



R&R Visual, Inc.

1828 W. Olson Rd.
Rochester, IN 46975
Phone: (800) 776-5653
Fax: 574-223-7953
www.seepipe.com

DATA REPORT FOR SONAR/CCTV PIPELINE INSPECTION

1 River Rd Inspection

Prepared for:

Utility Manager
Shop
Golf St
Rochester, NY 46975

Prepared by:

R&R Visual
1828 W. Olson Rd.
Rochester, IN. 46975

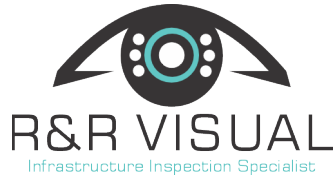


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**R&R Visual, Inc.**

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March 28, 2023

Utility Manager
Shop
Golf St
Rochester, NY 46975

Data Report: 1 River Rd Inspection

Location: The sonar/CCTV inspections started at N. West St on W. Fort St and continued into the Wastewater Department fenced in area.

Dear Utility Manager

As requested, we have generated a report for the city. R&R Visual collected the sonar data used to generate this report.

This report uses English units as the primary units.

The inspection consisted of lines that were 42 to 54 inch combined sewer pipes.

Standard sonar pipeline inspection instrumentation includes a sonar frequency profiling head, float, winching system, and proprietary software. The caliper head was positioned at the manhole and pulled through at a specified rate while capturing 360-degree profiles at set increments. The caliper head echoes sonar frequency sound from the pipe walls to measure the distance from the head. Each distance reading is stored with the head's relative position (in degrees) to the top of the pipe. These readings allow the software to generate points in a three-dimensional space to create a profile ring at the given distance.

To acquire sediment and debris calculations, the area of fluid filled space is determined at each profile ring. Collectively these calculations are used to figure the overall volume (or space) inside of the pipe. The ideal volume is the full diameter of the pipe over the total distance. The fluid volume is deducted from the ideal volume to estimate the amount of sediment and debris in the pipe segment.



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Summary of Condition

Location	Upstream MH	Downstream MH	Pipe Size	Pipe Length	Pipe Material	Problem	Average Debris Amount	Debris Volume
Front St	SCMH-5182	SCMH-6168	42"	348.50'	RCP	Aggregate Visible	1.40"	53.06 Cu Ft
Front St	SCMH-6168	SCMH-3521	42"	595.80'	RCP	Infiltration	.56"	44.00 Cu Ft
Front St	SCMH-3521	SCMH-3536	42"	262.60'	RCP	Aggregate Visible	1.48"	53.70 Cu Ft
Front St	SCMH-3536	SCMH-6202	42"	205.60'	RCP	Aggregate Visible	.18"	3.11 Cu Ft
Front St	SCMH-6202	SCMH-3539	42"	102.90'	RCP	Aggregate Visible	1.09"	15.26 Cu Ft
Front St	SCMH-3539	SCMH-6504	42"	85.50'	RCP	Aggregate Visible	0.00"	0.00 Cu Ft



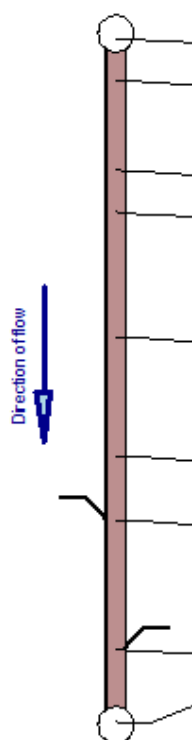
R&R started these inspections at SCMH-5182 headed downstream. Continuing down into the Shop Wastewater Department fenced in area. There were a few spots in these lines that had some debris in them. There were also spots that had some aggregate visible and infiltration. When trying to send a piece of equipment through SCMH-5182 to SCMH-6168 it did get hung up on something for a little while. It could have been some debris underwater, but when it came out it had a very large ball of rags attached to it.

SCMH-5182 to SCMH-6168

Pipe Segment Graphics

General information				Location							
Project	1 River Rd Inspection			Drainage Area							
Owner	Utility Manager			Pipe Segment Ref.	SCMH-5182						
Surveyed by	Evan			Location Code							
Date	3/21/2023	Time	10:37	Street	W Fort St						
Direction of Survey	Downstream			City	Shop						
Pipe											
Pipe Use	Combined Pipe		Total Length	348.500 ft							
Dimension [in]	42		Length Surveyed	348.500 ft							
Shape	Circular		Upstream MH	SCMH-5182							
Material	Reinforced Concrete Pipe		Downstream MH	SCMH-6168							
Quick Rating		Overall Rating (OR)		Rating Index (RI)		Segment Grade					
QSR	QMR	QOR	Structural	O&M	Structural	O&M	1	2	3	4	5
							Structural O&M				

Drawing direction: In inspection direction

	Dist.	Code	Picture	Video	Description
 <p>SCMH-5182</p> <p>Direction of flow</p> <p>SCMH-6168</p>	0.00	AMH MWL		00:00:06	Access Point Manhole, SCMH-5182 Miscellaneous Water Level, Water level = 55 %
	21.40	DSZ	001	00:01:00	Start (1): Deposits Settled Other from 5 to 7 o'clock, Loss of cross sectional area = 10 %, Debris.
	67.10	LL	002	00:02:32	Line Left, Deviation = 25 %
	88.30	SAV	003	00:03:06	Start (2): Surface Damage Aggregate Visible from 9 to 3 o'clock
	152.80	RFJ	004	00:04:23	Roots Fine Joint from 10 to 2 o'clock, Joint
	213.20	RMB	005	00:06:25	Roots Medium Barrel from 11 to 1 o'clock, Loss of cross sectional area = 5 %
	246.20	RML	006	00:07:20	Roots Medium Lateral from 3 to 4 o'clock, Loss of cross sectional area = 10 %
		TB	007	00:07:23	Tap Break-In/Hammer at 2 o'clock, Diameter = 6 in.
	311.80	TBI	008	00:09:14	Tap Break-In Intruding at 10 o'clock, Diameter = 4 in., Intrusion = 4 in.
348.50	SAV		00:10:59	End (2): Surface Damage Aggregate Visible from 9 to 3 o'clock	
	DSZ		00:11:02	End (1): Deposits Settled Other from 5 to 7 o'clock, Loss of cross sectional area = 10 %, Debris.	
	AMH	009	00:11:05	Access Point Manhole, SCMH-5182	

