

MH3 Internal View During Clearing



MH3 Internal View



Watercourse/Ditch Location View



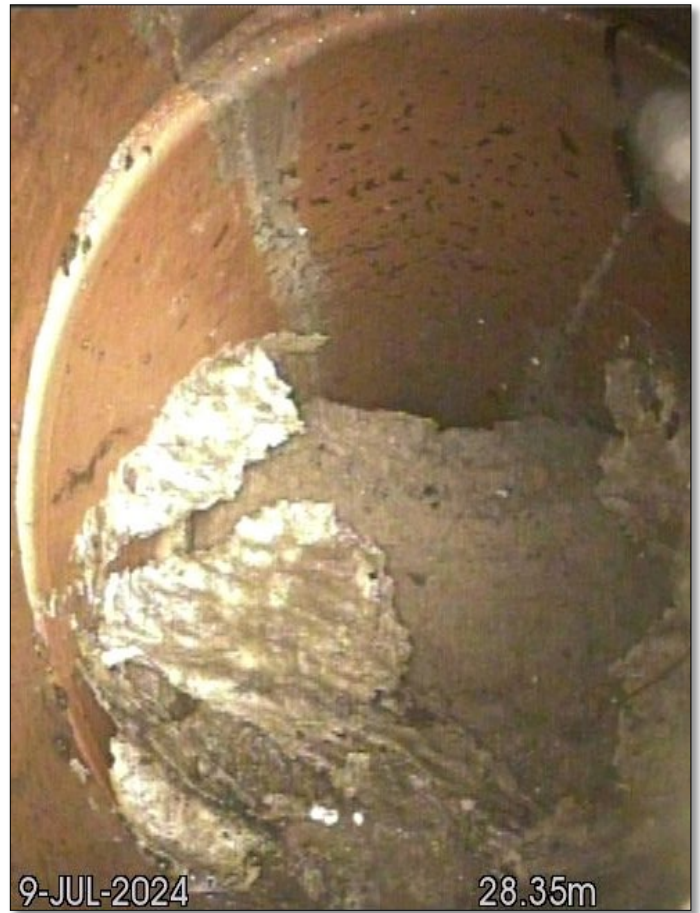
Pond Inlet Headwall



Petrol Interceptor Location View



PI Upstream Pipe Condition View



Area 3 Works Overview

Undertook a visual survey to locate the open section of watercourse as detailed on the plan supplied and located the outfall which had become concealed with foliage and the collapsing bank.

Exposed the pipe with hand tools to undertake electronic tracing of downstream line through to a possible stone built chamber/culvert.

Metal detected the area of line trace but were unable to pick up any positive signals for a potential manhole cover over a chamber.

Recommendations

- Excavate stone built chamber/culvert to access and determine its condition to enable further recommendations/requirements to continue survey.

Area 3 Reference Pictures

Watercourse Outfall Exposed for Access



Watercourse Outfall Location View



Pipe route and Location of Possible Chamber/Culvert



Possible Chamber/Brick Culvert



Area 4 Works Overview

Arranged access with Fisheries contact to gain permission and access to the fishing lakes. A walkover survey confirmed the 5-tiered lakes to be fed via a watercourse running below the A627(M). The fishery lakes connect via linked pipework with water flowing to the bottom tier which contains a brick-built chamber and rising 150mm pipe which were confirmed to be surcharged and not flowing.

The location of the chamber and outfall pipe were picked up with GPS to be overlaid & plotted onto a topographical survey plan provided.

Recommendations

- Combination Lorry Jetting Unit to attend site and draw down water level and HPWJ manhole MH1 (see Area 5) located in Stakehill Lane to investigate a possible connection with the fishing lake outlet/provide further recommendations to continue survey.

Area 4 Reference Pictures

Fishery Lake Outfall Location View



Fishery Lake Outfall Chamber & Pipe View



Set up temporary traffic management to lift all accessible located manholes within Stakehill Lane and undertake a connectivity survey of the surface water and combined water systems, including recording chamber and pipe measurements for production of manhole cards.

Manhole S1 was confirmed to be the head of the surface water run serving this section of carriageway which then flows through several manholes before continuing downstream into Finlan Road from manhole S4.

Manhole S2 has become compressed into its frame and could not be lifted after repeated attempts to free it with hand tools and a mechanical lifter.

Lifted manhole referenced MH1 (detailed on connectivity plan) and confirmed the chamber to be holding standing water. Further investigation work will be required to establish/confirm whether there is a connection with the fishery lake outfall outlined in Area 4.

