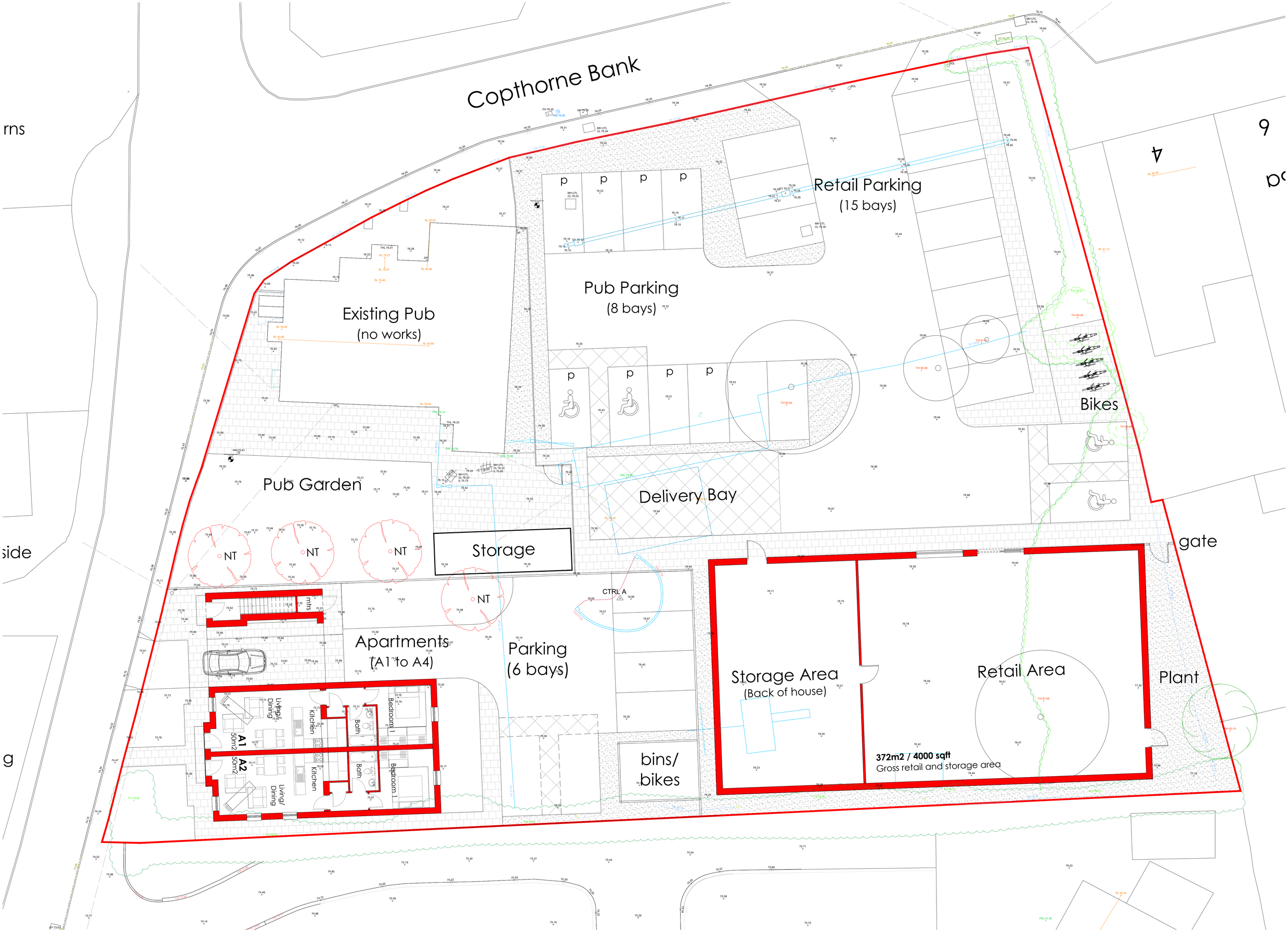
7 Appendices

7.1 Appendix A – Proposed Site Plan


Copthorne Bank
Retail Parking
(15 bays)
Pub Parking
(8 bays)
Existing Pub
(no works)
Pub Garden
Delivery Bay
Bikes
Storage
NT
NT
NT
NT
Apartments
(A1 to A4)
Parking
(6 bays)
CTRL A
Storage Area
(Back of house)
Retail Area
372m2 / 4000 sqft
Gross retail and storage area
Plant
bins/
bikes
gate
A1
50m2
Living/
Dining
kitchen
Bath
Bedroom 1
A2
50m2
Living/
Dining
kitchen
Bath
Bedroom 1
mtrs

7.2 Appendix B – The BGS Historical Borehole Logs

TQ33NW/43

SITE M23/A264 COPTHORNE LINK
CLIENT • WEST SUSSEX COUNTY COUNCIL

BOREHOLE NO 12

CO-ORDINATES 531169 E 138807 N
GROUND LEVEL 70·3 m

TESTS	SAMPLES DEPTH (m)	TYPE	NO.	DEPTH (m)	LEGEND	REDUCED LEVEL (m)	DESCRIPTION OF STRATA	
	0·2	D 0	2720	0·2		70·1	Dark brown silty TOPSOIL and roots.	
A. CBR	0·5 0·6	D 0 B 0	2721 2722				Very stiff light grey / light brown mottled silty clay	TUNBRIDGE WELLS SAND
T.A	1·0	U102		1·0		69·3		
			2723	1·3		69·0	Very stiff grey/brown silty CLAY.	
T.A	1·7 2·0	D 0 U102	2724 2725				Hard grey/brown, becoming less brown with depth shaley silty CLAY.	
S (27/150)	3·0	D 0	2726	3·0		67·3		

REMARKS 1 HOUR CHISELLING

PENETRATION TOOL BROKE IN HOLE UNABLE TO RECOVER.

WATER STRUCK Nil
STANDING WATER LEVEL 1·9m.

PLANT DILLON WAYFARER
METHOD OF BORING PERCUSSION
DIAMETER OF BORING 150mm.
START 1/6/78
FINISH 1/6/78

GROUND EXPLORATIONS Ltd.

Report No. 7305

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TQ33NW 49-53

Soils Limited
Newton House
Cross Road
TADWORTH
Surrey KT20 5SR

J2002.let/GE/D20

6302/89/4/RGT

FAO: Mr G Evans

10 January 1989

Dear Sirs

Site drainage at Borers Arms Road, Copthorne

A search of the records and map coverage held in the National Geosciences Data Centre shows that your area of interest is underlain by the Upper Tunbridge Wells Sand (UTWS) formation of the Wealden 'series' of Sussex.

The UTWS typically comprises mainly fine-grained (silty) and typically clay-bound sediments which vary rapidly both laterally and vertically in lithology, so that it is difficult to differentiate and trace distinct rock types in the field. The published geological map and, indeed, the geologists' 1:10 560 standard maps of your area of concern provide very little guidance on the details of the stratigraphy; there are no local borehole data relevant to your query, though records from motorway and well investigations farther afield confirm that the strata are fine-grained and clayey with only occasional developments of thin beds of fine friable sandstone or loose sand. Motorway boreholes associated with the works near Junction 10 record "very stiff hard brown/grey mottled shaley silty clay becoming hard grey shale with some brown mottling below 3.5 m; seen to 6 m depth".

The materials at the surface, as confirmed by the logs of the shallow auger holes enclosed with your letter, are orange-brown and pale grey silts and clayey silts interbedded with thin silty colour-mottled clays with very occasional thin beds of sand rock, and these lithologies occupy a tract of country running from Pound Hill, through Wakeham Green to Copthorne Common and eastward. The proportions of silt to clay to sand might be of the order of 4:2:1, and this is the mix that might be expected for up to 10 metres or so beneath your site. There is only incorrect evidence for this thickness estimate.

Southward of this belt of country is an extensive dip-slope, inclined at 1-2° northward which, in all probability, coincides with a more sandy part of the UTWS succession. There is no evidence for the thickness of this more sandy group of beds, but their topographic expression in the ground west of Crawley Down in the vicinity of Old Rowfant and Coombers Wood is clear. They underlie the silts/clays with subordinate sand that occupy your site, and they are likely to be water-bearing because they are in continuity with the exposed sands that conduct groundwater to the stream south of the golf clubhouse.

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TQ 33NW49-53

In my opinion, the potential for disposing of surface water by deep borehole soakaways or by conventional french drain soakaways is not good. The fine grained nature of the near-surface deposits and their clayey character means that interstitial voids will be small and easily clogged, so that permeability is likely to be low. The more sandy strata that might exist deeper beneath the site are likely to be similarly dense and incapable of conducting significant amounts of drainage. Indeed, such groundwater as may be present may be found to be under some hydraulic pressure and may rise in any borehole.

I hope this commentary will be helpful to your study. Our account is enclosed for your attention.

Yours faithfully

R G THURRELL (Dr)
Regional Geologist:
Eastern England Land Survey Programme

Enc:

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-9 JAN 1989

TQ33NW49-53

SOILS LIMITED
NEWTON HOUSE
CROSS ROAD TADWORTH
SURREY KT20 5SR
ENGLAND

TELEPHONE 073 781 4221/2 FAX 073 781 2557

Institute of Geological Sciences,
Keyworth,
Nottingham N12 2GG.

Our ref: J2002.let/GE/D20
5th December 1989

Broad location
TQ 3220 3945

FAO Dr R. Thurrel.

Dear Sir,

We are undertaking a feasibility study on the soakage potential of both deep borehole soakaways and conventional soakaways at a site off Borers Arms Road, Copthorne, O.S. grid reference TQ 324 393, see attached location plans.

The 1:63360 sheet of the area indicates the site to be located on the Upper Tunbridge Wells Sand. To date we have excavated five shallow hand auger holes on the site, the logs of which are enclosed.

We have been unable to find time to obtain further information from well records or smaller scale geological maps.

Could you indicate the likely depth to any strata with a good soakage potential so as I can advise my client further.

Should you require any further information please do not hesitate to contact me.

Yours faithfully,

G. Evans.
enc

Records and Letters
KNEDC
11.1.89

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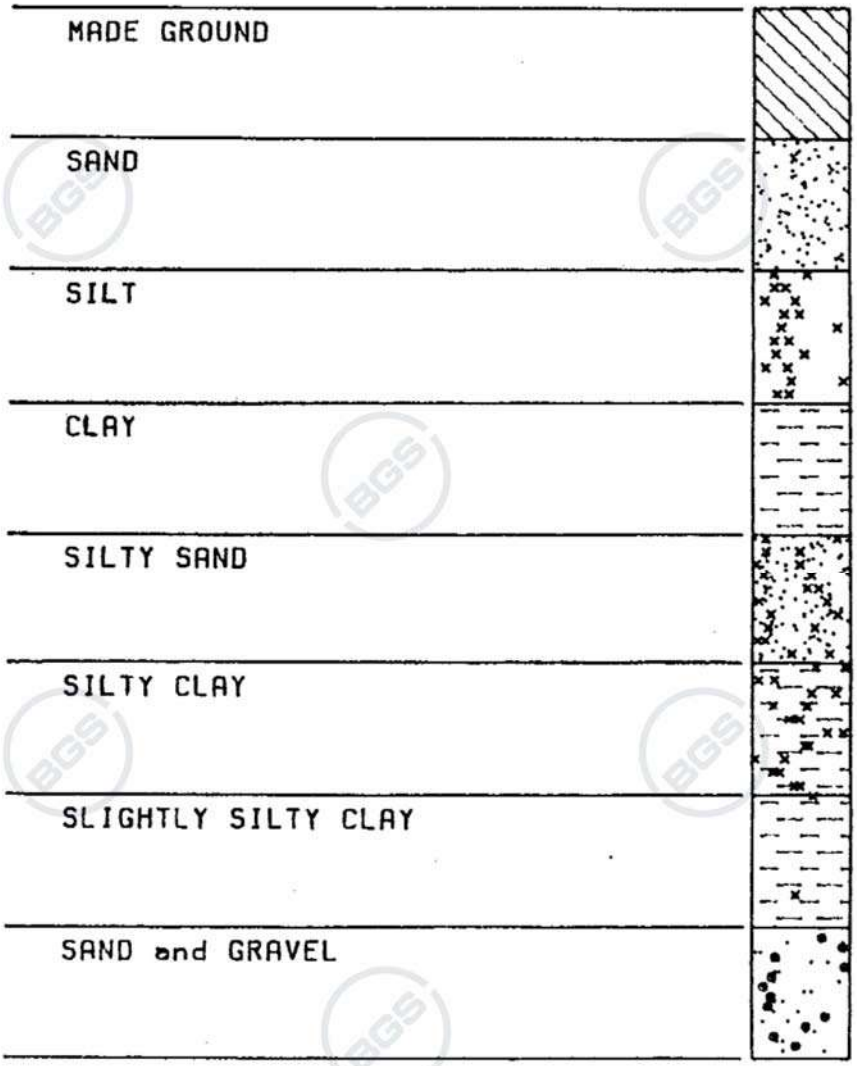
TQ 33NW 49-53

LEGEND



soils LIMITED

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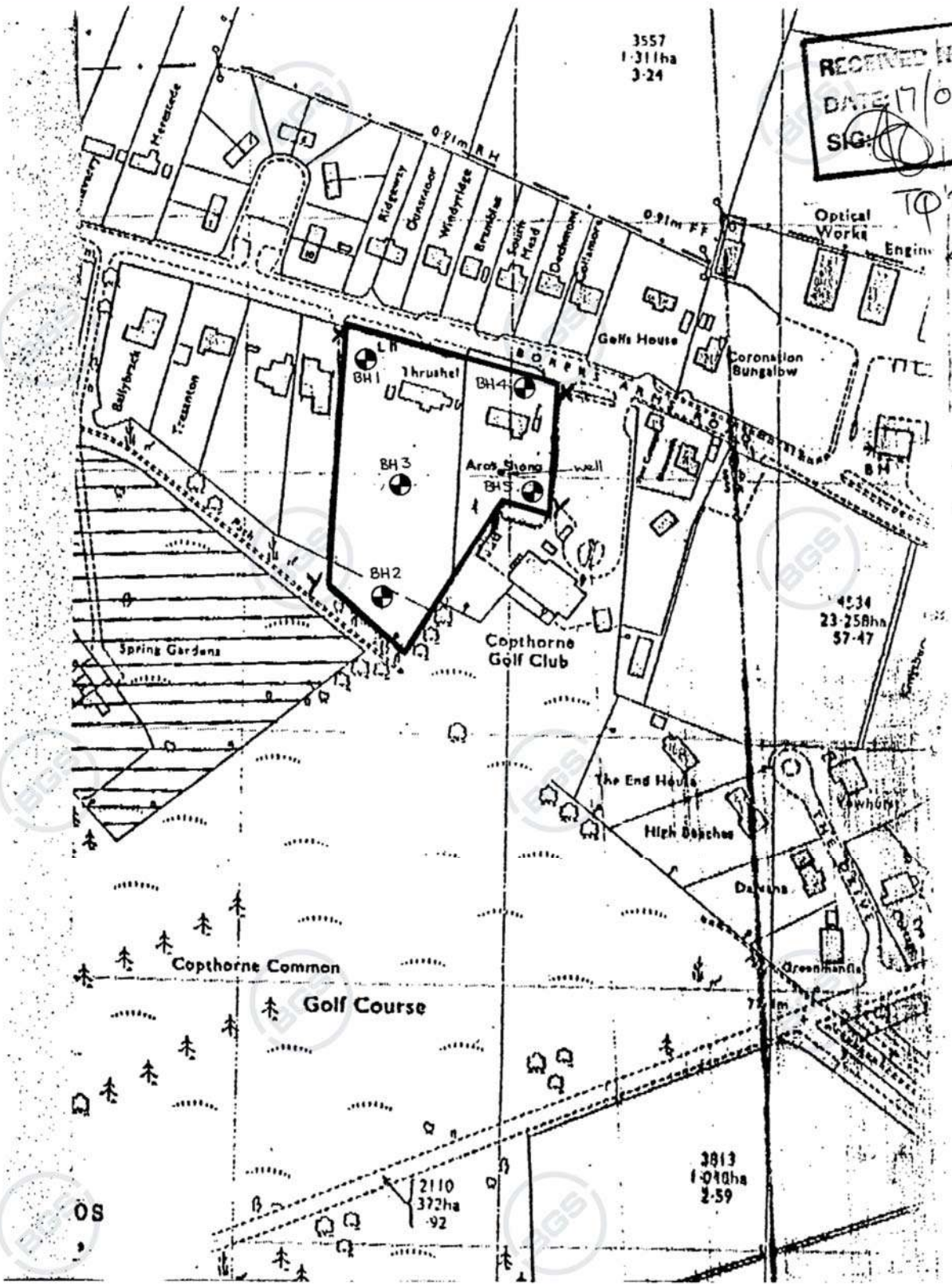

RECEIVED N.C.D.C.
DATE: 17/01/89
SIG:

TQ 33 NW
49-53

RECEIVED N.C.D.C.
DATE: 11/01/89
SIG:

Site Plan Showing Approximate Borehole Locations

J1987SA Borers Arms Road Copthorne Fig 1

TQ 3220 3945

TQ 33 NW.

soils LIMITED

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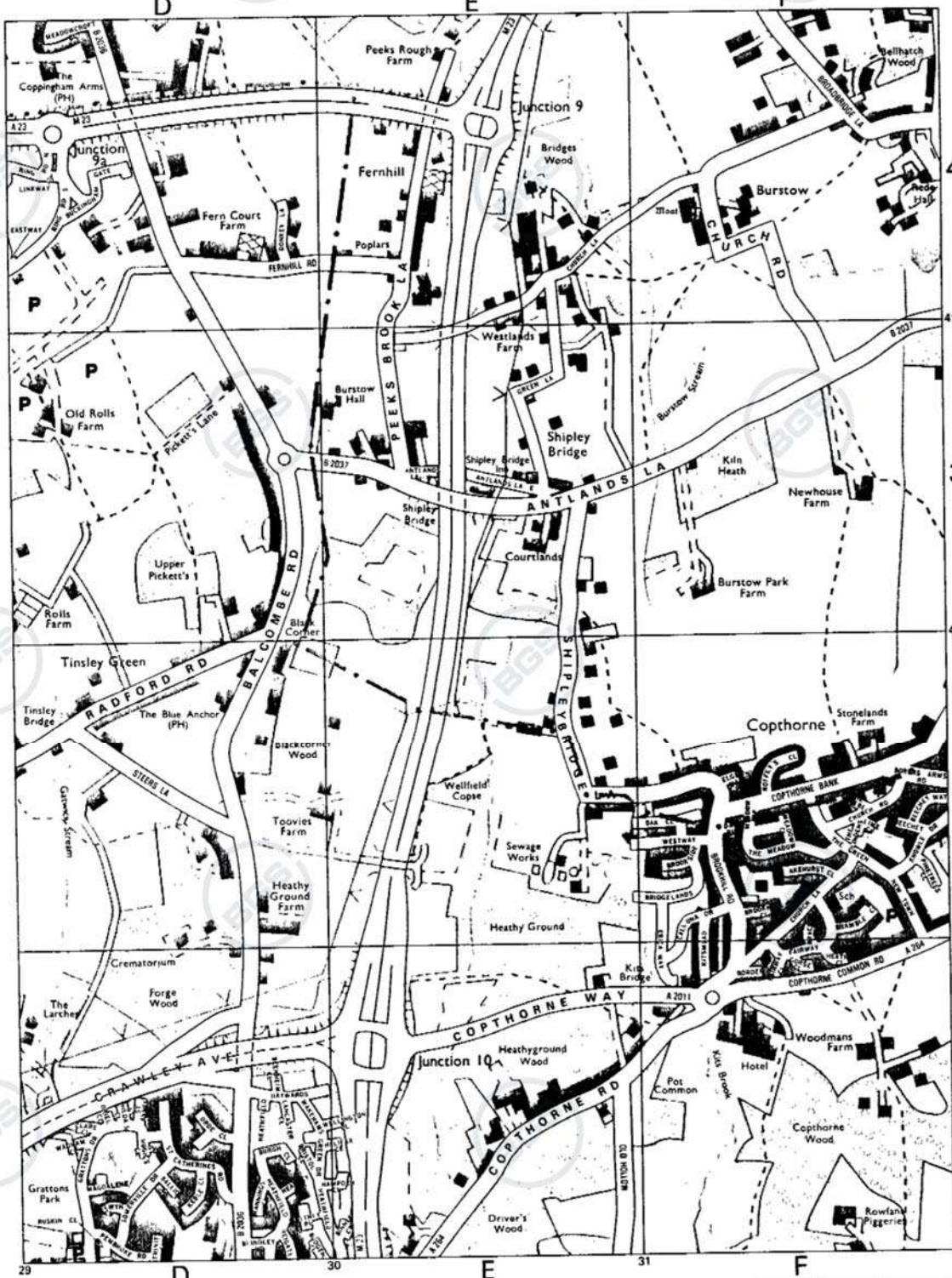
TQ33NW49-53

not continued, see key diagram



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TQ 33 NW/44

CLIENT WEST SUSSEX COUNTY COUNCIL

BOREHOLE NO 13

CO-ORDINATES 531248 ! 138809.1
GROUND LEVEL 72.0 m

TESTS	SAMPLES DEPTH m	TYPE	NO.	DEPTH m	LEGEND	REDUCED LEVEL m	DESCRIPTION OF STRATA
A.S.BR.	0.3 / 0.3	D / B	2708 / 2709	0.4		71.6	Brown TOPSOIL and roots.
T.A.	1.0	U102	2710				Very stiff hard brown / grey mottled shaley, silty CLAY, becoming hard grey with some brown mottling SHALE below about 3.5m. (TUNBRIDGE WELLS SAND)
T.	1.7	D	2711				
	2.0	U102	2712				
	2.7	D	2713				
S (79/75)	3.0	D	2714				
	3.5	D	2715				
S (86/75)	4.0	D	2716				
	4.5	D	2717				
S (101/75)	5.0	D	2718	5.0		67.0	

REMARKS 4 HOURS CHISELLING

WATER STRUCK Nil
STANDING WATER LEVEL 2.3 m.