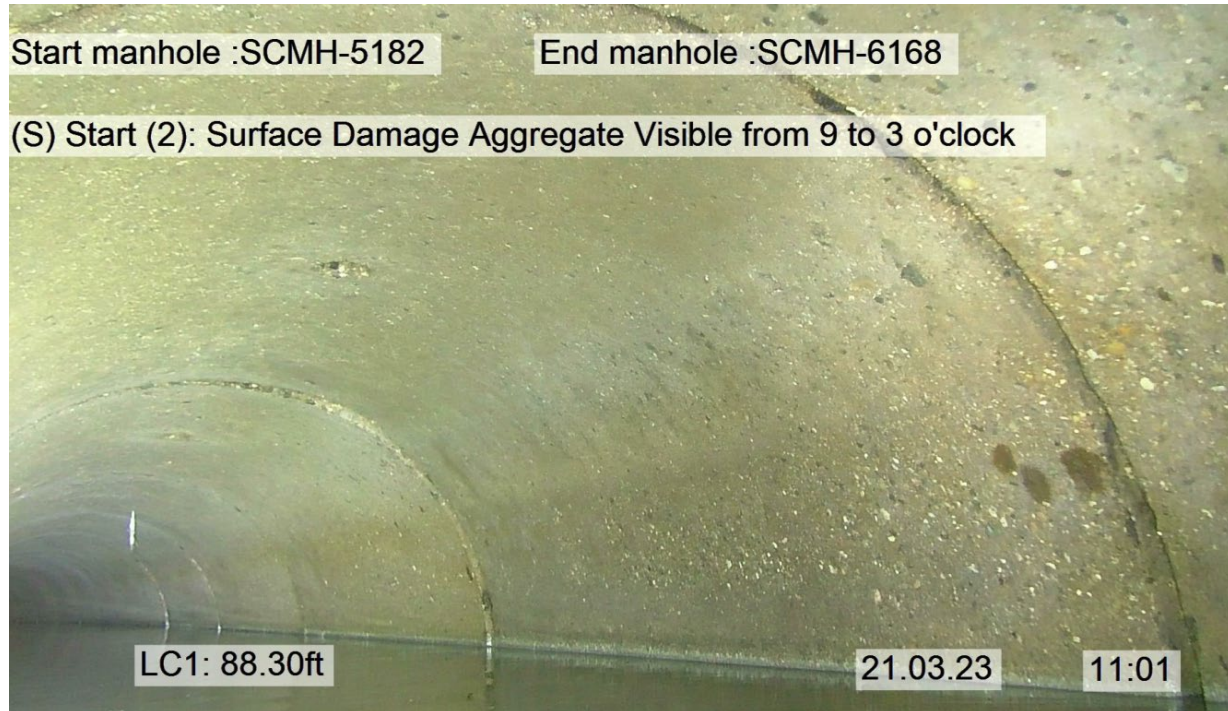


Image at 88.30' shows aggregate visible.



Image at 213.20' shows medium roots.

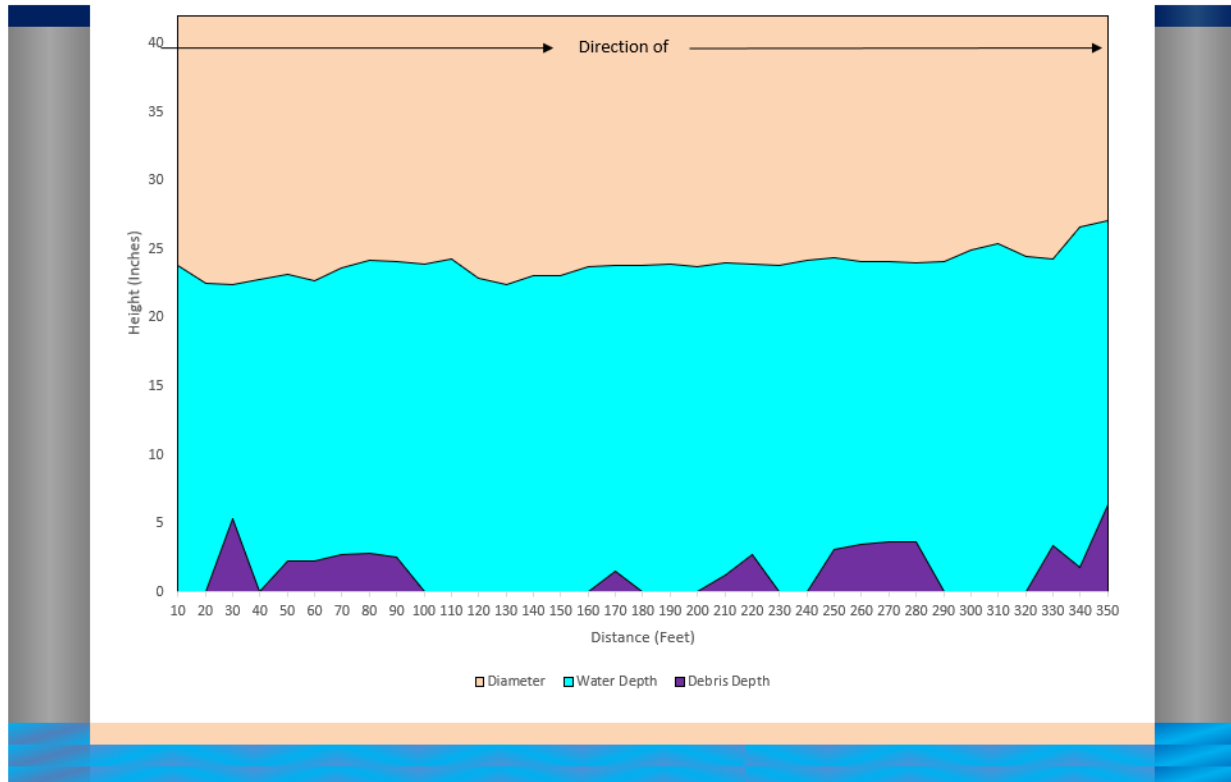
Pipeline Debris Graph

Date: 03/21/2023 **Time:** 12:00 PM
Operator: Evan
Total Length: 348.50'

Diameter: 42 Inches
Avg. Debris Depth: 1.40 Inches
Avg. Water Level: 23.92 Inches
Approx. Debris Vol.: 53.06 Cubic Ft.

SCMH-5182

SCMH-6168



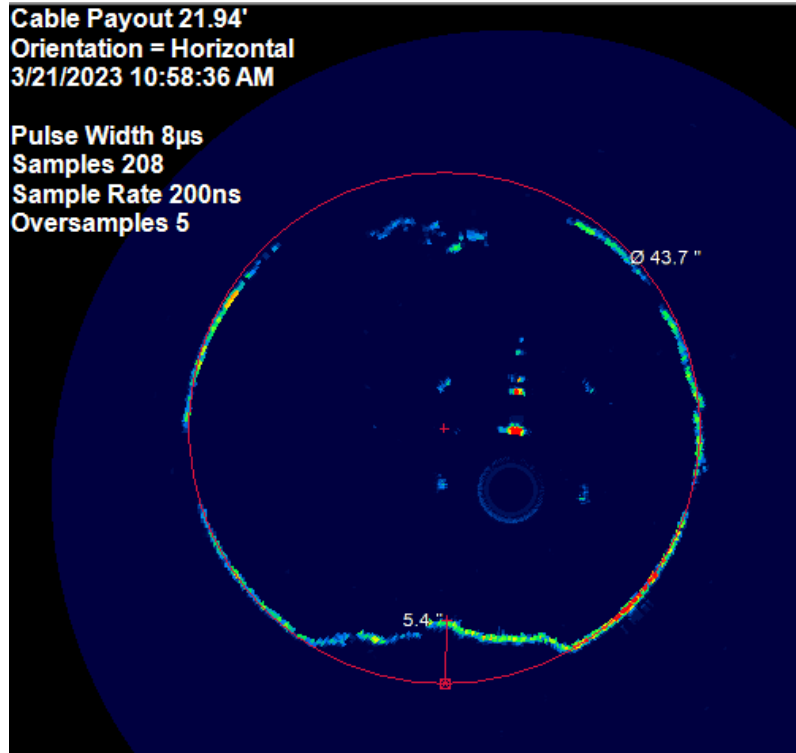


Image at 21.94' shows 5.4" of debris.

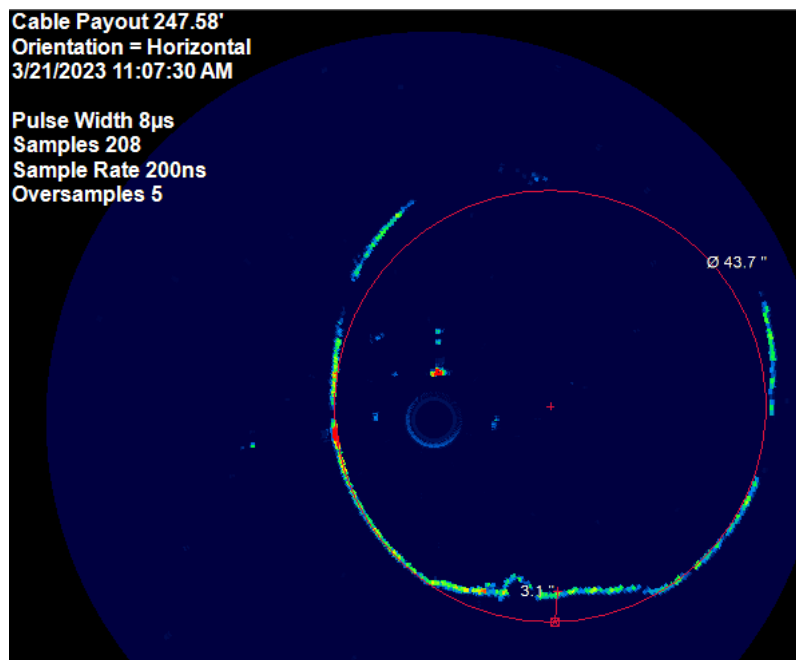


Image at 247.58' shows 3.1" of debris.

