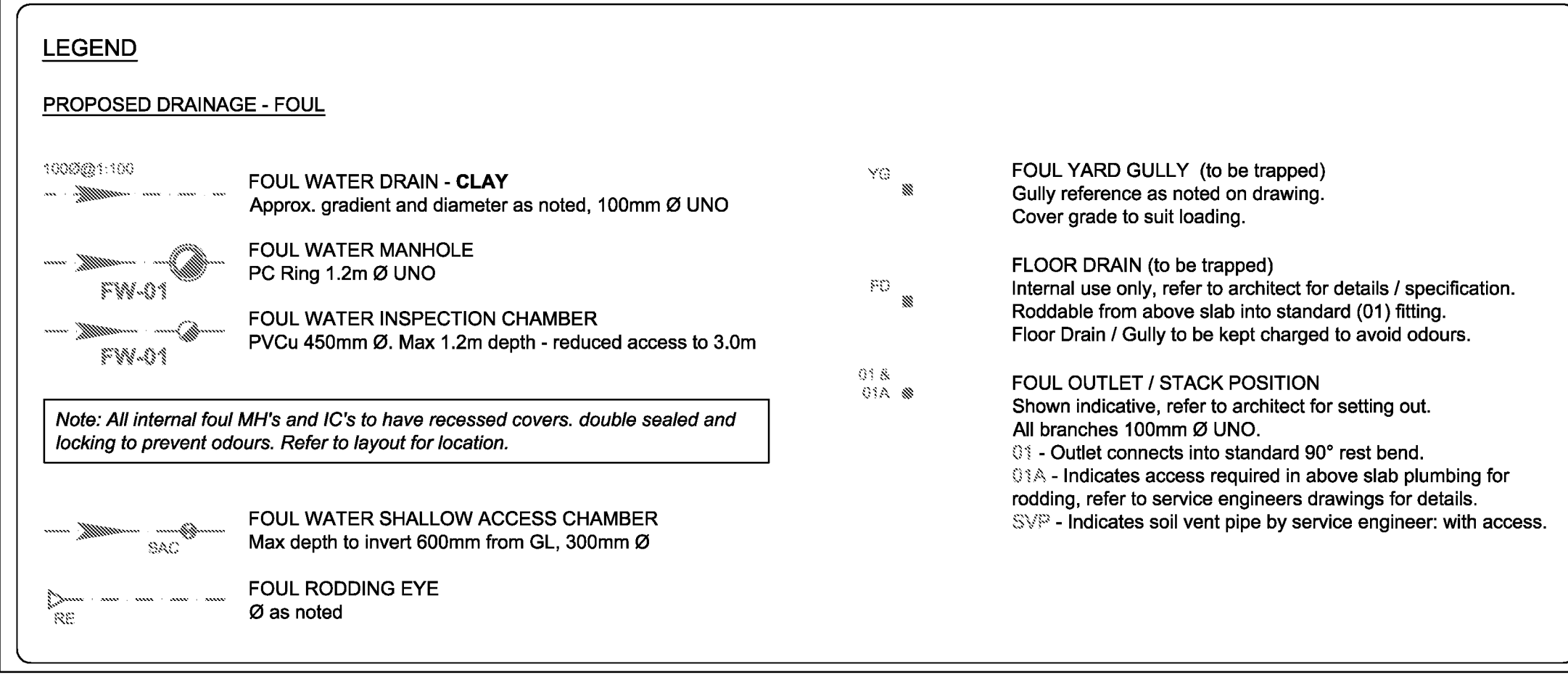
- SAL-HYD-00-ZZ-DR-C-7010 Unit 2 Drainage layout
- SAL-HYD-00-ZZ-DR-C-7020 Access Road Drainage Layout Sheet 1
- SAL-HYD-00-ZZ-DR-C-7021 Access Road Drainage Layout Sheet 2
- SAL-HYD-00-ZZ-DR-C-7022 Access Road Drainage Layout Sheet 3