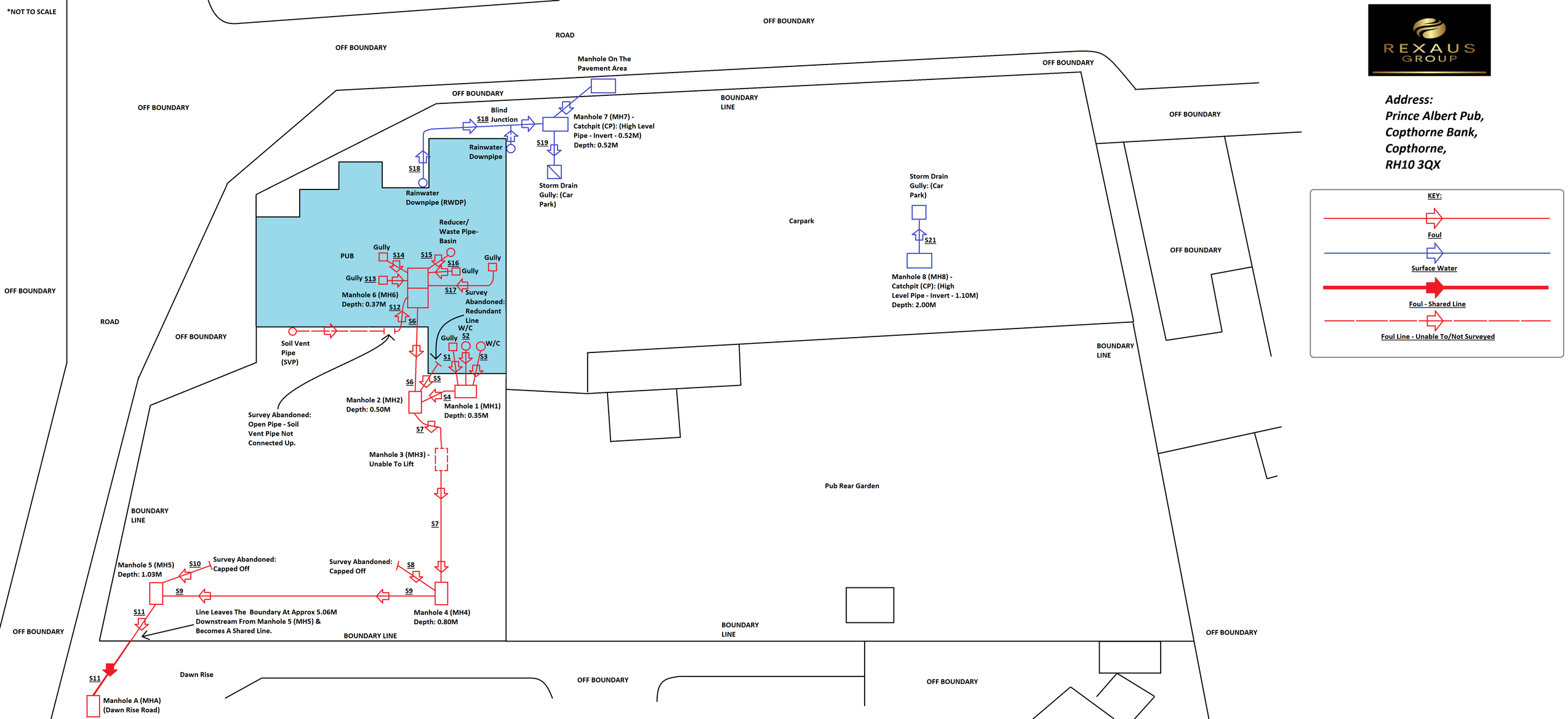
PLANT DILCON WAYFARER
METHOD OF BORING PERCUSSION
DIAMETER OF BORING 150mm.
START 31/5/78
FINISH 31/5/78

GROUND EXPLORATIONS Ltd.

Report No. 7306

7.3 Appendix C – The Existing Drainage CCTV Survey

*NOT TO SCALE



REXAUS GROUP

Address:
Prince Albert Pub,
Copthorne Bank,
Copthorne,
RH10 3QX

KEY:

Foul

Surface Water

Foul - Shared Line

Foul Line - Unable To/Not Surveyed

Project

Project Name:	Prince Albert Pub RH10 3QX
Project Description:	General CCTV - Condition Check
Project Number:	JSD7518
Project Status:	Complete
Project Date:	25/07/2024
Inspection Standard:	MSCC4 Sewers & Drainage GB (SRM4 Scoring)

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Scoring Summary

Project Name	Project Number	Project Date
Prince Albert Pub RH10 3QX	JSD7518	25/07/2024

Structural Defects

Grade 3: Best practice suggests consideration should be given to repairs in the medium term.

Grade 4: Best practice suggests consideration should be given to repairs to avoid a potential collapse.

Grade 5: Best practice suggests that this pipe is at risk of collapse at any time. Urgent consideration should be given to repairs to avoid total failure.

Section	PLR	Grade	Description
5	REDUNDANTX	4	Broken pipe from 10 o'clock to 3 o'clock
6	MH6X	4	Fracture, multiple at joint from 12 o'clock to 12 o'clock
11	MH5X	4	Multiple defects
17	GULLYX	3	Fracture, circumferential from 10 o'clock to 3 o'clock

Service / Operational Condition

Grade 3: Best practice suggests consideration should be given to maintenance activities in the medium term.

Grade 4: Best practice suggests consideration should be given to maintenance activity to avoid potential blockages.

Grade 5: Best practice suggests that this pipe is at a high risk of backing up or causing flooding.

Section	PLR	Grade	Description
5	REDUNDANTX	5	Settled deposits, hard or compacted, 100% cross-sectional area loss
12	SVPX	3	Settled deposits, hard or compacted, 15% cross-sectional area loss
20	MANHOLEX	3	Multiple defects

Abandoned Surveys

Section	PLR	Description
5	REDUNDANTX	Survey abandoned
8	CAPPED OFFX	Survey abandoned
10	CAPPED OFFX	Survey abandoned
12	SVPX	Survey abandoned

Information

These scoring summaries are based on the SRM grading from the WRc.

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Project Pictures

Project Name	Project Number	Project Date
Prince Albert Pub RH10 3QX	JSD7518	25/07/2024

1

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Defect Grade Description (Section)

Project Name	Project Number	Project Date
Prince Albert Pub RH10 3QX	JSD7518	25/07/2024

1:	Brick: Minor structural defects. Other: Minor structural defects, i.e. open or displaced joints without additional characteristics. **Acceptable structural condition.**
2:	Brick: Circumferential cracking. Single longitudinal crack. Surface mortar loss (depth missing < 15 mm). Surface damage - spalling slight (breaking away of small fragments from the surface). Surface damage - wear slight (increased roughness). Other: Circumferential cracking. Surface damage - spalling slight (breaking away of small fragments from the surface). Surface damage - wear slight (increased roughness). **Minimal collapse likelihood in the short term but potential for further deterioration.**
3:	Brick: Total mortar loss (depth missing > 50 mm) without other defects. More than one longitudinal crack (at a single location). Multiple cracking. Single bricks displaced. Deformation < 5%, no fracture and only moderate mortar loss. Surface damage - spalling medium (large areas of chipped brick). Surface damage - wear medium (entire surface of brick is missing). Other: Fracture with no deformation or deformation < 5%. Longitudinal cracking or multiple cracking. Minor loss of level. Severe joint defects i.e. Surface damage - spalling medium. Surface damage - wear medium. **Collapse unlikely in the near future but further deterioration likely**
4:	Brick: Total mortar loss (depth missing > 50mm) with deformation > 10%; deformation up to 10% and fractured; displaced or hanging brickwork; small number of missing bricks; dropped invert (drop > 20mm); moderate loss of level; surface damage - large spalling (entire surface of brick is missing); surface damage - large wear (entire surface of brick is missing). Other: Broken; deformation up to 10% and broken; fracture with deformation 5-10%; multiple fractures; serious loss of level; serious joint defects with voids or soil visible (open joint with > 50mm soil or void visible or joint displacement > 25% of diameter); surface damage - entire area of pipe surface is missing or severly worn. **Collapse likely in the foreseeable future**
5:	Brick: Already collapsed; missing Invert; deformation > 10% and fractured; displaced or hanging brickwork and deformation < 10%; extensive areas of missing brickwork. Other: Already collapsed; deformation > 10% and broken; extensive areas of pipe fabric missing; fractures with deformation > 10% **Collapsed or collapse imminent**

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Section Inspection - 14/07/2024 - GULLYX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
1	1	14/07/24	10:34	JSD7518	No Rain Or Snow	No	GULLYX

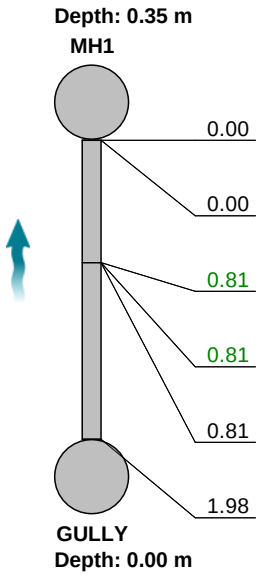
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	GULLY
Road:	Copthorne Bank	**Inspected Length:**	1.98 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	1.98 m	**Downstream Node:**	MH1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.350 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 1 (MH1)	00:00:34	GULLYX_73fdf716-c185-4359-	
0.00	WL	Water level, 0% of the vertical dimension	00:00:34	GULLYX_1c9e483a-3e61-4e7c	
0.81	CCJ	Crack, circumferential at joint from 6 o'clock to 9 o'clock	00:01:01	GULLYX_b10122b8-1f1f-4b61-	2
0.81	RFJ	Roots, fine at joint	00:01:01	GULLYX_497c7feb-53ee-44b1	2
0.81	JDM	Joint displaced, medium	00:01:01	GULLYX_be408751-b267-4dcb	1
1.98	GYF	Finish node, gully, reference: GULLY	00:01:10	GULLYX_ea8e3b67-ae80-4672	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
2	11.0	5.6	11.0	2.0	1	1.0	0.5	1.0	2.0

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Section Pictures - 14/07/2024 - GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
1	Upstream	GULLYX	JSD7518	JSD7518

GULLYX_73fdf716-c185-4359-baea-e2cfaeeb6cce_20240725_090127_925.jpg, 00:00:34, 0.00 m
Start node, manhole, reference: MANHOLE 1 (MH1)

GULLYX_1c9e483a-3e61-4e7c-9347-20a48706a5b3_20240725_090134_214.jpg, 00:00:34, 0.00 m
Water level, 0% of the vertical dimension

GULLYX_b10122b8-1f1f-4b61-85ad-1d1dd839dd63_20240725_090208_797.jpg, 00:01:01, 0.81 m
Crack, circumferential at joint from 6 o'clock to 9 o'clock

GULLYX_497c7feb-53ee-44b1-89dc-872bd2b7a9cf_20240725_090218_006.jpg, 00:01:01, 0.81 m
Roots, fine at joint

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Section Pictures - 14/07/2024 - GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
1	Upstream	GULLYX	JSD7518	JSD7518

GULLYX_be408751-b267-4dcb-87b2-47920da53df0_20240725_090226_317.jpg, 00:01:01, 0.81 m
Joint displaced, medium

GULLYX_ea8e3b67-ae80-4672-8aa1-6d7696ac026d_20240725_090241_494.jpg, 00:01:10, 1.98 m
Finish node, gully, reference: GULLY

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Section Inspection - 14/07/2024 - W/CX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
2	1	14/07/24	10:35	JSD7518	No Rain Or Snow	No	W/CX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

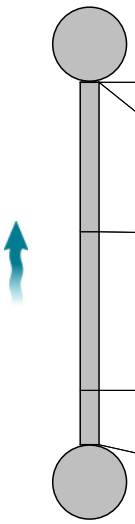
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	W/C
Road:	Copthorne Bank	**Inspected Length:**	2.40 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	2.40 m	**Downstream Node:**	MH1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.350 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.35 m
MH1



W/C
Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 1 (MH1)	00:00:20	W_CX_195b9a80-0444-4a50-9	
0.00	WL	Water level, 0% of the vertical dimension	00:00:20	W_CX_471e1211-220d-4303-9	
0.99	CC	Crack, circumferential from 9 o'clock to 3 o'clock	00:00:37	W_CX_b0b5a396-c87b-44df-b5	2
2.04	LU	Line deviates up: REST BEND	00:00:47	W_CX_96eda4f4-1bbb-49c3-b	
2.40	BRF	Finish node, major connection without manhole, reference: W/C	00:01:00	W_CX_d06b05e4-68b7-4fc7-9a	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
1	10.0	4.2	10.0	2.0	0	0.0	0.0	0.0	1.0

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Section Pictures - 14/07/2024 - W/CX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
2	Upstream	W/CX	JSD7518	JSD7518

W_CX_195b9a80-0444-4a50-909c-826c72029cfe_20240725_090339_479.jpg, 00:00:20, 0.00 m
Start node, manhole, reference: MANHOLE 1 (MH1)

W_CX_471e1211-220d-4303-95f7-17451f9caf6b_20240725_090348_835.jpg, 00:00:20, 0.00 m
Water level, 0% of the vertical dimension

W_CX_b0b5a396-c87b-44df-b524-f6ae86763abc_20240725_090413_863.jpg, 00:00:37, 0.99 m
Crack, circumferential from 9 o'clock to 3 o'clock

W_CX_96eda4f4-1bbb-49c3-bdf5-b6f3418d49e6_20240725_090429_528.jpg, 00:00:47, 2.04 m
Line deviates up, REST BEND

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Section Pictures - 14/07/2024 - W/CX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
2	Upstream	W/CX	JSD7518	JSD7518

W_CX_d06b05e4-68b7-4fc7-9a0a-57830fa10748_20240725_090446_718.jpg, 00:01:00, 2.40 m
Finish node, major connection without manhole, reference: W/C

Rexaus Group T/A Drain Detectives
Unit 2, The Long Barn, Halls Hole Road, Tunbridge Wells
Tel. 0800 357 9371
info@draindetectives.co.uk

Section Inspection - 14/07/2024 - W/CX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
3	1	14/07/24	10:35	JSD7518	No Rain Or Snow	No	W/CX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

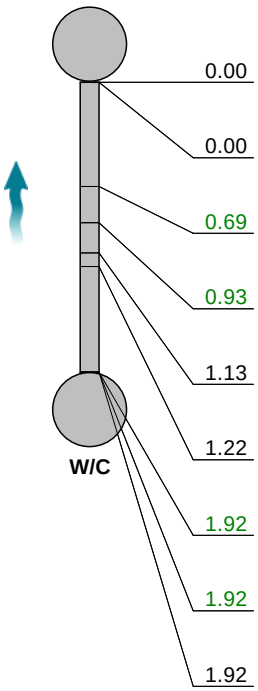
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	W/C
Road:	Copthorne Bank	**Inspected Length:**	1.92 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	1.92 m	**Downstream Node:**	MH1
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.350 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.35 m
MH1



Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 1 (MH1)	00:00:17	W_CX_aa28def7-6b17-4c5f-98	
0.00	WL	Water level, 0% of the vertical dimension	00:00:17	W_CX_4bcc81ab-b430-4f24-b0	
0.69	CC	Crack, circumferential from 3 o'clock to 8 o'clock	00:00:31	W_CX_6de99cdf-b413-404c-b	2
0.93	CC	Crack, circumferential from 9 o'clock to 3 o'clock	00:00:34	W_CX_9fa16cc0-0598-4ab2-b0	2
1.13	JDM	Joint displaced, medium	00:00:39	W_CX_1865770f-a7a0-438a-9	1
1.22	LU	Line deviates up: REST BEND	00:00:43	W_CX_e67dc308-cdad-4b4f-8f	
1.92	CCJ	Crack, circumferential at joint from 12 o'clock to 12 o'clock	00:01:01	W_CX_140950e0-f4b9-4fa9-b1	2
1.92	SR	Sealing ring intruding, intruding but not hanging from 4 o'clock to 8 o'clock: (ON PAN CONNECTOR)	00:01:01	W_CX_dc0dc9d8-5d35-437e-8	2
1.92	BRF	Finish node, major connection without manhole, reference: W/C	00:01:01	W_CX_cb032ee2-9a36-444a-9	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
4	10.0	16.1	31.0	2.0	1	1.0	0.5	1.0	2.0

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Section Pictures - 14/07/2024 - W/CX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
3	Upstream	W/CX	JSD7518	JSD7518

W_CX_aa28def7-6b17-4c5f-98d5-70f28f303849_20240725_090538_420.jpg, 00:00:17, 0.00 m
Start node, manhole, reference: MANHOLE 1 (MH1)

W_CX_4bcc81ab-b430-4f24-b070-c936aa0db768_20240725_090543_965.jpg, 00:00:17, 0.00 m
Water level, 0% of the vertical dimension

W_CX_6de99cdf-b413-404c-b955-bd55d3022d42_20240725_090601_206.jpg, 00:00:31, 0.69 m
Crack, circumferential from 3 o'clock to 8 o'clock

W_CX_9fa16cc0-0598-4ab2-b04a-1bd0e0447c7d_20240725_090647_708.jpg, 00:00:34, 0.93 m
Crack, circumferential from 9 o'clock to 3 o'clock

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Section Pictures - 14/07/2024 - W/CX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
3	Upstream	W/CX	JSD7518	JSD7518

W_CX_1865770f-a7a0-438a-95c3-9da68d53db4d_20240725_090701_492.jpg, 00:00:39, 1.13 m
Joint displaced, medium

W_CX_e67dc308-cdad-4b4f-8f22-12bae3fd920a_20240725_090718_061.jpg, 00:00:43, 1.22 m
Line deviates up, REST BEND

W_CX_140950e0-f4b9-4fa9-b1b6-8f3dc2314eb6_20240725_090748_590.jpg, 00:01:01, 1.92 m
Crack, circumferential at joint from 12 o'clock to 12 o'clock

W_CX_dc0dc9d8-5d35-437e-89b2-f803bfeb8fe8_20240725_090809_548.jpg, 00:01:01, 1.92 m
Sealing ring intruding, intruding but not hanging from 4 o'clock to 8 o'clock, (ON PAN CONNECTOR)

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Section Pictures - 14/07/2024 - W/CX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
3	Upstream	W/CX	JSD7518	JSD7518

W_CX_cb032ee2-9a36-444a-92ae-abb9e1a5b721_20240725_090817_052.jpg, 00:01:01, 1.92 m
Finish node, major connection without manhole, reference: W/C

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Section Inspection - 14/07/2024 - MH1X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
4	1	14/07/24	10:35	JSD7518	No Rain Or Snow	No	MH1X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

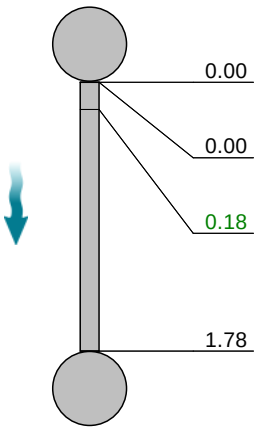
Town or Village:	Copthorne	**Inspection Direction:**	Downstream	**Upstream Node:**	MH1
Road:	Copthorne Bank	**Inspected Length:**	1.78 m	**Upstream Pipe Depth:**	0.350 m
Location:	Property with buildings	**Total Length:**	1.78 m	**Downstream Node:**	MH2
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.500 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.35 m
MH1



MH2
Depth: 0.50 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 1 (MH1)	00:00:20	MH1X_8529fe95-596a-4229-a	
0.00	WL	Water level, 0% of the vertical dimension	00:00:20	MH1X_e19867f0-c5b3-4e72-b	
0.18	CC	Crack, circumferential from 6 o'clock to 12 o'clock	00:00:28	MH1X_97e7b7b8-20ed-4a65-9	2
1.78	MHF	Finish node, manhole, reference: MANHOLE 2 (MH2)	00:00:48	MH1X_d3684f66-d33d-414b-8	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
1	10.0	5.6	10.0	2.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - MH1X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
4	Downstream	MH1X	JSD7518	JSD7518

MH1X_8529fe95-596a-4229-ab69-a117d3ef1bdf_20240725_090923_983.jpg, 00:00:20, 0.00 m
Start node, manhole, reference: MANHOLE 1 (MH1)

MH1X_e19867f0-c5b3-4e72-bae8-ed380d85fbaa_20240725_090929_878.jpg, 00:00:20, 0.00 m
Water level, 0% of the vertical dimension

MH1X_97e7b7b8-20ed-4a65-9726-8e0e94167fbc_20240725_090948_059.jpg, 00:00:28, 0.18 m
Crack, circumferential from 6 o'clock to 12 o'clock

MH1X_d3684f66-d33d-414b-8bac-5e46a45db65e_20240725_091013_389.jpg, 00:00:48, 1.78 m
Finish node, manhole, reference: MANHOLE 2 (MH2)

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Section Inspection - 14/07/2024 - REDUNDANTX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
5	1	14/07/24	10:35	JSD7518	No Rain Or Snow	No	REDUNDANTX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