The grated manhole cover on C5 has become seized into its frame and could not be lifted after repeated attempts to free it with hand tools and mechanical lifter.

Recommendations

- Combination Lorry Jetting Unit to attend site to empty and HPWJ manhole MH1 and undertake further investigation/CCTV survey of any accessible connecting sections.
- Break out and replace seized manholes S2 & C5 to survey manhole chambers and verify connectivity

Area 5 Reference Pictures

S2 Seized Manhole Cover



C5 Seized Grated Manhole Cover



Undertook a visual survey of the area around Hough Lane to locate manholes and watercourse routes as shown on the plan supplied.

Manhole referenced as MH4 on the connectivity plan was noted to have been damaged cover/frame which have become offset from the cover slab. Care was taken to lift the frame/cover to one side to survey the manhole chamber and electronically traced the downstream line to a concealed manhole on the opposite side of the lane and once completed replaced the cover/frame centrally back over access on the cover slab. Undertook foliage clearance within the area of electronic trace/sonde signal and located/exposed manhole MH5, once lifted recorded all details for manhole card.

Cleared overgrown foliage to access MH7 and noted the current frame/cover to be loose on cover slab. Lifted manhole and confirmed chamber to be surcharged and recorded visible manhole details from the surface.

Walk over visual survey of the area, confirmed the water course outfall to be in the farmers land on the opposite side of the A627(M). Cleared overgrown foliage to access a manhole (reference MH6 on plan) which is located on the downstream line of the culvert as detailed on the plan supplied and confirmed the upstream pipe connection with watercourse.

Recorded manhole details for MH6 and undertook electronic trace of the downstream pipework, due to the depth of flow we were unable to obtain a positive trace.

Setup GPS and picked up all located manhole points to be added to topographical survey plan supplied.

On further review of the layout plan supplied, undertook a visual survey of the area showing the culverts' outfall to an open channel and confirmed another outfall pipe on private property (no access/permission at time of survey).

Recommendations

- Reposition existing cover & frame MH4 onto cover slab including new fillet surround
- Reposition existing cover & frame MH7 onto cover slab including new fillet surround
- 7.5 tonne Combination Lorry Jetting Unit to attend site to empty and HPWJ manhole MH7 and undertake further investigation/CCTV survey of any accessible connecting sections.
- CCTV survey with crawler unit & cradle extension of the downstream line from MH6 to determine connectivity.
- HPWJ/CCTV survey and line trace of 225mm outfall to watercourse (Access to be arranged with property/landowner prior to attendance)



Area 6 Reference Pictures

MH4 Manhole Cover Condition View



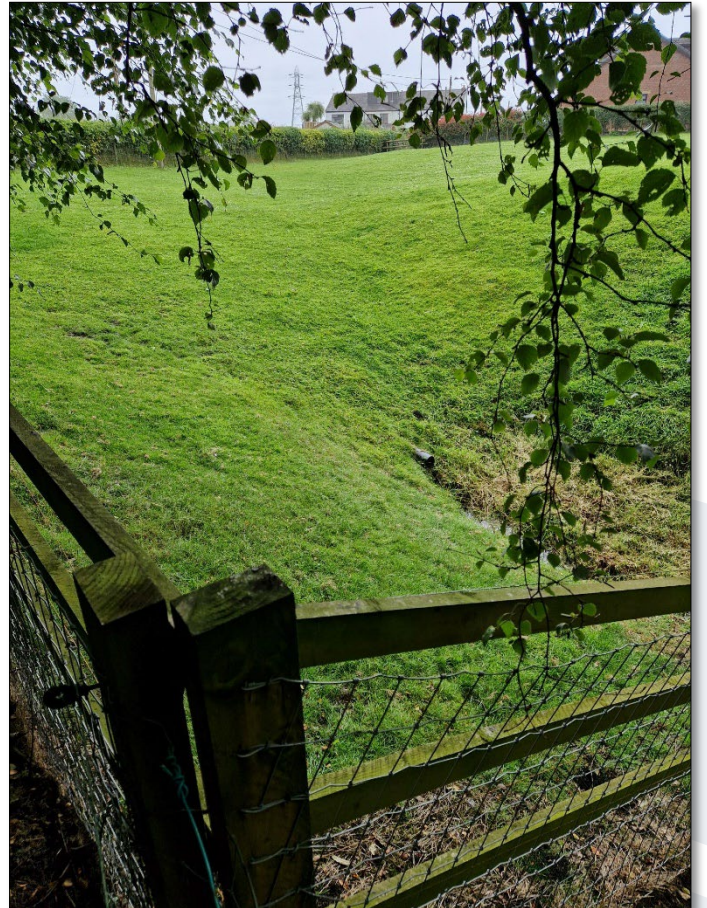
MH7 Location View



MH7 Internal View



Outfall into Watercourse



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	MH1	Surveyor	Neil Symons
Cover Level		Date	08/07/2024
Type			

