









PROJECT NAME: Clarendon Road, Phase 3

Manhole / Drainage run Check Sheet

		Check Sheet No:	S-57	
		Drg Ref & Rev no:	W257-PTA-DE-ZZ-DR-C-01-8101 C20	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location: Phase 3 Northwest of D1 Manhole/pipe run Ref Gridline Ref Highlighted location plan attached	FW07A to FW02	M.K.	
		Yes/No		
2	Manhole size	450/1200 dia.	M.K.	
3	Invert level	23.800 to 23.715	M.K.	
4	Manhole cover : Spec, size, orientation & cover level	D400/B125, 600/450	M.K.	
5	Excavation to correct dimensions/support systems checked		M.K.	
6	Branches & benching: position, line, level checked		M.K.	
7	Rocker pipes installed (if applicable) checked		M.K.	
8	Rings and cover placed as per vertical & horizontal alignment checked.		M.K.	
9	Brickwork & surround filled as per detail/specification checked.		M.K.	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	Yes/No	M.K.	
12	Pipe run details Material Diameter Length	Clay	M.K.	
		150mm		
		10m		
13	Spurs for lateral connections: Position, level & co-ordinates checked		M.K.	
14	SVP/RWPs installed to correct position, level and capped off.		N/A	
15	Anchor blocks to correct detail at specified locations		N/A	
16	Bedding & surround as specified		M.K.	
17	Air testing passed/witnessed:		M.K.	
18	Photos attached		M.K.	
19	Geotextile installed as per specification & checked		M.K.	

Originator - GCL Site Manager		Client Representative	
Name : M. Kunigelis		Name :	
Signature: 	Date: 14/10/2021	Signature:	Date:

GCL-QA-002

PROJECT NAME: Clarendon Road Phase 3

Drainage Air Test Sheet

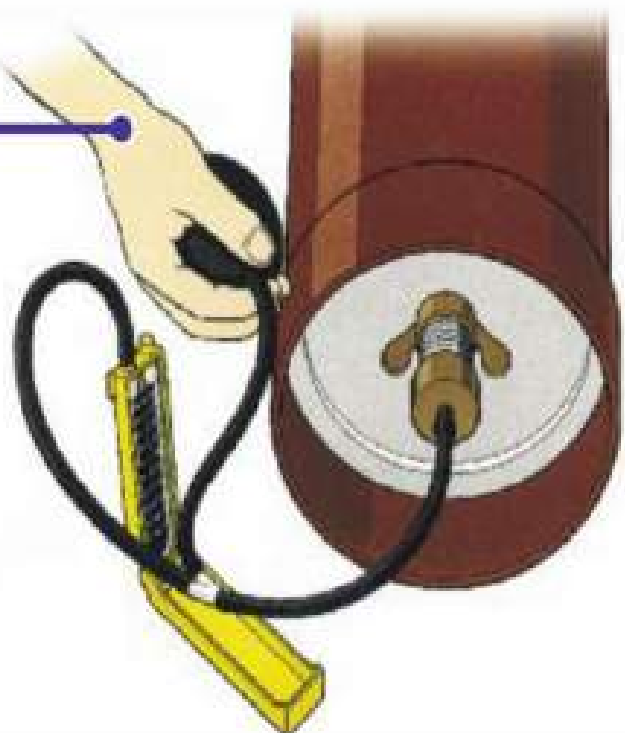
Client: St. William	Test date: 14/10/2021
Drainage Check Sheet Ref no: S-57	Test. Ref. No: S-57

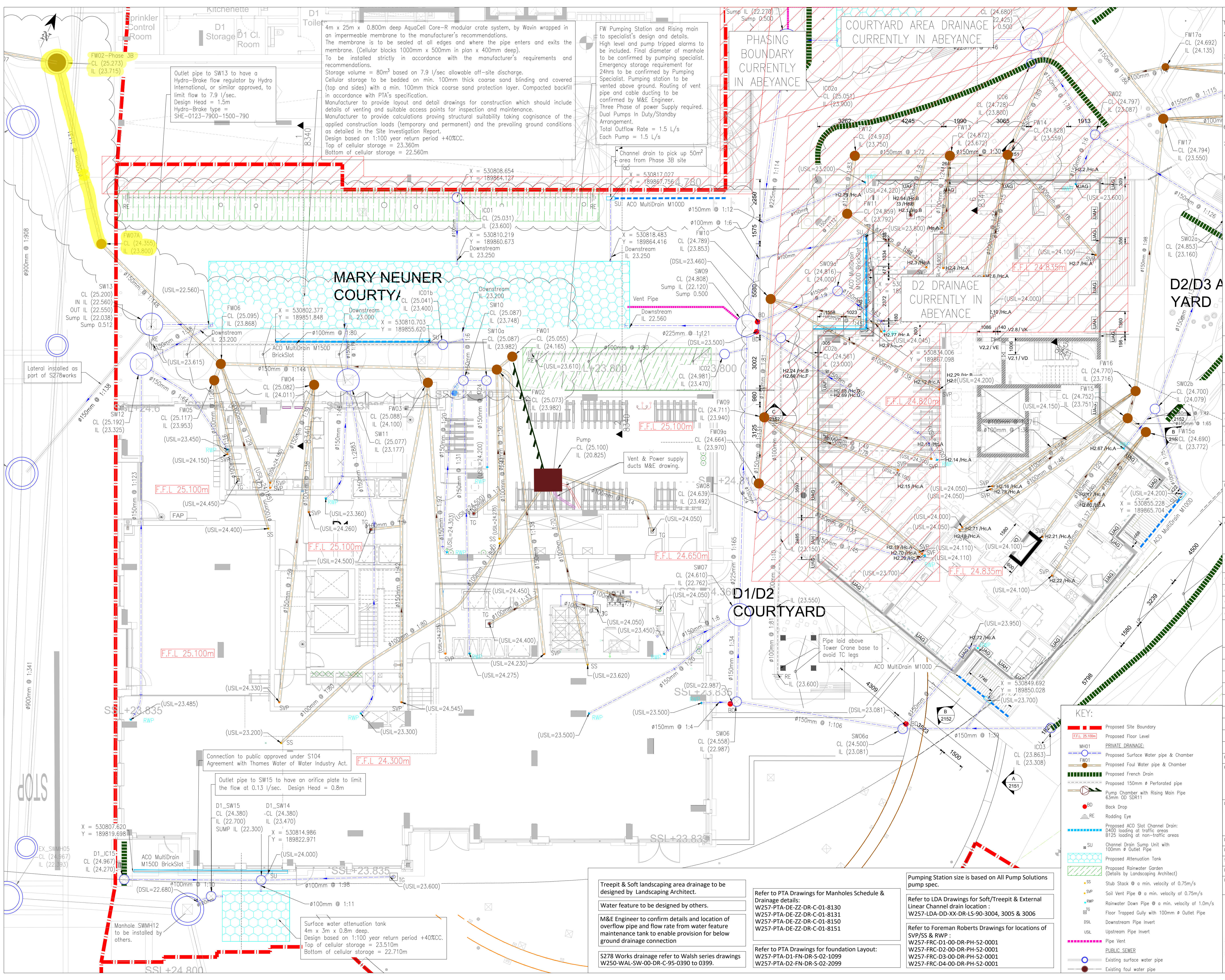
Pipe Run	Air gauge pressure		Pipe dia.(ø)	Test Time	Result	Remarks
	Initial	Final				
FW07A to FW02	100	90	150mm	5 mins	Pass	OK

Signed: Dragos Goroi (Technician)	Witnessed by: M. Kunigelis
Verified By: R. De Sousa (Technical Manager) 	Date: 14/10/2021

Air Test - Testing Guidelines

1. Seal pipe section with appropriate size drain test plug.
Remove any grease or foreign material from installation point. Ensure no dirt is trapped between seal of plug and pipes. Ensure plug is inserted square to pipe wall. Ensure wing nut and sealing cap are tight.
2. Fit test nipple to one of the drain test plugs.
3. Connect rubber hose via 'Y' piece to nipple, 'Y' gauge and hand bellows.
4. Fill 'Y' gauge with water to 'zero'.
5. Squeeze the hand bellows gently until the level reaches 100mm on the open side of the gauge and the lower limb below zero on the closed side. The level should not fall to less than 75mm during a period of 5 minutes without further pumping, after allowing a suitable time for stabilisation of air temperature. If it drops below 75mm within the specified time the pipe section is leaking.