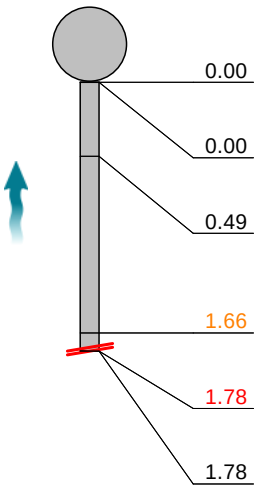
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	REDUNDANT
Road:	Copthorne Bank	**Inspected Length:**	1.78 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	1.78 m	**Downstream Node:**	MH2
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.500 m

Use:	Other	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.50 m
MH2



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 2 (MH2)	00:00:25	REDUNDANTX_b488a6b2-122	
0.00	WL	Water level, 0% of the vertical dimension	00:00:25	REDUNDANTX_e8cb558e-daf	
0.49	JDL	Joint displaced, large	00:00:34	REDUNDANTX_0df9520d-4cc	1
1.66	B	Broken pipe from 10 o'clock to 3 o'clock	00:00:47	REDUNDANTX_29814b43-2bf	4
1.78	DEC	Settled deposits, hard or compacted, 100% cross-sectional area loss	00:00:56	REDUNDANTX_716789ca-25e	5
1.78	SA	Survey abandoned: S/A - REDUNDANT LINE	00:00:56	REDUNDANTX_8ff2f762-c2e0-	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
2	80.0	46.1	82.0	4.0	1	10.0	5.6	10.0	5.0

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Section Pictures - 14/07/2024 - REDUNDANTX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
5	Upstream	REDUNDANTX	JSD7518	JSD7518

REDUNDANTX_b488a6b2-122d-414b-9b60-81161af3a98e_20240725_091111_708.jpg, 00:00:25, 0.00 m
Start node, manhole, reference: MANHOLE 2 (MH2)

REDUNDANTX_e8cb558e-dafc-4f69-9ea3-26872ca7b2b2_20240725_091117_148.jpg, 00:00:25, 0.00 m
Water level, 0% of the vertical dimension

REDUNDANTX_0df9520d-4cc8-45ca-b8b9-6ea8c8cc1138_20240725_091130_965.jpg, 00:00:34, 0.49 m
Joint displaced, large

REDUNDANTX_29814b43-2bf2-411c-83a3-7448b2e32080_20240725_091151_156.jpg, 00:00:47, 1.66 m
Broken pipe from 10 o'clock to 3 o'clock

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Section Pictures - 14/07/2024 - REDUNDANTX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
5	Upstream	REDUNDANTX	JSD7518	JSD7518

REDUNDANTX_716789ca-25ee-4cc2-8135-a7bc7aff19d4_20240725_091212_524.jpg, 00:00:56, 1.78 m
Settled deposits, hard or compacted, 100% cross-sectional area loss

REDUNDANTX_8ff2f762-c2e0-455c-bf22-40405fb29865_20240725_091223_724.jpg, 00:00:56, 1.78 m
Survey abandoned, S/A - REDUNDANT LINE

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Section Inspection - 14/07/2024 - MH6X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
6	1	14/07/24	10:35	JSD7518	No Rain Or Snow	No	MH6X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

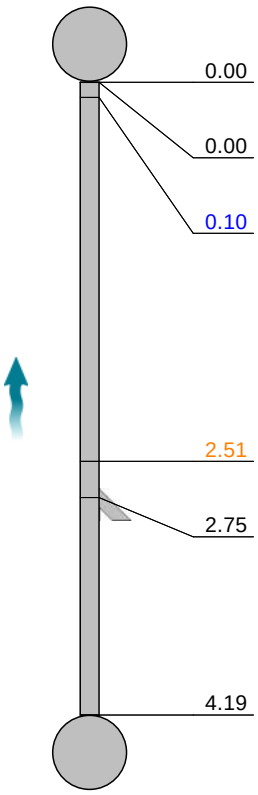
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	MH6
Road:	Copthorne Bank	**Inspected Length:**	4.19 m	**Upstream Pipe Depth:**	0.370 m
Location:	Property with buildings	**Total Length:**	4.19 m	**Downstream Node:**	MH2
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.500 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.50 m
MH2



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 2 (MH2)	00:00:16	MH6X_83d29d4f-b593-490d-9	
0.00	WL	Water level, 0% of the vertical dimension	00:00:16	MH6X_0400c42f-8fcd-4804-ab	
0.10	FC	Fracture, circumferential from 11 o'clock to 5 o'clock	00:00:23	MH6X_d2fe370d-baf2-4429-b3	3
2.51	FMJ	Fracture, multiple at joint from 12 o'clock to 12 o'clock	00:00:41	MH6X_5b7b7237-2ba3-4cba-8	4
2.75	JN	Junction at 9 o'clock, diameter: 100mm: UNKNOWN	00:00:56	MH6X_522ba9e2-59fb-4d77-8b	
4.19	MHF	Finish node, manhole, reference: MANHOLE 6 (MH6)	00:01:15	MH6X_27aff4e3-af3d-432c-bc	

MH6
Depth: 0.37 m

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
2	80.0	28.6	120.0	4.0	0	0.0	0.0	0.0	1.0

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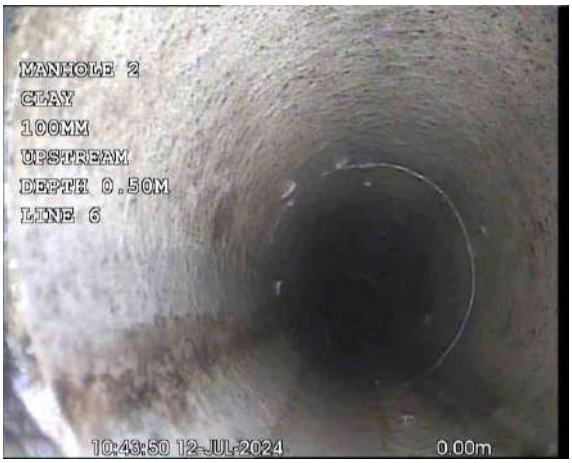
Section Pictures - 14/07/2024 - MH6X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
6	Upstream	MH6X	JSD7518	JSD7518

MH6X_83d29d4f-b593-490d-9743-99f8d8e575c1_20240725_091534_732.jpg, 00:00:16, 0.00 m
Start node, manhole, reference: MANHOLE 2 (MH2)



MH6X_0400c42f-8fcd-4804-ab0a-3690c460f887_20240725_091541_154.jpg, 00:00:16, 0.00 m
Water level, 0% of the vertical dimension

MH6X_d2fe370d-baf2-4429-b37e-bc117d0a8e8e_20240725_091559_829.jpg, 00:00:23, 0.10 m
Fracture, circumferential from 11 o'clock to 5 o'clock

MH6X_5b7b7237-2ba3-4cba-86aa-fcb1f22d1ecc_20240725_092232_813.jpg, 00:00:41, 2.51 m
Fracture, multiple at joint from 12 o'clock to 12 o'clock

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Section Pictures - 14/07/2024 - MH6X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
6	Upstream	MH6X	JSD7518	JSD7518

MH6X_522ba9e2-59fb-4d77-8b4f-20a3a199147f_20240725_092301_286.jpg, 00:00:56, 2.75 m
Junction at 9 o'clock, diameter: 100mm, UNKNOWN

MH6X_27aff4e3-af3d-432c-bcaa-89feb1b6036e_20240725_092322_445.jpg, 00:01:15, 4.19 m
Finish node, manhole, reference: MANHOLE 6 (MH6)

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Section Inspection - 14/07/2024 - MH2X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
7	1	14/07/24	10:35	JSD7518	No Rain Or Snow	No	MH2X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

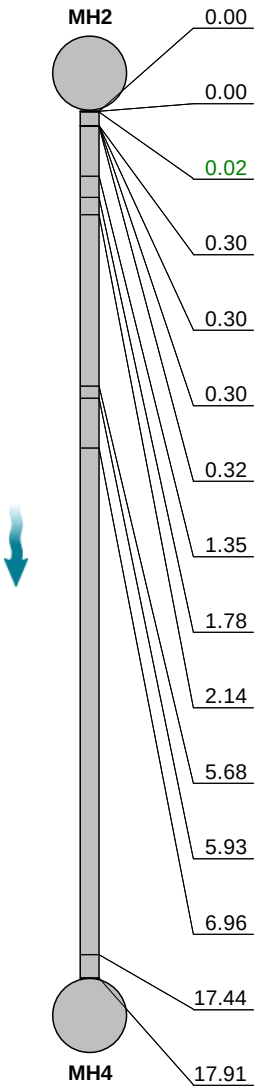
Town or Village:	Copthorne	**Inspection Direction:**	Downstream	**Upstream Node:**	MH2
Road:	Copthorne Bank	**Inspected Length:**	17.91 m	**Upstream Pipe Depth:**	0.500 m
Location:	Property with buildings	**Total Length:**	17.91 m	**Downstream Node:**	MH4
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.800 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:156

Depth: 0.50 m



Depth: 0.80 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 2 (MH2)	00:00:28	MH2X_c0af95fe-3efa-4666-b634	
0.00	WL	Water level, 10% of the vertical dimension	00:00:28	MH2X_71184cee-8274-417a-b	
0.02	CC	Crack, circumferential from 10 o'clock to 2 o'clock	00:00:35	MH2X_71538d31-1645-4ac7-b	2
0.30	JDM	Joint displaced, medium	00:00:56	MH2X_9e3848a9-2aef-4403-9d	1
0.30	MCPVC	Material changes to polyvinyl chloride	00:00:56	MH2X_b91b3937-c37a-452d-9	
0.30	SC	Size changes, new size(s), 110mm high	00:00:56	MH2X_2ccdcd70-8b88-4cef-882	
0.32	LL	Line deviates left	00:00:58	MH2X_e093e4d7-d568-40a8-a	
1.35	WL	Water level, 10% of the vertical dimension	00:01:07	MH2X_f65f7b8b-e9eb-42e2-bd	
1.78	WL	Water level, 5% of the vertical dimension	00:01:11	MH2X_63ec8ede-2157-460a-b	
2.14	WL	Water level, 0% of the vertical dimension	00:01:12	MH2X_d8971b82-46f9-414d-a3	
5.68	REM	General remark: **ENTERS MANHOLE 3 (MH3) - UNABLE TO LIFT	00:01:29	MH2X_b55e55f8-9e05-4db8-b	
5.93	WL	Water level, 5% of the vertical dimension	00:01:46	MH2X_2c7dd602-37a2-429a-a2	
6.96	WL	Water level, 0% of the vertical dimension	00:01:50	MH2X_88b39d42-4c30-4654-8	
17.44	LR	Line deviates right	00:02:20	MH2X_ecbc01d4-5401-430c-a4	
17.91	MHF	Finish node, manhole, reference: MANHOLE 4 (MH4)	00:02:27	MH2X_acdd8251-032e-4fda-a1d	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
2	10.0	0.6	11.0	2.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - MH2X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
7	Downstream	MH2X	JSD7518	JSD7518

MH2X_c0af95fe-3efa-4666-b634-8d5993f92b03_20240725_092442_596.jpg, 00:00:28, 0.00 m
Start node, manhole, reference: MANHOLE 2 (MH2)

MH2X_71184cee-8274-417a-b5b5-87d394df23a5_20240725_092449_717.jpg, 00:00:28, 0.00 m
Water level, 10% of the vertical dimension

MH2X_71538d31-1645-4ac7-b3ba-3a632e838191_20240725_092525_584.jpg, 00:00:35, 0.02 m
Crack, circumferential from 10 o'clock to 2 o'clock

MH2X_9e3848a9-2aef-4403-9dc0-06a55e9cccf0_20240725_092609_653.jpg, 00:00:56, 0.30 m
Joint displaced, medium

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Section Pictures - 14/07/2024 - MH2X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
7	Downstream	MH2X	JSD7518	JSD7518

MH2X_b91b3937-c37a-452d-9c54-7c35945f681d_20240725_092617_600.jpg, 00:00:56, 0.30 m
Material changes to polyvinyl chloride

MH2X_2ccdcd70-8b88-4cef-8827-dddf496b7eb6_20240725_092644_239.jpg, 00:00:56, 0.30 m
Size changes, new size(s), 110mm high

MH2X_e093e4d7-d568-40a8-a048-f18372491e2a_20240725_092700_602.jpg, 00:00:58, 0.32 m
Line deviates left

MH2X_f65f7b8b-e9eb-42e2-bd0d-13d5b91a7f09_20240725_093042_603.jpg, 00:01:07, 1.35 m
Water level, 10% of the vertical dimension

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Section Pictures - 14/07/2024 - MH2X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
7	Downstream	MH2X	JSD7518	JSD7518

MH2X_63ec8ede-2157-460a-bba6-3a2739af30ac_20240725_093101_292.jpg, 00:01:11, 1.78 m
Water level, 5% of the vertical dimension

MH2X_d8971b82-46f9-414d-a365-ee734a64b108_20240725_093111_187.jpg, 00:01:12, 2.14 m
Water level, 0% of the vertical dimension

MH2X_b55e55f8-9e05-4db8-b212-fbb573044cff_20240725_093147_156.jpg, 00:01:29, 5.68 m
General remark, **ENTERS MANHOLE 3 (MH3) - UNABLE TO LIFT

MH2X_2c7dd602-37a2-429a-a2ab-0279f14f5071_20240725_093210_012.jpg, 00:01:46, 5.93 m
Water level, 5% of the vertical dimension

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Section Pictures - 14/07/2024 - MH2X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
7	Downstream	MH2X	JSD7518	JSD7518

MH2X_88b39d42-4c30-4654-8841-754422e4dc7a_20240725_093224_970.jpg, 00:01:50, 6.96 m
Water level, 0% of the vertical dimension

MH2X_ecbc01d4-5401-430c-a4cc-4e8128ef4209_20240725_093238_853.jpg, 00:02:20, 17.44 m
Line deviates right

MH2X_acdd8251-032e-4fda-a1d3-9a0cfadee0a2_20240725_093304_170.jpg, 00:02:27, 17.91 m
Finish node, manhole, reference: MANHOLE 4 (MH4)

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Section Inspection - 14/07/2024 - CAPPED OFFX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
8	1	14/07/24	10:36	JSD7518	No Rain Or Snow	No	CAPPED OFFX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

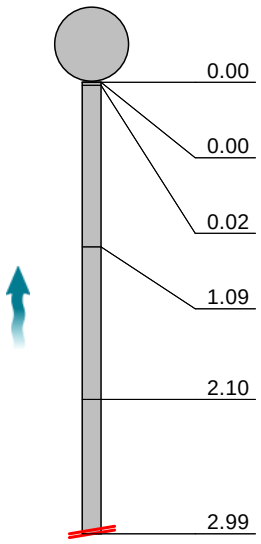
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	CAPPED OFF
Road:	Copthorne Bank	**Inspected Length:**	2.99 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	2.99 m	**Downstream Node:**	MH4
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.800 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	110 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.80 m
MH4



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 4 (MH4)	00:00:39	CAPPED OFFX_df637ed9-d0c	
0.00	WL	Water level, 5% of the vertical dimension	00:00:39	CAPPED OFFX_93c2d75d-b2f	
0.02	LL	Line deviates left	00:00:43	CAPPED OFFX_2c61c11e-4c0	
1.09	WL	Water level, 5% of the vertical dimension	00:00:52	CAPPED OFFX_67eeaf64-043	
2.10	WL	Water level, 0% of the vertical dimension	00:00:57	CAPPED OFFX_68f25f6f-dbc4	
2.99	SA	Survey abandoned: S/A - CAPPED OFF	00:01:03	CAPPED OFFX_dc97001a-207	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - CAPPED OFFX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
8	Upstream	CAPPED OFFX	JSD7518	JSD7518

CAPPED
OFFX_df637ed9-d0c0-475d-a9b9-2d9c6523196d_20240725_093402_548.jpg, 00:00:39, 0.00 m
Start node, manhole, reference: MANHOLE 4 (MH4)

CAPPED
OFFX_93c2d75d-b2fd-43d0-9440-17bfa1c0c76e_20240725_093409_690.jpg, 00:00:39, 0.00 m
Water level, 5% of the vertical dimension

CAPPED
OFFX_2c61c11e-4c06-4ebc-870a-c78b293b4c99_20240725_093434_293.jpg, 00:00:43, 0.02 m
Line deviates left

CAPPED
OFFX_67eeaf64-0435-43b5-8da3-b5a094747b11_20240725_093450_860.jpg, 00:00:52, 1.09 m
Water level, 5% of the vertical dimension

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Section Pictures - 14/07/2024 - CAPPED OFFX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
8	Upstream	CAPPED OFFX	JSD7518	JSD7518

CAPPED
OFFX_68f25f6f-dbc4-4bd4-8f1f-8c3b8a9531e7_20240725_093504_475.jpg, 00:00:57, 2.10 m
Water level, 0% of the vertical dimension

CAPPED
OFFX_dc97001a-2078-4b93-b9a2-163b14f502db_20240725_093522_395.jpg, 00:01:03, 2.99 m
Survey abandoned, S/A - CAPPED OFF

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Section Inspection - 14/07/2024 - MH4X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
9	1	14/07/24	10:36	JSD7518	No Rain Or Snow	No	MH4X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

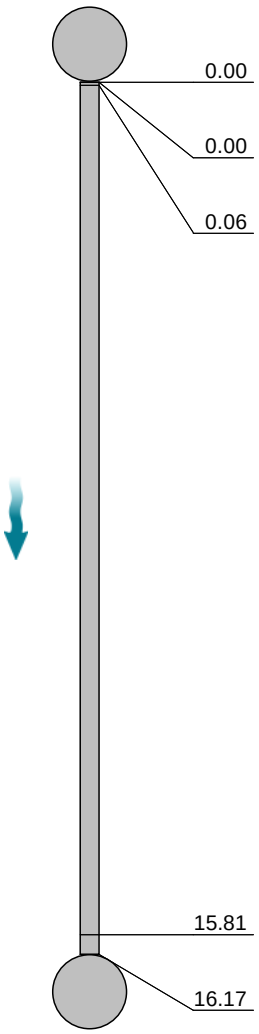
Town or Village:	Copthorne	**Inspection Direction:**	Downstream	**Upstream Node:**	MH4
Road:	Copthorne Bank	**Inspected Length:**	16.17 m	**Upstream Pipe Depth:**	0.800 m
Location:	Property with buildings	**Total Length:**	16.17 m	**Downstream Node:**	MH5
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	1.030 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	110 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:140

Depth: 0.80 m
MH4



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 4 (MH4)	00:00:26	MH4X_55d14c4d-fdbe-480a-a	
0.00	WL	Water level, 0% of the vertical dimension	00:00:26	MH4X_b15f3203-8bce-4b3c-a	
0.06	LR	Line deviates right	00:00:42	MH4X_047d0d34-fc87-401f-a4	
15.81	LL	Line deviates left	00:01:29	MH4X_9d8f4504-f323-432b-96	
16.17	MHF	Finish node, manhole, reference: MANHOLE 5 (MH5)	00:01:39	MH4X_344678f6-6b66-4520-9	

MH5
Depth: 1.03 m

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - MH4X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
9	Downstream	MH4X	JSD7518	JSD7518

MH4X_55d14c4d-fdbe-480a-a8d1-3ec7317d0af8_20240725_093843_347.jpg, 00:00:26, 0.00 m
Start node, manhole, reference: MANHOLE 4 (MH4)

MH4X_b15f3203-8bce-4b3c-aea4-e017105a17a3_20240725_093849_179.jpg, 00:00:26, 0.00 m
Water level, 0% of the vertical dimension

MH4X_047d0d34-fc87-401f-a4c3-3433783703f4_20240725_093918_923.jpg, 00:00:42, 0.06 m
Line deviates right

MH4X_9d8f4504-f323-432b-9698-14d451cd618f_20240725_094016_482.jpg, 00:01:29, 15.81 m
Line deviates left

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Section Pictures - 14/07/2024 - MH4X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
9	Downstream	MH4X	JSD7518	JSD7518

MH4X_344678f6-6b66-4520-95ce-16ba1b185cdf_20240725_094041_771.jpg, 00:01:39, 16.17 m
Finish node, manhole, reference: MANHOLE 5 (MH5)

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Section Inspection - 14/07/2024 - CAPPED OFFX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
10	1	14/07/24	10:36	JSD7518	No Rain Or Snow	No	CAPPED OFFX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

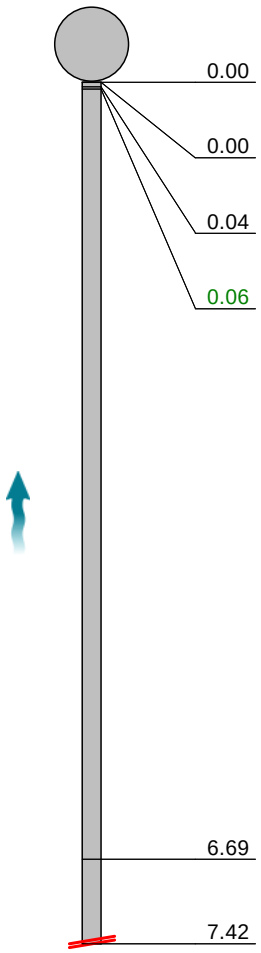
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	CAPPED OFF
Road:	Copthorne Bank	**Inspected Length:**	7.42 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	7.42 m	**Downstream Node:**	MH5
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	1.030 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	110 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:65

Depth: 1.03 m
MH5



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 5 (MH5)	00:00:37	CAPPED OFFX_6c3871bb-4fd	
0.00	WL	Water level, 0% of the vertical dimension	00:00:37	CAPPED OFFX_0b21e724-26b	
0.04	LR	Line deviates right	00:00:41	CAPPED OFFX_80832dd5-8ef	
0.06	DES	Settled deposits, fine, 5% cross-sectional area loss	00:00:42	CAPPED OFFX_962b07f7-60c	2
6.69	LU	Line deviates up: REST BEND	00:02:08	CAPPED OFFX_7b6014f4-cab	
7.42	SA	Survey abandoned: S/A - CAPPED OFF	00:02:19	CAPPED OFFX_b9c4dbb3-d9c	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	1	1.0	0.1	1.0	2.0