SCMH-6168 to SCMH-3521

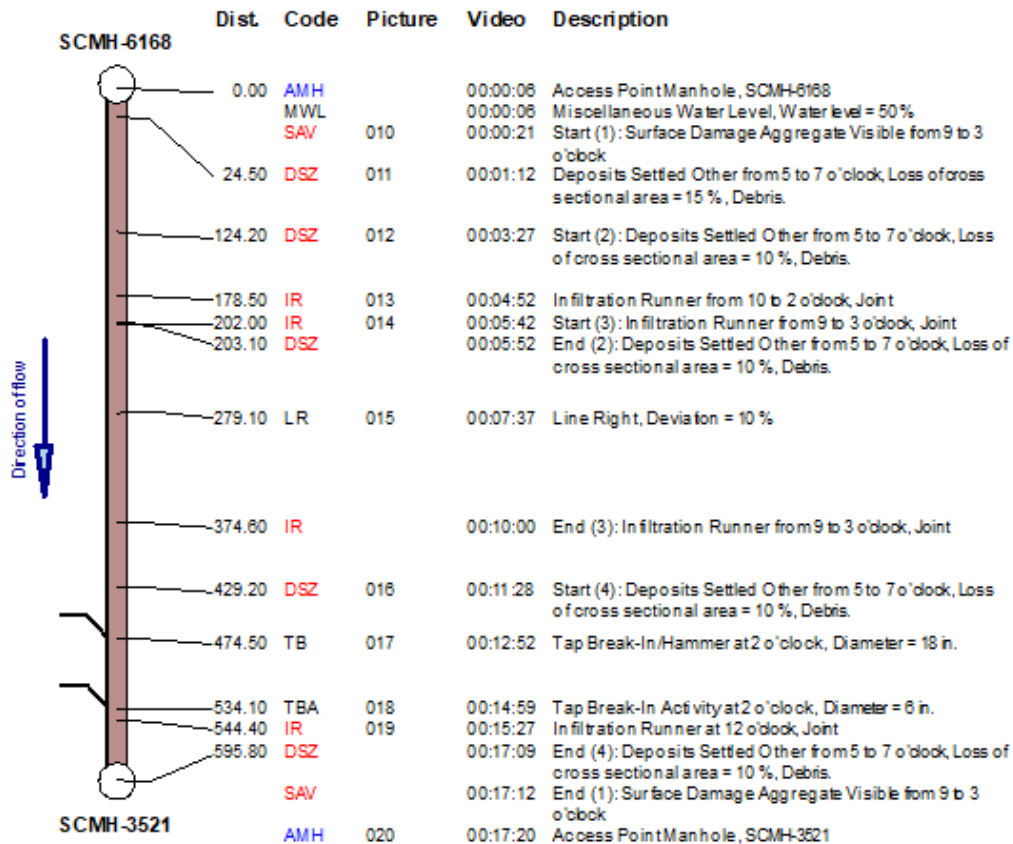
Pipe Segment Graphics

General information				Location	
Project	1 River Rd Inspection			Drainage Area	
Owner	Utility Manager			Pipe Segment Ref.	SCMH-6168
Surveyed by	Evan			Location Code	
Date	3/21/2023	Time	11:18	Street	W Fort St
Direction of Survey	Downstream			City	Shop

Pipe					
Pipe Use	Combined Pipe		Total Length	595.800 ft	
Dimension [in]	42		Length Surveyed	595.800 ft	
Shape	Circular		Upstream MH	SCMH-6168	
Material	Reinforced Concrete Pipe		Downstream MH	SCMH-3521	

Quick Rating			Overall Rating (OR)		Rating Index (RI)		Segment Grade				
QSR	QMR	QOR	Structural	O&M	Structural	O&M	1	2	3	4	5

Drawing direction: In inspection direction



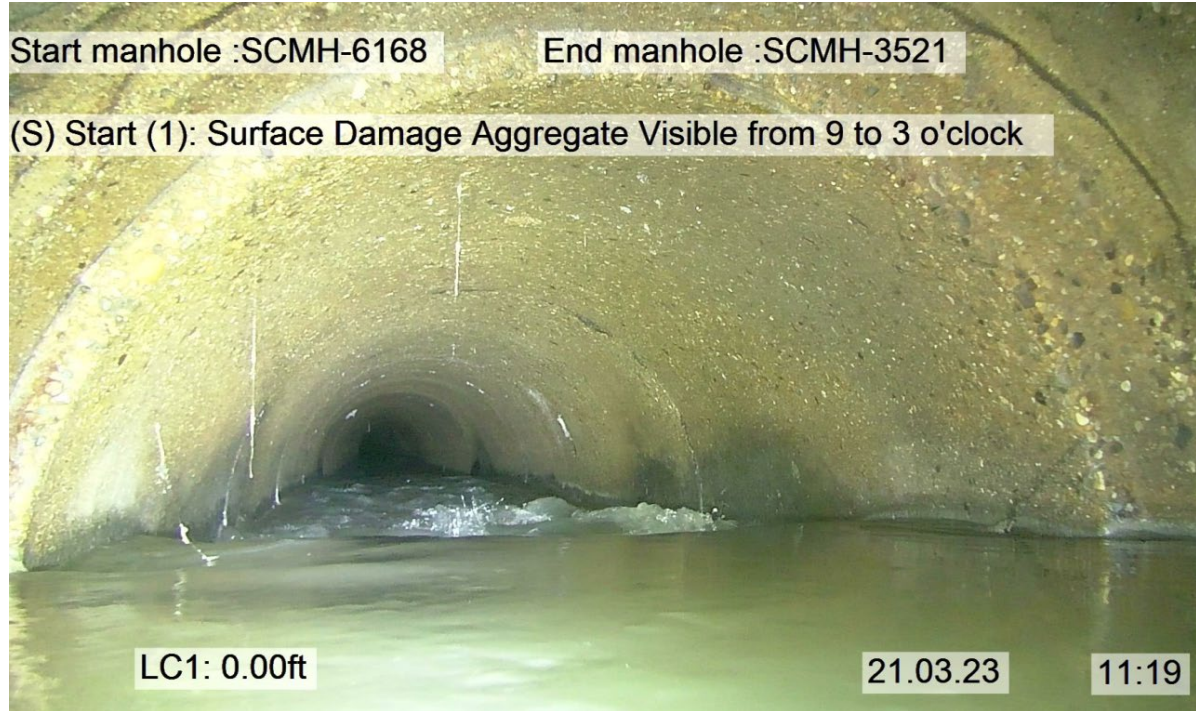


Image at 0.00' shows aggregate visible.



Image at 178.50 shows infiltration.