Cover Details

Service Type		Shape	Square
Size	600 x 600mm	Duty	Heavy
Material	Ductile/Cast Iron	Condition	OK
Padlocked	No	Grade	A

Shaft Details

Access	Irons	Size	600 x 600mm
Material	Brick	Depth	0.54m
Condition	Good		

Chamber Details

Size	1200mm	Material	PCC
Depth		Condition	Good
Benching Condition		Channel Condition	

Incoming Pipes

Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)		Pipe Material	Remark
				Height	Width		
A					x		
B					x		
C					x		
D					x		
E					x		
F					x		

Outgoing Pipes

X					x		
Y					x		
Z					x		

Notes

Surcharged manhole no pipes visible

Chamber Sketch

Photograph



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	S3	Surveyor	Neil Symons
Cover Level	136.85m	Date	08/07/2024
Type	Manhole		

Cover Details

Service Type	Surface Water	Shape	Triangular
Size	550 x 550mm	Duty	Heavy
Material	Ductile/Cast Iron	Condition	OK
Padlocked	No	Grade	A

Shaft Details

Access	Irons	Size	
Material		Depth	
Condition			

Chamber Details

Size	1200mm	Material	PCC
Depth		Condition	Good
Benching Condition	Good	Channel Condition	Good

Incoming Pipes

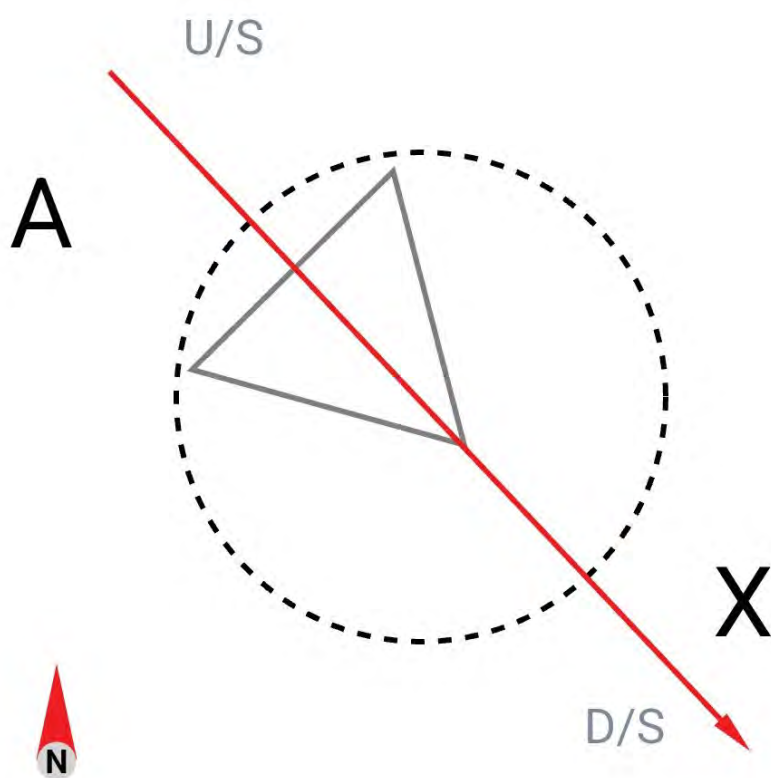
Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)		Pipe Material	Remark
				Height	Width		
A	2.76	134.09	Circular	225	x	Vitrified Clay	U/S
B					x		
C					x		
D					x		
E					x		
F					x		

Outgoing Pipes

X	2.77	134.08	Circular	225	x	Vitrified Clay	D/S
Y					x		
Z					x		

Notes

Chamber Sketch



Photograph



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	S4	Surveyor	Neil Symons
Cover Level	136.22m	Date	08/07/2024
Type	Manhole		

Cover Details

Service Type	Surface Water	Shape	Triangular
Size	550 x 550mm	Duty	Heavy
Material	Ductile/Cast Iron	Condition	OK
Padlocked	No	Grade	A

Shaft Details

Access	Irons	Size	
Material		Depth	
Condition			

Chamber Details

Size	1200mm	Material	PCC
Depth		Condition	Good
Benching Condition	Good	Channel Condition	Good