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Section Pictures - 14/07/2024 - CAPPED OFFX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
10	Upstream	CAPPED OFFX	JSD7518	JSD7518

CAPPED
OFFX_6c3871bb-4fd5-4855-bbb0-61d06810d0d7_20240725_094152_058.jpg, 00:00:37, 0.00 m
Start node, manhole, reference: MANHOLE 5 (MH5)

CAPPED
OFFX_0b21e724-26bb-4d91-bb97-1640846d3795_20240725_094202_515.jpg, 00:00:37, 0.00 m
Water level, 0% of the vertical dimension

CAPPED
OFFX_80832dd5-8ef6-4f5d-89c0-115ac1b2d810_20240725_094214_228.jpg, 00:00:41, 0.04 m
Line deviates right

CAPPED
OFFX_962b07f7-60c1-43c4-ba8a-1193030da8e6_20240725_094225_233.jpg, 00:00:42, 0.06 m
Settled deposits, fine, 5% cross-sectional area loss

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Section Pictures - 14/07/2024 - CAPPED OFFX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
10	Upstream	CAPPED OFFX	JSD7518	JSD7518

CAPPED
OFFX_7b6014f4-cab8-4f12-9a9c-6eb32ef0d8f9_20240725_094246_571.jpg, 00:02:08, 6.69 m
Line deviates up, REST BEND

CAPPED
OFFX_b9c4dbb3-d9c6-4d09-9f4f-e40713d124b7_20240725_094300_939.jpg, 00:02:19, 7.42 m
Survey abandoned, S/A - CAPPED OFF

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Section Inspection - 14/07/2024 - MH5X

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
11	1	14/07/24	10:36	JSD7518	No Rain Or Snow	No	MH5X

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

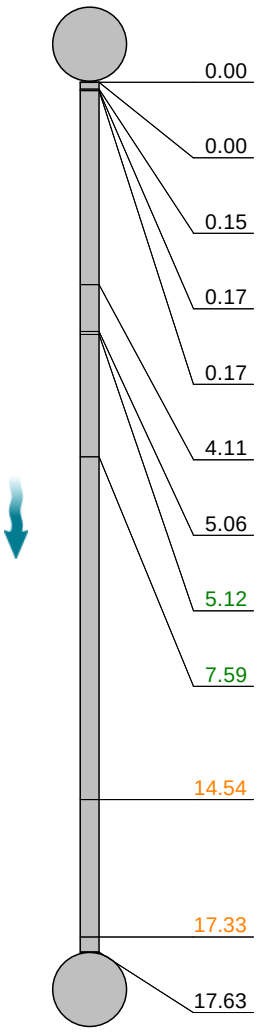
Town or Village:	Copthorne	**Inspection Direction:**	Downstream	**Upstream Node:**	MH5
Road:	Copthorne Bank	**Inspected Length:**	17.63 m	**Upstream Pipe Depth:**	1.030 m
Location:	Property with buildings	**Total Length:**	17.63 m	**Downstream Node:**	MHA
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.000 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	110 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:153

Depth: 1.03 m
MH5



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 5 (MH5)	00:00:29	MH5X_bd5530c6-c89a-41b5-b	
0.00	WL	Water level, 0% of the vertical dimension	00:00:29	MH5X_04a04489-4146-4ad3-b	
0.15	JDL	Joint displaced, large	00:00:41	MH5X_a67b5490-9c73-459b-9	1
0.17	MCVC	Material changes to vitrified clay	00:00:44	MH5X_f2943572-daea-4cc0-b6	
0.17	SC	Size changes, new size(s), 100mm high	00:00:46	MH5X_e186920a-c72e-48a4-9	
4.11	JDM	Joint displaced, medium	00:01:24	MH5X_059f6707-2778-4d9f-99	1
5.06	REM	General remark: **BOUNDARY POINT**	00:01:36	MH5X_7a719423-7b10-4cb5-9	
5.12	RFJ	Roots, fine at joint	00:01:44	MH5X_109efa46-164d-464f-96	2
7.59	DEG	Attached deposits, grease from 12 o'clock to 5 o'clock, 5% cross-sectional area loss	00:01:51	MH5X_a25c901e-431c-4751-af	2
14.54	H	Hole in drain or sewer at 4 o'clock	00:02:15	MH5X_b9529b71-08d6-4df3-a0	4
17.33	FM	Fracture, multiple from 12 o'clock to 12 o'clock	00:02:23	MH5X_245e56e0-af60-4cc5-9	4
17.63	MHF	Finish node, manhole, reference: MANHOLE A (MHA): (DAWN RISE ROAD)	00:02:35	MH5X_14be63c4-1844-4b3b-8	

MHA
Depth: 0.00 m

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
4	80.0	9.2	163.0	4.0	2	1.0	0.1	2.0	2.0

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Section Pictures - 14/07/2024 - MH5X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
11	Downstream	MH5X	JSD7518	JSD7518

MH5X_bd5530c6-c89a-41b5-b33d-6c50f69b0280_20240725_094513_170.jpg, 00:00:29, 0.00 m
Start node, manhole, reference: MANHOLE 5 (MH5)

MH5X_04a04489-4146-4ad3-b2c5-d7ff96abe544_20240725_094519_970.jpg, 00:00:29, 0.00 m
Water level, 0% of the vertical dimension

MH5X_a67b5490-9c73-459b-9229-8a05c12ea946_20240725_094558_658.jpg, 00:00:41, 0.15 m
Joint displaced, large

MH5X_f2943572-daea-4cc0-b643-02d9ae5cd5ee_20240725_094641_129.jpg, 00:00:44, 0.17 m
Material changes to vitrified clay

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Section Pictures - 14/07/2024 - MH5X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
11	Downstream	MH5X	JSD7518	JSD7518

MH5X_e186920a-c72e-48a4-9a6e-cd2a8489a0ab_20240725_094708_970.jpg, 00:00:46, 0.17 m
Size changes, new size(s), 100mm high

MH5X_059f6707-2778-4d9f-998a-3e91e87c5d40_20240725_094727_709.jpg, 00:01:24, 4.11 m
Joint displaced, medium

MH5X_7a719423-7b10-4cb5-9e10-35a6d7d11f95_20240725_094749_245.jpg, 00:01:36, 5.06 m
General remark, **BOUNDARY POINT**

MH5X_109efa46-164d-464f-96dd-18bcad47188e_20240725_094816_811.jpg, 00:01:44, 5.12 m
Roots, fine at joint

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Section Pictures - 14/07/2024 - MH5X

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
11	Downstream	MH5X	JSD7518	JSD7518

MH5X_a25c901e-431c-4751-af44-e6286baac714_20240725_094843_842.jpg, 00:01:51, 7.59 m
Attached deposits, grease from 12 o'clock to 5 o'clock, 5% cross-sectional area loss

MH5X_b9529b71-08d6-4df3-a0ef-83327201d51f_20240725_094926_931.jpg, 00:02:15, 14.54 m
Hole in drain or sewer at 4 o'clock

MH5X_245e56e0-af60-4cc5-9251-72fe8d11e2b2_20240725_094946_179.jpg, 00:02:23, 17.33 m
Fracture, multiple from 12 o'clock to 12 o'clock

MH5X_14be63c4-1844-4b3b-8d9d-02ec269f888d_20240725_095012_235.jpg, 00:02:35, 17.63 m
Finish node, manhole, reference: MANHOLE A (MHA), (DAWN RISE ROAD)

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Section Inspection - 14/07/2024 - SVPX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
12	1	14/07/24	10:37	JSD7518	No Rain Or Snow	No	SVPX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

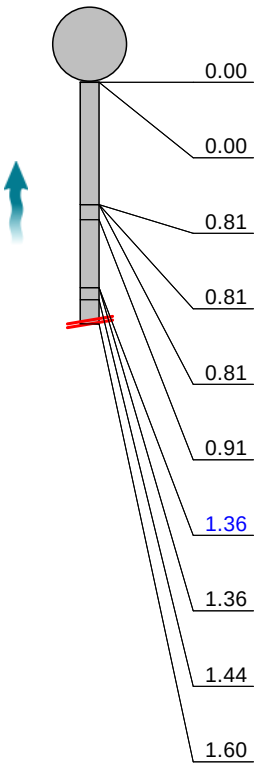
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	SVP
Road:	Copthorne Bank	**Inspected Length:**	1.60 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	1.60 m	**Downstream Node:**	MH6
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.370 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.37 m
MH6



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 6 (MH6)	00:00:28	SVPX_1032148c-1afa-44ba-b9	
0.00	WL	Water level, 0% of the vertical dimension	00:00:28	SVPX_74d44b96-72da-442c-86	
0.81	JDM	Joint displaced, medium	00:00:43	SVPX_6126ff3a-8feb-42cf-b4a8-	1
0.81	MCPVC	Material changes to polyvinyl chloride	00:00:43	SVPX_6dc84003-04ba-4f4b-a2b	
0.81	SC	Size changes, new size(s), 110mm high	00:00:43	SVPX_37643050-054d-409b-a0	
0.91	LL	Line deviates left	00:00:49	SVPX_1a7c91c5-7811-4395-aa	
1.36	DEC	Settled deposits, hard or compacted, 15% cross-sectional area loss	00:01:07	SVPX_b8b7fa38-33f3-45aa-a30	3
1.36	LR	Line deviates right	00:01:07	SVPX_7b6e8666-8fb9-44b5-8e	
1.44	CUZ	Loss of vision, other: DEBRIS	00:01:10	SVPX_4b44048b-62fa-45c3-ad	
1.60	SA	Survey abandoned: S/A - OPEN PIPE - SOIL VENT PIPE NOT CONNECTED UP	00:01:28	SVPX_9d8768b1-86dd-4d7b-b1	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
1	1.0	0.6	1.0	1.0	1	2.0	1.3	2.0	3.0

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Section Pictures - 14/07/2024 - SVPX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
12	Upstream	SVPX	JSD7518	JSD7518

SVPX_1032148c-1afa-44ba-b9d4-c41939b75ca1_20240725_095215_787.jpg, 00:00:28, 0.00 m
Start node, manhole, reference: MANHOLE 6 (MH6)

SVPX_74d44b96-72da-442c-8602-c87605640ac0_20240725_095222_464.jpg, 00:00:28, 0.00 m
Water level, 0% of the vertical dimension

SVPX_6126ff3a-8feb-42cf-b4a8-289a35627abd_20240725_095243_344.jpg, 00:00:43, 0.81 m
Joint displaced, medium

SVPX_6dc84003-04ba-4f4b-a2bc-ade636d85d44_20240725_095258_153.jpg, 00:00:43, 0.81 m
Material changes to polyvinyl chloride

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Section Pictures - 14/07/2024 - SVPX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
12	Upstream	SVPX	JSD7518	JSD7518

SVPX_37643050-054d-409b-a034-ef1a40900360_20240725_095307_792.jpg, 00:00:43, 0.81 m
Size changes, new size(s), 110mm high

SVPX_1a7c91c5-7811-4395-aac0-3828833b4982_20240725_095342_984.jpg, 00:00:49, 0.91 m
Line deviates left

SVPX_b8b7fa38-33f3-45aa-a30b-8dfd9bcbd768_20240725_095417_154.jpg, 00:01:07, 1.36 m
Settled deposits, hard or compacted, 15% cross-sectional area loss

SVPX_7b6e8666-8fb9-44b5-8e1a-aafe5937a5df_20240725_095424_962.jpg, 00:01:07, 1.36 m
Line deviates right

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Section Pictures - 14/07/2024 - SVPX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
12	Upstream	SVPX	JSD7518	JSD7518

SVPX_4b44048b-62fa-45c3-ad0b-12c365183034_20240725_095440_985.jpg, 00:01:10, 1.44 m
Loss of vision, other, DEBRIS

SVPX_9d8768b1-86dd-4d7b-b136-613c52434c58_20240725_095530_137.jpg, 00:01:28, 1.60 m
Survey abandoned, S/A - OPEN PIPE - SOIL VENT PIPE NOT CONNECTED UP

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Section Inspection - 14/07/2024 - GULLYX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
13	1	14/07/24	10:37	JSD7518	No Rain Or Snow	No	GULLYX

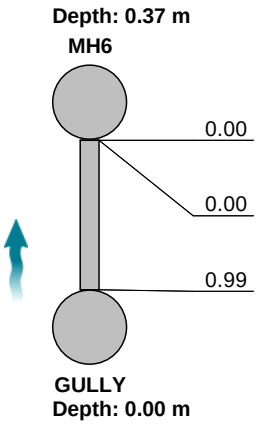
Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	GULLY
Road:	Copthorne Bank	**Inspected Length:**	0.99 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	0.99 m	**Downstream Node:**	MH6
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.370 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 6 (MH6)	00:00:22	GULLYX_3ca80480-fda7-476d-	
0.00	WL	Water level, 0% of the vertical dimension	00:00:22	GULLYX_b46c2eaf-a3f2-43f6-	
0.99	GYF	Finish node, gully, reference: GULLY	00:00:39	GULLYX_6d63e6bc-a192-46ee	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
13	Upstream	GULLYX	JSD7518	JSD7518

GULLYX_3ca80480-fda7-476d-bdd4-121782959120_20240725_095710_019.jpg, 00:00:22, 0.00 m
Start node, manhole, reference: MANHOLE 6 (MH6)

GULLYX_b46c2eaf-a3f2-43f6-8702-b889b9e7cbee_20240725_095719_471.jpg, 00:00:22, 0.00 m
Water level, 0% of the vertical dimension

GULLYX_6d63e6bc-a192-46ee-bb28-5b54a1a3e0d8_20240725_095748_794.jpg, 00:00:39, 0.99 m
Finish node, gully, reference: GULLY

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Section Inspection - 14/07/2024 - GULLYX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
14	1	14/07/24	10:37	JSD7518	No Rain Or Snow	No	GULLYX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

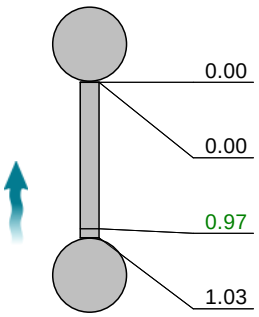
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	GULLY
Road:	Copthorne Bank	**Inspected Length:**	1.03 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	1.03 m	**Downstream Node:**	MH6
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.370 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.37 m
MH6



GULLY
Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 6 (MH6)	00:00:12	GULLYX_4ba6a257-bb96-4b74	
0.00	WL	Water level, 0% of the vertical dimension	00:00:12	GULLYX_94a6fb12-c47d-431c	
0.97	CLJ	Crack, longitudinal at joint at 2 o'clock	00:00:24	GULLYX_36dc49d5-3dc1-4da4	2
1.03	GYF	Finish node, gully, reference: GULLY	00:00:28	GULLYX_c67647b2-92e2-40c2	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
1	10.0	9.7	10.0	2.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
14	Upstream	GULLYX	JSD7518	JSD7518

GULLYX_4ba6a257-bb96-4b74-8e54-361352db541e_20240725_095949_671.jpg, 00:00:12, 0.00 m
Start node, manhole, reference: MANHOLE 6 (MH6)

GULLYX_94a6fb12-c47d-431c-aea1-e051d22a5117_20240725_095957_784.jpg, 00:00:12, 0.00 m
Water level, 0% of the vertical dimension

GULLYX_36dc49d5-3dc1-4da4-862e-24eaa0b586df_20240725_100014_047.jpg, 00:00:24, 0.97 m
Crack, longitudinal at joint at 2 o'clock

GULLYX_c67647b2-92e2-40c2-a9d7-fb213594d517_20240725_100025_314.jpg, 00:00:28, 1.03 m
Finish node, gully, reference: GULLY

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Section Inspection - 14/07/2024 - BASINX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
15	1	14/07/24	10:37	JSD7518	No Rain Or Snow	No	BASINX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

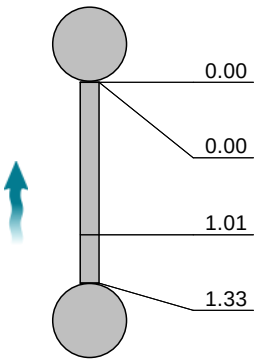
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	BASIN
Road:	Copthorne Bank	**Inspected Length:**	1.33 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	1.33 m	**Downstream Node:**	MH6
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.370 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.37 m
MH6



BASIN
Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 6 (MH6)	00:00:16	BASINX_06fc371f-58ec-4fc7-ae	
0.00	WL	Water level, 0% of the vertical dimension	00:00:17	BASINX_b5442afa-9474-4cc7-	
1.01	LU	Line deviates up: REST BEND	00:00:28	BASINX_40e5934f-6751-4c2f-8	
1.33	BRF	Finish node, major connection without manhole, reference: REDUCER/ WASTE PIPE - BASIN	00:00:40	BASINX_9248be23-d4a8-4061-	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - BASINX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
15	Upstream	BASINX	JSD7518	JSD7518

BASINX_06fc371f-58ec-4fc7-ae67-9aa21aea31b2_20240725_100939_050.jpg, 00:00:16, 0.00 m
Start node, manhole, reference: MANHOLE 6 (MH6)

BASINX_b5442afa-9474-4cc7-a6b7-a40489fc90f7_20240725_100946_511.jpg, 00:00:17, 0.00 m
Water level, 0% of the vertical dimension

BASINX_40e5934f-6751-4c2f-8103-7d817af70ed0_20240725_101004_289.jpg, 00:00:28, 1.01 m
Line deviates up, REST BEND

BASINX_9248be23-d4a8-4061-a653-8e507cdcbe7b_20240725_101033_921.jpg, 00:00:40, 1.33 m
Finish node, major connection without manhole, reference: REDUCER/ WASTE PIPE - BASIN

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Section Inspection - 14/07/2024 - GULLYX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
16	1	14/07/24	10:37	JSD7518	No Rain Or Snow	No	GULLYX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

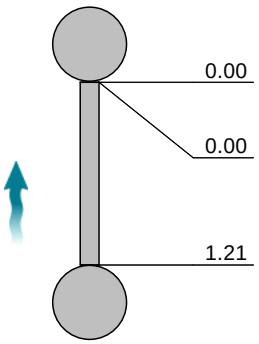
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	GULLY
Road:	Copthorne Bank	**Inspected Length:**	1.21 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	1.21 m	**Downstream Node:**	MH6
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.370 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: **1:50**

Depth: 0.37 m
MH6



GULLY
Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 6 (MH6)	00:00:17	GULLYX_d2c349c2-d30e-442d	
0.00	WL	Water level, 0% of the vertical dimension	00:00:17	GULLYX_4edcba58-4532-41ba	
1.21	GYF	Finish node, gully, reference: GULLY	00:00:31	GULLYX_0146e961-7b26-494e	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
16	Upstream	GULLYX	JSD7518	JSD7518

GULLYX_d2c349c2-d30e-442d-af5f-1d65018bdba0_20240725_101122_416.jpg, 00:00:17, 0.00 m
Start node, manhole, reference: MANHOLE 6 (MH6)

GULLYX_4edcba58-4532-41ba-84a5-e89377a1176d_20240725_101128_712.jpg, 00:00:17, 0.00 m
Water level, 0% of the vertical dimension

GULLYX_0146e961-7b26-494e-83c0-d047bf27c81e_20240725_101142_978.jpg, 00:00:31, 1.21 m
Finish node, gully, reference: GULLY

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Section Inspection - 14/07/2024 - GULLYX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
17	1	14/07/24	10:37	JSD7518	No Rain Or Snow	No	GULLYX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

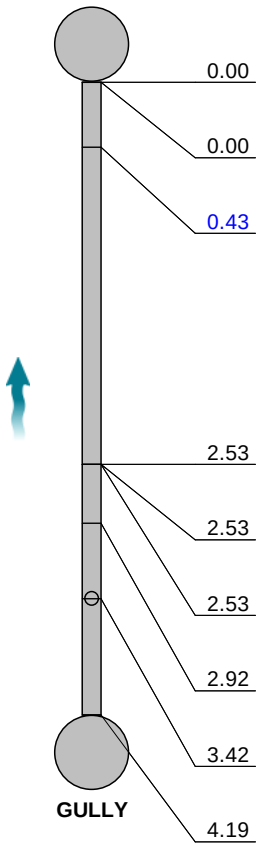
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	GULLY
Road:	Copthorne Bank	**Inspected Length:**	4.19 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	4.19 m	**Downstream Node:**	MH6
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.370 m

Use:	Foul	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 0.37 m
MH6



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	MH	Start node, manhole, reference: MANHOLE 6 (MH6)	00:00:30	GULLYX_f6cd9efa-6157-4a0b-	
0.00	WL	Water level, 0% of the vertical dimension	00:00:30	GULLYX_cf37c378-d01c-4b94	
0.43	FC	Fracture, circumferential from 10 o'clock to 3 o'clock	00:00:39	GULLYX_2b29d929-3dfa-4401-	3
2.53	JDM	Joint displaced, medium	00:01:00	GULLYX_a0d2ed5e-7b7e-4ae5	1
2.53	MCPVC	Material changes to polyvinyl chloride	00:01:00	GULLYX_28ba29e2-e34d-48d9	
2.53	SC	Size changes, new size(s), 110mm high	00:01:00	GULLYX_ae4d2037-60f9-42b2-	
2.92	LL	Line deviates left	00:01:09	GULLYX_0fb9ef59-34cb-4c01-	
3.42	JN	Junction at 12 o'clock, diameter: 110mm: W/C	00:01:16	GULLYX_299e09be-81f4-44b5-	
4.19	GYF	Finish node, gully, reference: GULLY	00:02:49	GULLYX_3f037892-fcfe-4d39-a	