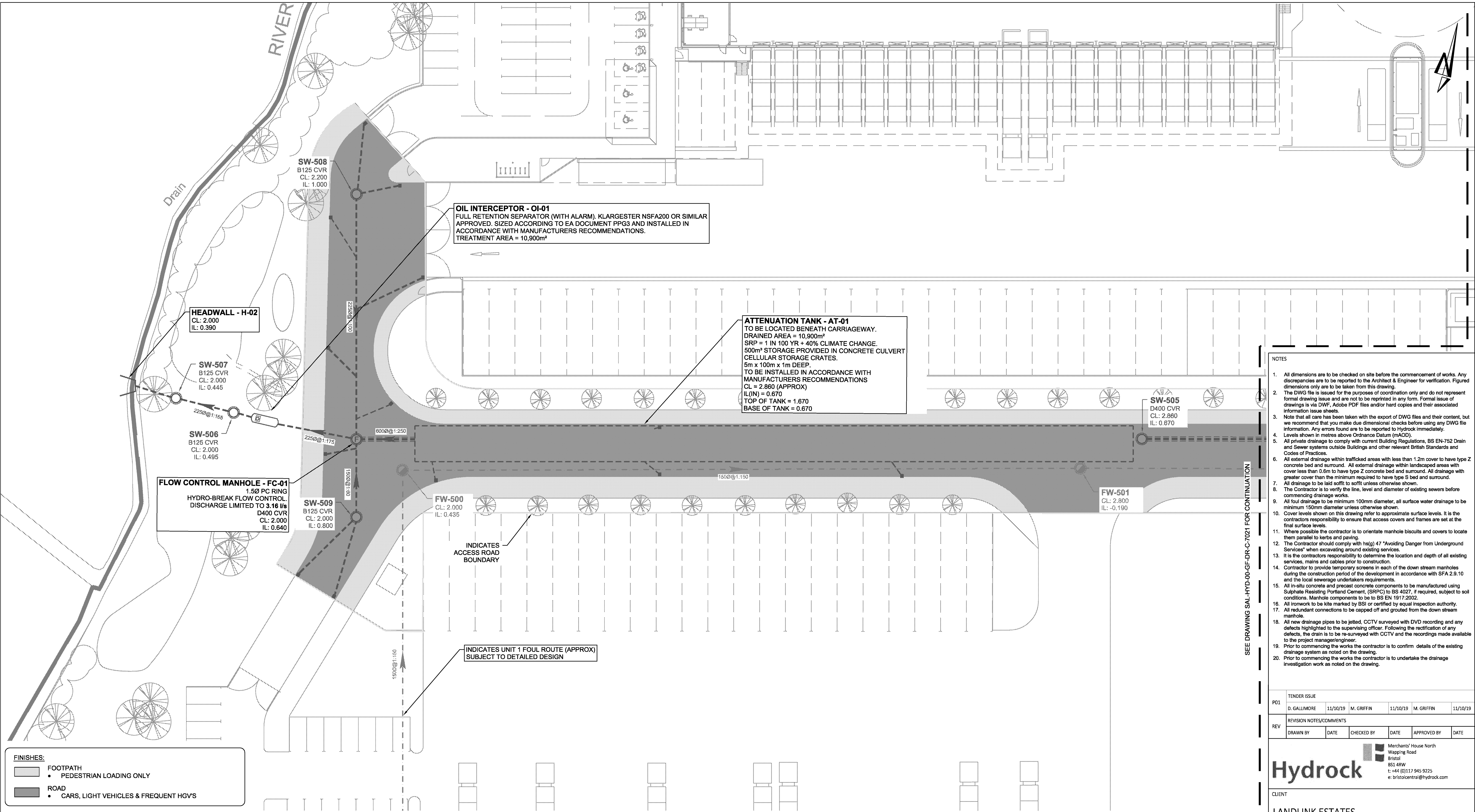


- NOTES
- All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.
 - The DWG file is issued for the purposes of coordination only and does not represent formal drawing issue and are not to be reprinted in any form. Formal issue of drawings is via DWG, Adobe PDF files and/or hard copies and their associated information sheets.
 - Levels shown in metres above Ordnance Datum (MAOD).
 - All private drainage to comply with current Building Regulations, BS EN-752 Drain and Sewer systems outside Buildings and other relevant British Standards and Codes of Practices.
 - All external drainage within trafficked areas with less than 1.2m cover to have type Z concrete bed and surround. All external drainage within landscaped areas with cover less than 0.6m to have type Z concrete bed and surround. All drainage with greater cover than the minimum required to have type S bed and surround.
 - All drainage to be laid soffit to soffit unless otherwise shown.
 - The Contractor is to verify the line, level and diameter of existing sewers before commencing drainage works.
 - All foul drainage to be minimum 100mm diameter, all surface water drainage to be minimum 150mm diameter unless otherwise shown.
 - Cover levels shown on this drawing refer to approximate surface levels. It is the contractors responsibility to ensure that access covers and frames are set at the final surface levels.
 - Where possible the contractor is to orientate manhole biscuits and covers to locate them parallel to kerbs and paving.
 - The Contractor should comply with hsg(p) 47 "Avoiding Danger from Underground Services" when excavating around existing services.
 - It is the contractors responsibility to determine the location and depth of all existing services, mains and cables prior to construction.
 - Contractor to provide temporary screens in each of the down stream manholes during the construction period of the development in accordance with SFA 2.8.10 and the local sewerage undertakers requirements.
 - All in-situ concrete and precast concrete components to be manufactured using Sulphate Resisting Portland Cement, (SRPC) to BS 4027, if required, subject to soil conditions. Manhole components to be to BS EN 1917:2002.
 - All inwork to be kile marked by BS1 or certified by equal inspection authority.