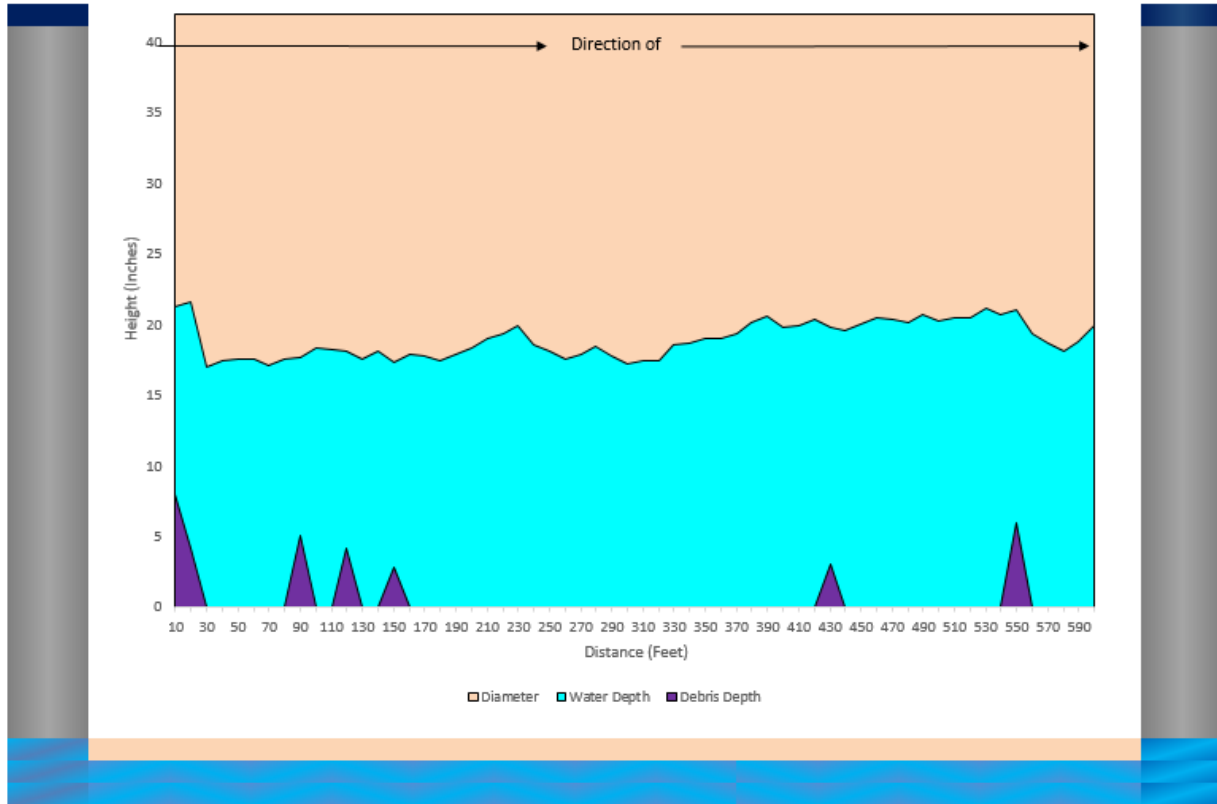
Pipeline Debris Graph

Date: 03/22/2023 **Time:** 11:00 AM
Operator: Evan
Total Length: 595.80'

Diameter: 42 Inches
Avg. Debris Depth: 0.56 Inches
Avg. Water Level: 18.97 Inches
Approx. Debris Vol.: 44.00 Cubic Ft.

SCMH-616E 45

SCMH-3521



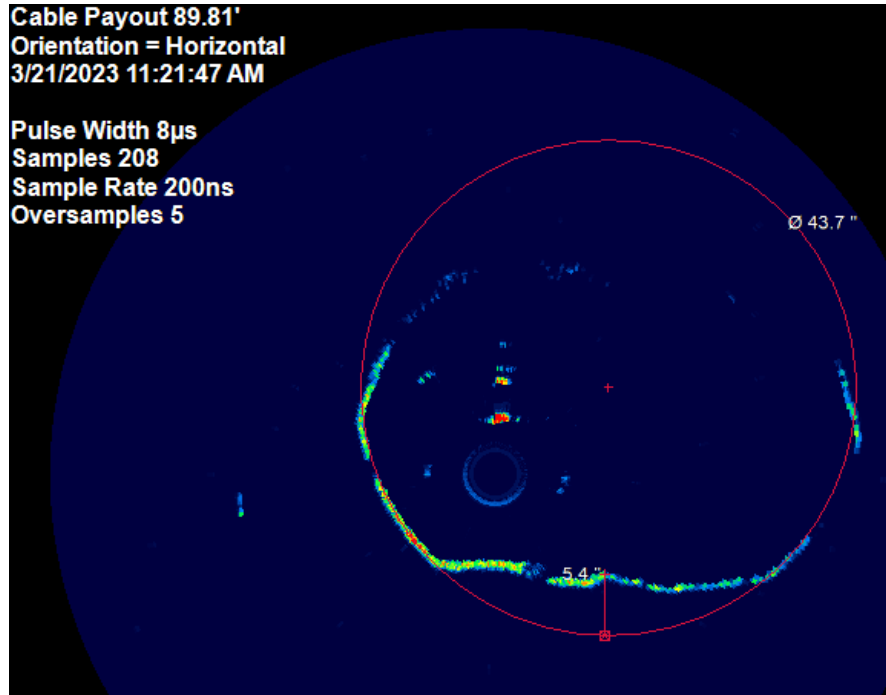


Image at 89.81' shows 5.4" of debris.

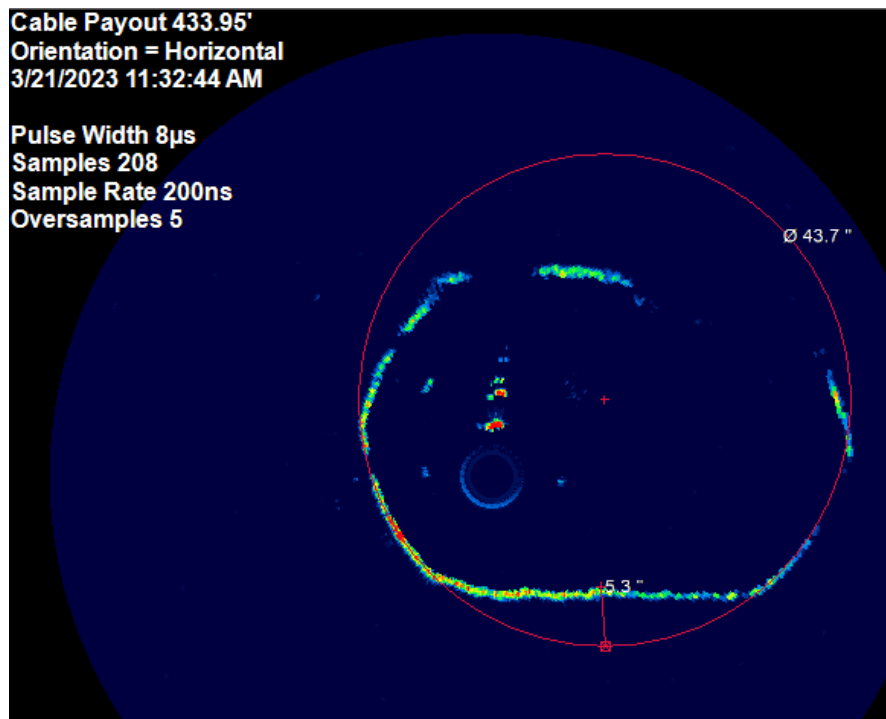


Image at 433.95' shows 5.3" of debris.