Notes:

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- The Contractor is advised that all design drawings and information are to be read concurrently and any discrepancies or omissions reported directly to PTA Civils Department.
- The topographical survey is based from CD Surveys Ltd drawings:- SW/1808045/1-3 dated October 2018, SW/1601057/1 dated February 2016, WH/1903054 dated April 2019.
- The topographical survey is based on drawing MSC32138-U-AII-01 received from Murphy Surveys dated August 2019.
- For information on existing site conditions and services ref to the National Grid H&S File report ref: IWS0170220-TRIO-HRN-HSRLE-0001. Any discrepancies between this and the provided information are to be referred to the engineer prior to commencement of works.
- Refer to PTA drawing W257-PTA-SW-ZZ-DR-S-0045 for site constraints.

C20	As-built drainage update. D1 FW outfall update. D4/E4 suspended drainage update. MHs relocated into paths.	JP	23.09.21	AH
C19	IC15 IL updated.	JP	12.03.21	AM
C18	FW15a/15/16 updated to as built positions FW17/18 levels updated.	JP	02.03.21	AM
C17	SW09 BD level amended.	JP	19.02.21	AM
C16	Terrace drainage updated. Channel drain to D1 added.	JP	16.02.21	AM

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DRAWING STATUS

C15	FW15/ FW15a IL amended. IC09b/IC09c shown in as-built position. CD added to terraces	JP	05.02.21	AM
C14	IC09b & 09C moved & FW16 invert level amended	SN	29.01.21	-
C13	Perforated pipe added.	SN	06.01.21	-
C12	RWP & SW02 amended.	SN	25.11.20	-
C11	Floor gully IL added.	SN	12.11.20	-
C10	D2 Terrace gullies added.	SN	10.11.20	-
C9	Pumping Station MH shape amended. Rising main details added. CD amended	SN	30.10.20	-
C8	L&Q drainage added.	SN	15.10.20	-
C7	D1 L&Q drainage added.	SN	08.10.20	-
C6	D1/D2 SVP & SS amended.	SN	25.09.20	-
C5	MH covers level amended.	SN	14.08.20	-
C4	Drainage coordinated.	SN	06.08.20	-
C3	Latest Arch/M&E info update	SN	16.07.20	-
C2	Latest M & E model update.	SN	22.05.20	AH
C1	Issue for Construction.	SN	17.04.20	AH
PI	First Issue.	SN	13.03.20	AH

REV DESCRIPTION BY DATE CHK'D

PROJECT TITLE

Clarendon Ph3a

DRAWING TITLE

Drainage Layout Sheet 1 of 3

DATE	Feb 20	CHECKED DO	CHECKED ENG	PTA PROJ No
DRAWN	SN			9669
SCALE	1 : 100		JP	AH
DRG SIZE	A1			REVISION
				C20

DRAWING No

W257-PTA-DE- ZZ -DR-C-01- 8101

Consulting Civil & Structural Engineers

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Bucks.
HP5 1EJ
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FW02 - Phase 3B

FW07A



FW02 - Phase 3B

FW07A



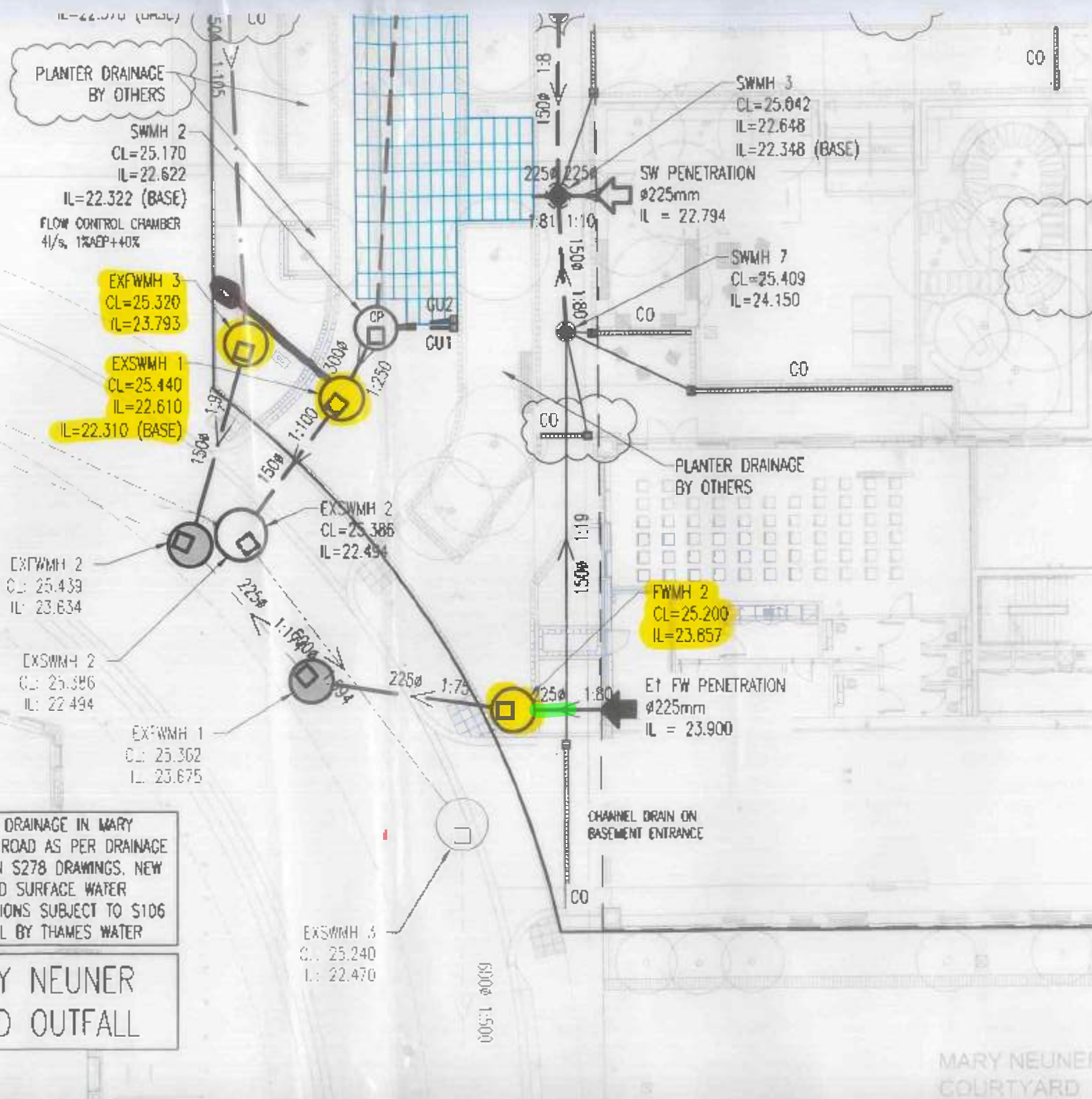


PROJECT NAME: Clarendon Road , Phase 3

Manhole / Drainage run Check Sheet

		Check Sheet No:	S-57	
		Drg Ref & Rev no:	WAL-3100 C1, PTA 8101 C20	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location: Phase 3 manholes Manhole/pipe run Ref Gridline Ref Highlighted location plan attached	FWMH 2 Yes/No		
2	Manhole size	1200mm dia		
3	Invert level	23.715		
4	Manhole cover : Spec, size, orientation & cover level	25.273, Clay		
5	Excavation to correct dimensions/support systems checked	/		
6	Branches & benching: position, line, level checked	/		
7	Rocker pipes installed (if applicable) checked	/		
8	Rings and cover placed as per vertical & horizontal alignment checked.	/		
9	Brickwork & surround filled as per detail/specification checked.	/		
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :	N/A		
11	Manhole accessible for future use/maintenance	Yes/No	/	
12	Pipe run details Material Diameter Length	Clay 150 -	/	
13	Spurs for lateral connections: Position, level & co-ordinates checked	/		
14	SVP/RWPs installed to correct position, level and capped off.	/		
15	Anchor blocks to correct detail at specified locations	N/A		
16	Bedding & surround as specified	/		
17	Air testing passed/witnessed:	/		
18	Photos attached	/		

Originator - GCL Site Manager		Client Representative	
Name : M. Kunigelis		Name :	
Signature:	Date: 21/09/2021	Signature:	Date:



PLANTER DRAINAGE BY OTHERS

SWMH 2
CL=25.170
IL=22.622
IL=22.322 (BASE)
FLOW CONTROL CHAMBER
4l/s, 1% AEP+40%

EXFWMH 3
CL=25.320
IL=23.793

EXSWMH 1
CL=25.440
IL=22.610
IL=22.310 (BASE)

EXFWMH 2
CL=25.439
IL=23.634

EXSWMH 2
CL=25.386
IL=22.494

EXFWMH 1
CL=25.362
IL=23.675

EXISTING DRAINAGE IN MARY NEUNER ROAD AS PER DRAINAGE NOTED IN S278 DRAWINGS. NEW FOUL AND SURFACE WATER CONNECTIONS SUBJECT TO S106 APPROVAL BY THAMES WATER