 - All redundant connections to be capped off and grouted from the down stream manhole.
 - All new drainage pipes to be jelled, CCTV surveyed with DVD recording and any defects highlighted to the supervising officer. Following the rectification of any defects, the drain is to be re-surveyed with CCTV and the recordings made available to the project manager/engineer.
 - Prior to commencing the works the contractor is to confirm details of the existing drainage system as noted on the drawing.
 - Prior to commencing the works the contractor is to undertake the drainage investigation work as noted on the drawing.

TENDER ISSUE					
P02	D. GALLIMORE	17/10/19	D. GALLIMORE	17/10/19	M. GRIFFIN 17/10/19
TENDER ISSUE					
P01	D. GALLIMORE	11/10/19	D. GALLIMORE	11/10/19	M. GRIFFIN 11/10/19
REVISION NOTES/COMMENTS					
REV	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY DATE

CLIENT		LANDLINK ESTATES	
PROJECT		SALTBOX BOGNOR REGIS	
TITLE		UNIT 2 DRAINAGE LAYOUT	
HYDROCK PROJECT NO.		SCALE @ A1	
C-13319-C		1:250	
STATUS DESCRIPTION		STATUS	
TENDER		D2	
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)		REVISION	
SAL-HYD-00-ZZ-DR-C-7010		P02	





- FINISHES:**
- FOOTPATH
 - PEDESTRIAN LOADING ONLY
 - ROAD
 - CARS, LIGHT VEHICLES & FREQUENT HGV'S

LEGEND

PROPOSED DRAINAGE - FOUL

- FOUL WATER DRAIN - CLAY
Approx. gradient and diameter as noted, 100mm Ø UNO
- FOUL WATER MANHOLE
PC Ring 1.2m Ø UNO
- FOUL WATER INSPECTION CHAMBER
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m

Note: All internal foul MH's and IC's to have recessed covers. double sealed and locking to prevent odours. Refer to layout for location.

- FOUL WATER SHALLOW ACCESS CHAMBER
Max depth to invert 600mm from GL, 300mm Ø
- FOUL RODDING EYE
Ø as noted

- FOUL YARD GULLY (to be trapped)
Gully reference as noted on drawing.
Cover grade to suit loading.
- FLOOR DRAIN (to be trapped)
Internal use only, refer to architect for details / specification.
Roddable from above slab into standard (01) fitting.
Floor Drain / Gully to be kept charged to avoid odours.
- FOUL OUTLET / STACK POSITION
Shown indicative, refer to architect for setting out.
All branches 100mm Ø UNO.
01 - Outlet connects into standard 90° rest bend.
01A - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.
SVP - Indicates soil vent pipe by service engineer, with access.