SCMH-3521 to SCMH-3536

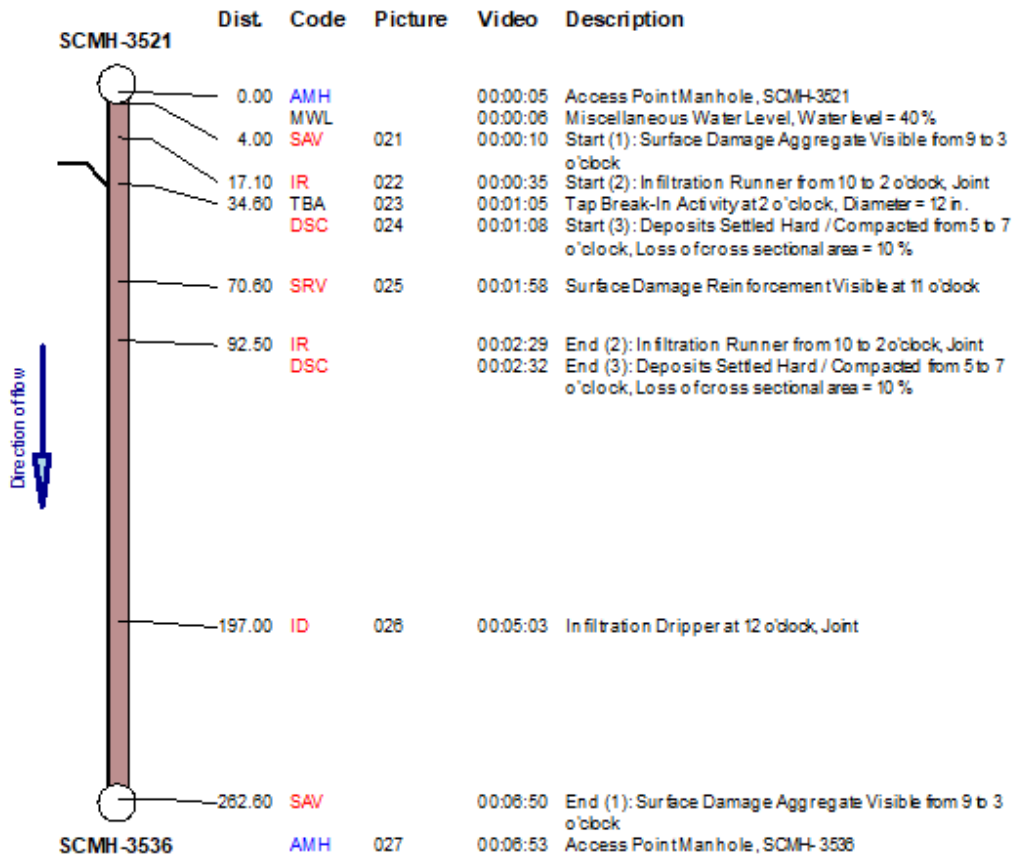
Pipe Segment Graphics

General information				Location	
Project	1 River Rd Inspection			Drainage Area	
Owner	Utility Manager			Pipe Segment Ref.	SCMH-3521
Surveyed by	Evan			Location Code	
Date	3/21/2023	Time	15:26	Street	W Fort St
Direction of Survey	Downstream			City	Shop

Pipe				
Pipe Use	Combined Pipe		Total Length	262.600 ft
Dimension [in]	42		Length Surveyed	262.600 ft
Shape	Circular		Upstream MH	SCMH-3521
Material	Reinforced Concrete Pipe		Downstream MH	SCMH-3536

Quick Rating			Overall Rating (OR)		Rating Index (RI)		Segment Grade				
QSR	QMR	QOR	Structural	O&M	Structural	O&M	1	2	3	4	5

Drawing direction: In inspection direction



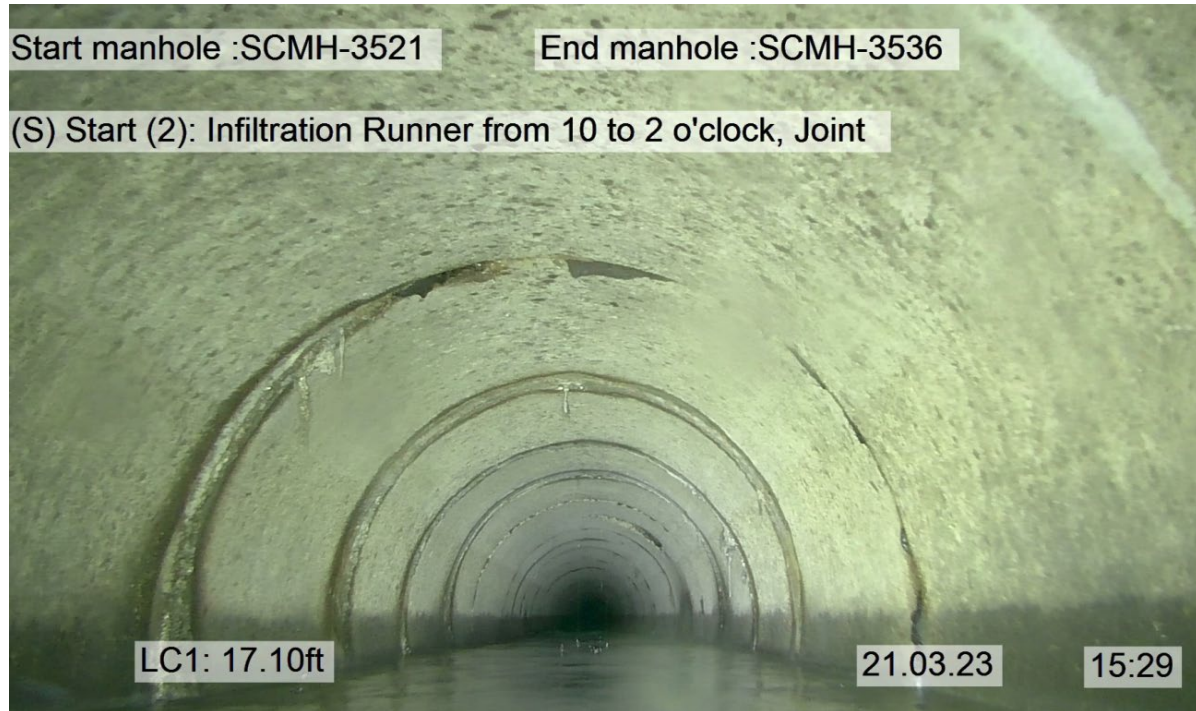


Image at 17.10' shows infiltration.

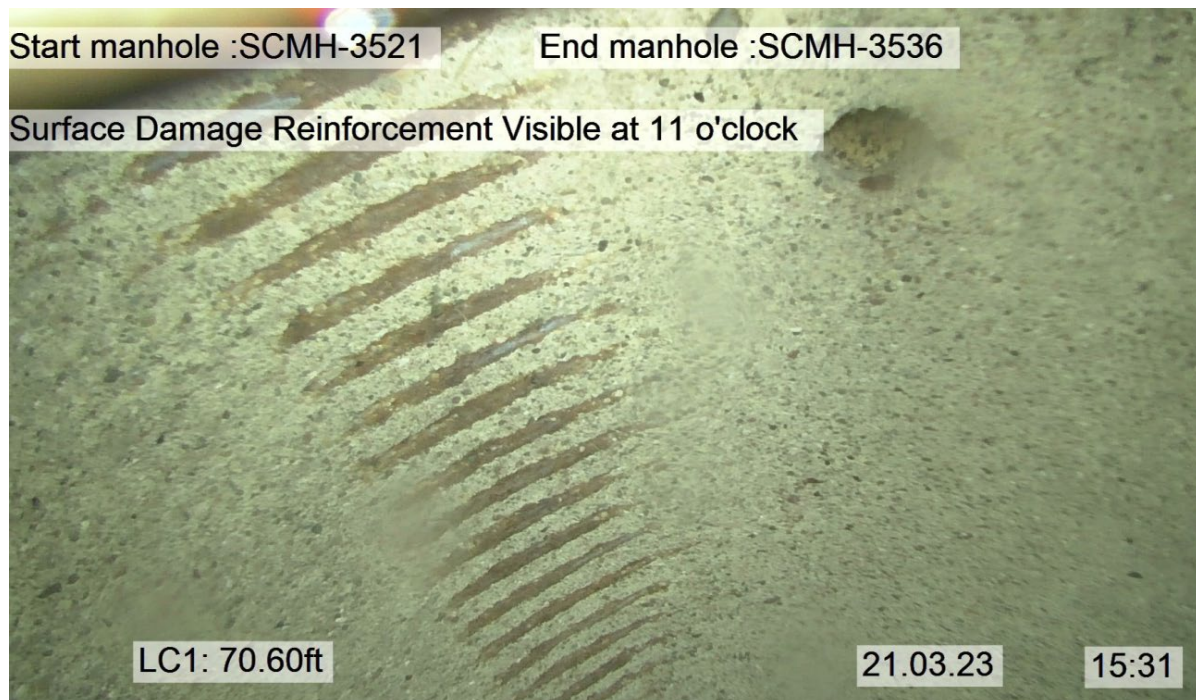


Image at 70.60' shows reinforcement visible.