MARY NEUNER ROAD OUTFALL

SWMH 3
CL=25.042
IL=22.648
IL=22.348 (BASE)

SW PENETRATION
Ø225mm
IL = 22.794

SWMH 7
CL=25.409
IL=24.150

PLANTER DRAINAGE BY OTHERS

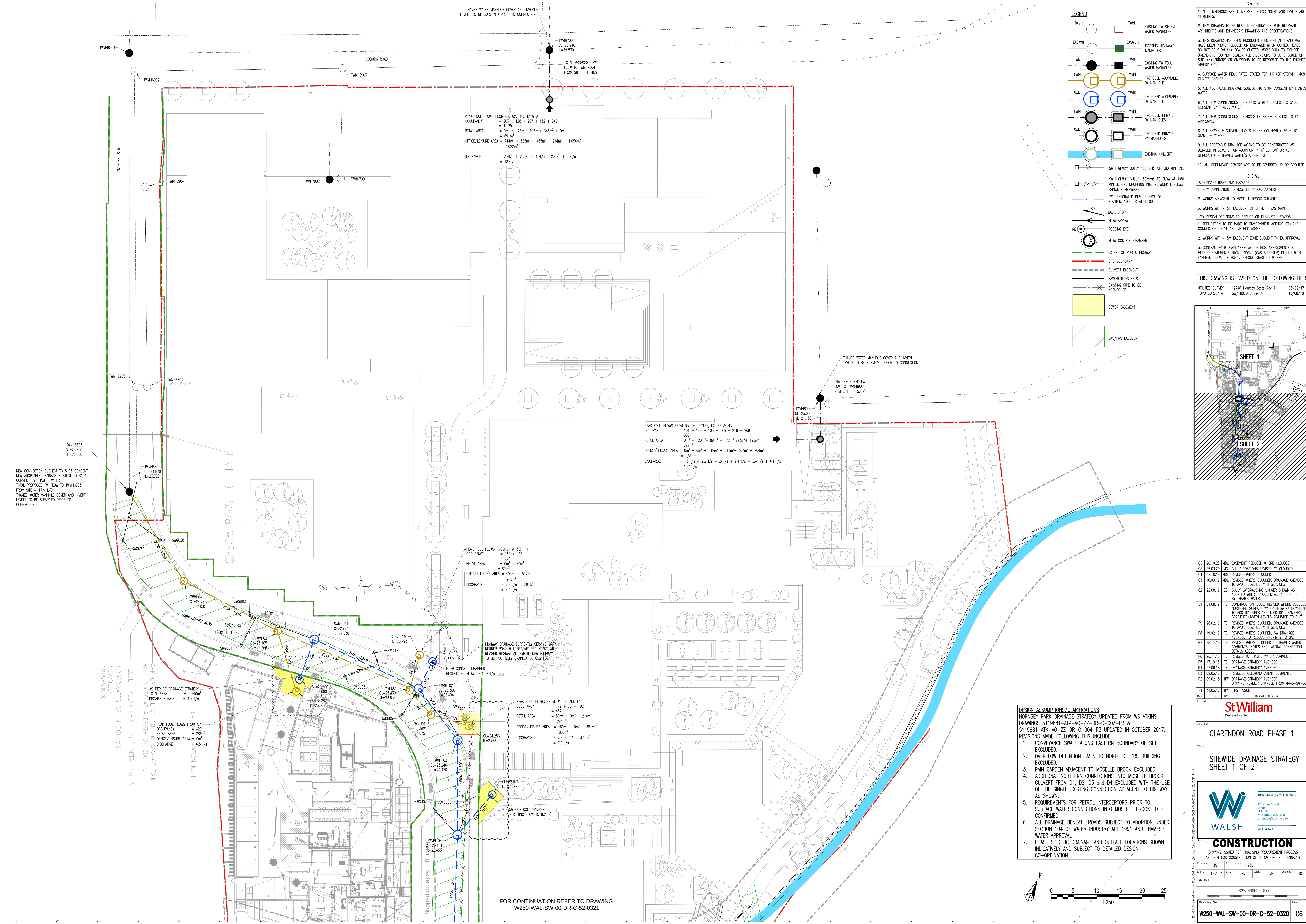
FWMH 2
CL=25.200
IL=23.857

FW PENETRATION
Ø225mm
IL = 23.900

CHANNEL DRAIN ON BASEMENT ENTRANCE

EXSWMH 3
CL=25.240
IL=22.470

MARY NEUNER COURTYARD



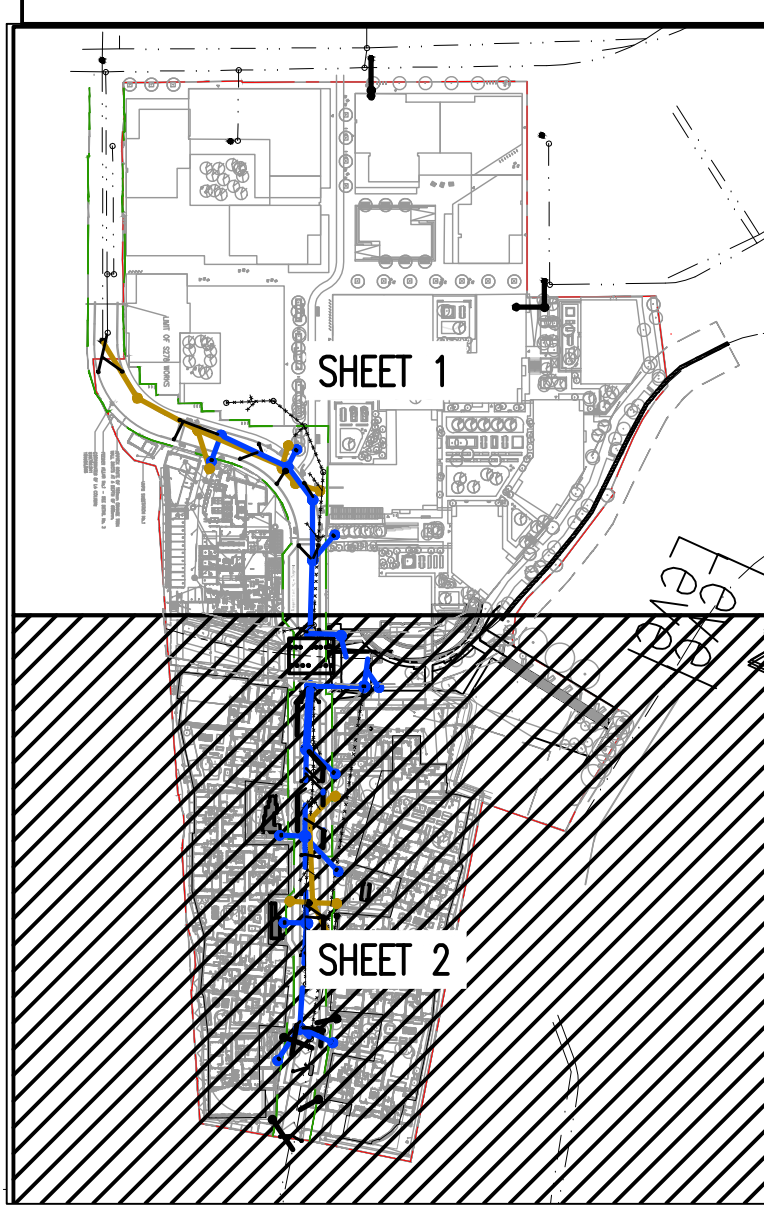
LEGEND

- TMH: EXISTING TM FLOW WATER MANHOLES
- EXSTMH: EXISTING HIGHWAYS MANHOLES
- TMH: EXISTING TM FLOW WATER MANHOLES
- FMH: PROPOSED ADAPTABLE FW MANHOLE
- SMH: PROPOSED ADAPTABLE SW MANHOLE
- FMH: PROPOSED PRIVATE FW MANHOLE
- SMH: PROPOSED PRIVATE SW MANHOLE
- EXISTING CULVERT
- SW HIGHWAY GULLY 150mmØ AT 1.80 MIN FALL
- SW HIGHWAY GULLY 150mmØ TO FLOW AT 1.80 MIN BEFORE DROPPING INTO NETWORK (UNLESS SHOWN OTHERWISE)
- SW PERFORATED PIPE IN BASE OF PLANTER, 100mmØ AT 1:100
- BACK DROP
- FLOW ARROW
- RODING EYE
- FLOW CONTROL CHAMBER
- EXTENT OF PUBLIC HIGHWAY
- SITE BOUNDARY
- CULVERT EASEMENT
- BASEMENT EXTENTS
- EXISTING PIPE TO BE ABANDONED
- SEWER EASEMENT
- GAS/PRS EASEMENT