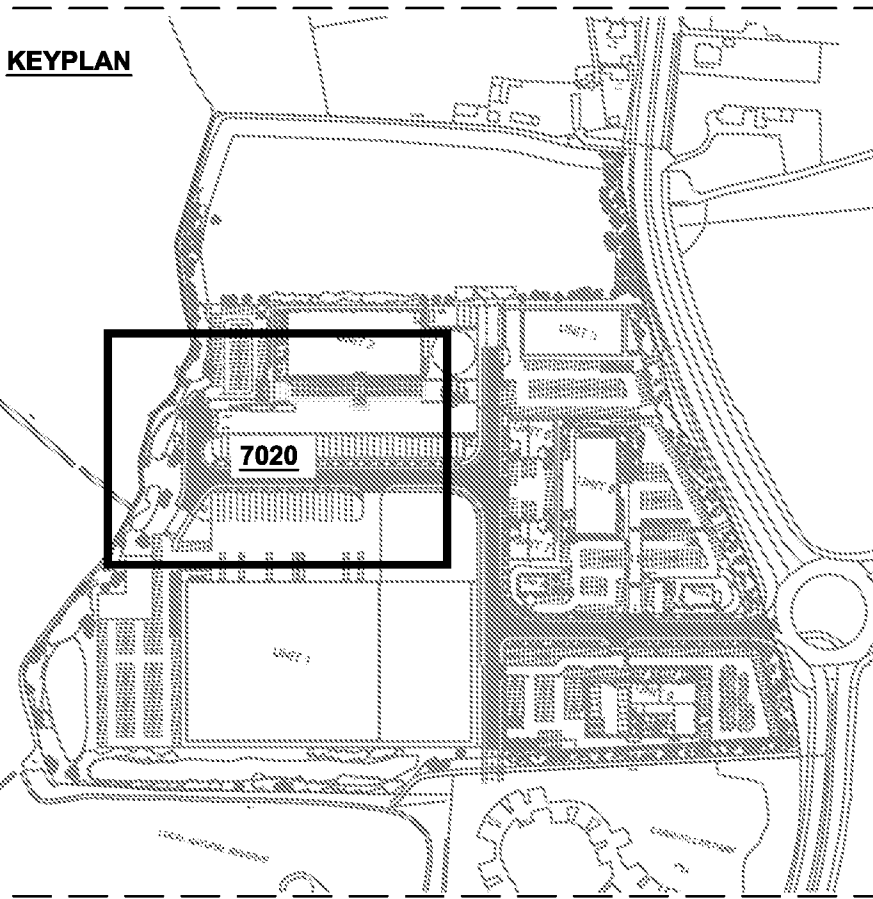
PROPOSED DRAINAGE - STORM

- STORM WATER DRAIN - CLAY
Approx. gradient and diameter as noted, 150mm Ø UNO
- STORM WATER MANHOLE
PC Ring 1.2m Ø UNO
- STORM WATER INSPECTION CHAMBER
PVCu 450mm Ø. Max 1.2m depth - reduced access to 3.0m
- STORM RODDING EYE
Ø as noted
- SILT TRAP
- CONCRETE ENCASEMENT TO PIPE
Refer to limits of cover table drawing 7101
- RAIN WATER OUTLET
Shown indicative, refer to architect for setting out.
All branches 100mm Ø UNO.
01 - Outlet connects into standard 90° rest bend.
01A - Indicates access required in above slab plumbing for rodding, refer to service engineers drawings for details.

- RAIN WATER OUTLET ACCESS GULLY
AG - Outlet connects to gully.
- ROAD GULLY (to be trapped)
- YARD GULLY (to be trapped)
- PAVED AREA GULLY (to be trapped)
- DRAINAGE CHANNEL
(Refer to layout for specification)
- THRESHOLD DRAINAGE CHANNEL
(Refer to architect for details / specification)

Note: All internal foul MH's and IC's to have recessed covers. double sealed and locking to prevent odours. Refer to layout for location.