Pipeline Debris Graph

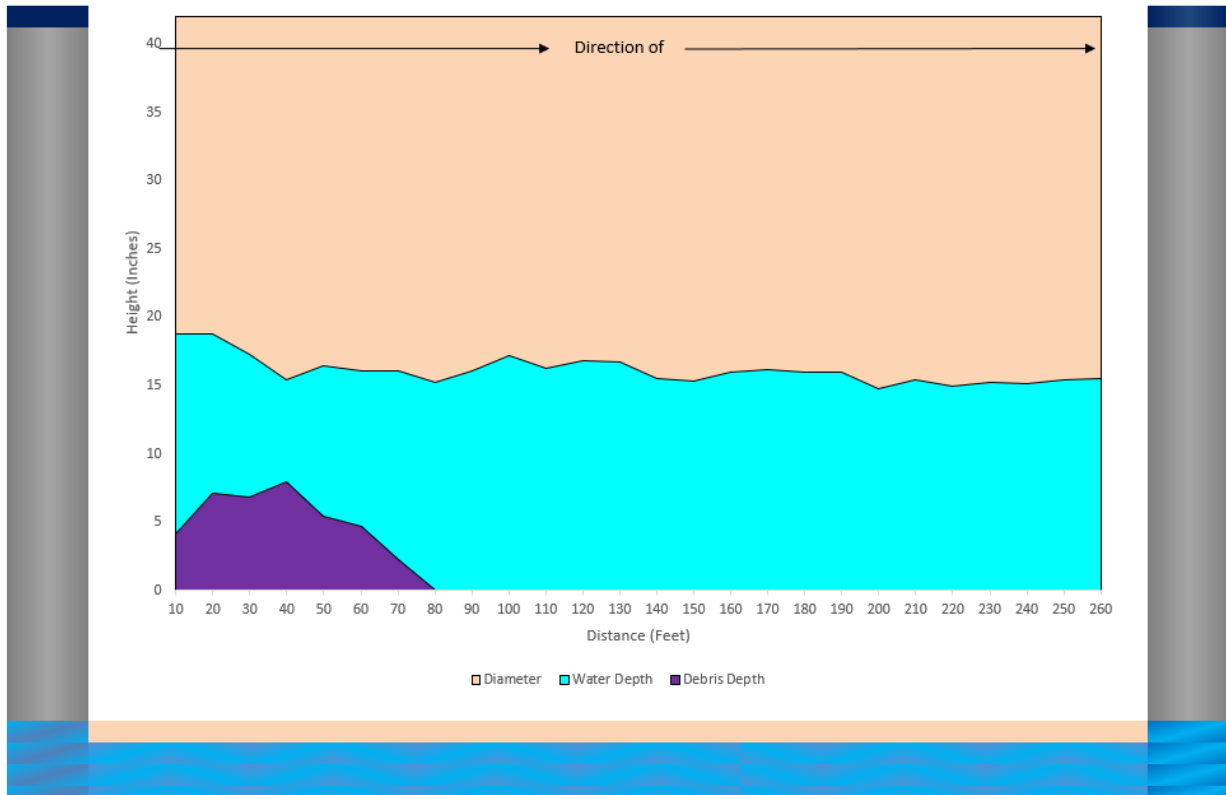
Date: 3/21/2023 **Time:** 2:50 PM
Operator: Evan
Total Length: 262.60'

Diameter: 42 Inches
Avg. Debris Depth: 1.48 Inches
Avg. Water Level: 16.10 Inches
Approx. Debris Vol.: 53.70 Cubic Ft.

SCMH-3521

45

SCMH-3536



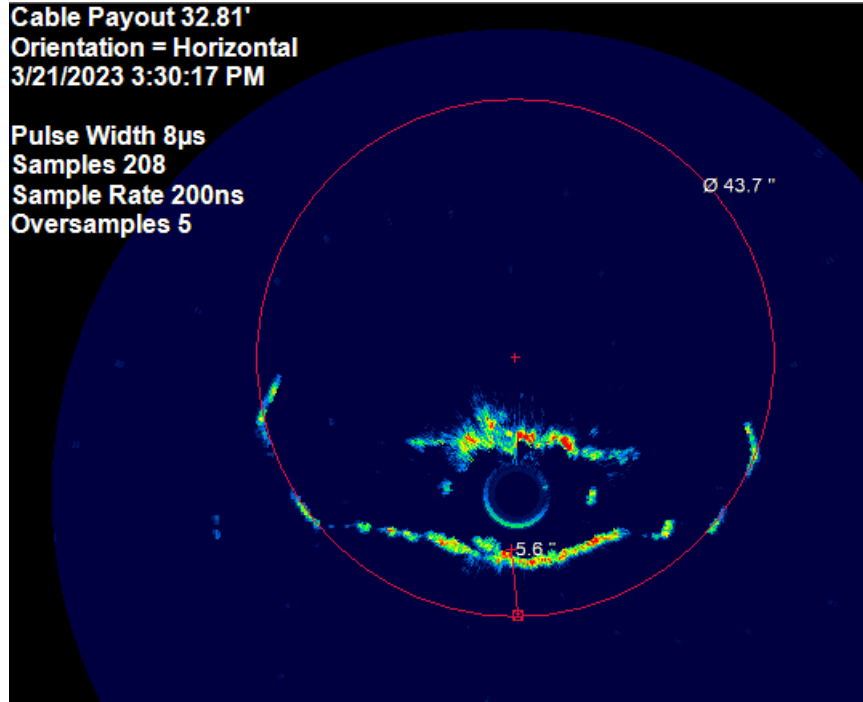


Image at 32.81' shows 5.6" of debris.

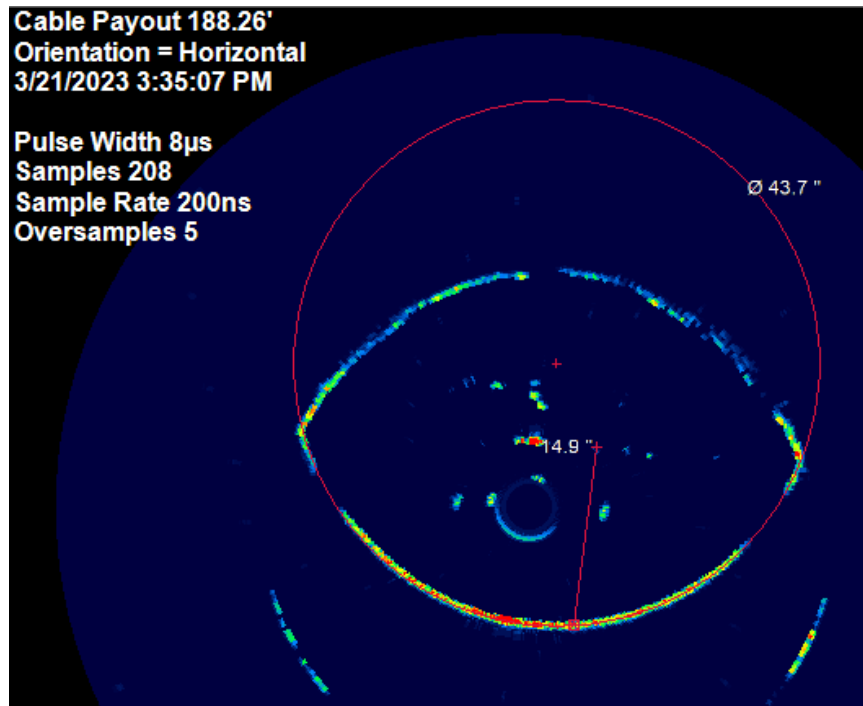


Image at 188.26' shows 14.9" of water.