- Notes**
1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED AND LEVELS ARE IN METRES.
 2. THIS DRAWING TO BE READ IN CONJUNCTION WITH RELEVANT ARCHITECT'S AND ENGINEER'S DRAWINGS AND SPECIFICATIONS.
 3. THIS DRAWING HAS BEEN PRODUCED ELECTRONICALLY AND MAY HAVE BEEN PHOTO REDUCED OR ENLARGED WHEN COPIED. HENCE, DO NOT RELY ON ANY SCALES QUOTED. WORK ONLY TO FIGURED DIMENSIONS (DO NOT SCALE). ALL DIMENSIONS TO BE CHECKED ON SITE. ANY ERRORS OR OMISSIONS TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 4. SURFACE WATER PEAK RATES STATED FOR 1% AEP STORM + 40% CLIMATE CHANGE.
 5. ALL ADAPTABLE DRAINAGE SUBJECT TO S104 CONSENT BY THAMES WATER.
 6. ALL NEW CONNECTIONS TO PUBLIC SEWER SUBJECT TO S106 CONSENT BY THAMES WATER.
 7. ALL NEW CONNECTIONS TO MOSSELLE BROOK SUBJECT TO EA APPROVAL.
 8. ALL SEWER & CULVERT LEVELS TO BE CONFIRMED PRIOR TO START OF WORKS.
 9. ALL ADAPTABLE DRAINAGE WORKS TO BE CONSTRUCTED AS DETAILED IN SEWERS FOR ADOPTION, 7TH EDITION OR AS STIPULATED IN THAMES WATER'S ADDENDUM.
 10. ALL REDUNDANT SEWERS ARE TO BE GRUBBED UP OR GROUDED.
- C.D.M.**
- SIGNIFICANT RISKS AND HAZARDS:**
1. NEW CONNECTION TO MOSSELLE BROOK CULVERT.
 2. WORKS ADJACENT TO MOSSELLE BROOK CULVERT.
 3. WORKS WITHIN 3m EASEMENT OF LP & IP GAS MAIN.
- KEY DESIGN DECISIONS TO REDUCE OR ELIMINATE HAZARDS:**
1. APPLICATION TO BE MADE TO ENVIRONMENT AGENCY (EA) AND CONNECTION DETAIL AND METHOD AGREED.
 2. WORKS WITHIN 3m EASEMENT ZONE SUBJECT TO EA APPROVAL.
 3. CONTRACTOR TO OBTAIN APPROVAL OF RISK ASSESSMENTS & METHOD STATEMENTS FROM CADOUT (GAS SUPPLIER) IN LINE WITH EASEMENT SSW22 & HSE47 BEFORE START OF WORKS.

THIS DRAWING IS BASED ON THE FOLLOWING FILES

UTILITIES SURVEY - 12746 Hornsey Slats Rev A	08/02/17
TOPO SURVEY - SW/1807018 Rev A	15/08/18



C5	20.10.20	MDL	EASEMENT REDUCED WHERE CLOUDED
C5	08.03.20	MDL	LOC GULLY POSITIONS REVISED AS CLOUDED
C4	07.10.19	MDL	REVISED WHERE CLOUDED
C3	10.09.19	MDL	REVISED WHERE CLOUDED, DRAINAGE AMENDED TO AVOID CLASHES WITH SERVICES
C2	22.08.19	ED	ED GULLY LATERALS NO LONGER SHOWN AS ADOPTED WHERE CLOUDED AS REQUESTED BY THAMES WATER
C1	01.08.19	TS	CONSTRUCTION ISSUE REVISED WHERE CLOUDED, NORTHERN SURFACE WATER NETWORK DOWNSCALED TO 800 DIA PIPES AND 1500 DIA CHAMBERS, GRADIENTS/INVERT LEVELS ADJUSTED TO SUIT
P9	28.02.19	TS	REVISED WHERE CLOUDED, DRAINAGE AMENDED TO AVOID CLASHES WITH SERVICES
P8	19.02.19	TS	REVISED WHERE CLOUDED, SW DRAINAGE AMENDED TO REDUCE PROXIMITY TO GAS
P7	28.11.18	TS	REVISED WHERE CLOUDED TO THAMES WATER COMMENTS, NOTES AND LATERAL CONNECTION DETAILS ADDED
P6	26.11.18	TS	REVISED TO THAMES WATER COMMENTS
P5	17.10.18	TS	DRAINAGE STRATEGY AMENDED
P4	22.06.18	TS	DRAINAGE STRATEGY AMENDED
P3	02.03.18	TS	REVISED FOLLOWING CLIENT COMMENTS
P2	09.02.18	HTW	DRAINAGE STRATEGY AMENDED
P1	31.03.17	HTW	FIRST ISSUE

Rev. Date By Details Of Revision

St William
Designed for life

Project: **CLARENDON ROAD PHASE 1**

Title: **SITEWIDE DRAINAGE STRATEGY SHEET 1 OF 2**

WALSH
Structural and Civil Engineers
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London E8 3JX
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E: london@walsh.co.uk
walsh.co.uk

CONSTRUCTION
(DRAWING ISSUED FOR FINANCIAL PROCUREMENT PROCESS AND NOT FOR CONSTRUCTION OF BELOW GROUND DRAINAGE)

Drawn	TS	Eng.	FM	Chk.	JK	App'd.	JK
Date	31.03.17						
File Ref:							
Drawing No.	W250-WAL-SW-00-DR-C-52-0320						
Rev.	C6						

Scale: 1:250

DESIGN ASSUMPTIONS/CLARIFICATIONS
HORNSEY PARK DRAINAGE STRATEGY UPDATED FROM WS ATKINS DRAWINGS 5119881-ATK-V0-ZZ-DR-C-003-P3 & 5119881-ATK-V0-ZZ-DR-C-004-P3 UPDATED IN OCTOBER 2017. REVISIONS MADE FOLLOWING THIS INCLUDE:

1. CONVEYANCE SWALE ALONG EASTERN BOUNDARY OF SITE EXCLUDED.
2. OVERFLOW DETENTION BASIN TO NORTH OF PRS BUILDING EXCLUDED.
3. RAIN GARDEN ADJACENT TO MOSSELLE BROOK EXCLUDED.
4. ADDITIONAL NORTHERN CONNECTIONS INTO MOSSELLE BROOK CULVERT FROM D1, D2, D3 AND D4 EXCLUDED WITH THE USE OF THE SINGLE EXISTING CONNECTION ADJACENT TO HIGHWAY AS SHOWN.
5. REQUIREMENTS FOR PETROL INTERCEPTORS PRIOR TO SURFACE WATER CONNECTIONS INTO MOSSELLE BROOK TO BE CONFIRMED.
6. ALL DRAINAGE BENEATH ROADS SUBJECT TO ADOPTION UNDER SECTION 104 OF WATER INDUSTRY ACT 1991 AND THAMES WATER APPROVAL.
7. PHASE SPECIFIC DRAINAGE AND OUTFALL LOCATIONS SHOWN INDICATIVELY AND SUBJECT TO DETAILED DESIGN CO-ORDINATION.