Incoming Pipes

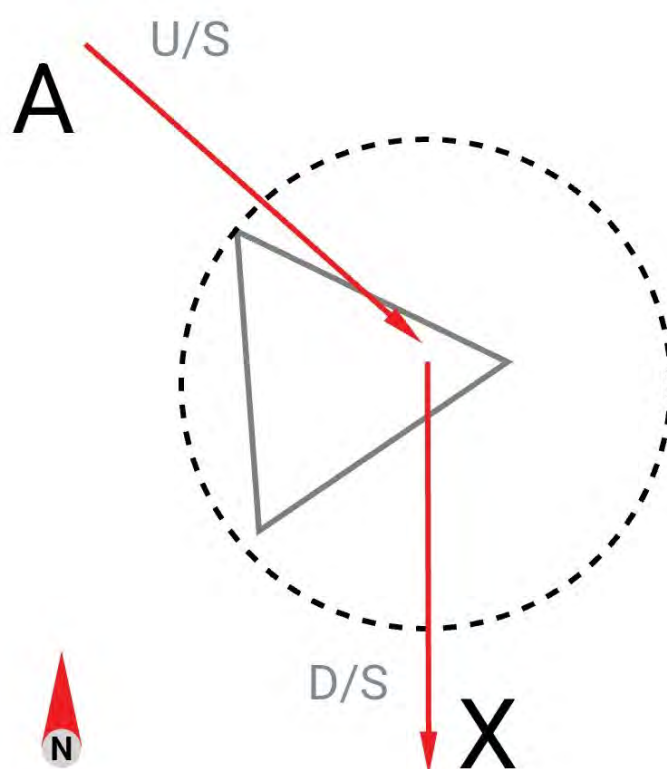
Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)		Pipe Material	Remark
				Height	Width		
A	2.62	133.60	Circular	225	x	Vitrified Clay	U/S
B					x		
C					x		
D					x		
E					x		
F					x		

Outgoing Pipes

X	2.62	133.60	Circular	225	x	Vitrified Clay	D/S
Y					x		
Z					x		

Notes

Chamber Sketch



Photograph



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	C1	Surveyor	Neil Symons
Cover Level	136.30m	Date	08/07/2024
Type	Manhole		

Cover Details

Service Type	Combined	Shape	Triangular
Size	550 x 550mm	Duty	Heavy
Material	Ductile/Cast Iron	Condition	OK
Padlocked	No	Grade	A

Shaft Details

Access	Irons	Size	600 x 600mm
Material	Brick	Depth	0.54m
Condition	Good		

Chamber Details

Size	1200 x 600mm	Material	Brick
Depth		Condition	Good
Benching Condition	Fair	Channel Condition	Good

Incoming Pipes

Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)			Pipe Material	Remark
				Height		Width		
A	2.82	133.48	Circular	225	x		Vitrified Clay	U/S
B					x			
C					x			
D					x			
E					x			
F					x			

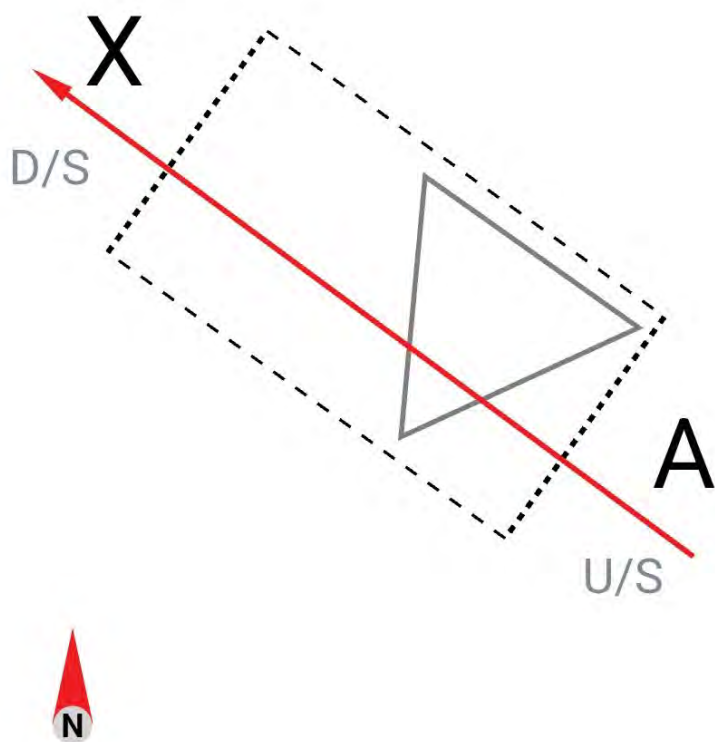
Outgoing Pipes

X	2.83	133.47	Circular	225	x		Vitrified Clay	D/S
Y					x			
Z					x			

Notes

Service running through chamber at 1.12m
Surcharged foul debris covering step irons & benching