KEYPLAN



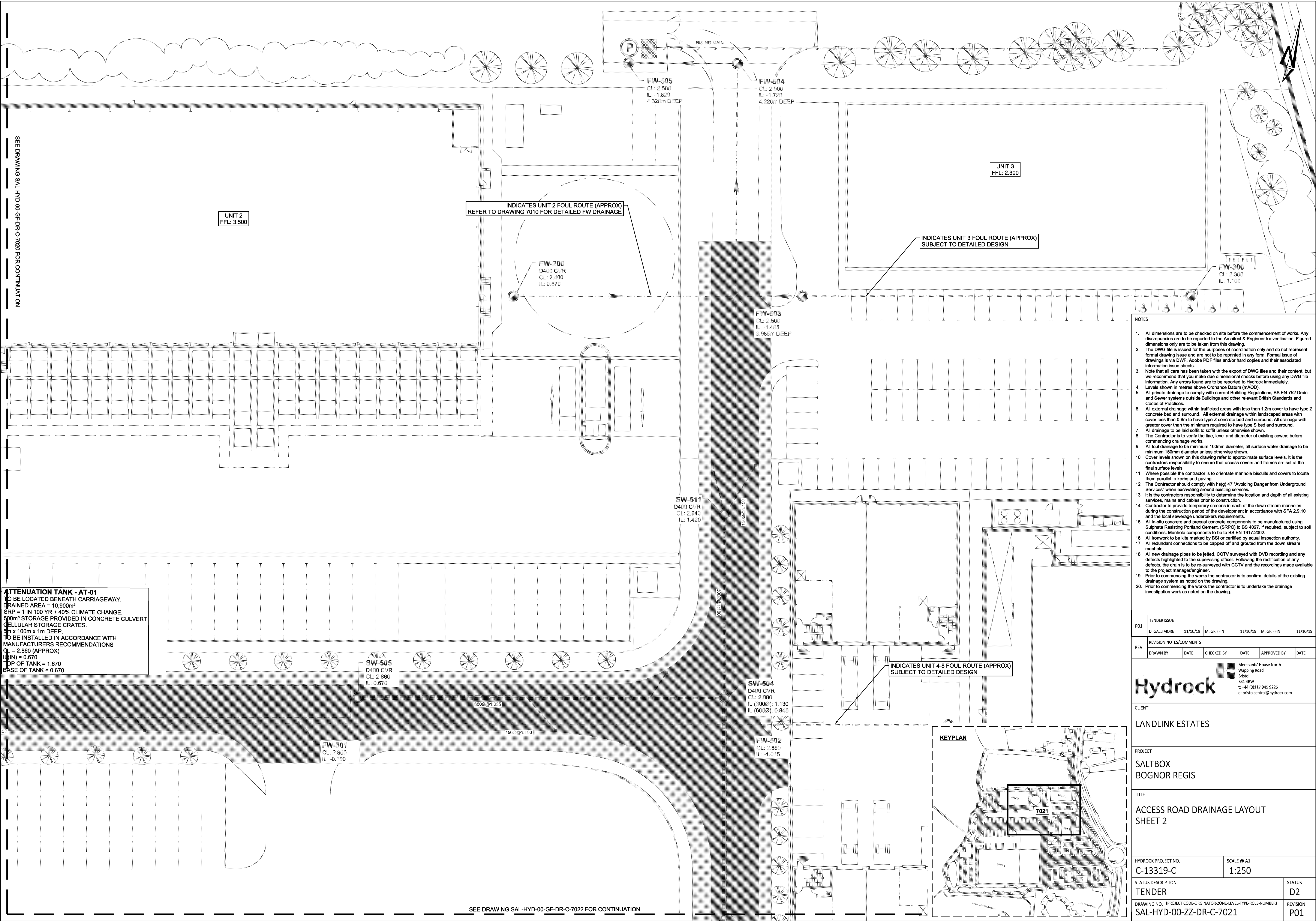
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- All ironwork to be kite marked by BSI or certified by equal inspection authority.
- All redundant connections to be capped off and grouted from the down stream manhole.
- All new drainage pipes to be jetted. CCTV surveyed with DVD recording and any defects highlighted to the supervising officer. Following the rectification of any defects, the drain is to be re-surveyed with CCTV and the recordings made available to the project manager/engineer.
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CLIENT					
LANDLINK ESTATES					
PROJECT					
SALTBOX BOGNOR REGIS					
TITLE					
ACCESS ROAD DRAINAGE LAYOUT SHEET 1					
HYDROCK PROJECT NO. C-13319-C				SCALE @ A1 1:250	
STATUS DESCRIPTION					STATUS D2
TENDER					REVISION P01
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) SAL-HYD-00-ZZ-DR-C-7020					