THAMES WATER MANHOLE COVER AND INVERT LEVELS TO BE SURVEYED PRIOR TO CONNECTION

THAMES WATER MANHOLE COVER AND INVERT LEVELS TO BE SURVEYED PRIOR TO CONNECTION

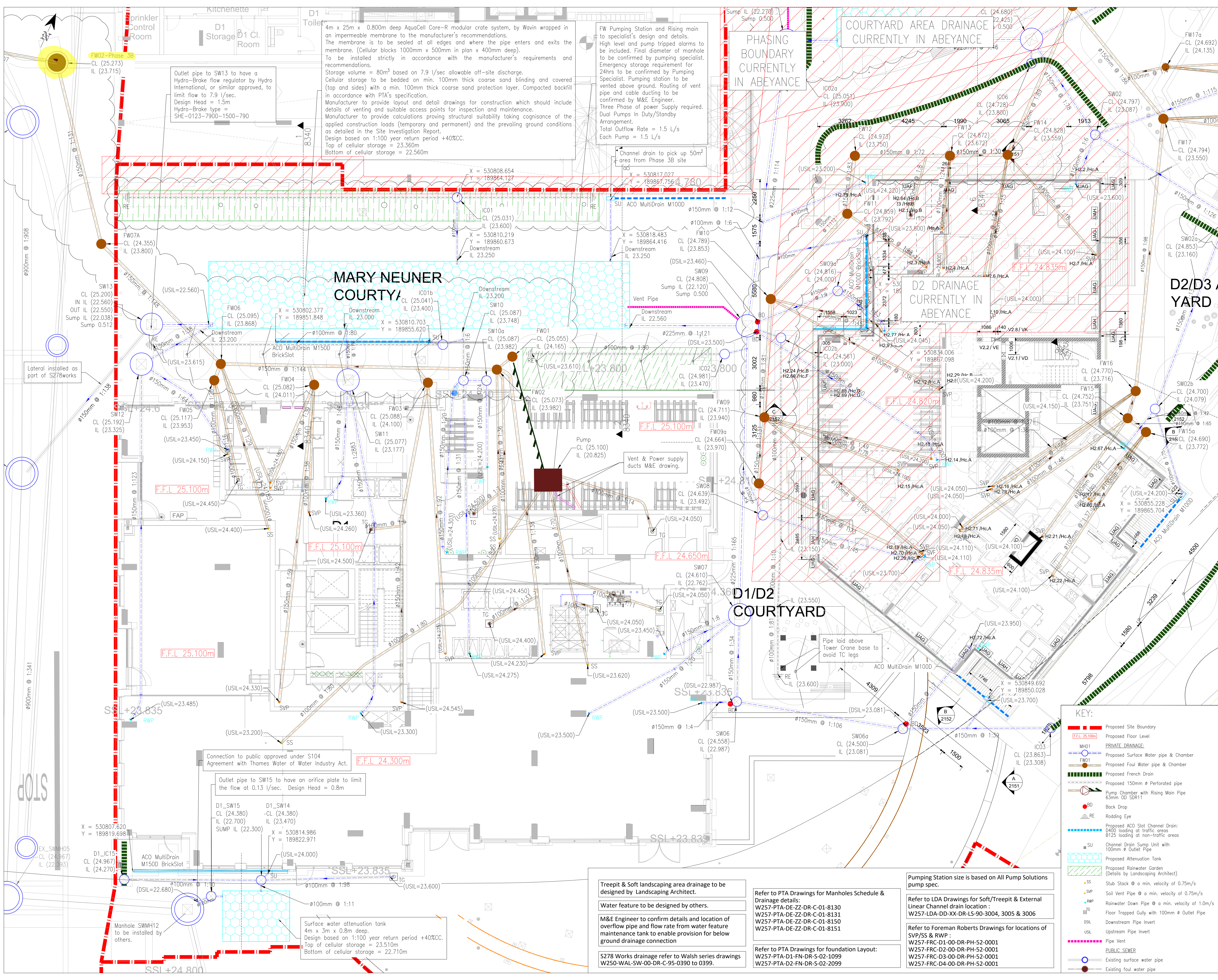
PEAK FOUL FLOWS FROM C1, C2, H1, H2 & J2
OCCUPANCY = 203 + 128 + 297 + 152 + 349
= 1,129
RETAIL AREA = 0m² + 125m² + 216m² + 349m² + 0m²
= 691m²
OFFICE/LEISURE AREA = 714m² + 583m² + 455m² + 214m² + 1,056m²
= 3,022m²
DISCHARGE = 3.4 l/s + 2.2 l/s + 4.7 l/s + 2.4 l/s + 5.7 l/s
= 18.4 l/s

PEAK FOUL FLOWS FROM D3, D4, S05F1, E2, E3 & H3
OCCUPANCY = 101 + 149 + 103 + 145 + 216 + 269
= 983
RETAIL AREA = 0m² + 120m² + 89m² + 172m² + 223m² + 195m²
= 799m²
OFFICE/LEISURE AREA = 0m² + 0m² + 512m² + 511m² + 307m² + 204m²
= 1,534m²
DISCHARGE = 1.5 l/s + 2.2 l/s + 1.8 l/s + 2.4 l/s + 3.4 l/s + 4.1 l/s
= 15.4 l/s

PEAK FOUL FLOWS FROM J1 & S02 F1
OCCUPANCY = 164 + 103
= 274
RETAIL AREA = 0m² + 89m²
= 89m²
OFFICE/LEISURE AREA = 403m² + 512m²
= 915m²
DISCHARGE = 2.6 l/s + 1.8 l/s
= 4.4 l/s

PEAK FOUL FLOWS FROM D1, D2 AND E1
OCCUPANCY = 172 + 73 + 192
= 437
RETAIL AREA = 80m² + 0m² + 214m²
= 294m²
OFFICE/LEISURE AREA = 469m² + 0m² + 381m²
= 850m²
DISCHARGE = 2.8 + 1.1 + 3.1 l/s
= 7.0 l/s

FOR CONTINUATION REFER TO DRAWING W250-WAL-SW-00-DR-C-52-0321



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DRAWING STATUS

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C9	Pumping Station MH shape amended. Rising main details added. CD amended	SN	30.10.20	-
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C7	D1 L&Q drainage added.	SN	08.10.20	-
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C1	Issue for Construction.	SN	17.04.20	AH
PI	First Issue.	SN	13.03.20	AH

REV DESCRIPTION BY DATE CHK'D

PROJECT TITLE

Clarendon Ph3a

DRAWING TITLE

Drainage Layout Sheet 1 of 3

DATE	Feb 20	CHECKED DO	CHECKED ENG	PTA PROJ No
DRAWN	SN			9669
SCALE	1 : 100		JP	AH
DRG SIZE	A1			REVISION
				C20

DRAWING No

W257-PTA-DE- ZZ -DR-C-01- 8101

Consulting Civil & Structural Engineers

29 Red Lion Street Chesham Bucks. HP5 1EJ Tel. 01494 772721

www.ptaconsult.co.uk

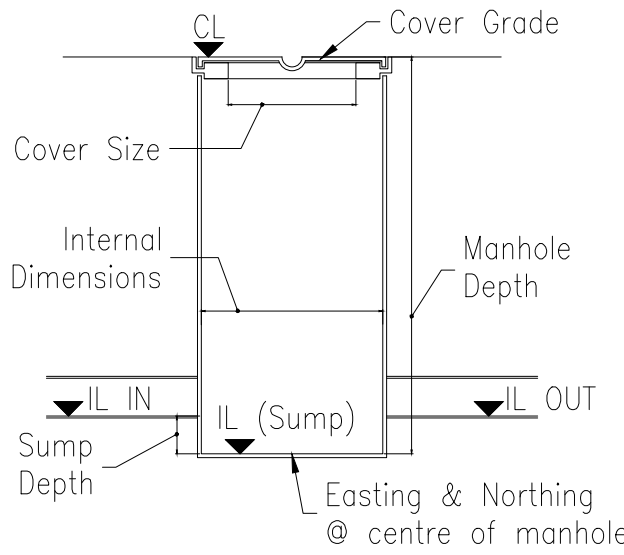
FOUL WATER MANHOLE SCHEDULE									
MANHOLE NAME	COVER LEVEL	PIPE INVERT LEVEL	MANHOLE DEPTH	INTERNAL DIMENSIONS	EASTINGS	NORTHINGS	COVER SIZE	COVER GRADE	MANHOLE TYPE
FW_MH01	25.055	24.165 24.165 IN 24.165 OUT	0.890	Ø 0.450	530815.556	189856.846	450 x 450	C250_R	PPIC
FW_MH02	25.073	23.982 24.032 IN 23.982 IN 24.032 IN 24.032 IN 23.982 OUT	1.091	Ø 0.450	530815.035	189855.764	450 x 450	C250_R	PPIC
FW_MH02-Phase 3B	25.273	23.715 23.715 IN 23.715 OUT	1.558	Ø 1.200	530783.701	189861.597	ø 600	D400	Type 2
FW_MH03	25.088	24.100 24.100 IN 24.100 IN 24.100 OUT	0.988	Ø 0.450	530811.623	189853.363	450 x 450	D400_R	PPIC
FW_MH04	25.082	24.011 24.061 IN 24.011 IN 24.011 IN 24.011 OUT	1.071	Ø 0.450	530805.521	189850.461	450 x 450	D400_R	PPIC
FW_MH05	25.117	23.953 24.003 IN 24.003 IN 23.953 OUT	1.164	Ø 0.450	530800.007	189848.252	450 x 450	D400_R	PPIC
FW_MH06	25.095	23.868 23.868 IN 23.918 IN 23.918 IN 23.868 IN 23.868 OUT	1.227	Ø 0.450	530799.960	189849.304	450 x 450	D400_R	PPIC
FW_MH07A	24.355	23.800 23.800 IN 23.800 OUT	0.555	Ø 0.450	530790.550	189852.870	450 x 450	B125_R	PPIC
FW_MH09	24.711	23.940 23.990 IN 23.990 IN 23.990 IN 23.940 IN 23.940 OUT	0.771	Ø 0.450	530830.681	189859.735	450 x 450	B125_R	PPIC
FW_MH09a	24.664	23.970 23.970 IN 23.970 OUT	0.694	Ø 0.450	530832.009	189856.021	450 x 450	B125_R	PPIC
FW_MH10	24.789	23.853 23.853 IN 23.903 IN 23.903 IN 23.853 OUT	0.936	Ø 0.450	530828.127	189866.298	450 x 450	B125_R	PPIC
FW_MH11	24.859	23.792 23.792 IN 23.842 IN 23.792 OUT	1.067	Ø 0.450	530830.177	189872.789	450 x 450	B125_R	PPIC
FW_MH12	24.973	23.750 23.750 IN 23.750 OUT	1.223	Ø 0.450	530829.166	189876.112	ø 350*	B125	PPIC
FW_MH13	24.872	23.672 23.722 IN 23.722 IN 23.672 IN 23.672 OUT	1.200	Ø 0.450	530834.309	189878.446	ø 350*	B125	PPIC
FW_MH14	24.828	23.559 23.609 IN 23.609 IN 23.609 IN 23.559 IN 23.559 OUT	1.269	Ø 0.450	530837.411	189879.911	ø 350*	B125	PPIC
FW_MH15	24.752	23.751 23.801 IN 23.801 IN 23.751 IN 23.751 OUT	1.001	Ø 0.450	530850.369	189868.595	ø 450	B125	PPIC
FW_MH15a	24.690	23.772 23.823 IN 23.823 IN 23.823 IN 23.772 OUT	0.918	Ø 0.450	530851.693	189868.293	ø 450	B125	PPIC
FW_MH16	24.770	23.716 23.766 IN 23.766 IN 23.766 IN 23.716 IN 23.716 OUT	1.054	Ø 0.450	530850.133	189870.258	ø 450	B125	PPIC
FW_MH17	24.794	23.550 23.550 IN 23.600 IN 23.600 IN 23.600 IN 23.550 OUT	1.244	Ø 0.450	530844.952	189885.679	ø 350*	B125	PPIC
FW_MH17a	24.692	24.135 24.135 IN 24.135 IN 24.135 IN 24.135 OUT	0.557	Ø 0.300	530843.800	189888.537	ø 450	B125	PPIC

