

CRITICAL DRAINAGE DEFECTS REMEDIATION SCHEDULE

COMBINED DRAINAGE SURVEY										
Defect Number	Start Node	End Node	Line Use	From	To	Grade	Defect Type	Defect	Remarks	Repair Comment
D2	MH01	SA01	CW	4.00	4.00	3	Service and Operational Observations	Attached deposits, encrustation at joint from 4 o'clock to 9 o'clock, 5% cross sectional area loss		Cleansing and cutting of roots, jetting required
D3				7.50	7.50	3	Service and Operational Observations	Attached deposits, encrustation at joint from 3 o'clock to 8 o'clock, 5% cross sectional area loss		Cleansing and cutting of roots, jetting required
D4				11.00	11.00	3	Service and Operational Observations	Roots, mass, 5% cross sectional area loss		Cleansing and cutting of roots, jetting required
D6				18.60	18.60	3	Service and Operational Observations	Attached deposits, encrustation from 4 o'clock to 5 o'clock, 5% cross sectional area loss		Cleansing and cutting of roots, jetting required
D7				22.00	22.00	3	Service and Operational Observations	Roots, mass at joint, 5% cross sectional area loss		Cleansing and cutting of roots, jetting required
D8				24.80	24.80	3	Service and Operational Observations	Settled deposits, fine, 15% cross sectional area loss		Cleansing and cutting of roots, jetting required
D9				25.00	End	5	Service and Operational Observations	Roots, mass, 20% cross sectional area loss	Loss of Vision at 25.00, camera under water. Survey Abandoned at 26.60	Cleansing and cutting of roots, jetting required
D10				0.70	2.50	3	Miscellaneous Features	Water level, 20% of the vertical dimension	Loss of Vision, camera under water	Cleansing and cutting of roots, jetting required
D11				9.00	9.80	3	Miscellaneous Features	Loss of Vision, camera under water		Cleansing and cutting of roots, jetting required
D12	MH02	SA02	CW	16.60	16.60	3	Structural	Joint displaced, medium		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206
D13				18.00	19.20	3	Service and Operational Observations	Roots, mass, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required
D16				31.00	31.00	5	Service and Operational Observations	Roots, mass at joint, 25% cross sectional area loss		Cleansing and cutting of roots, jetting required
D17				38.20	38.20	3	Service and Operational Observations	Roots, mass, 15% cross sectional area loss		Cleansing and cutting of roots, jetting required
D18				43.50	48.60	3	Service and Operational Observations	Roots, mass at joint, 10% cross sectional area loss	Survey abandoned at 48.60	Cleansing and cutting of roots, jetting required
D19				0.50	0.50	3	Service and Operational Observations	Settled deposits, hard or compacted, 10% cross sectional area loss	Water level 15% of the vertical dimension	Cleansing and cutting of roots, jetting required
D20	MH02	MH03	CW	3.20	8.40	3	Miscellaneous Features	Loss of Vision, Camera under water		Cleansing and cutting of roots, jetting required
D21				5.00	5.00	4	Service and Operational Observations	Settled deposits, hard or compacted, 30% cross sectional area loss		Cleansing and cutting of roots, jetting required
D22				8.60	8.60	3	Service and Operational Observations	Settled deposits, fine, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required
D23				11.50	11.50	4	Structural	Broken pipe from 11 o'clock to 1 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206
D27	MH03	SA03	CW	14.20	16.30	5	Service and Operational Observations	Roots, mass, 20% cross sectional area loss		Cleansing and cutting of roots, jetting required
D28				16.30	26.60	5	Miscellaneous Features	Loss of vision, roots		Cleansing and cutting of roots, jetting required
D31	MH04	Mainline	CW	2.00	2.00	4	Structural	Joint displaced, large	Major connection without manhole.	Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206
D32	MH04	SA04	CW	0.50	0.50	3	Service and Operational Observations	Attached deposits, encrustation at joint from 2 o'clock to 9 o'clock, 15% cross sectional area loss		Cleansing and cutting of roots, jetting required
D33				4.00	4.00	3	Service and Operational Observations	Attached deposits, encrustation at joint from 3 o'clock to 10 o'clock, 15% cross sectional area loss		Cleansing and cutting of roots, jetting required
D34				6.80	15.50	3	Service and Operational Observations	Roots, mass, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required
D35				8.40	8.40	4	Service and Operational Observations	Attached deposits, encrustation at joint from 3 o'clock to 9 o'clock, 25% cross sectional area loss		Cleansing and cutting of roots, jetting required
D36				15.80	18.00	3	Service and Operational Observations	Roots, mass, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required
D37				18.80	21.60	3	Service and Operational Observations	Roots, mass, 5% cross sectional area loss		Cleansing and cutting of roots, jetting required
D38				21.20	21.20	4	Service and Operational Observations	Attached deposits, encrustation at joint from 2 o'clock to 10 o'clock, 40% cross sectional area loss		Cleansing and cutting of roots, jetting required
D39				26.00	26.00	4	Service and Operational Observations	Attached deposits, encrustation at joint from 3 o'clock to 9 o'clock, 35% cross sectional area loss		Cleansing and cutting of roots, jetting required
D40				27.00	27.00	4	Service and Operational Observations	Attached deposits, encrustation at joint from 3 o'clock to 9 o'clock, 25% cross sectional area loss		Cleansing and cutting of roots, jetting required
D42				32.00	32.00	5	Service and Operational Observations	Roots, mass, 65% cross sectional area loss		Cleansing and cutting of roots, jetting required
D43				32.40	32.40	5	Service and Operational Observations	Roots, mass, 65% cross sectional area loss		Cleansing and cutting of roots, jetting required
D44				33.00	33.60	5	Service and Operational Observations	Roots, mass, 100% cross sectional area loss	Survey abandoned at 33.60	Cleansing and cutting of roots, jetting required
D45				0.00	9.60	3	Service and Operational Observations	Settled deposits, fine, 5% - 15% cross sectional area loss		Cleansing and cutting of roots, jetting required
D46				6.20	6.20	3	Structural	Joint displaced, medium		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206
D47	7.30	7.30	3	Structural	Joint displaced, medium		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206			
D48	MH05	MH06	SW	10.70	10.70	4	Structural	Broken pipe from 10 o'clock to 12 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206
D49				22.70	22.70	4	Structural	Joint displaced, large		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206
D50				23.10	24.30	3	Service and Operational Observations	Settled deposits, fine, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required
D51	33.00	35.00	3	Service and Operational Observations	Settled deposits, fine, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required			
D52	MH05	SA06	SW	0.00	End	5	Service and Operational Observations	Roots, mass, 80% cross sectional area loss	Survey abandoned at 0.80	Cleansing and cutting of roots, jetting required
D53	MH05	SA07	SW	0.00	End	3	Service and Operational Observations	Settled deposits, fine, 15% - 80% cross sectional area loss	Survey abandoned at 0.81	Cleansing and cutting of roots, jetting required