SCMH-3536 to SCMH-6202

Pipe Segment Graphics

General information				Location	
Project	1 River Rd Inspection			Drainage Area	
Owner	Utility Manager			Pipe Segment Ref.	SCMH-3536
Surveyed by	Evan			Location Code	
Date	3/21/2023	Time	15:40	Street	W Fort St
Direction of Survey	Downstream			City	Shop

Pipe			
Pipe Use	Combined Pipe	Total Length	205.600 ft
Dimension [in]	42	Length Surveyed	205.600 ft
Shape	Circular	Upstream MH	SCMH-3536
Material	Reinforced Concrete Pipe	Downstream MH	SCMH-6202

Quick Rating			Overall Rating (OR)		Rating Index (RI)		Segment Grade				
QSR	QMR	QOR	Structural	O&M	Structural	O&M	1	2	3	4	5
			Structural	O&M	Structural	O&M	1	2	3	4	5
							Structural O&M				

Drawing direction: In inspection direction

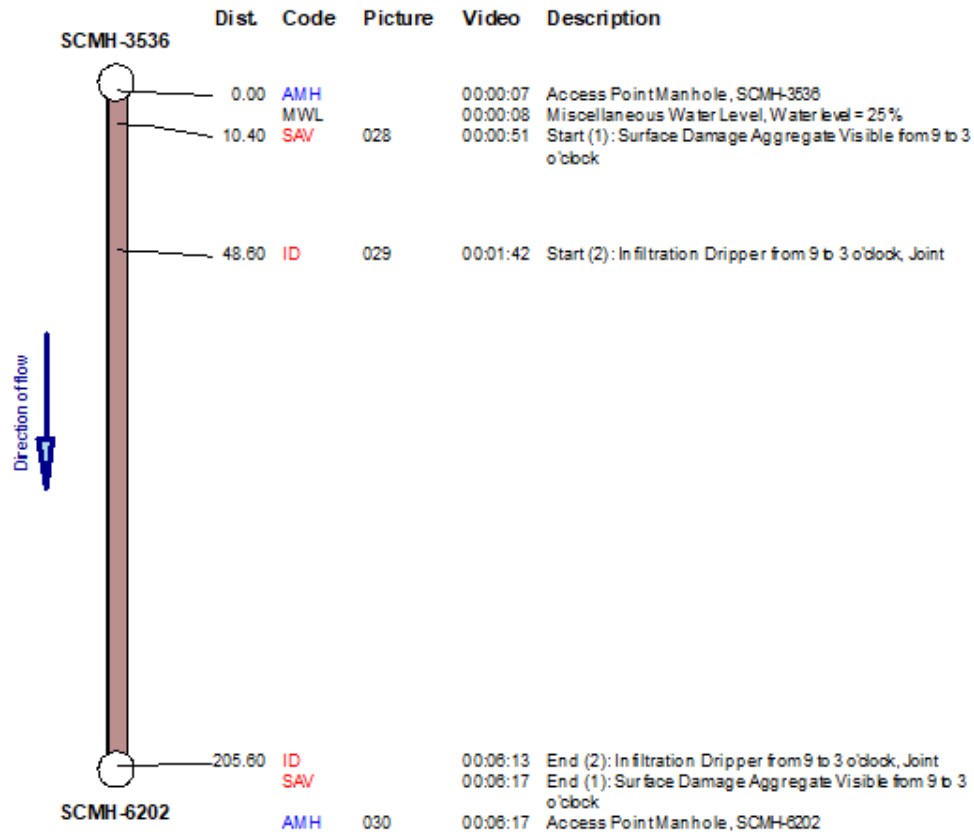




Image at 10.40' shows aggregate visible.



Image at 48.60' shows infiltration.

Pipeline Debris Graph

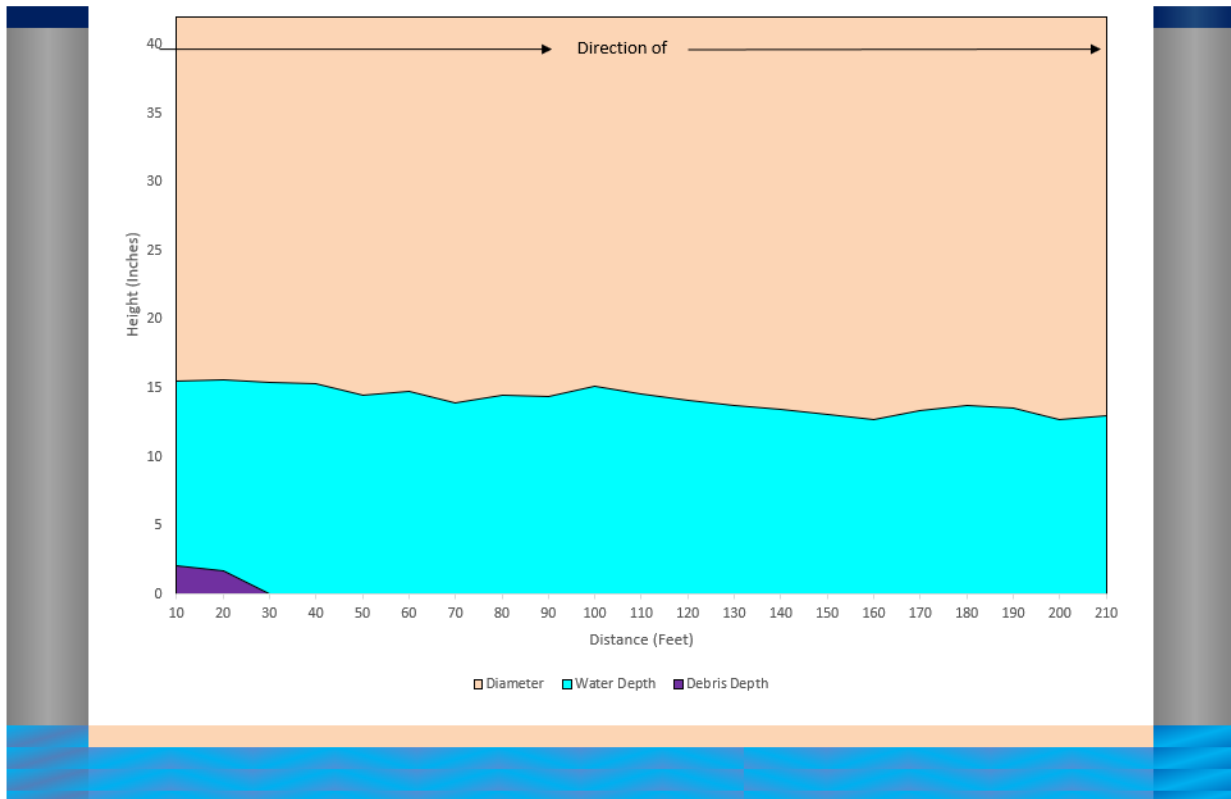
Date: 3/21/2023 **Time:** 3:00 PM
Operator: Evan
Total Length: 205.60'

Diameter: 42 Inches
Avg. Debris Depth: 0.18 Inches
Avg. Water Level: 14.15 Inches
Approx. Debris Vol.: 3.11 Cubic Ft.