FOUL WATER MANHOLE SCHEDULE									
MANHOLE NAME	COVER LEVEL	PIPE INVERT LEVEL	MANHOLE DEPTH	INTERNAL DIMENSIONS	EASTINGS	NORTHINGS	COVER SIZE	COVER GRADE	MANHOLE TYPE
FW_MH17b	24.505	24.100 24.100 IN 24.100 IN 24.100 IN 24.100 OUT	0.405	Ø 0.300	530843.888	189894.857	ø 450	B125	PPIC
FW_MH18	24.626	23.450 23.450 IN 23.450 IN 23.450 IN 23.450 OUT	1.176	Ø 0.450	530837.272	189889.558	450 x 450	C250_R	PPIC
FW_MH19	24.290	23.600 23.600 IN 23.600 IN 23.600 IN 23.600 OUT	0.690	Ø 0.450	530844.728	189899.292	ø 450	B125	PPIC
FW_MH20	24.172	22.480 22.530 IN 22.530 IN 22.480 IN 22.480 OUT	1.692	Ø 0.450	530841.920	189903.024	450 x 450	C250_R	PPIC
FW_MH21	23.881	22.307 22.307 IN 22.650 IN 22.650 IN 22.307 OUT	1.574	Ø 0.450	530840.808	189909.886	450 x 450	C250_R	PPIC
FW_MH22	25.085	24.450 24.500 IN 24.500 IN 24.500 IN 24.450 OUT	0.635	Ø 0.450	530863.571	189891.484	ø 450	B125	PPIC
FW_MH23	25.058	24.400 24.400 IN 24.450 IN 24.450 IN 24.450 IN 24.400 OUT	0.658	Ø 0.450	530864.098	189895.873	ø 450	B125	PPIC
FW_MH24	25.054	23.450 23.450 IN 23.500 IN 23.500 IN 23.500 IN 23.450 OUT	1.604	Ø 0.450	530864.722	189900.533	ø 450	B125	PPIC
FW_MH25	25.125	23.420 23.420 IN 23.470 IN 23.470 IN 23.420 OUT	1.705	Ø 0.450	530865.006	189903.908	ø 450	B125	PPIC
FW_MH26	25.068	22.650 22.650 IN 22.700 IN 22.700 IN 22.650 OUT	2.418	Ø 1.200	530866.293	189909.199	ø 600	B125	Type 2
FW_MH27	24.024	22.528 22.528 IN 22.578 IN 22.578 IN 22.578 IN 22.528 IN 22.528 OUT	1.496	Ø 1.200	530863.118	189918.330	ø 600	B125	Type 2
FW_MH28	23.434	22.480 22.530 IN 22.530 IN 22.480 IN 22.480 OUT	0.954	Ø 1.200	530860.305	189924.088	ø 600	B125	Type 2
FW_MH29	23.359	22.420 22.420 IN 22.420 IN 22.420 OUT	0.939	Ø 0.450	530855.554	189931.469	450 x 450	C250_R	PPIC
FW_MH30	23.375	22.370 22.370 IN 22.420 IN 22.370 OUT	1.005	Ø 0.450	530850.482	189929.153	450 x 450	C250_R	PPIC
FW_MH31	23.414	21.970 21.970 IN 22.020 IN 21.970 OUT	1.444	Ø 0.450	530835.863	189921.070	450 x 450	C250_R	PPIC
FW_MH31a	23.327	21.930 21.930 IN 21.930 IN 21.930 OUT	1.397	Ø 0.450	530834.895	189923.281	450 x 450	C250_R	PPIC
FW_MH33	23.211	21.500 21.500 IN 21.500 OUT	1.711	Ø 1.200	530821.179	189954.048	600 x 600	D400_R	Type 2
FW_MHPump	25.100	20.825 23.460 IN 23.460 IN 24.100 IN 22.930 IN 24.100 IN 24.225 OUT	4.275	Ø ???	530820.518	189851.038	750 x 750	C250	RC

Notes:

- Do not scale from this drawing.
- In case of any discrepancies in drawings, details or bills, refer to engineers for clarification; unilateral decisions by the Contractor will not be accepted.
- This drawing is to be read in conjunction with all related Architects, Consultants & Sub-Contractors drawings and specifications.
- The Contractor is advised that all design drawings and information are to be read concurrently and any discrepancies or omissions reported directly to PTA Civils Department.
- Refer to PTA drawing W257-PTA-SW-ZZ-DR-C-8101 to 8103 for chambers location.

PPIC : Plastic Inspection Chamber
Type : Precast Concrete Chamber Ring
RC : Cast Insitu Chamber
* : Restricted Access
R : Recessed Galvanised Steel Cover



Manhole Schedule
Explanatory Detail

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DRAWING STATUS

FOR CONSTRUCTION

C11	As-built drainage update. D1 FW outfall update. D4/E4 suspended drainage update. MHs relocated into paths.	JP	23.09.21	AH
C10	FW15/ FW15a IL amended.	JP	05.02.21	AM
C9	FW16 MH invert amended.	SN	29.01.21	-
C8	Pump chamber amended.	SN	30.10.20	-
C7	MH cover levels amended.	SN	08.10.20	-
C6	FW32 MH size amended.	SN	25.08.20	-
C5	MH covers level amended.	SN	14.08.20	-
C4	Drainage coordinated.	SN	06.08.20	-
C3	Latest Arch/M&E info update	SN	16.07.20	-
C2	Latest M& E model update.	SN	22.05.20	AH
C1	Issue for Construction.	SN	17.04.20	AH
P1	First Issue.	SN	13.03.20	

REV DESCRIPTION BY DATE CHK'D

PROJECT TITLE
Clarendon Ph3a

DRAWING TITLE Foul Water Manhole Schedule			
DATE	Oct 19	CHECKED DO	PTA PROJ No
DRAWN	SN	JP	9669
SCALE	N/A		REVISION
DRG SIZE	A1		C11