Depth: 0.00 m

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
2	40.0	9.8	41.0	3.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
17	Upstream	GULLYX	JSD7518	JSD7518

GULLYX_f6cd9efa-6157-4a0b-8db5-4b277d0362a3_20240725_101255_468.jpg, 00:00:30, 0.00 m
Start node, manhole, reference: MANHOLE 6 (MH6)

GULLYX_cf37c378-d01c-4b94-8619-aecae9d0c76e_20240725_101301_448.jpg, 00:00:30, 0.00 m
Water level, 0% of the vertical dimension

GULLYX_2b29d929-3dfa-4401-bebe-b29732e2f259_20240725_101316_226.jpg, 00:00:39, 0.43 m
Fracture, circumferential from 10 o'clock to 3 o'clock

GULLYX_a0d2ed5e-7b7e-4ae5-a077-94c7952a4929_20240725_101329_585.jpg, 00:01:00, 2.53 m
Joint displaced, medium

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Section Pictures - 14/07/2024 - GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
17	Upstream	GULLYX	JSD7518	JSD7518

GULLYX_28ba29e2-e34d-48d9-9e89-110dddac1be6_20240725_101336_880.jpg, 00:01:00, 2.53 m
Material changes to polyvinyl chloride

GULLYX_ae4d2037-60f9-42b2-acb6-9ea13a7fabb5_20240725_101346_335.jpg, 00:01:00, 2.53 m
Size changes, new size(s), 110mm high

GULLYX_0fb9ef59-34cb-4c01-8650-9407a85952f5_20240725_101359_633.jpg, 00:01:09, 2.92 m
Line deviates left

GULLYX_299e09be-81f4-44b5-a1cc-c1a653637af6_20240725_101416_847.jpg, 00:01:16, 3.42 m
Junction at 12 o'clock, diameter: 110mm, W/C

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Section Pictures - 14/07/2024 - GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
17	Upstream	GULLYX	JSD7518	JSD7518

GULLYX_3f037892-fcfe-4d39-acea-14b3e8eb825e_20240725_101441_137.jpg, 00:02:49, 4.19 m
Finish node, gully, reference: GULLY

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Section Inspection - 14/07/2024 - RWDPX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
18	1	14/07/24	10:38	JSD7518	No Rain Or Snow	No	RWDPX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

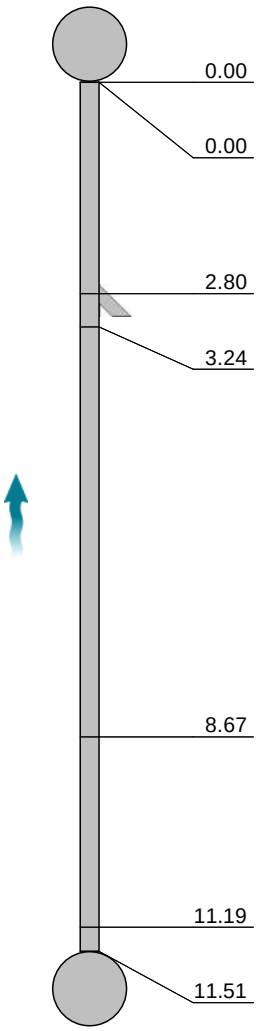
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	RWDP
Road:	Copthorne Bank	**Inspected Length:**	11.51 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	11.51 m	**Downstream Node:**	MH7 (CP)
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	0.520 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	110 mm
Flow Control:	No flow control	**Pipe Material:**	Polyvinyl chloride
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:100

Depth: 0.52 m
MH7 (CP)



RWDP
Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	CP	Start node, catchpit, reference: MANHOLE 7 (MH7) - CATCHPIT (CP): (HIGH LEVEL PIPE - INVERT - 0.52M)	00:00:33	RWDPX_21485e2f-4097-497f-8	
0.00	WL	Water level, 0% of the vertical dimension	00:00:33	RWDPX_89c9a47e-f38b-4e45-	
2.80	JN	Junction at 9 o'clock, diameter: 110mm: RAINWATER DOWNPIPE (RWDP)	00:00:51	RWDPX_77261d0d-3cf9-4a7a-b	
3.24	LR	Line deviates right	00:00:58	RWDPX_b04b44a7-7c3f-4146-a	
8.67	LL	Line deviates left	00:01:16	RWDPX_9497cd0e-eee7-4c16-	
11.19	LU	Line deviates up: REST BEND	00:01:49	RWDPX_86dc6ebb-da85-45a0-	
11.51	BRF	Finish node, major connection without manhole, reference: RAINWATER DOWNPIPE (RWDP)	00:02:06	RWDPX_f74d9b74-efa2-4767-b	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - RWDPX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
18	Upstream	RWDPX	JSD7518	JSD7518

RWDPX_21485e2f-4097-497f-806e-9df9c5496cab_20240725_101604_864.jpg, 00:00:33, 0.00 m
Start node, catchpit, reference: MANHOLE 7 (MH7) - CATCHPIT (CP), (HIGH LEVEL PIPE - INVERT - 0.52M)

RWDPX_89c9a47e-f38b-4e45-82cf-ce0769a25807_20240725_101610_577.jpg, 00:00:33, 0.00 m
Water level, 0% of the vertical dimension

RWDPX_77261d0d-3cf9-4a7a-b815-6f3534f8d7cb_20240725_101701_695.jpg, 00:00:51, 2.80 m
Junction at 9 o'clock, diameter: 110mm, RAINWATER DOWNPIPE (RWDP)

RWDPX_b04b44a7-7c3f-4146-a3f3-0906ec81aae0_20240725_101714_425.jpg, 00:00:58, 3.24 m
Line deviates right

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Section Pictures - 14/07/2024 - RWDPX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
18	Upstream	RWDPX	JSD7518	JSD7518

RWDPX_9497cd0e-eee7-4c16-afb8-0b0c38f1904e_20240725_101729_175.jpg, 00:01:16, 8.67 m
Line deviates left

RWDPX_86dc6ebb-da85-45a0-a40c-1b8118d31bb7_20240725_101744_768.jpg, 00:01:49, 11.19 m
Line deviates up, REST BEND

RWDPX_f74d9b74-efa2-4767-b22b-1b8d34b363b9_20240725_101807_038.jpg, 00:02:06, 11.51 m
Finish node, major connection without manhole, reference: RAINWATER DOWNPIPE (RWDP)

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Section Inspection - 14/07/2024 - S. GULLYX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
19	1	14/07/24	10:38	JSD7518	No Rain Or Snow	No	S. GULLYX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

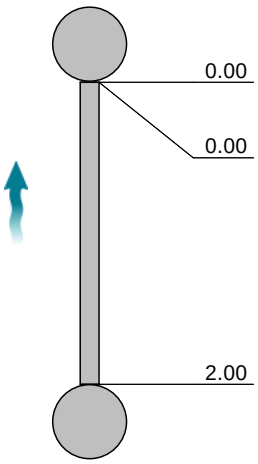
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	S. GULLY
Road:	Copthorne Bank	**Inspected Length:**	2.00 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	2.00 m	**Downstream Node:**	MH7 (CP)
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	1.300 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	150 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 1.30 m
MH7 (CP)



S. GULLY
Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	CP	Start node, catchpit, reference: MANHOLE 7 (MH7) - CATCHPIT (CP): (HIGH LEVEL PIPE - INVERT - 1.05M)	00:00:18	S. GULLYX_ 1936f2bd-f	
0.00	WL	Water level, 0% of the vertical dimension	00:00:18	S. GULLYX_f 522f8fa-6b	
2.00	GYF	Finish node, gully, reference: STORM DRAIN GULLY: (CAR PARK)	00:00:50	S. GULLYX_ 93bfaba3-	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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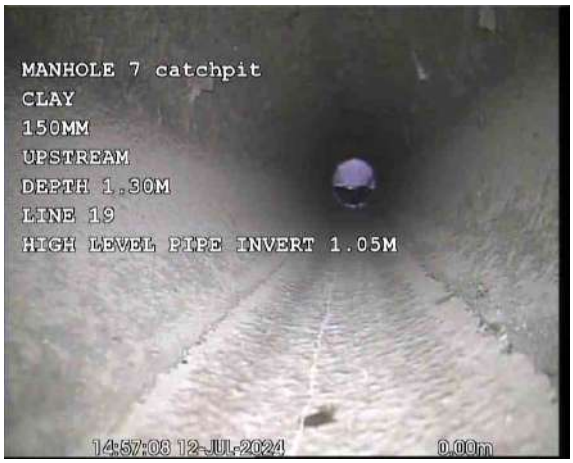
Section Pictures - 14/07/2024 - S. GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
19	Upstream	S. GULLYX	JSD7518	JSD7518



S. GULLYX_1936f2bd-fadb-4ee4-970e-625fa54c3882_20240725_101907_238.jpg, 00:00:18, 0.00 m
Start node, catchpit, reference: MANHOLE 7 (MH7) - CATCHPIT (CP), (HIGH LEVEL PIPE - INVERT - 1.05M)

S. GULLYX_f522f8fa-6ba8-4e1c-9885-92deb8a6fca7_20240725_101928_567.jpg, 00:00:18, 0.00 m
Water level, 0% of the vertical dimension

S. GULLYX_93bfaba3-13dc-422c-8380-7c0a4b47328c_20240725_101952_581.jpg, 00:00:50, 2.00 m
Finish node, gully, reference: STORM DRAIN GULLY, (CAR PARK)

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Section Inspection - 14/07/2024 - MANHOLEX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
20	1	14/07/24	10:38	JSD7518	No Rain Or Snow	No	MANHOLEX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

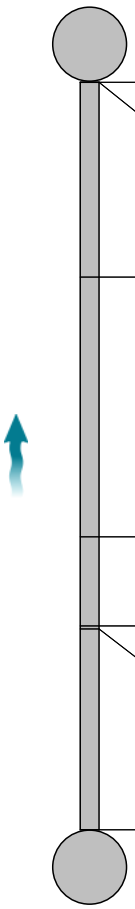
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	MANHOLE
Road:	Copthorne Bank	**Inspected Length:**	4.95 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	4.95 m	**Downstream Node:**	MH7 (CP)
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	1.300 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	100 mm
Flow Control:	No flow control	**Pipe Material:**	Cast iron
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 1.30 m
MH7 (CP)



Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	CP	Start node, catchpit, reference: MANHOLE 7 (MH7) - CATCHPIT (CP): (HIGH LEVEL PIPE - INVERT - 0.50M)	00:00:25	MANHOLEX_092f6c46-9f5c-424	
0.00	WL	Water level, 0% of the vertical dimension	00:00:25	MANHOLEX_057cd0e1-2aeb-4f	
1.29	DES	Settled deposits, fine, 10% cross-sectional area loss	00:00:38	MANHOLEX_eaa616f7-975f-4e9	3
3.01	DES	Settled deposits, fine, 5% cross-sectional area loss	00:00:51	MANHOLEX_9f739453-0b6d-4c	2
3.60	DES	Settled deposits, fine, 10% cross-sectional area loss	00:00:58	MANHOLEX_3776ed84-49e6-4	3
3.62	REM	General remark: **BOUNDARY POINT**	00:01:02	MANHOLEX_d574a494-dbda-4	
4.95	MHF	Finish node, manhole, reference: ENTERS MANHOLE ON THE PAVEMENT AREA	00:01:32	MANHOLEX_fcf897e3-6b5d-44	

MANHOLE
Depth: 0.00 m

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	3	2.0	1.0	5.0	3.0

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Section Pictures - 14/07/2024 - MANHOLEX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
20	Upstream	MANHOLEX	JSD7518	JSD7518

MANHOLEX_092f6c46-9f5c-4244-a0a7-58e180fb86e7_20240725_102110_815.jpg, 00:00:25, 0.00 m
Start node, catchpit, reference: MANHOLE 7 (MH7) - CATCHPIT (CP), (HIGH LEVEL PIPE - INVERT - 0.50M)

MANHOLEX_057cd0e1-2aeb-4f6e-ab3b-a7fcd1b02335_20240725_102146_679.jpg, 00:00:25, 0.00 m
Water level, 0% of the vertical dimension

MANHOLEX_eaa616f7-975f-4e97-ac3b-557e21e09b41_20240725_102200_152.jpg, 00:00:38, 1.29 m
Settled deposits, fine, 10% cross-sectional area loss

MANHOLEX_9f739453-0b6d-4c3b-aa2f-970cef82bb99_20240725_102213_871.jpg, 00:00:51, 3.01 m
Settled deposits, fine, 5% cross-sectional area loss

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Section Pictures - 14/07/2024 - MANHOLEX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
20	Upstream	MANHOLEX	JSD7518	JSD7518

MANHOLEX_3776ed84-49e6-4422-b862-3e0982192f67_20240725_102228_650.jpg, 00:00:58, 3.60 m
Settled deposits, fine, 10% cross-sectional area loss

MANHOLEX_d574a494-dbda-46c8-9c0c-5e761cd3587d_20240725_102253_591.jpg, 00:01:02, 3.62 m
General remark, **BOUNDARY POINT**

MANHOLEX_fcf897e3-6b5d-4475-8745-3d5110d5f99c_20240725_102321_800.jpg, 00:01:32, 4.95 m
Finish node, manhole, reference: ENTERS MANHOLE ON THE PAVEMENT AREA

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Section Inspection - 14/07/2024 - S. GULLYX

Item No.	Insp. No.	Date	Time	Client`s Job Ref	Weather	Pre Cleaned	PLR
21	1	14/07/24	10:38	JSD7518	No Rain Or Snow	No	S. GULLYX

Operator	Vehicle	Camera	Preset Length	Legal Status	Alternative ID
Darren	LX16 YYL	Push Rod	Not Specified	Private Drain	Not Specified

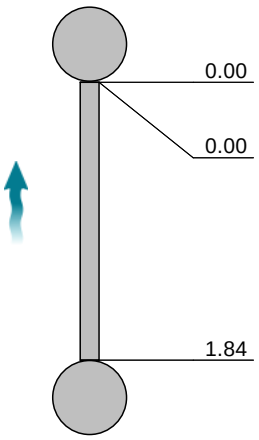
Town or Village:	Copthorne	**Inspection Direction:**	Upstream	**Upstream Node:**	S. GULLY
Road:	Copthorne Bank	**Inspected Length:**	1.84 m	**Upstream Pipe Depth:**	0.000 m
Location:	Property with buildings	**Total Length:**	1.84 m	**Downstream Node:**	MH8 (CP)
Surface Type:		**Joint Length:**		**Downstream Pipe Depth:**	2.000 m

Use:	Surface water	**Pipe Shape:**	Circular
Type of Pipe:	Gravity drain/sewer	**Dia/Height:**	150 mm
Flow Control:	No flow control	**Pipe Material:**	Vitrified clay pipe (i.e. all clayware)
Year Constructed:	Not Specified	**Lining Type:**	No Lining
Inspection Purpose:	Routine inspection of condition	**Lining Material:**	No Lining

Comments:
Recommendations:

Scale: 1:50

Depth: 2.00 m
MH8 (CP)



S. GULLY
Depth: 0.00 m

Position [m]	Code	Observation	MPEG	Photo	Grade
0.00	CP	Start node, catchpit, reference: MANHOLE 8 (MH8) - CATCHPIT (CP): (HIGH LEVEL PIPE - INVERT - 1.10M)	00:01:01	S. GULLYX_ 3a0c83bd-	
0.00	WL	Water level, 0% of the vertical dimension	00:01:01	S. GULLYX_ 6f7a757b-	
1.84	GYF	Finish node, gully, reference: STORM DRAIN GULLY: (CAR PARK)	00:01:29	S. GULLYX_f 034c1d8-0	

STR No. Def	STR Peak	STR Mean	STR Total	STR Grade	SER No. Def	SER Peak	SER Mean	SER Total	SER Grade
0	0.0	0.0	0.0	1.0	0	0.0	0.0	0.0	1.0

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Section Pictures - 14/07/2024 - S. GULLYX

Item No.	Inspection Direction	PLR	Client`s Job Ref	Contractor`s Job Ref
21	Upstream	S. GULLYX	JSD7518	JSD7518

S. GULLYX_3a0c83bd-35f0-40f8-a549-da594daf344d_20240725_102511_498.jpg, 00:01:01, 0.00 m
Start node, catchpit, reference: MANHOLE 8 (MH8) - CATCHPIT (CP), (HIGH LEVEL PIPE - INVERT - 1.10M)

S. GULLYX_6f7a757b-2003-4cb7-bbfd-ce81999d6647_20240725_102518_056.jpg, 00:01:01, 0.00 m
Water level, 0% of the vertical dimension

S. GULLYX_f034c1d8-0777-4aa3-8500-2217c705d67b_20240725_102547_297.jpg, 00:01:29, 1.84 m
Finish node, gully, reference: STORM DRAIN GULLY, (CAR PARK)

7.4 Appendix D – Proposed Drainage Strategy Plans, Proposed Drainage Contributing Area Plan, Hydraulic calculations for infiltration and attenuation option

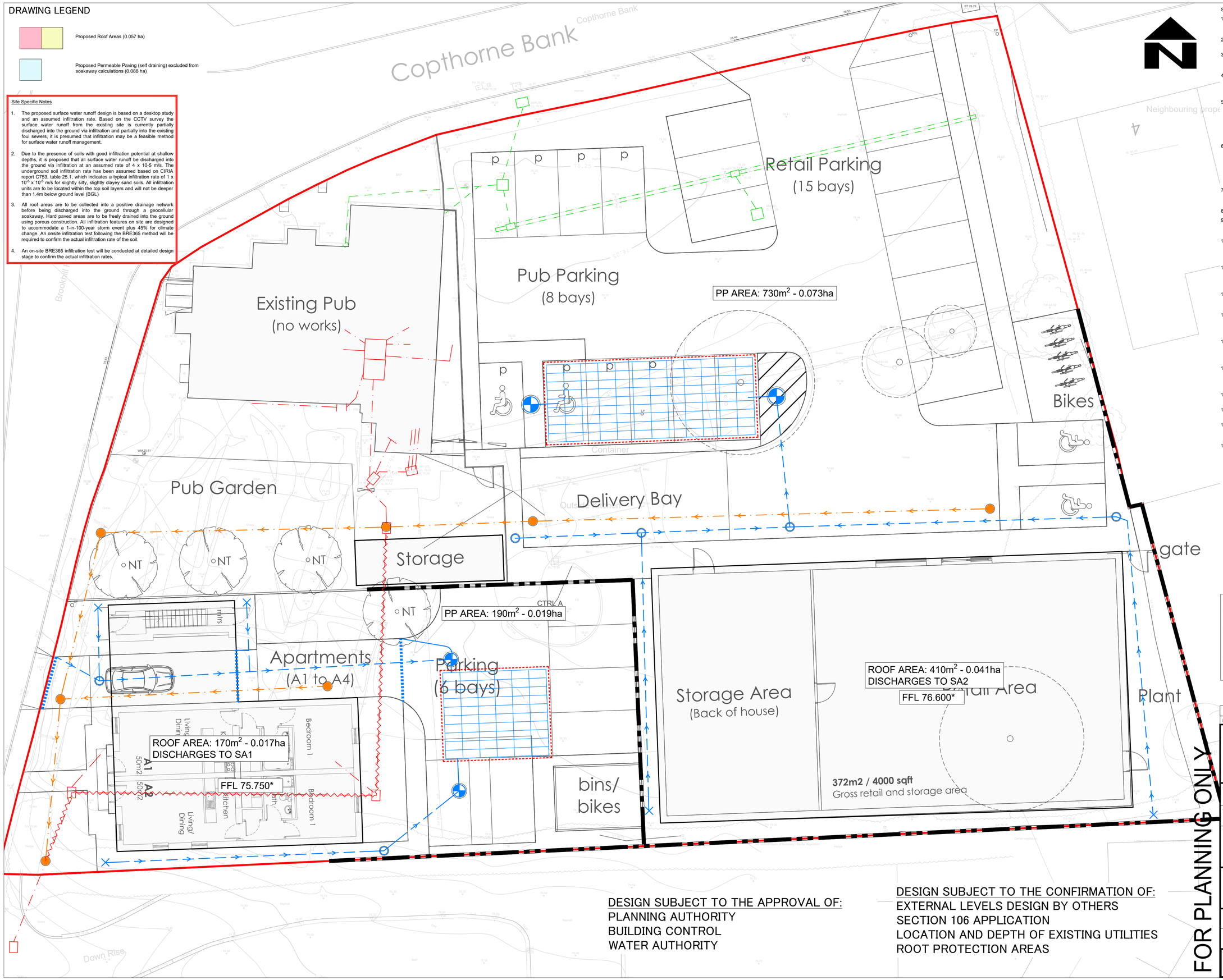
DRAWING LEGEND

Proposed Roof Areas (0.057 ha)

Proposed Permeable Paving (self draining) excluded from soakaway calculations (0.088 ha)

Site Specific Notes

1. The proposed surface water runoff design is based on a desktop study and an assumed infiltration rate. Based on the CCTV survey the surface water runoff from the existing site is currently partially discharged into the ground via infiltration and partially into the existing foul sewers, it is presumed that infiltration may be a feasible method for surface water runoff management.
2. Due to the presence of soils with good infiltration potential at shallow depths, it is proposed that all surface water runoff be discharged into the ground via infiltration at an assumed rate of 4 x 10-5 m/s. The underground soil infiltration rate has been assumed based on CIRIA report C753, table 25.1, which indicates a typical infiltration rate of 1 x 10^{-5} x 10^{-6} m/s for slightly silty, slightly clayey sand soils. All infiltration units are to be located within the top soil layers and will not be deeper than 1.4m below ground level (BGL)
3. All roof areas are to be collected into a positive drainage network before being discharged into the ground through a geocellular soakaway. Hard paved areas are to be freely drained into the ground using porous construction. All infiltration features on site are designed to accommodate a 1-in-100-year storm event plus 45% for climate change. An onsite infiltration test following the BRE365 method will be required to confirm the actual infiltration rate of the soil.
4. An on-site BRE365 infiltration test will be conducted at detailed design stage to confirm the actual infiltration rates.