NOTE:

Clean out all gutters and downpipes

All recommendations above refer to scenario where all existing drainage is retained with exceptions of replacements. In that case, all pipe runs from Rain water pipes/gullies to a main line should be cleaned out, roots cut and restore flow of water

The option of replacing the entire network ie surface water, foul water and combined water drains might be more ideal and this drawing will be updated accordingly after pricing to confirm most economical recommendation.


COMBINED DRAINAGE SURVEY													
Drawing Number	Defect Number	Start Node	End Node	Line Use	From	To	Grade	Defect Type	Defect	Remarks	Repair Comment		
201	D54	OSAMH01	SA05	CW	0.00	2.00	4	Miscellaneous Features	Water level, 20% - 80% of the Vertical dimension	Loss of Vision, camera under water	Cleansing and cutting of roots, jetting required		
	D55				9.60	11.00	3	Miscellaneous Features	Loss of Vision, camera under water		Cleansing and cutting of roots, jetting required		
	D56				12.80	12.80	3	Service and Operational Observations	Attached deposits, encrustation from 3 o'clock to 9 o'clock, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D58				15.60	15.60	5	Service and Operational Observations	Roots, mass, 35% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D59				18.60	21.80	3	Service and Operational Observations	Roots, mass, 5% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D60				22.50	22.50	5	Service and Operational Observations	Roots, mass at joint, 90% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D61				23.30	23.30	5	Service and Operational Observations	Roots, mass at joint, 20% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D62				24.00	24.00	5	Service and Operational Observations	Roots, mass at joint, 50% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D63				25.00	25.00	5	Service and Operational Observations	Roots, mass at joint, 75% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D64				26.00	26.00	5	Service and Operational Observations	Roots, mass at joint, 65% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D65				27.00	27.00	5	Service and Operational Observations	Roots, mass, 60% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D66				27.80	27.80	5	Service and Operational Observations	Roots, mass, 60% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D67				29.30	29.30	3	Service and Operational Observations	Roots, mass, 15% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D68				30.50	30.50	5	Service and Operational Observations	Roots, mass, 30% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D69				32.60	32.60	5	Service and Operational Observations	Roots, mass, 40% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D70				34.00	34.00	5	Service and Operational Observations	Roots, mass, 50% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D71				36.60	36.60	3	Service and Operational Observations	Settled deposits, hard or compacted, 15% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D72				38.10	38.10	4	Service and Operational Observations	Attached deposits, encrustation at joint from 2 o'clock, to 10 o'clock, 30% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D73				38.80	38.80	3	Service and Operational Observations	Attached deposits, encrustation at joint from 2 o'clock, to 10 o'clock, 20% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D74				42.40	42.40	3	Service and Operational Observations	Attached deposits, encrustation at joint from 2 o'clock, to 9 o'clock, 15% cross sectional area loss		Cleansing and cutting of roots, jetting required		
D75	46.00	46.00	3	Structural	Joint displaced, medium	Survey abandoned at 46.00	Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206						
201	D76	MH06	SA08	SW	0.00	0.00	4	Service and Operational Observations	Settled deposits, fine, 20% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D77				0.40	1.90	4	Miscellaneous Features	Loss of vision, silt	Survey abandoned at 1.90	Cleansing and cutting of roots, jetting required		
201	D79	XX03	XX03B	FW	1.77	1.77	3	Service and Operational Observations	Roots, mass at joint, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D80				2.79	7.30	3	Service and Operational Observations	Settled deposits, fine, 5% cross sectional area loss		Cleansing and cutting of roots, jetting required		