Chamber Sketch



Photograph



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	C2	Surveyor	Neil Symons
Cover Level	136.28m	Date	08/07/2024
Type	Manhole		

Cover Details

Service Type	Combined	Shape	2 x Triangle
Size	600 x 600mm	Duty	Heavy
Material	Ductile/Cast Iron	Condition	OK
Padlocked	No	Grade	A

Shaft Details

Access	Irons	Size	600 x 600mm
Material	PCC	Depth	0.50m
Condition	Good		

Chamber Details

Size	1200mm	Material	PCC
Depth		Condition	Good
Benching Condition	Good	Channel Condition	Good

Incoming Pipes

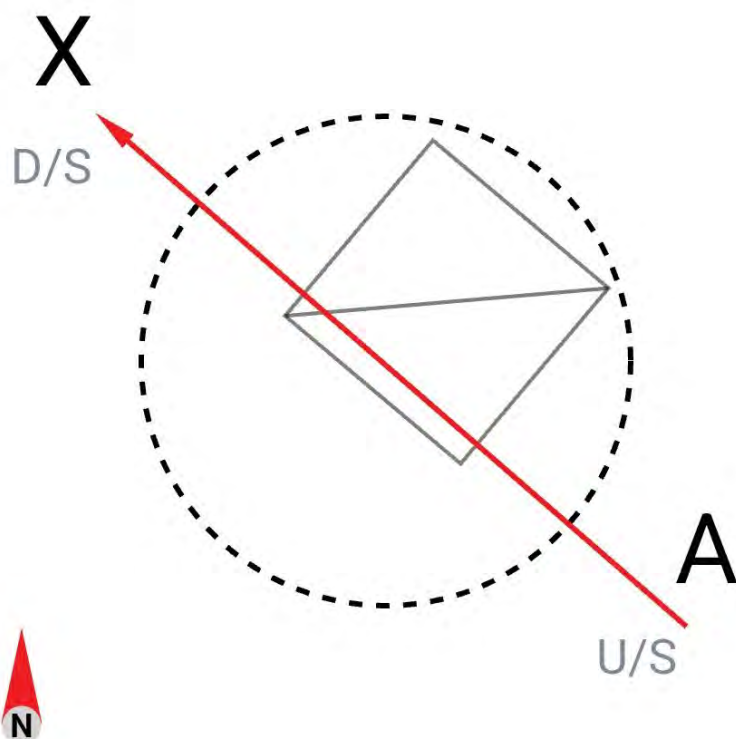
Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)		Pipe Material	Remark
				Height	Width		
A	2.79	133.49	Circular	225	x	Vitrified Clay	U/S
B					x		
C					x		
D					x		
E					x		
F					x		

Outgoing Pipes

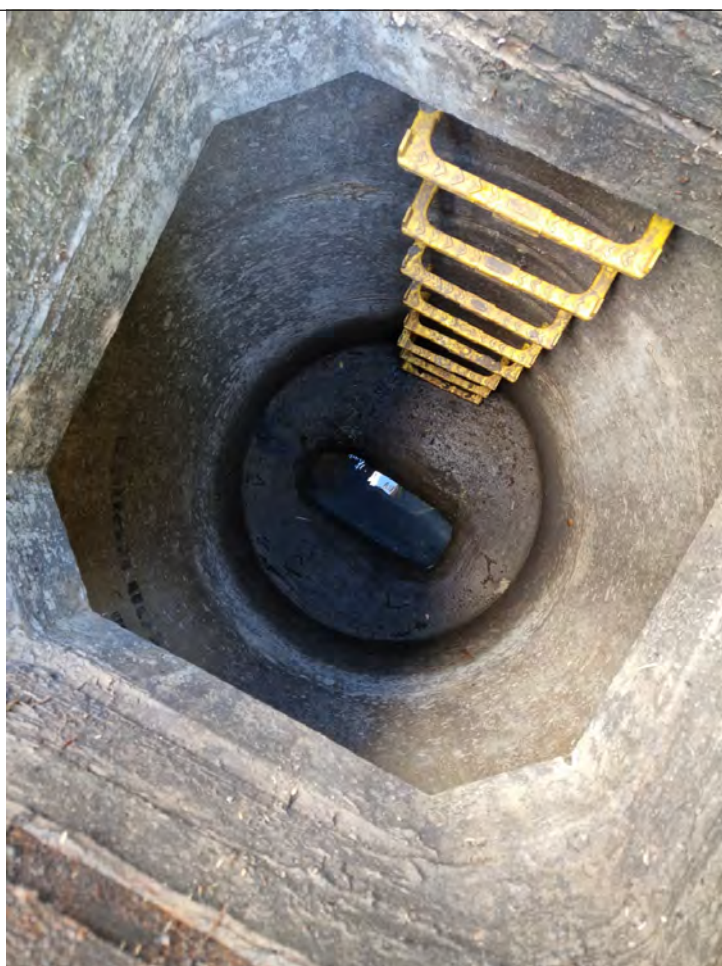
X	2.80	133.48	Circular	225	x	Vitrified Clay	D/S
Y					x		
Z					x		