DESIGN SUBJECT TO THE APPROVAL OF:
PLANNING AUTHORITY
BUILDING CONTROL
WATER AUTHORITY

DESIGN SUBJECT TO THE CONFIRMATION OF:
EXTERNAL LEVELS DESIGN BY OTHERS
SECTION 106 APPLICATION
LOCATION AND DEPTH OF EXISTING UTILITIES
ROOT PROTECTION AREAS

FOR PLANNING ONLY

STANDARD DRAINAGE NOTES

1. DO NOT SCALE FROM THIS DRAWING, REFER TO FIGURED DIMENSIONS ONLY. THE CONTRACTOR SHOULD CHECK ALL DIMENSIONS ON SITE.
2. ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
3. THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT ARCHITECT AND ENGINEERING DETAILS, DRAWINGS AND SPECIFICATIONS.
4. ANY DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT AND/OR ENGINEER IMMEDIATELY, SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO THE COMMENCEMENT OF WORK.
5. BEFORE COMMENCING CONSTRUCTION THE CONTRACTOR MUST CHECK THE INVERT LEVELS OF EXISTING SEWERS TO WHICH CONNECTIONS ARE MADE. IN ADDITION THE CONTRACTOR MUST LOCATE AND DETERMINE INVERT LEVELS OF THE EXISTING SPURS TO WHICH CONNECTIONS ARE PROPOSED. ANY DISCREPANCIES ARE TO BE NOTIFIED TO THE ENGINEER IMMEDIATELY, PRIOR TO CONSTRUCTION.
6. ALL DRAINAGE WORKS SHOULD COMMENCE AT THE PROPOSED DOWNSTREAM CONNECTION POINT, THE WORKS CONTINUING UPSTREAM FOLLOWING CONFIRMATION OF THE TIE-IN INVERT LEVELS TO THE ENGINEER. CONNECTIONS TO MANHOLES OR LARGER SIZED PIPES ETC. SHOULD BE SOFFIT TO SOFFIT UNLESS OTHERWISE INSTRUCTED BY THE ENGINEER, IF THIS IS NOT POSSIBLE INFORM THE ENGINEER IMMEDIATELY.
7. COVER LEVELS SHOWN ARE APPROXIMATE. COVERS AND FRAMES SHALL BE SET TO FINISHED GROUND LEVELS AND FALLS.
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9. ALL PIPES TO BE ADOPTED, OR CONNECTING TO ADOPTED SEWERS, TO BE VITRIFIED CLAY TO BS EN 295 AND BS65 (SWS ONLY), OR CONCRETE PIPES TO BE EN 1916 AND BS5911:PART 1.
10. ROAD GULLY OUTLET PIPES ARE TO BE 150mm DIA. WITH CONCRETE SURROUND AND FLEXIBLE JOINTS. ALL GULLIES SHALL BE FITTED WITH GRADE D400 GRATINGS AND FRAMES TO BS EN124, UNLESS OTHERWISE STATED.
11. ALL ADOPTABLE SEWERS SHALL BE CONSTRUCTED TO THE STANDARDS AND SPECIFICATION LAID DOWN DOWN IN 'SEWERS FOR ADOPTION' 6th EDITION, WITH A VIEW TO ADOPTION UPON COMPLETION OF WORKS.
12. ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH THE BUILDING REGULATIONS APPROVED DOCUMENT PART-H, AND TO THE SATISFACTION OF THE BUILDING CONTROL INSPECTOR.
13. THE CONTRACTOR IS TO KEEP A RECORD OF ANY VARIATIONS MADE ON SITE, INCLUDING THE RELOCATION OF SEWERS OR DRAINS, SO THAT AN AS CONSTRUCTED DRAWING CAN BE PREPARED UPON COMPLETION OF THE PROJECT.
14. STUB CONNECTIONS TO ADOPTABLE MANHOLES SHALL BE MADE FROM VITRIFIED CLAY AND CONSIST OF TWO ROCKER PIPES LAID AT THE SAME GRADIENT AS THE UP OR DOWNSTREAM PIPE.
15. IF ANY SUB SOIL DRAINAGE SYSTEMS ARE UNCOVERED DURING THE WORKS CONTACT THE ENGINEER FOR INSTRUCTIONS. SUB SOIL DRAINS ARE TO BE DIVERTED AROUND NEW WORKS AND CONNECTED INTO THE SURFACE WATER.
16. NO PRIVATE AREAS ARE TO DRAIN ONTO ADOPTABLE AREAS AND VICE VERSA.
17. ALL EXISTING MANHOLE COVER'S, GULLIES, ETC, ARE TO BE RAISED/LOWERED TO SUIT NEW LEVELS.
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- 'A15' IN ALL LANDSCAPED AREAS AND ON FOOTPATHS
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- 'C250' IN PRIVATE PARKING AREAS
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REV	DATE	DESCRIPTION	BY	CHK	APP
P-	14.10.24	PRELIMINARY ISSUE	TZ	CS	CS

cgs civils
Consulting Civil Engineers

CLIENT: WESTCOAST DEVELOPMENTS

ARCHITECT: UAN ARCHITECTURE

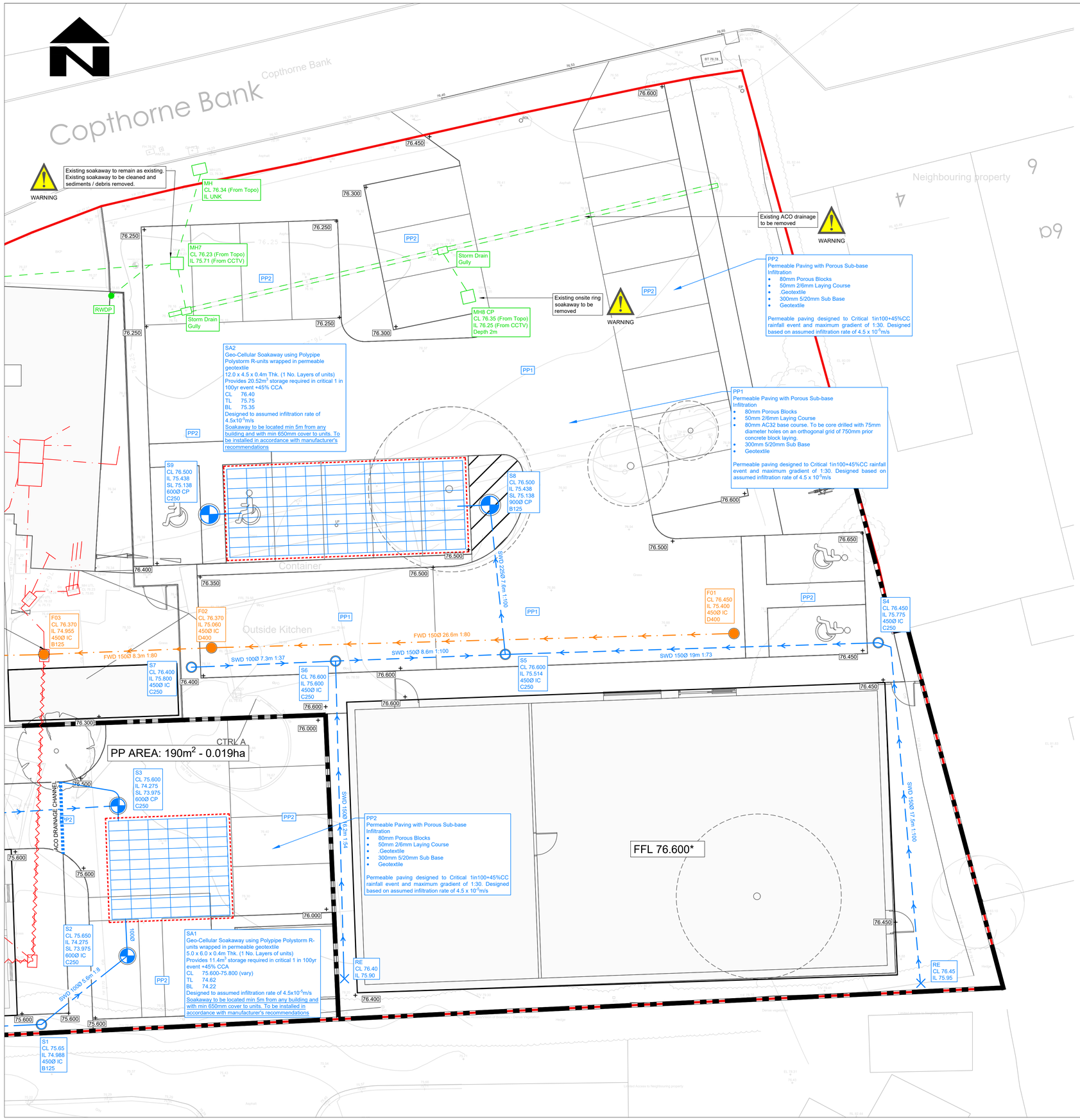
JOB TITLE: PRINCE ALBERT, COPTHORNE BANK COPTHORNE, CRAWLEY, RH10 3QX

DRAWING TITLE: PROPOSED DRAINAGE CONTRIBUTING AREA PLAN

DRAWN	ENGINEER	CHECKED	APPROVED
TZ	TZ	CS	CS

DATE	SCALE @ A1
SEPT 2024	1:100

JOB No.	STATUS	DRAWING No.	REV.
C3261	P	101	P-



DRAINAGE LEGEND

EXISTING FEATURES

Ex FWD	Existing foul water sewer/drain and manhole
Ex SWD	Existing surface water sewer/drain and manhole
	Existing foul/surface water sewer/drain and manhole to be abandoned

PROPOSED FEATURES

FWD	Foul Drainage
	Foul Rising Main
SWD	Surface Water Drainage
CD	Channel drain
	Storm water inspection chamber (450Ø)
	Storm water catchpit chamber (450Ø)
	Storm water rodding eye
	Extent of permeable paving with porous sub-base
	Foul water inspection chamber (450Ø)
	Masonry retaining wall (shown indicatively only)
18.250 +	Proposed surface level (shown indicatively only) Final design to be confirmed at detail design stage
00.000	Finished floor level (assumed - shown indicatively only)
100Ø 4.5m 1:100 Z BED	Pipe info - diameter, length, gradient, bedding type

ABBREVIATIONS

MH - MANHOLE
IC - INSPECTION CHAMBER
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DESIGN SUBJECT TO THE APPROVAL OF:
PLANNING AUTHORITY
BUILDING CONTROL
WATER AUTHORITY

DESIGN SUBJECT TO THE CONFIRMATION OF:
EXTERNAL LEVELS DESIGN BY OTHERS
SECTION 106 APPLICATION
LOCATION AND DEPTH OF EXISTING UTILITIES
ROOT PROTECTION AREAS

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Site Specific Notes

1. The proposed surface water runoff design is based on a desktop study and an assumed infiltration rate. Based on the CCTV survey the surface water runoff from the existing site is currently partially discharged into the ground via infiltration and partially into the existing foul sewers, it is presumed that infiltration may be a feasible method for surface water runoff management.
2. Due to the presence of soils with good infiltration potential at shallow depths, it is proposed that all surface water runoff be discharged into the ground via infiltration at an assumed rate of 4 x 10-5 m/s. The underground soil infiltration rate has been assumed based on CIRIA report C753, table 25.1, which indicates a typical infiltration rate of 1 x 10^{-5} x 10^{-5} m/s for slightly silty, slightly clayey sand soils. All infiltration units are to be located within the top soil layers and will not be deeper than 1.4m below ground level (BGL).
3. All roof areas are to be collected into a positive drainage network before being discharged into the ground through a geocellular soakaway. Hard paved areas are to be freely drained into the ground using porous construction. All infiltration features on site are designed to accommodate a 1-in-100-year storm event plus 45% for climate change. An onsite infiltration test following the BRE365 method will be required to confirm the actual infiltration rate of the soil.
4. An on-site BRE365 infiltration test will be conducted at detailed design stage to confirm the actual infiltration rates.

FOR PLANNING ONLY

REV	DATE	DESCRIPTION	BY	CHK	APP
P-	14.10.24	PRELIMINARY ISSUE	TZ	CS	CS

cgs civils
Consulting Civil Engineers

CLIENT
WESTCOAST DEVELOPMENTS

ARCHITECT
UAN ARCHITECTURE

JOB TITLE
PRINCE ALBERT, COPTHORNE BANK
COPTHORNE, CRAWLEY, RH10 3QX

DRAWING TITLE
PROPOSED SW & FW
DRAINAGE PLAN SHEET 1

DRAWN	ENGINEER	CHECKED	APPROVED
TZ	TZ	CS	CS

DATE	SCALE @ A1
SEPT 2024	1:100

JOB No.	STATUS	DRAWING No.	REV.
C3261	P	201	P-

DRAINAGE LEGEND

EXISTING FEATURES

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PROPOSED FEATURES

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DESIGN SUBJECT TO THE APPROVAL OF:

PLANNING AUTHORITY
BUILDING CONTROL
WATER AUTHORITY

DESIGN SUBJECT TO THE CONFIRMATION OF:

EXTERNAL LEVELS DESIGN BY OTHERS
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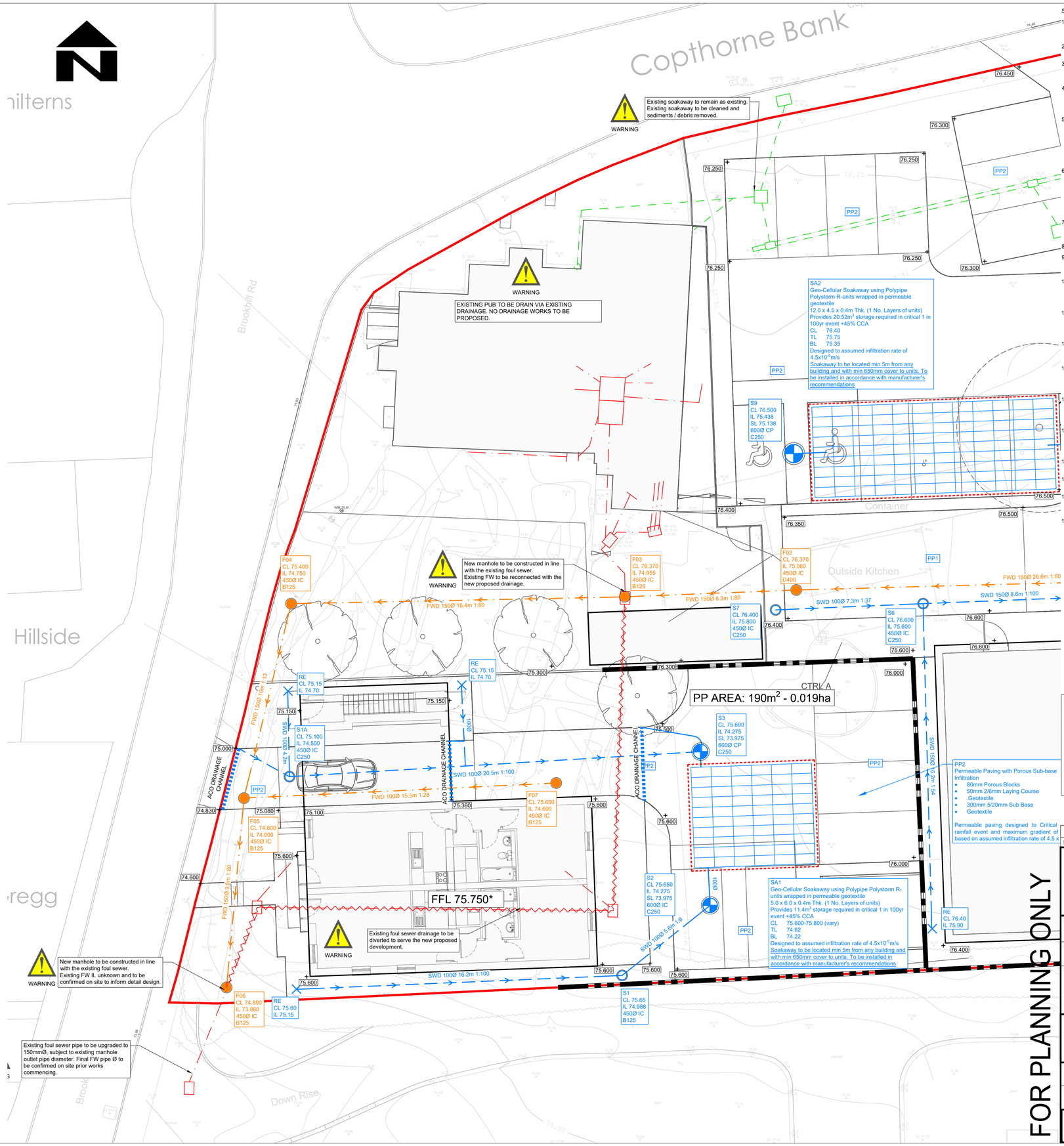

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P-	14.10.24	PRELIMINARY ISSUE	TZ	CS	CS

FOR PLANNING ONLY

cgs civils
Consulting Civil Engineers

CLIENT: WESTCOAST DEVELOPMENTS

ARCHITECT: UAN ARCHITECTURE

JOB TITLE: PRINCE ALBERT, COPTHORNE BANK COPTHORNE, CRAWLEY, RH10 3QX

DRAWING TITLE: PROPOSED SW & FW DRAINAGE PLAN SHEET 2

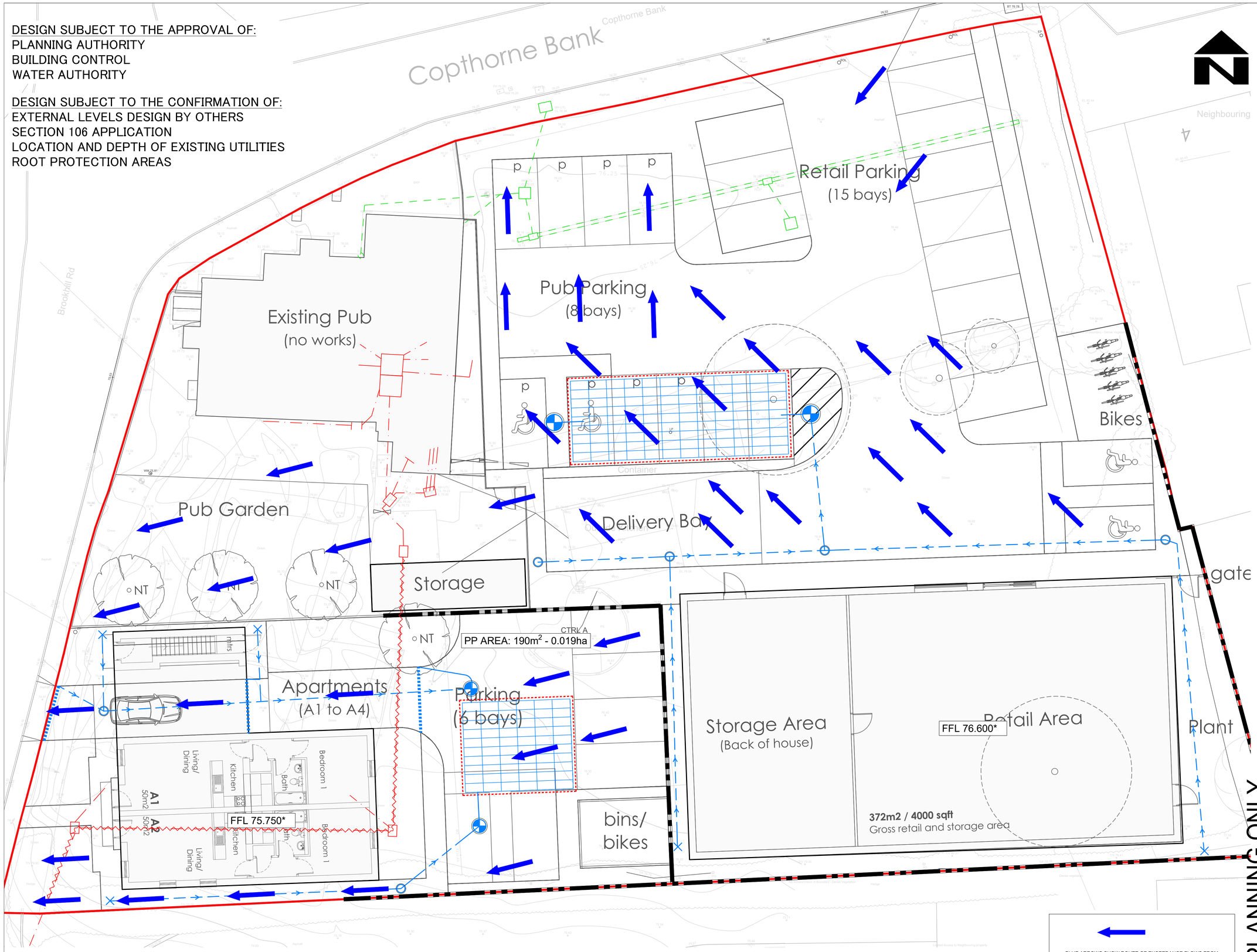
DRAWN	ENGINEER	CHECKED	APPROVED
TZ	TZ	CS	CS

DATE	SCALE @ A1
SEPT 2024	1:100

JOB No.	STATUS	DRAWING No.	REV.
C3261	P	202	P-

DESIGN SUBJECT TO THE APPROVAL OF:
PLANNING AUTHORITY
BUILDING CONTROL
WATER AUTHORITY

DESIGN SUBJECT TO THE CONFIRMATION OF:
EXTERNAL LEVELS DESIGN BY OTHERS
SECTION 106 APPLICATION
LOCATION AND DEPTH OF EXISTING UTILITIES
ROOT PROTECTION AREAS



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BLUE ARROWS SHOW ROUTE OF EXCEEDANCE FLOWS FROM PROJECTED POINTS OF EMERGENCE TOWARDS DIRECTION OF FALL.