201	D84	MH03	XX01	CW	6.68	6.68	3	Service and Operational Observations	Roots, mass at joint, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D85				7.14	7.14	3	Structural	Joint displaced, medium		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206		
	D86				9.35	9.35	5	Service and Operational Observations	Roots, mass at joint, 20% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D88				30.94	End	5	Service and Operational Observations	Roots, mass at joint, 60% cross sectional area loss	Survey abandoned at 31.00	Cleansing and cutting of roots, jetting required		
	D90				4.52	4.52	3	Structural	Fracture, longitudinal at 7 o'clock		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206		
201	D91	MH04	OSAMH01	FW	4.94	4.94	3	Structural	Fracture, longitudinal at 7 o'clock		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206		
	D92				6.90	6.90	5	Service and Operational Observations	Roots, mass at joint, 40% cross sectional area loss	Causing blockages	Cleansing and cutting of roots, jetting required		
	D93				10.13	10.13	3	Service and Operational Observations	Roots, mass, 10% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D94				20.14	27.22	5	Service and Operational Observations	Roots, mass at joint, 25% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D95				27.12	30.39	5	Service and Operational Observations	Roots, mass at joint, 80% cross sectional area loss	Survey abandoned at 30.40	Cleansing and cutting of roots, jetting required		
	D98				4.28	4.28	3	Service and Operational Observations	Roots, mass, 10% cross sectional area loss		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206		
201	D99	XX02	TANK	SW	4.81	4.81	4	Structural	Hole in drain or sewer at 12 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206		
	D100				4.81	4.81	3	Structural	Fracture, circumferential from 1 o'clock to 11 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206		
201	D102	XX02	XX02A	SW	0.02	0.02	4	Structural	Broken pipe from 7 o'clock to 2 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206		
	D105				18.32	18.32	4	Structural	Hole in drain or sewer at 12 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206		
	D106				22.74	22.74	3	Miscellaneous	Water level, 20% of the vertical dimension		Cleansing and cutting of roots, jetting required		
201	D107	MH03	MH02	CW	26.00	26.00	3	Miscellaneous	Water level, 20% of the vertical dimension		Cleansing and cutting of roots, jetting required		
	D108				0.00	0.19	4	Service and Operational Observations	Settled deposits, fine, 20% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D109				0.10	0.10	5	Structural	Hole in drain or sewer from 12 o'clock to 3 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206		
	D110				0.10	0.10	4	Structural	Broken pipe from 8 o'clock to 3 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-206		
201	D111	MH05	MH05A	SW	0.10	0.10	4	Structural	Joint displaced, large	Survey abandoned at 0.22. Unable to pass			
	D112				0.10	0.10	4	Service and Operational Observations	Settled deposits, fine, 20% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D113				0.26	0.26	3	Structural	Joint displaced, medium		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206		
	D115				0.73	0.73	5	Service and Operational Observations	Roots, mass, 100% cross sectional area loss		Cleansing and cutting of roots, jetting required		
	D116				5.67	5.67	3	Structural	Fracture, longitudinal at 12 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-204		
201	D117	MH05	MH06	SW	6.36	6.36	4	Structural	Hole in drain or sewer at 11 o'clock		Excavation and replacing damaged section, jetting required after. Refer to Detail 2 on drawing 22333-Y-DR-204		
	D118				9.36	9.36	3	Structural	Cracks, spiral from 11 o'clock to 5 o'clock		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206		
	D119				9.54	9.54	4	Structural	Fracture, spiral from 11 o'clock to 5 o'clock		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206		
	D120				19.32	19.32	3	Structural	Joint displaced, medium		Patch repair required. Refer to Detail 1 on drawing 22333-Y-DR-206		
	D121				28.13	28.13	4	Service and Operational Observations	Settled deposits, fine, 20% cross sectional area loss		Cleansing and cutting of roots, jetting required		