Notes

Chamber Sketch



Photograph



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	C3	Surveyor	Neil Symons
Cover Level	136.83m	Date	08/07/2024
Type	Manhole		

Cover Details

Service Type	Combined	Shape	Square
Size	600 x 600mm	Duty	Heavy
Material	Ductile/Cast Iron	Condition	OK
Padlocked	No	Grade	A

Shaft Details

Access	Irons	Size	460 x 460mm
Material	Brick	Depth	0.74m
Condition	Good		

Chamber Details

Size	1200 x 780mm	Material	Brick
Depth		Condition	Good
Benching Condition	Good	Channel Condition	Good

Incoming Pipes

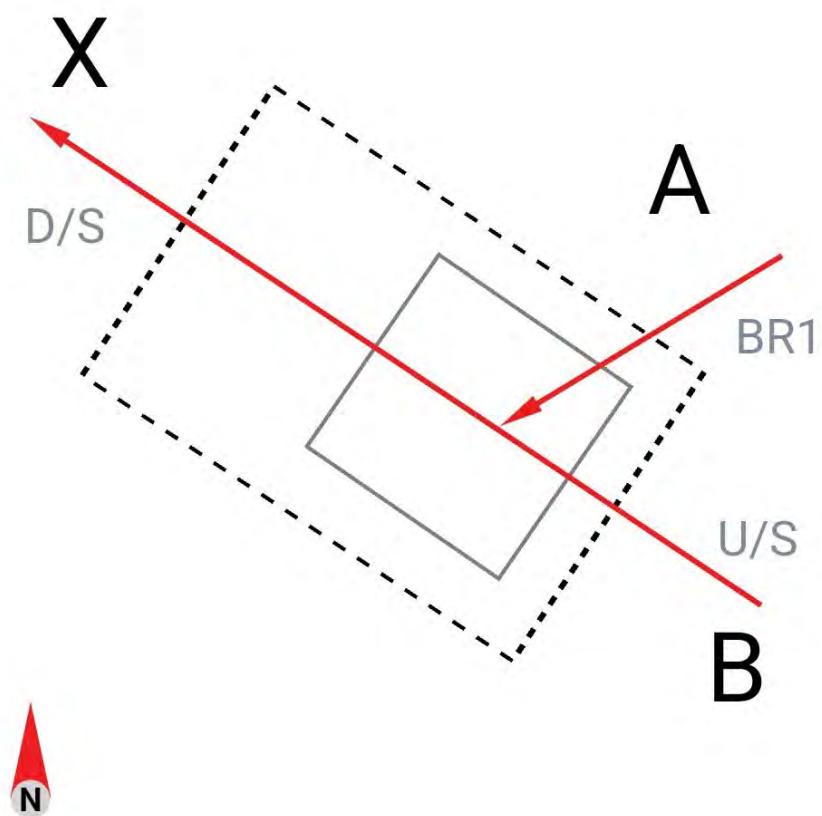
Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)		Pipe Material	Remark
				Height	Width		
A	3.54	133.29	Circular	150	x	Vitrified Clay	BR1
B	3.72	133.11	Circular	225	x	Vitrified Clay	U/S
C					x		
D					x		
E					x		
F					x		

Outgoing Pipes

X	3.74	133.09	Circular	225	x	Vitrified Clay	D/S
Y					x		
Z					x		

Notes

Chamber Sketch



Photograph



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	C4	Surveyor	Neil Symons
Cover Level	137.24m	Date	08/07/2024
Type	Manhole		