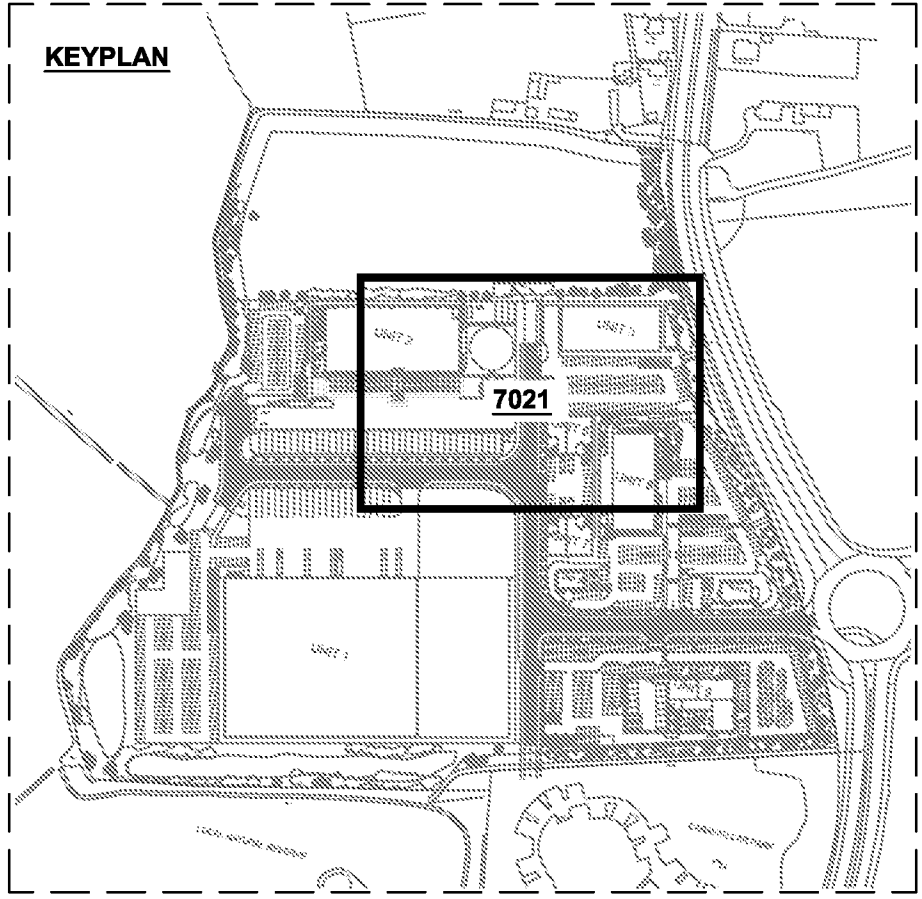
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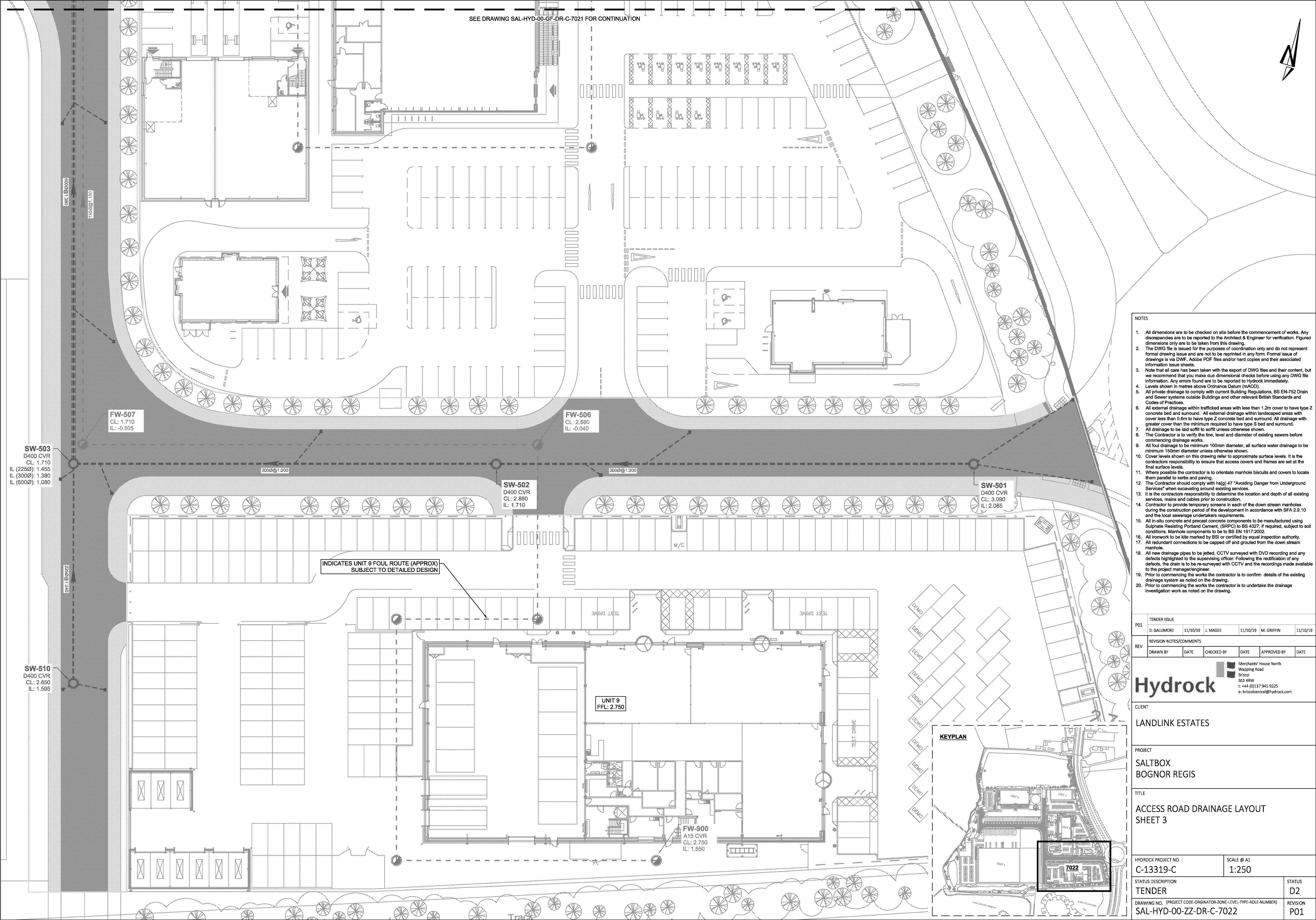
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CLIENT	
LANDLINK ESTATES	
PROJECT	
SALTBOX BOGNOR REGIS	
TITLE	
ACCESS ROAD DRAINAGE LAYOUT SHEET 2	
HYDROCK PROJECT NO. C-13319-C	
SCALE @ A1 1:250	
STATUS DESCRIPTION	
TENDER	
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER) SAL-HYD-00-ZZ-DR-C-7021	
STATUS D2	
REVISION P01	





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REVISION NOTES/COMMENTS					
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CLIENT		LANDLINK ESTATES	
PROJECT		SALTBOX BOGNOR REGIS	
TITLE		ACCESS ROAD DRAINAGE LAYOUT SHEET 3	
HYDROCK PROJECT NO.		SCALE @ A1	
C-13319-C		1:250	
STATUS DESCRIPTION		STATUS	
TENDER		D2	
DRAWING NO. (PROJECT CODE-ORIGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)		REVISION	
SAL-HYD-00-ZZ-DR-C-7022		P01	