ALL STRUCTURES DESIGNED TO ACCOMMODATE BELOW GROUND THE CRITICAL 1 IN 100 YEAR STORM EVENT PLUS 45%. EXCEEDANCE WOULD ONLY OCCUR IN STORMS OF GREATER INTENSITY THAN THIS.

FOR PLANNING ONLY

REV	DATE	DESCRIPTION	BY	CHK	APP
P-	14.10.24	PRELIMINARY ISSUE	TZ	CS	CS

cgs civils
Consulting Civil Engineers

CLIENT
WESTCOAST DEVELOPMENTS

ARCHITECT
UAN ARCHITECTURE

JOB TITLE
PRINCE ALBERT, COPTHORNE BANK
COPTHORNE, CRAWLEY, RH10 3QX

DRAWING TITLE
PROPOSED DRAINAGE
EXCEEDANCE FLOW PLAN

DRAWN	ENGINEER	CHECKED	APPROVED
TZ	TZ	CS	CS

DATE	SCALE @ A1
SEPT 2024	1:100

JOB No.	STATUS	DRAWING No.	REV.
C3261	P	301	P-

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	4.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.009	4.00	75.650	450	531296.748	139381.404	0.662
S2			75.700	600	531301.121	139384.887	1.425
S3	0.008	4.00	75.650	450	531302.378	139392.401	1.375
SA1	0.000		75.650	450	531302.491	139389.329	1.405
S4	0.020	4.00	76.450	450	531339.322	139400.828	0.675
S5	0.001	4.00	76.600	450	531320.350	139400.236	1.086
S6	0.020	4.00	76.600	450	531311.714	139399.895	1.000
S7		4.00	76.400	450	531304.381	139399.580	0.600
S8			76.500	900	531319.567	139407.840	1.062
SA2	0.000		76.400	450	531312.919	139407.906	1.050
1			75.650	150	531302.179	139389.351	1.395
Carpark 1	0.010		76.400		531306.910	139405.435	0.500

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
3.000	S1	S2	5.591	0.600	74.988	74.275	0.713	7.8	100	4.03	50.0
3.001	S2	1	1.900	0.600	74.275	74.255	0.020	95.0	100	4.07	50.0
4.000	S3	1	1.000	0.600	74.275	74.265	0.010	100.0	100	4.02	50.0
1.000	S4	S5	18.981	0.600	75.775	75.514	0.261	72.7	150	4.27	50.0
2.000	S7	S6	7.340	0.600	75.800	75.600	0.200	36.7	150	4.07	50.0
2.001	S6	S5	8.643	0.600	75.600	75.514	0.086	100.0	150	4.22	50.0
1.001	S5	S8	7.644	0.600	75.514	75.438	0.076	100.6	150	4.40	50.0
1.002	S8	SA2	1.000	0.600	75.438	75.350	0.088	11.4	150	4.40	50.0
3.002	1	SA1	1.000	0.600	74.255	74.245	0.010	100.0	100	4.10	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
3.000	2.778	21.8	1.6	0.562	1.325	0.009	0.0	18	1.618
3.001	0.789	6.2	1.6	1.325	1.295	0.009	0.0	35	0.662
4.000	0.769	6.0	1.4	1.275	1.285	0.008	0.0	33	0.629
1.000	1.180	20.9	3.6	0.525	0.936	0.020	0.0	42	0.890
2.000	1.667	29.4	0.0	0.450	0.850	0.000	0.0	0	0.000
2.001	1.005	17.8	3.6	0.850	0.936	0.020	0.0	46	0.791
1.001	1.002	17.7	7.4	0.936	0.912	0.041	0.0	68	0.958
1.002	3.005	53.1	7.4	0.912	0.900	0.041	0.0	38	2.127
3.002	0.769	6.0	3.1	1.295	1.305	0.017	0.0	50	0.771

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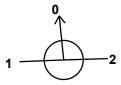
Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
3.000	5.591	7.8	100	Circular	75.650	74.988	0.562	75.700	74.275	1.325
3.001	1.900	95.0	100	Circular	75.700	74.275	1.325	75.650	74.255	1.295
4.000	1.000	100.0	100	Circular	75.650	74.275	1.275	75.650	74.265	1.285
1.000	18.981	72.7	150	Circular	76.450	75.775	0.525	76.600	75.514	0.936
2.000	7.340	36.7	150	Circular	76.400	75.800	0.450	76.600	75.600	0.850
2.001	8.643	100.0	150	Circular	76.600	75.600	0.850	76.600	75.514	0.936
1.001	7.644	100.6	150	Circular	76.600	75.514	0.936	76.500	75.438	0.912
1.002	1.000	11.4	150	Circular	76.500	75.438	0.912	76.400	75.350	0.900
3.002	1.000	100.0	100	Circular	75.650	74.255	1.295	75.650	74.245	1.305

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
3.000	S1	450	Manhole	Adoptable	S2	600	Manhole	Adoptable
3.001	S2	600	Manhole	Adoptable	1	150	Manhole	Adoptable
4.000	S3	450	Manhole	Adoptable	1	150	Manhole	Adoptable
1.000	S4	450	Manhole	Adoptable	S5	450	Manhole	Adoptable
2.000	S7	450	Manhole	Adoptable	S6	450	Manhole	Adoptable
2.001	S6	450	Manhole	Adoptable	S5	450	Manhole	Adoptable
1.001	S5	450	Manhole	Adoptable	S8	900	Manhole	Adoptable
1.002	S8	900	Manhole	Adoptable	SA2	450	Manhole	Adoptable
3.002	1	150	Manhole	Adoptable	SA1	450	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections		Link	IL (m)	Dia (mm)
S1	531296.748	139381.404	75.650	0.662	450		0	3.000	74.988	100
S2	531301.121	139384.887	75.700	1.425	600		1	3.000	74.275	100
							0	3.001	74.275	100
S3	531302.378	139392.401	75.650	1.375	450		0	4.000	74.275	100
SA1	531302.491	139389.329	75.650	1.405	450		1	3.002	74.245	100
S4	531339.322	139400.828	76.450	0.675	450		0	1.000	75.775	150
S5	531320.350	139400.236	76.600	1.086	450		1	2.001	75.514	150
							2	1.000	75.514	150
							0	1.001	75.514	150

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S6	531311.714	139399.895	76.600	1.000	450	1	2.000	75.600	150
						0	2.001	75.600	150
S7	531304.381	139399.580	76.400	0.600	450	0	2.000	75.800	150
S8	531319.567	139407.840	76.500	1.062	900	1	1.001	75.438	150
						0	1.002	75.438	150
SA2	531312.919	139407.906	76.400	1.050	450	1	1.002	75.350	150
1	531302.179	139389.351	75.650	1.395	150	1	4.000	74.265	100
						2	3.001	74.255	100
						0	3.002	74.255	100
Carpark 1	531306.910	139405.435	76.400	0.500					

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Additional Storage (m³/ha)	0.0
Summer CV	1.000	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
10	0	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	45	0	0

Node SA1 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.16200	Invert Level (m)	74.220	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.16200	Time to half empty (mins)	117	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	6.000	Number Required	1
Porosity	0.95	Pit Length (m)	3.000		

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Node SA2 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.16200	Invert Level (m)	75.350	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.16200	Time to half empty (mins)	125	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	12.000	Number Required	1
Porosity	0.95	Pit Length (m)	4.500		

Node Carpark 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.16200	Invert Level (m)	75.900	Slope (1:X)	30.0
Side Inf Coefficient (m/hr)	0.16200	Time to half empty (mins)	19	Depth (m)	0.300
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Approval Settings

Node Size	✓	Minimum Full Bore Velocity (m/s)	
Node Losses	✓	Maximum Full Bore Velocity (m/s)	3.000
Link Size	✓	Proportional Velocity	✓
Minimum Diameter (mm)	150	Return Period (years)	
Link Length	✓	Minimum Proportional Velocity (m/s)	0.750
Maximum Length (m)	100.000	Maximum Proportional Velocity (m/s)	3.000
Coordinates	✓	Surcharged Depth	✓
Accuracy (m)	1.000	Return Period (years)	
Crossings	✓	Maximum Surcharged Depth (m)	0.100
Cover Depth	✓	Flooding	✓
Minimum Cover Depth (m)		Return Period (years)	30
Maximum Cover Depth (m)	3.000	Time to Half Empty	x
Backdrops	✓	Discharge Rates	✓
Minimum Backdrop Height (m)		Discharge Volume	✓
Maximum Backdrop Height (m)	1.500	100 year 360 minute (m^3)	
Full Bore Velocity	✓		

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Results for 10 year Critical Storm Duration. Lowest mass balance: 99.64%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	75.016	0.028	3.6	0.0044	0.0000	OK
120 minute summer	S2	86	74.392	0.117	1.5	0.0330	0.0000	SURCHARGED
120 minute summer	S3	84	74.392	0.117	1.4	0.0185	0.0000	SURCHARGED
120 minute summer	SA1	86	74.391	0.146	2.5	2.9524	0.0000	OK
15 minute summer	S4	10	75.839	0.064	8.0	0.0102	0.0000	OK
15 minute summer	S5	10	75.636	0.122	16.4	0.0195	0.0000	OK
15 minute summer	S6	10	75.673	0.073	8.0	0.0116	0.0000	OK
15 minute summer	S7	1	75.800	0.000	0.0	0.0000	0.0000	OK
15 minute summer	S8	9	75.524	0.086	16.4	0.0546	0.0000	OK
120 minute summer	SA2	86	75.497	0.147	6.8	7.5430	0.0000	OK
120 minute summer	1	86	74.391	0.136	2.6	0.0025	0.0000	SURCHARGED
30 minute summer	Carpark 1	22	76.060	0.160	3.5	1.0451	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	S1	3.000	S2	3.6	1.204	0.165	0.0265
120 minute summer	S2	3.001	1	1.3	0.376	0.217	0.0149
120 minute summer	S3	4.000	1	1.3	0.408	0.214	0.0078
120 minute summer	SA1	Infiltration		0.5			
15 minute summer	S4	1.000	S5	8.0	0.710	0.384	0.2144
15 minute summer	S5	1.001	S8	16.4	1.257	0.926	0.0986
15 minute summer	S6	2.001	S5	8.0	0.668	0.451	0.1031
15 minute summer	S7	2.000	S6	0.0	0.000	0.000	0.0311
15 minute summer	S8	1.002	SA2	16.5	2.221	0.310	0.0088
120 minute summer	SA2	Infiltration		1.3			
120 minute summer	1	3.002	SA1	2.5	0.597	0.415	0.0078
30 minute summer	Carpark 1	Infiltration		1.1			

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Results for 30 year Critical Storm Duration. Lowest mass balance: 99.64%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	75.020	0.032	4.7	0.0050	0.0000	OK
60 minute summer	S2	58	74.453	0.178	3.1	0.0503	0.0000	SURCHARGED
60 minute summer	S3	60	74.454	0.179	2.7	0.0284	0.0000	SURCHARGED
60 minute summer	SA1	60	74.451	0.206	4.9	3.9893	0.0000	OK
15 minute summer	S4	10	75.850	0.075	10.5	0.0119	0.0000	OK
15 minute summer	S5	10	75.692	0.178	20.7	0.0283	0.0000	SURCHARGED
15 minute summer	S6	10	75.718	0.118	10.5	0.0187	0.0000	OK
15 minute summer	S7	1	75.800	0.000	0.0	0.0000	0.0000	OK
120 minute summer	S8	90	75.552	0.114	8.8	0.0727	0.0000	OK
120 minute summer	SA2	90	75.552	0.202	8.8	10.4100	0.0000	OK
60 minute summer	1	61	74.452	0.197	5.1	0.0035	0.0000	SURCHARGED
30 minute summer	Carpark 1	22	76.090	0.190	4.6	1.4823	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	S1	3.000	S2	4.7	1.194	0.215	0.0278
60 minute summer	S2	3.001	1	2.7	0.423	0.442	0.0149
60 minute summer	S3	4.000	1	2.4	0.426	0.404	0.0078
60 minute summer	SA1	Infiltration		0.5			
15 minute summer	S4	1.000	S5	10.5	0.747	0.503	0.2508
15 minute summer	S5	1.001	S8	20.1	1.239	1.137	0.1136
15 minute summer	S6	2.001	S5	9.9	0.688	0.559	0.1402
15 minute summer	S7	2.000	S6	0.0	0.000	0.000	0.0545
120 minute summer	S8	1.002	SA2	8.8	1.378	0.166	0.0160
120 minute summer	SA2	Infiltration		1.4			
60 minute summer	1	3.002	SA1	4.9	0.729	0.809	0.0078
30 minute summer	Carpark 1	Infiltration		1.4			

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 99.64%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	75.026	0.038	6.6	0.0060	0.0000	OK
120 minute winter	S2	114	74.576	0.301	1.8	0.0851	0.0000	SURCHARGED
120 minute winter	S3	114	74.576	0.301	1.6	0.0478	0.0000	SURCHARGED
120 minute winter	SA1	114	74.575	0.330	3.0	6.1294	0.0000	OK
15 minute summer	S4	11	75.922	0.147	14.7	0.0234	0.0000	OK
15 minute summer	S5	11	75.807	0.293	26.9	0.0466	0.0000	SURCHARGED
15 minute summer	S6	11	75.870	0.270	14.7	0.0429	0.0000	SURCHARGED
15 minute summer	S7	11	75.872	0.072	1.1	0.0114	0.0000	OK
120 minute summer	S8	98	75.650	0.212	12.3	0.1349	0.0000	SURCHARGED
120 minute summer	SA2	98	75.650	0.300	12.0	15.4328	0.0000	OK
120 minute winter	1	114	74.576	0.321	3.1	0.0058	0.0000	SURCHARGED
30 minute summer	Carpark 1	23	76.132	0.232	6.5	2.1897	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	S1	3.000	S2	6.6	1.233	0.303	0.0295
120 minute winter	S2	3.001	1	1.6	0.360	0.264	0.0149
120 minute winter	S3	4.000	1	1.5	0.409	0.243	0.0078
120 minute winter	SA1	Infiltration		0.5			
15 minute summer	S4	1.000	S5	13.4	0.828	0.643	0.3334
15 minute summer	S5	1.001	S8	26.7	1.528	1.510	0.1300
15 minute summer	S6	2.001	S5	12.9	0.734	0.728	0.1522
15 minute summer	S7	2.000	S6	1.1	0.101	0.039	0.0951
120 minute summer	S8	1.002	SA2	12.0	1.495	0.226	0.0176
120 minute summer	SA2	Infiltration		1.4			
120 minute winter	1	3.002	SA1	3.0	0.570	0.489	0.0078
30 minute summer	Carpark 1	Infiltration		1.7			

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Results for 100 year Critical Storm Duration. Lowest mass balance: 99.64%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	75.024	0.036	6.0	0.0057	0.0000	OK
120 minute winter	S2	112	74.531	0.256	1.6	0.0725	0.0000	SURCHARGED
120 minute winter	S3	112	74.531	0.256	1.5	0.0407	0.0000	SURCHARGED
120 minute winter	SA1	112	74.531	0.286	2.7	5.3595	0.0000	OK
15 minute summer	S4	10	75.872	0.097	13.3	0.0154	0.0000	OK
15 minute summer	S5	11	75.774	0.260	25.1	0.0413	0.0000	SURCHARGED
15 minute summer	S6	11	75.827	0.227	13.3	0.0361	0.0000	SURCHARGED
15 minute summer	S7	11	75.829	0.029	1.1	0.0046	0.0000	OK
60 minute winter	S8	60	75.620	0.182	12.5	0.1160	0.0000	SURCHARGED
60 minute winter	SA2	60	75.620	0.270	12.5	13.9050	0.0000	OK
120 minute winter	1	112	74.531	0.276	2.8	0.0050	0.0000	SURCHARGED
30 minute summer	Carpark 1	23	76.120	0.220	5.9	1.9816	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute summer	S1	3.000	S2	6.0	1.233	0.275	0.0289
120 minute winter	S2	3.001	1	1.5	0.359	0.236	0.0149
120 minute winter	S3	4.000	1	1.4	0.409	0.227	0.0078
120 minute winter	SA1	Infiltration		0.5			
15 minute summer	S4	1.000	S5	12.9	0.824	0.620	0.2809
15 minute summer	S5	1.001	S8	24.8	1.451	1.404	0.1241
15 minute summer	S6	2.001	S5	12.0	0.705	0.674	0.1522
15 minute summer	S7	2.000	S6	-1.1	-0.095	-0.038	0.0733
60 minute winter	S8	1.002	SA2	12.5	1.678	0.236	0.0176
60 minute winter	SA2	Infiltration		1.4			
120 minute winter	1	3.002	SA1	2.7	0.564	0.445	0.0078
30 minute summer	Carpark 1	Infiltration		1.6			

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.64%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	S1	116	75.034	0.046	2.4	0.0073	0.0000	OK
120 minute winter	S2	116	75.035	0.760	2.4	0.2151	0.0000	SURCHARGED
120 minute winter	S3	116	75.035	0.760	2.1	0.1208	0.0000	SURCHARGED
120 minute winter	SA1	116	75.033	0.788	3.9	6.9740	0.0000	OK
15 minute summer	S4	11	76.191	0.416	19.2	0.0662	0.0000	FLOOD RISK
15 minute summer	S5	11	75.996	0.482	34.0	0.0767	0.0000	SURCHARGED
15 minute summer	S6	11	76.090	0.490	19.2	0.0779	0.0000	SURCHARGED
15 minute summer	S7	11	76.091	0.291	2.9	0.0463	0.0000	SURCHARGED
120 minute winter	S8	114	75.872	0.434	10.6	0.2761	0.0000	SURCHARGED
120 minute winter	SA2	116	75.868	0.518	10.3	20.6279	0.0000	OK
120 minute winter	1	116	75.034	0.779	4.1	0.0140	0.0000	SURCHARGED
60 minute summer	Carpark 1	40	76.178	0.278	6.3	3.1362	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
120 minute winter	S1	3.000	S2	2.4	0.744	0.110	0.0316
120 minute winter	S2	3.001	1	2.2	0.352	0.352	0.0149
120 minute winter	S3	4.000	1	1.9	0.411	0.315	0.0078
120 minute winter	SA1	Infiltration		0.6			
15 minute summer	S4	1.000	S5	17.4	0.988	0.834	0.3342
15 minute summer	S5	1.001	S8	33.0	1.872	1.862	0.1346
15 minute summer	S6	2.001	S5	15.7	0.894	0.886	0.1522
15 minute summer	S7	2.000	S6	3.4	0.227	0.115	0.1292
120 minute winter	S8	1.002	SA2	10.3	1.986	0.195	0.0176
120 minute winter	SA2	Infiltration		1.5			
120 minute winter	1	3.002	SA1	3.9	0.552	0.644	0.0078
60 minute summer	Carpark 1	Infiltration		2.0			

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Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	4.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
ATT1	0.017	75.650	1200	531302.491	139389.329	1.430
ATT2	0.041	76.400	1200	531312.919	139407.906	1.050

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Additional Storage (m³/ha)	0.0
Summer CV	1.000	Skip Steady State	x	Check Discharge Rate(s)	x
Winter CV	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
10	0	0	0
30	0	0	0
30	40	0	0
100	0	0	0
100	45	0	0

Node ATT1 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	74.220	Product Number	CTL-SHE-0055-1000-0400-1000
Design Depth (m)	0.400	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.0	Min Node Diameter (mm)	1200

Node ATT2 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	75.350	Product Number	CTL-SHE-0052-1000-0600-1000
Design Depth (m)	0.600	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.0	Min Node Diameter (mm)	1200

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Node ATT1 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	74.220	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	78	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	6.000	Number Required	1
Porosity	0.95	Pit Length (m)	5.000		

Node ATT2 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	75.350	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	240	Inf Depth (m)	
Safety Factor	2.0	Pit Width (m)	12.000	Number Required	1
Porosity	0.95	Pit Length (m)	6.000		

Approval Settings

Node Size	✓	Minimum Full Bore Velocity (m/s)	
Node Losses	✓	Maximum Full Bore Velocity (m/s)	3.000
Link Size	✓	Proportional Velocity	✓
Minimum Diameter (mm)	150	Return Period (years)	
Link Length	✓	Minimum Proportional Velocity (m/s)	0.750
Maximum Length (m)	100.000	Maximum Proportional Velocity (m/s)	3.000
Coordinates	✓	Surcharged Depth	✓
Accuracy (m)	1.000	Return Period (years)	
Crossings	✓	Maximum Surcharged Depth (m)	0.100
Cover Depth	✓	Flooding	✓
Minimum Cover Depth (m)		Return Period (years)	30
Maximum Cover Depth (m)	3.000	Time to Half Empty	x
Backdrops	✓	Discharge Rates	✓
Minimum Backdrop Height (m)		Discharge Volume	✓
Maximum Backdrop Height (m)	1.500	100 year 360 minute (m^3)	
Full Bore Velocity	✓		

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Results for 10 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	ATT1	42	74.316	0.096	4.3	2.8308	0.0000	OK
180 minute summer	ATT2	128	75.487	0.137	5.4	9.5260	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
60 minute summer	ATT1	Hydro-Brake®	1.0	4.3
180 minute summer	ATT2	Hydro-Brake®	1.0	13.8