Cover Details

Service Type	Combined	Shape	Triangular
Size	550 x 550mm	Duty	Heavy
Material	Ductile/Cast Iron	Condition	OK
Padlocked	No	Grade	A

Shaft Details

Access	Irons	Size	600 x 600mm
Material	Brick	Depth	0.92m
Condition	Good		

Chamber Details

Size	1200 x 780mm	Material	Brick
Depth		Condition	Good
Benching Condition	Good	Channel Condition	Good

Incoming Pipes

Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)		Pipe Material	Remark
				Height	Width		
A	3.10	134.14	Circular	150	x	Vitrified Clay	BR1
B	4.54	132.70	Circular	225	x	Vitrified Clay	U/S
C					x		
D					x		
E					x		
F					x		

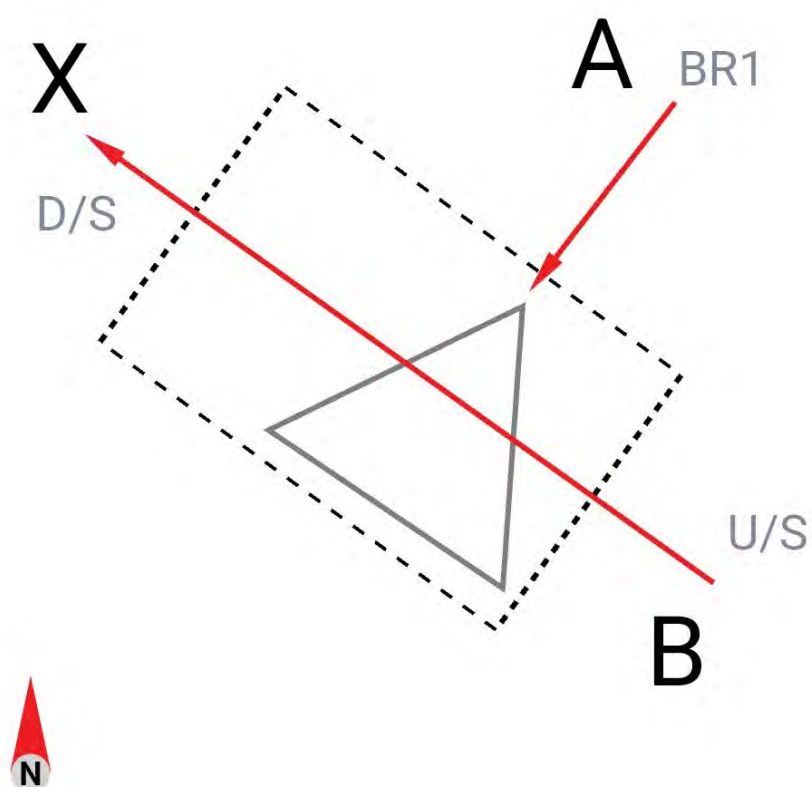
Outgoing Pipes

X	4.55	132.69	Circular	225	x	Vitrified Clay	D/S
Y					x		
Z					x		

Notes

Service running through manhole at 1.13

Chamber Sketch



Photograph



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	C6	Surveyor	Neil Symons
Cover Level	134.18m	Date	09/07/2024
Type	Manhole		

Cover Details

Service Type	Combined	Shape	Triangular
Size	550 x 550mm	Duty	Heavy
Material	Ductile/Cast Iron	Condition	OK
Padlocked	No	Grade	A

Shaft Details

Access	Irons	Size	600 x 600mm
Material	Brick	Depth	0.61m
Condition	Good		

Chamber Details

Size	1350mm	Material	PCC
Depth		Condition	Good
Benching Condition	Good	Channel Condition	Good