DRAWING No
W257-PTA-DE- ZZ -DR-C-01- 8150

Consulting Civil & Structural Engineers



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HP5 1EJ
Tel. 01494 772721







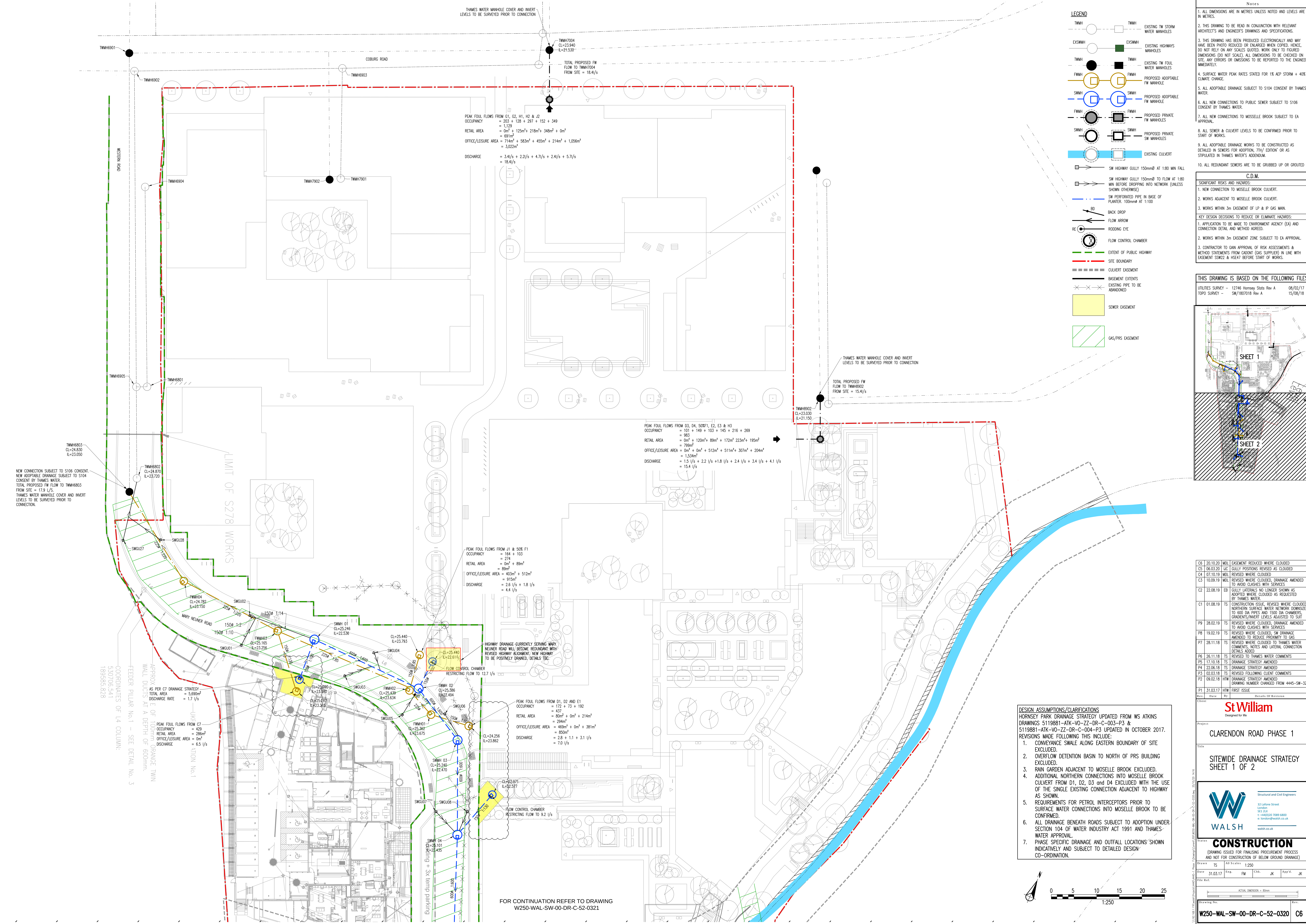
PROJECT NAME: Clarendon Road , Phase 3

Manhole / Drainage run Check Sheet

		Check Sheet No:	S-58	
		Drg Ref & Rev no:	WAL-EE-00-DR-C-95-3100 C1	
No	Manhole & Drainage run construction	Details	Checked and Signed	
			GCL	Client
1	Location: Phase 3 external manholes Manhole/pipe run Ref Gridline Ref Highlighted location plan attached	EXSWMH 1 Yes/No		
2	Manhole size	1200mm	/	
3	Invert level	22.610	/	
4	Manhole cover : Spec, size, orientation & cover level	25.440, Clay	/	
5	Excavation to correct dimensions/support systems checked		/	
6	Branches & benching: position, line, level checked		/	
7	Rocker pipes installed (if applicable) checked		/	
8	Rings and cover placed as per vertical & horizontal alignment checked.		/	
9	Brickwork & surround filled as per detail/specification checked.		/	
10	All Specials are fixed (Non return valve, Flow control unit, Traps, Rodent barrier, etc.) Specify Type :		N/A	
11	Manhole accessible for future use/maintenance	Yes/No	/	
12	Pipe run details Material Diameter Length	Clay 150/300 -		
13	Spurs for lateral connections: Position, level & co-ordinates checked		/	
14	SVP/RWPs installed to correct position, level and capped off.		/	
15	Anchor blocks to correct detail at specified locations		N/A	
16	Bedding & surround as specified		/	
17	Air testing passed/witnessed:		/	
18	Photos attached		/	

Originator - GCL Site Manager		Client Representative	
Name : M. Kunigelis		Name :	
Signature:	Date: 26/08/2021	Signature:	Date:

GCL-QA-002



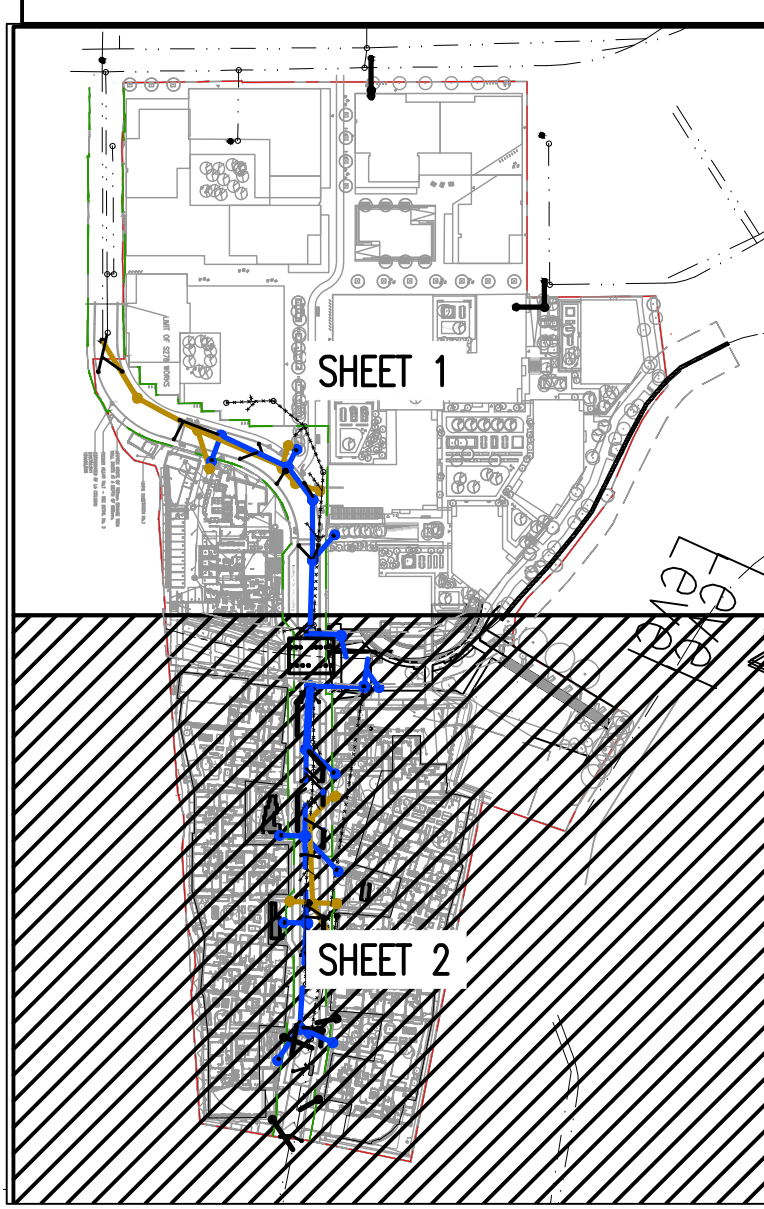
LEGEND

- TMH: EXISTING TM FLOW WATER MANHOLES
- EXSTMH: EXISTING HIGHWAYS MANHOLES
- TMH: EXISTING TM FLOW WATER MANHOLES
- FMH: PROPOSED ADAPTABLE FW MANHOLE
- SMH: PROPOSED ADAPTABLE SW MANHOLE
- FMH: PROPOSED PRIVATE FW MANHOLE
- SMH: PROPOSED PRIVATE SW MANHOLE
- EXISTING CULVERT
- SW HIGHWAY GULLY 150mmØ AT 1:80 MIN FALL
- SW HIGHWAY GULLY 150mmØ TO FLOW AT 1:80 MIN BEFORE DROPPING INTO NETWORK (UNLESS SHOWN OTHERWISE)
- SW PERFORATED PIPE IN BASE OF PLANTER, 100mmØ AT 1:100
- BACK DROP
- FLOW ARROW
- RODING EYE
- FLOW CONTROL CHAMBER
- EXTENT OF PUBLIC HIGHWAY
- CULVERT EASEMENT
- BASEMENT EXTENTS
- EXISTING PIPE TO BE ABANDONED
- SEWER EASEMENT
- GAS/PRS EASEMENT