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Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	ATT1	45	74.352	0.132	5.8	3.9228	0.0000	OK
180 minute summer	ATT2	132	75.531	0.181	6.8	12.5920	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
60 minute summer	ATT1	Hydro-Brake®	1.0	5.7
180 minute summer	ATT2	Hydro-Brake®	1.0	17.2

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Results for 30 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	ATT1	52	74.419	0.199	8.1	5.8846	0.0000	OK
180 minute winter	ATT2	168	75.624	0.274	6.2	19.0782	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
60 minute summer	ATT1	Hydro-Brake®	1.0	8.0
180 minute winter	ATT2	Hydro-Brake®	1.0	21.5

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Results for 100 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	ATT1	50	74.401	0.181	7.4	5.3537	0.0000	OK
120 minute summer	ATT2	120	75.590	0.240	11.3	16.6633	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
60 minute summer	ATT1	Hydro-Brake®	1.0	7.4
120 minute summer	ATT2	Hydro-Brake®	1.0	18.2

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summer	ATT1	61	74.509	0.289	10.8	8.5488	0.0000	OK
180 minute summer	ATT2	180	75.735	0.385	12.3	26.7496	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
60 minute summer	ATT1	Hydro-Brake®	1.0	10.7
180 minute summer	ATT2	Hydro-Brake®	1.0	21.0

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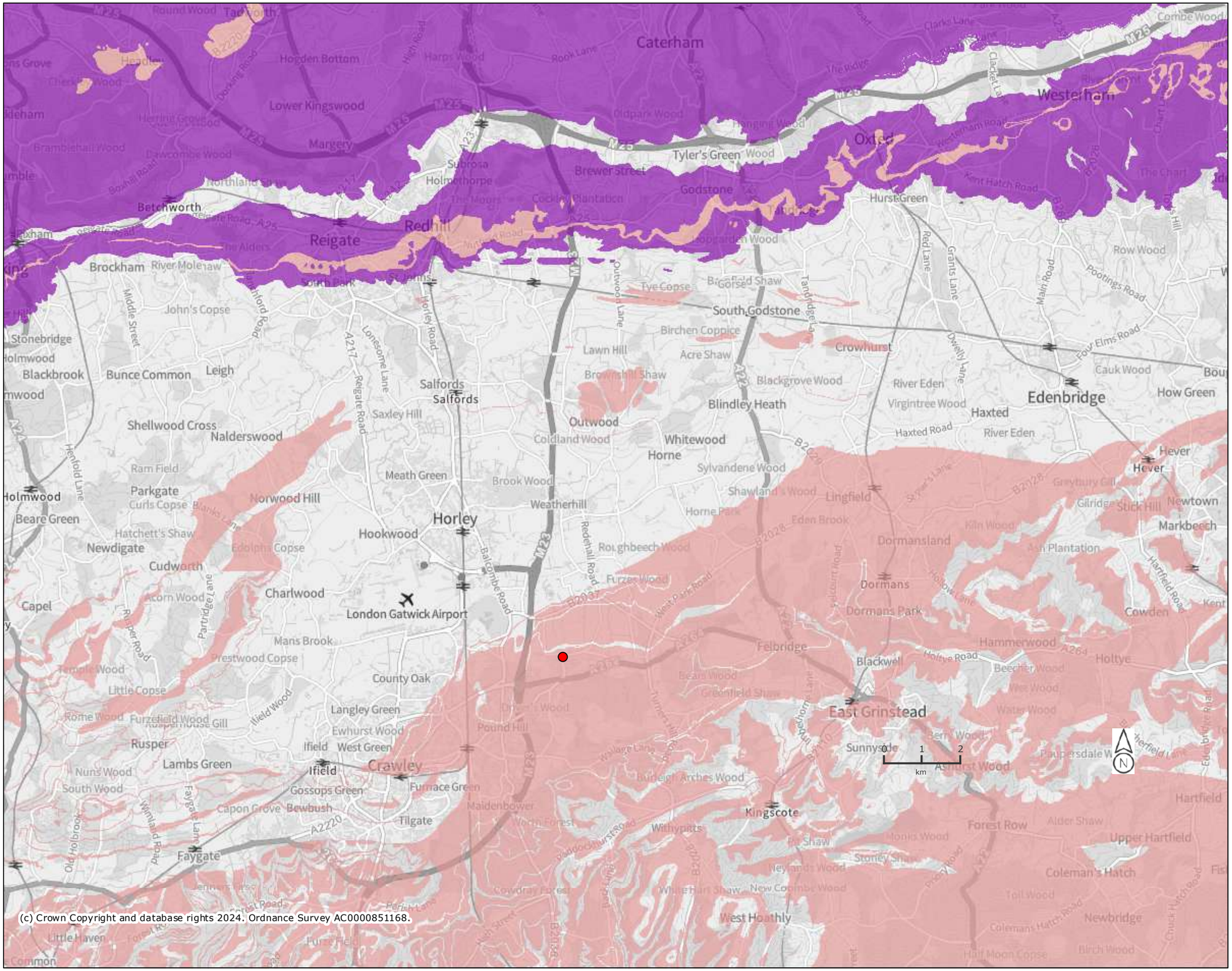
7.5 Appendix E – EA Magic Maps

MAGIC

Aquifer Designation Map (Bedrock)



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Legend

Aquifer Designation Map (Bedrock) (England)

- Principal
- Secondary A
- Secondary B
- Secondary (undifferentiated)
- Unproductive

Projection = OSGB36
xmin = 507300
ymin = 131300
xmax = 558100
ymax = 156400

0 2 4
km

Map produced by MAGIC on 5 July, 2024.

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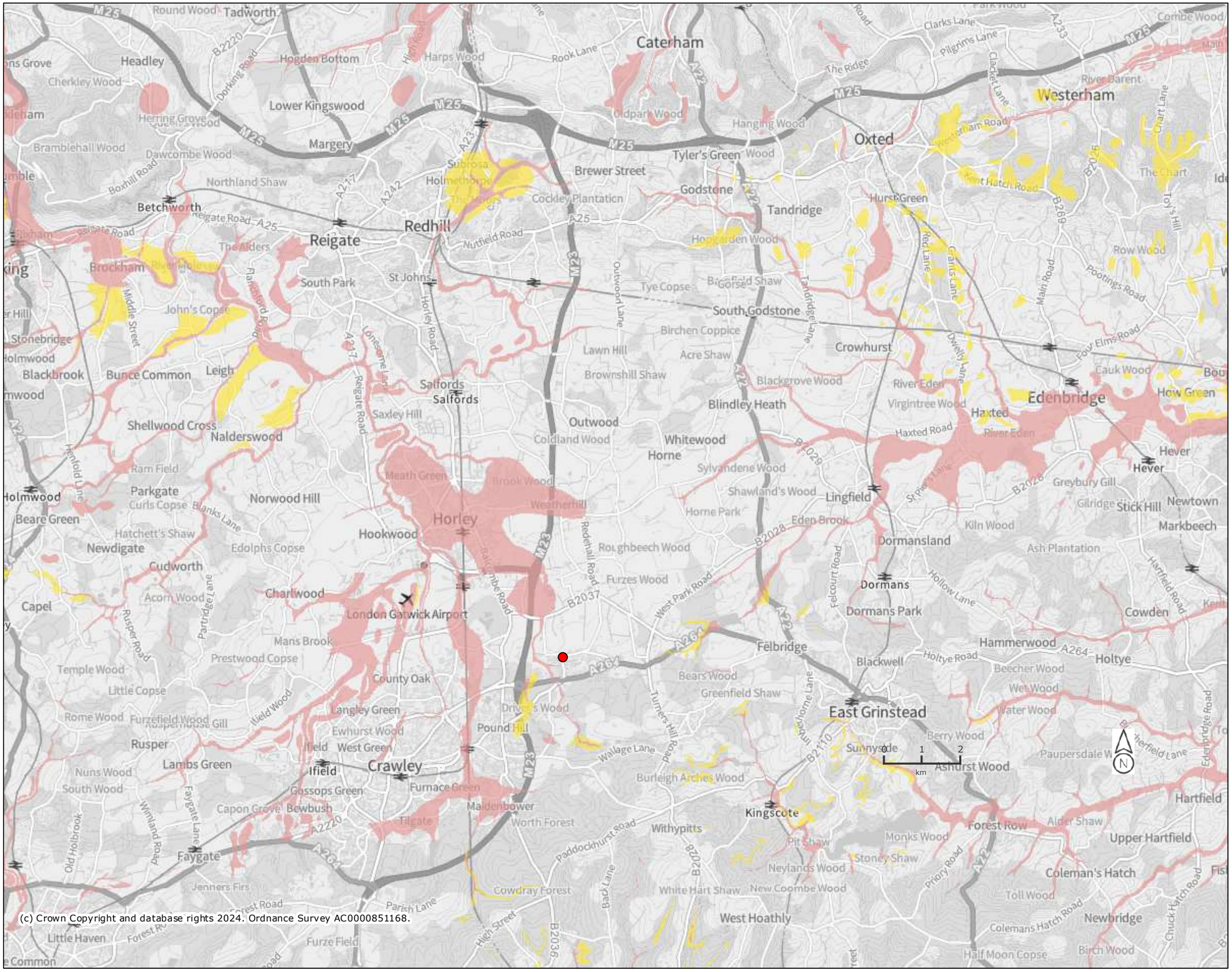
MAGIC

Aquifer Designation Map (Superficial Drift)



Legend

Aquifer Designation Map (Superficial Drift) (England)

- Principal
- Secondary A
- Secondary B
- Secondary (undifferentiated)
- Unknown (lakes+landslip)
- Unproductive

Projection = OSGB36
xmin = 507300
ymin = 131300
xmax = 558100
ymax = 156400

0 2 4 km

Map produced by MAGIC on 5 July, 2024.

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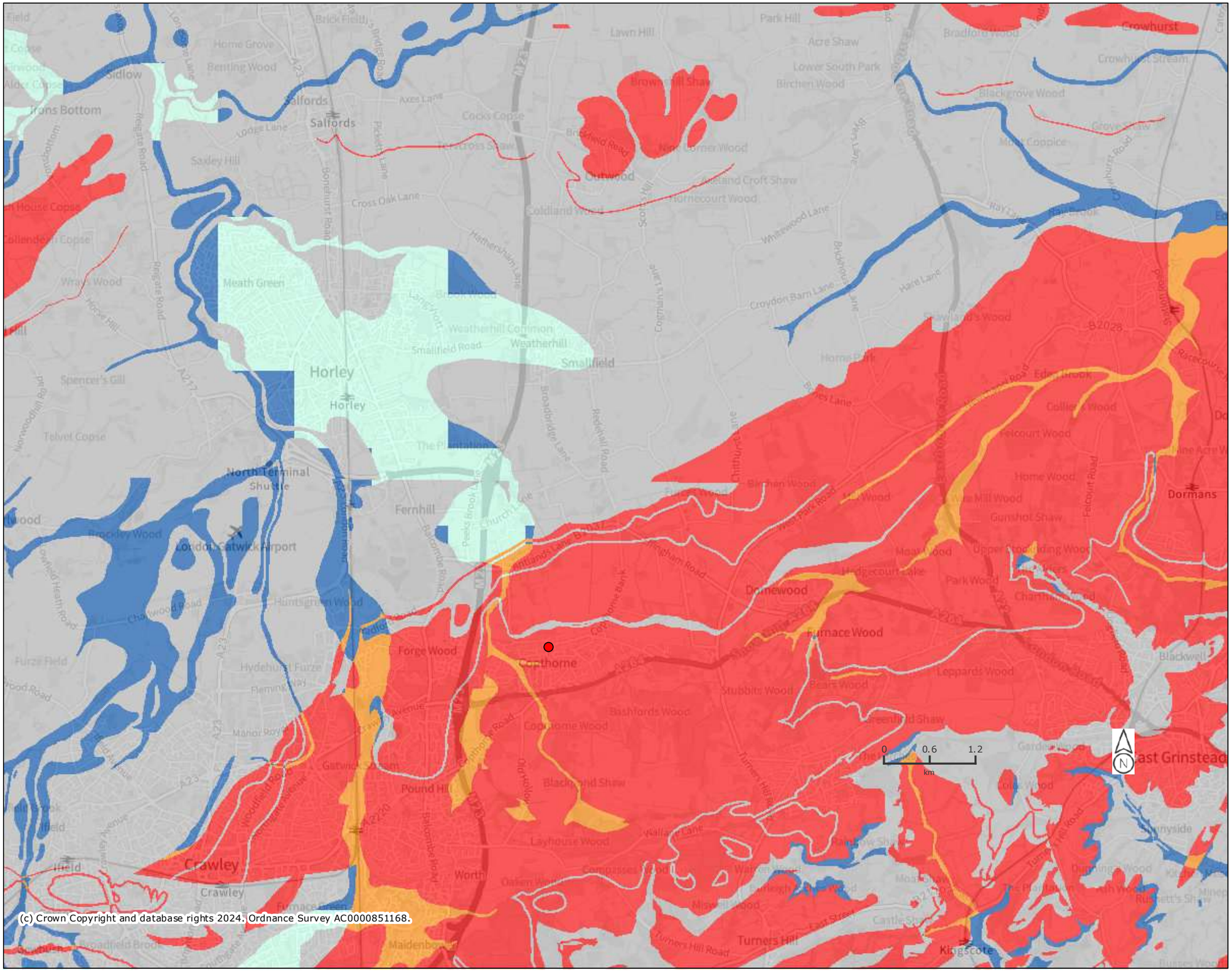
MAGiC

Groundwater Vulnerability Map



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Legend

Groundwater Vulnerability Map (England)

- Local Information
- Soluble Rock Risk
- High
- Medium - High
- Medium
- Medium - Low
- Low
- Unproductive

Projection = OSGB36
xmin = 519500
ymin = 135200
xmax = 544900
ymax = 147800

0 1 2
km

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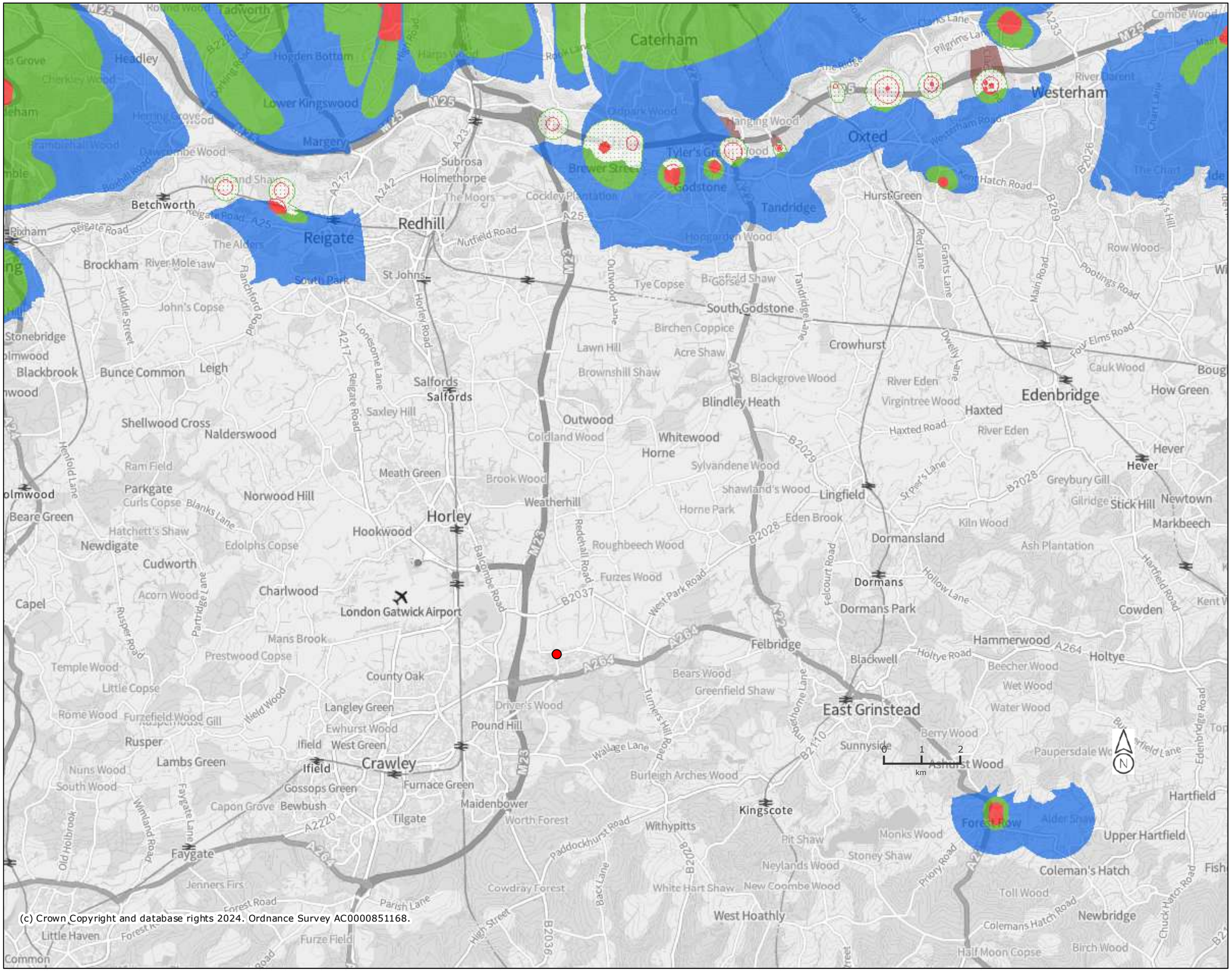
MAGiC

Source Protection Zones merged



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Legend

Source Protection Zones merged (England)

- Zone I - Inner Protection Zone
- Zone I - Subsurface Activity
- Zone II - Outer Protection Zone
- Zone II - Subsurface Activity
- Zone III - Total Catchment
- Zone III - Subsurface Activity
- Zone of Special Interest

Projection = OSGB36
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ymin = 131300
xmax = 558200
ymax = 156300

0 2 4 km

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7.6 Appendix F – Maintenance Schedule

Consulting Civil Engineers

Maintenance Schedule

Prince Albert, Copthorne

For

Westcoast Developments Ltd

Rev - **P**

Reference **C3261**

Date **15th October 2024**

Revision	Date of Issue	Comments	Prepared By	Checked By
P	15/10/2024	Initial Issue	TZ	CS

Contents

1 MAINTENANCE 3

1 Maintenance

1.1 Introduction

1.1.1 During construction, the Contractor will be responsible for maintaining the drainage and SuDS (Sustainable Drainage Systems). Upon handover, the occupier will take on the responsibility of these duties as laid out in this report.

1.1.2 The maintenance schedule for the proposed development will be split down into two separate categories; SuDS features and regular private drainage.

1.2 SuDS at Prince Albert, Copthorne

1.2.1 As listed above, in section 5.1.2, the SuDS features used on site will be **geocellular crates, permeable paving.**

1.2.2 The SuDS features have been designed for easy maintenance and comprise:

- Regular Day-to-Day care – litter collection, regular gardening to control vegetation growth and checking inlets where water enters the SuDS features
- Occasional tasks – checking the SuDS features and removing any silt that builds up in the SuDS feature
- Remedial work – repairing damage where necessary

1.3 SuDS Drainage Maintenance Specification

1.3.1 Soakaway

In order to maintain the functioning of the attenuation tanks, the following maintenance requirements should be adhered to:

Table 21.3 Operation and maintenance requirements for attenuation storage tanks

Maintenance Schedule	Required Action	Typical Frequency
Regular Maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae, or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from per-treatment structures and/or internal forebays	Annually, or as required
Remedial Actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents, and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

1.3.2 Permeable Paving

In order to maintain the functioning of the permeable paving, the following maintenance requirements should be adhered to:

Table 21.3 Operation and maintenance requirements for permeable paving

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 50mm of 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, 48h after large storms in first six months
	Inspect silt accumulation rate and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

1.4 General Drainage Maintenance Specification

1.4.1 Inlet Structures and Inspection Chambers

- Inlet structures such as rainwater downpipes, road gullies and channel drains should be free from obstruction at all times to all free flow through the SuDS
- Inspection Chambers and Rodding Eyes are used on bends or where pipes come together. They allow access and cleaning to the system if necessary.

Inlet Structures and Inspection Chambers	
Regular Maintenance	**Frequency**
Inlet Structures **Inspect rainwater downpipes, channel drains and road gullies, removing obstructions and silt as necessary. Check that there is no physical damage.** **Strim vegetation 1m min surround to structures and keep area free from silt and debris**	Monthly
Inspections Chambers and below ground control chambers. **Remove cover and inspect, ensuring that the water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt.** **Undertake inspection after leaf fall in Autumn**	Annually
Occasional Maintenance **Check topsoil levels are 20mm above edges of chambers to avoid mower damage.**	As necessary
Remedial Work **Repair physical damage if necessary**	As required

1.4.2 Below ground drainage pipes

- Below ground drainage pipes convey water to the SuDS system. They should always be free from obstruction to allow free flow.

Below Ground Drainage Pipes	
Regular Maintenance	**Frequency**
Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months then annually
Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
Remove sediment from pre-treatment inlet structures and inspection chambers.	Annually or as required
Maintain vegetation to designed limits within the vicinity of below ground drainage pipes and tanks.	Monthly or as required
Remedial Work	
Repair physical damage if necessary	As required
Monitoring	
Inspect all inlets, outlets and vents to ensure that they are in good conditions and operating as designed.	Annually
Survey inside of pipe runs for sediment build up and remove if necessary.	Every 5 years or as required