Notes

- This drawing is subject to copyright and must not be reproduced, stored or transmitted in any form without prior permission from Mason Clark Associates.
- This drawing is not to be scaled. All dimensions are to be checked on site by the contractor. Any discrepancies are to be notified to Mason Clark Associates. Obtain instructions prior to works commencing.
- This drawing is to be read in conjunction with all the relevant contract drawings and specifications.
- All dimensions are in millimetres and all levels are in metres AOD unless noted otherwise.
- All work shall be carried out in accordance with Local Authority, Statutory Authority and Health & Safety Regulations.
- Mason Clark Associates are not responsible for determining the appropriate fire period, fire boundary conditions or the associated design of fire protection or inherent fire resistance to any elements of structure, including all frames, posts, beams, joists, roof members and secondary structural elements such as lintels. Refer to the Architect or Project Manager for this information.

Drainage Notes

- Existing drainage locations including routes and manhole positions are based on AHR Building Consultancy Limited's Existing Topographical Survey Drawing '2024.00557.SU01' and Existing Utility Mapping Drawing '2024.00557.LM01'. These drawings were accompanied by CCTV Report '2024.00557.CCTV01' dated 23/10/2024.
- The drawing is also based on Willow Pump's 'Oakwell Hall Drainage Investigation Schematic Drawing' of Drawing number 001 dated 19/11/2025. The Investigations were accompanied by a CCTV report 'Oakwell Hall (v2)' dated 11/11/2025.
- This Drawing only includes defects categorised as Grade 3 or higher within the CCTV Surveys as per the Defect Grade Description in the Bury Associates' CCTV report. The grade is shown both on this schedule and on plan on drawings 22333-Y-DR-201 and 22333-Y-DR-202.
- For a full site drainage remediation schedule, refer to drawings 22333-Y-DR-203.
- This schedule is to be read in conjunction with drawings 22333-Y-DR-201 and 22333-Y-DR-202.
- Where CCTV does not indicate an upstream MH reference, for example at SVPs, a branch connection from the downstream chamber has been marked but the actual pipe run is to be confirmed on site.

P1	Preliminary Issue	MKN	21.01.2026
Rev	Details	By	Date
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Client: Kirklees Council			
Project: Oakwell Hall			
Title: Critical Drainage Defects Remediation Schedule Sheet 1 of 2			