- Notes**
1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED AND LEVELS ARE IN METRES.
 2. THIS DRAWING TO BE READ IN CONJUNCTION WITH RELEVANT ARCHITECT'S AND ENGINEER'S DRAWINGS AND SPECIFICATIONS.
 3. THIS DRAWING HAS BEEN PRODUCED ELECTRONICALLY AND MAY HAVE BEEN PHOTO REDUCED OR ENLARGED WHEN COPIED. HENCE, DO NOT RELY ON ANY SCALES QUOTED. WORK ONLY TO FIGURED DIMENSIONS (DO NOT SCALE). ALL DIMENSIONS TO BE CHECKED ON SITE. ANY ERRORS OR OMISSIONS TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
 4. SURFACE WATER PEAK RATES STATED FOR 1% AEP STORM + 40% CLIMATE CHANGE.
 5. ALL ADAPTABLE DRAINAGE SUBJECT TO S104 CONSENT BY THAMES WATER.
 6. ALL NEW CONNECTIONS TO PUBLIC SEWER SUBJECT TO S106 CONSENT BY THAMES WATER.
 7. ALL NEW CONNECTIONS TO MOSSELLE BROOK SUBJECT TO EA APPROVAL.
 8. ALL SEWER & CULVERT LEVELS TO BE CONFIRMED PRIOR TO START OF WORKS.
 9. ALL ADAPTABLE DRAINAGE WORKS TO BE CONSTRUCTED AS DETAILED IN SEWERS FOR ADOPTION, 7TH EDITION OR AS STIPULATED IN THAMES WATER'S ADDENDUM.
 10. ALL REDUNDANT SEWERS ARE TO BE GRUBBED UP OR GROUDED.
- C.D.M.**
- SIGNIFICANT RISKS AND HAZARDS:**
1. NEW CONNECTION TO MOSSELLE BROOK CULVERT.
 2. WORKS ADJACENT TO MOSSELLE BROOK CULVERT.
 3. WORKS WITHIN 3m EASEMENT OF LP & IP GAS MAIN.
- KEY DESIGN DECISIONS TO REDUCE OR ELIMINATE HAZARDS:**
1. APPLICATION TO BE MADE TO ENVIRONMENT AGENCY (EA) AND CONNECTION DETAIL AND METHOD AGREED.
 2. WORKS WITHIN 3m EASEMENT ZONE SUBJECT TO EA APPROVAL.
 3. CONTRACTOR TO OBTAIN APPROVAL OF RISK ASSESSMENTS & METHOD STATEMENTS FROM CADOUT (GAS SUPPLIER) IN LINE WITH EASEMENT SSW22 & HSE47 BEFORE START OF WORKS.

THIS DRAWING IS BASED ON THE FOLLOWING FILES

UTILITIES SURVEY - 12746 Hornsey Slats Rev A	08/02/17
TOPO SURVEY - SW/1807018 Rev A	15/08/18



C5	20.10.20	MDL	EASEMENT REDUCED WHERE CLOUDED
C5	08.03.20	LSZ	GULLY POSITIONS REVISED AS CLOUDED
C4	07.10.19	MDL	REVISED WHERE CLOUDED
C3	10.09.19	MDL	REVISED WHERE CLOUDED, DRAINAGE AMENDED TO AVOID CLASHES WITH SERVICES
C2	22.08.19	ED	ED GULLY LATERALS NO LONGER SHOWN AS ADOPTED WHERE CLOUDED AS REQUESTED BY THAMES WATER
C1	01.08.19	TS	CONSTRUCTION ISSUE REVISED WHERE CLOUDED, NORTHERN SURFACE WATER NETWORK DOWNZONED TO 800 DIA PIPES AND 1500 DIA CHAMBERS, GRADIENTS/INVERT LEVELS ADJUSTED TO SUIT
P9	28.02.19	TS	REVISED WHERE CLOUDED, DRAINAGE AMENDED TO AVOID CLASHES WITH SERVICES
P8	19.02.19	TS	REVISED WHERE CLOUDED, SW DRAINAGE AMENDED TO REDUCE PROXIMITY TO GAS
P7	28.11.18	TS	REVISED WHERE CLOUDED TO THAMES WATER COMMENTS, NOTES AND LATERAL CONNECTION DETAILS ADDED
P6	26.11.18	TS	REVISED TO THAMES WATER COMMENTS
P5	17.10.18	TS	DRAINAGE STRATEGY AMENDED
P4	22.06.18	TS	DRAINAGE STRATEGY AMENDED
P3	02.03.18	TS	REVISED FOLLOWING CLIENT COMMENTS
P2	09.02.18	HTW	DRAINAGE STRATEGY AMENDED
P1	31.03.17	HTW	FIRST ISSUE

Rev: Date: By: Details Of Revision

St William
Designed for life

Project: **CLARENDON ROAD PHASE 1**

Title: **SITEWIDE DRAINAGE STRATEGY SHEET 1 OF 2**

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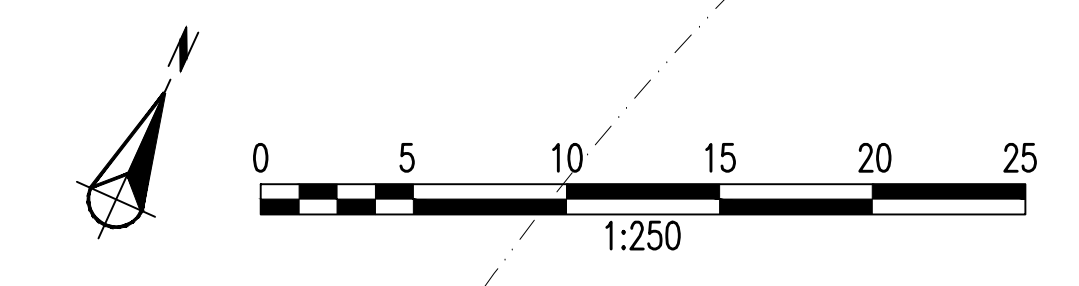
CONSTRUCTION
(DRAWING ISSUED FOR FINALISING PROCUREMENT PROCESS AND NOT FOR CONSTRUCTION OF BELOW GROUND DRAINAGE)

Drawn	TS	Eng	FM	Chk	JK	App'd	JK
Date	31.03.17						
File Ref:							
Drawing No:	W250-WAL-SW-00-DR-C-52-0320						
Rev:	C6						

Scale: 1:250

DESIGN ASSUMPTIONS/CLARIFICATIONS
HORNSEY PARK DRAINAGE STRATEGY UPDATED FROM WS ATKINS DRAWINGS 5119881-ATK-V0-ZZ-DR-C-003-P3 & 5119881-ATK-V0-ZZ-DR-C-004-P3 UPDATED IN OCTOBER 2017. REVISIONS MADE FOLLOWING THIS INCLUDE:

1. CONVEYANCE SWALE ALONG EASTERN BOUNDARY OF SITE EXCLUDED.
2. OVERFLOW DETENTION BASIN TO NORTH OF PRS BUILDING EXCLUDED.
3. RAIN GARDEN ADJACENT TO MOSSELLE BROOK EXCLUDED.
4. ADDITIONAL NORTHERN CONNECTIONS INTO MOSSELLE BROOK CULVERT FROM D1, D2, D3 AND D4 EXCLUDED WITH THE USE OF THE SINGLE EXISTING CONNECTION ADJACENT TO HIGHWAY AS SHOWN.
5. REQUIREMENTS FOR PETROL INTERCEPTORS PRIOR TO SURFACE WATER CONNECTIONS INTO MOSSELLE BROOK TO BE CONFIRMED.
6. ALL DRAINAGE BENEATH ROADS SUBJECT TO ADOPTION UNDER SECTION 104 OF WATER INDUSTRY ACT 1991 AND THAMES WATER APPROVAL.
7. PHASE SPECIFIC DRAINAGE AND OUTFALL LOCATIONS SHOWN INDICATIVELY AND SUBJECT TO DETAILED DESIGN CO-ORDINATION.



FOR CONTINUATION REFER TO DRAWING W250-WAL-SW-00-DR-C-52-0321

WSE WL-EL-CD-00 0 95 11.0	01
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