Incoming Pipes

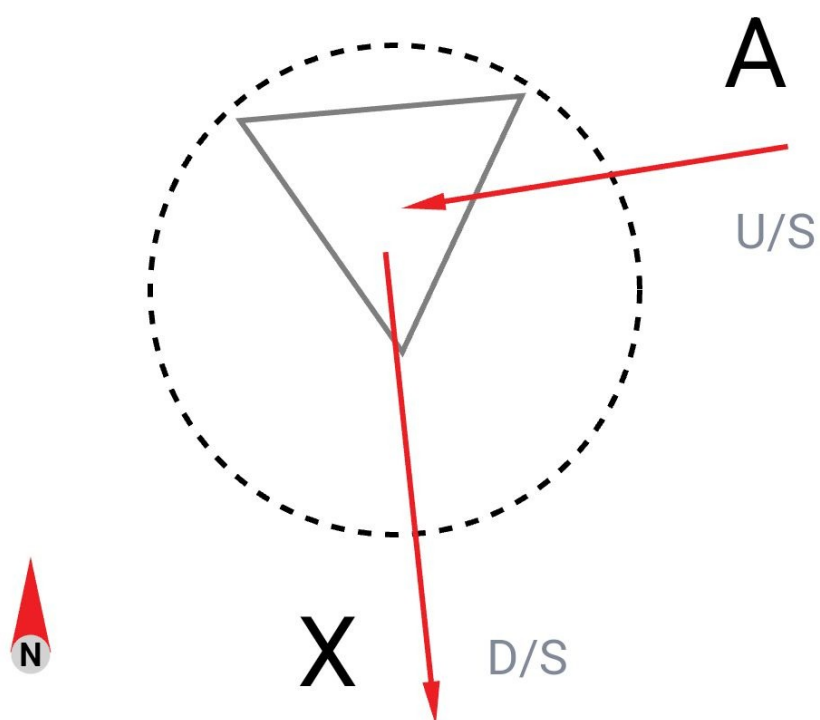
Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)		Pipe Material	Remark
				Height	Width		
A	2.81	131.37	Circular	300	x	Vitrified Clay	U/S
B					x		
C					x		
D					x		
E					x		
F					x		

Outgoing Pipes

X	2.83	131.35	Circular	300	x	Vitrified Clay	D/S
Y					x		
Z					x		

Notes

Chamber Sketch



Photograph



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	MH3	Surveyor	Neil Symons
Cover Level	136.01m	Date	09/07/2024
Type	Catchpit		

Cover Details

Service Type	Surface Water	Shape	
Size		Duty	
Material		Condition	
Padlocked		Grade	

Shaft Details

Access		Size	600 x 600mm
Material	Brick	Depth	1.03m
Condition	Fair		

Chamber Details

Size	300mm	Material	Unknown Material
Depth	134.18m	Condition	
Benching Condition		Channel Condition	

Incoming Pipes

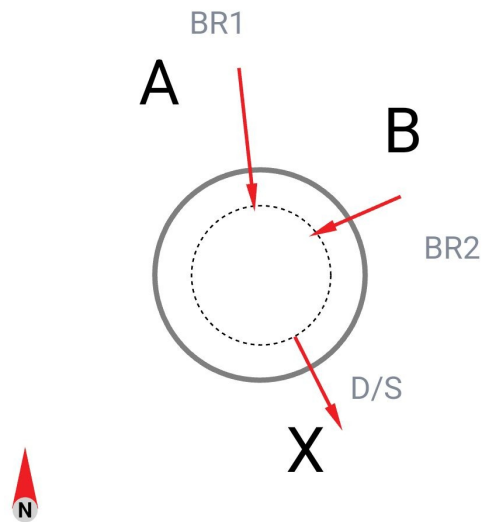
Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)		Pipe Material	Remark
				Height	Width		
A	1.12	134.89	Circular	300	x	Vitrified Clay	BR1
B	1.12	134.89	Circular	150	x	Cast Iron	BR2
C					x		
D					x		
E					x		
F					x		

Outgoing Pipes

X	1.72	134.29	Circular	225	x	Vitrified Clay	D/S
Y					x		
Z					x		

Notes

Chamber Sketch



Photograph 1



Photograph 2



Photograph 3



Manhole Record Card



Job No	TS24-386	Project	Stakehill Industrial Estate
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Manhole ID	MH4	Surveyor	Neil Symons
Cover Level	143.61m	Date	10/07/2024
Type	Catchpit		

Cover Details

Service Type	Surface Water	Shape	2 x Triangle
Size	600 x 600mm	Duty	Heavy
Material	Ductile/Cast Iron	Condition	Re-Set
Padlocked	No	Grade	A

Shaft Details

Access	Irons	Size	
Material		Depth	
Condition			

Chamber Details

Size	900mm	Material	PCC
Depth	141.33m	Condition	Good
Benching Condition		Channel Condition	

Incoming Pipes

Pipe	Depth to invert (m)	Invert Level (m)	Shape	Size (mm)		Pipe Material	Remark
				Height	Width		
A	2.00	141.61	Circular	150	x	Vitrified Clay	U/S
B					x		
C					x		
D					x		
E					x		
F					x		

Outgoing Pipes

X	2.02	141.59	Circular	150	x	Vitrified Clay	D/S
Y					x		
Z					x		

Notes

Cover & frame loose