SCMH-3536

45

SCMH-6202



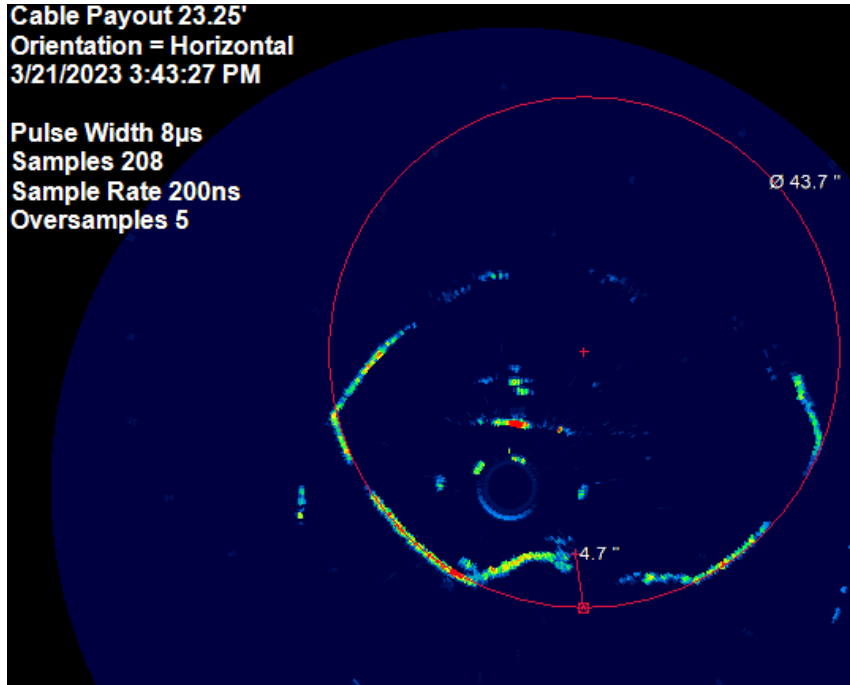


Image at 23.25' shows 4.7" of debris.

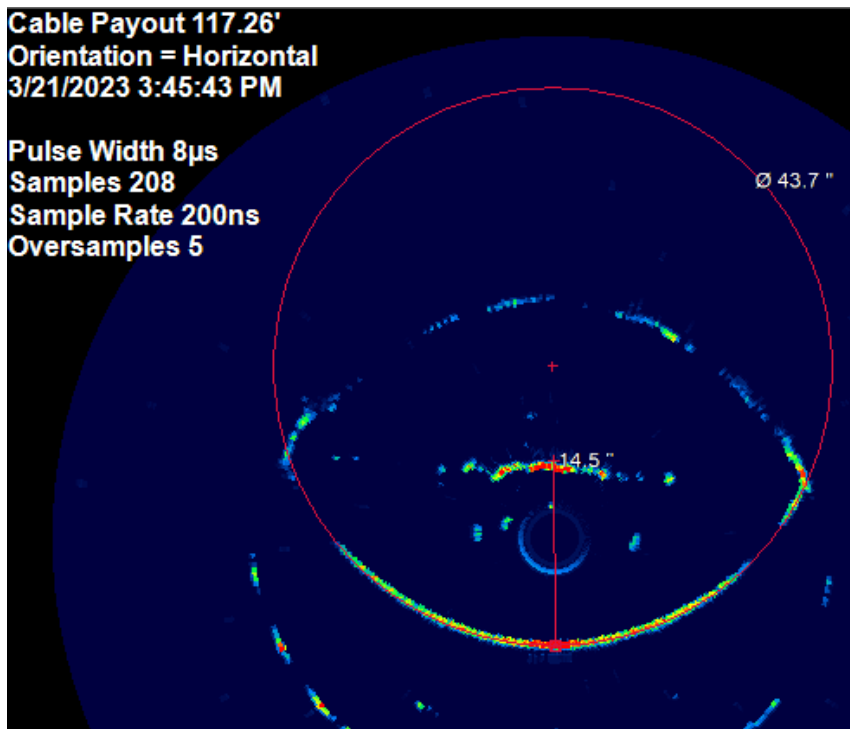


Image at 117.26' shows 14.5" of debris.

SCMH-6202 to SCMH-3539

Pipe Segment Graphics					
General information			Location		
Project	1 River Rd Inspection		Drainage Area		
Owner	Utility Manager		Pipe Segment Ref.	SCMH-6202	
Surveyed by	Evan		Location Code		
Date	3/21/2023	Time 15:52	Street	W Fort St	
Direction of Survey	Downstream		City	Shop	
Pipe					
Pipe Use	Combined Pipe		Total Length	102.900 ft	
Dimension [in]	42		Length Surveyed	102.900 ft	
Shape	Circular		Upstream MH	SCMH-6202	
Material	Reinforced Concrete Pipe		Downstream MH	SCMH-3539	
Quick Rating		Overall Rating (OR)		Rating Index (RI)	
QSR	QMR	QOR	Structural	O&M	Structural O&M
			Segment Grade 1 2 3 4 5		
			Structural O&M		

Drawing direction: In inspection direction

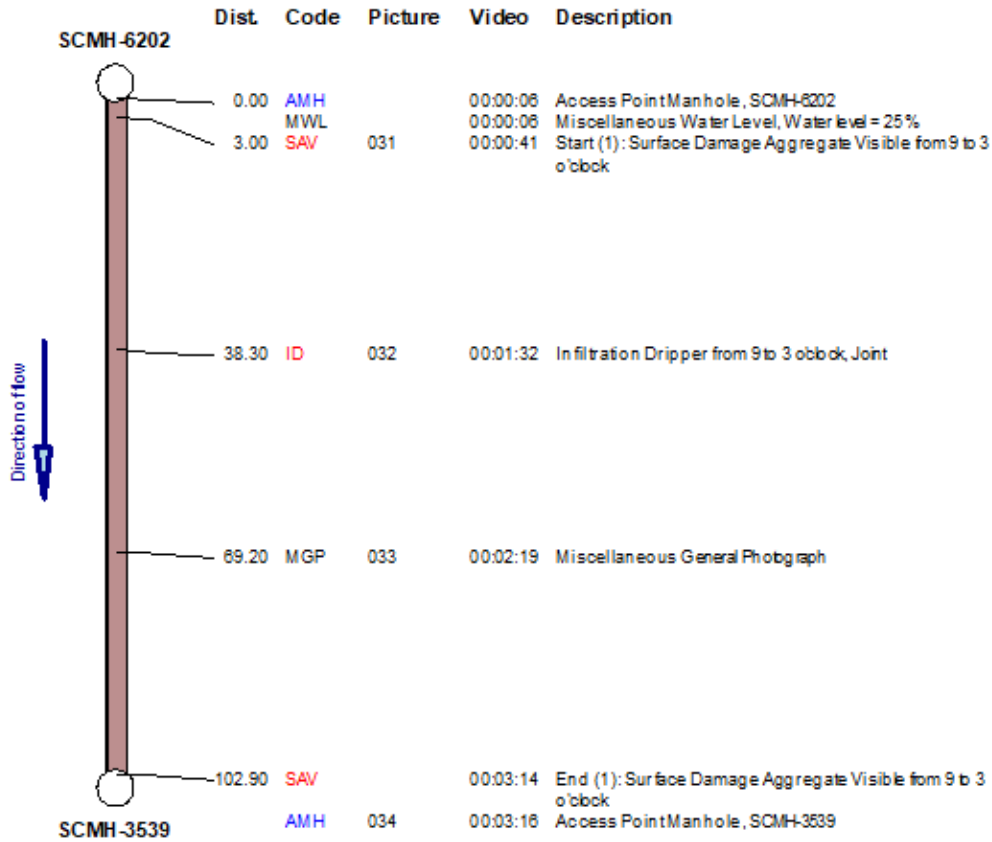




Image at 3.50' shows aggregate visible.



Image at 38.30' shows infiltration.

Pipeline Debris Graph

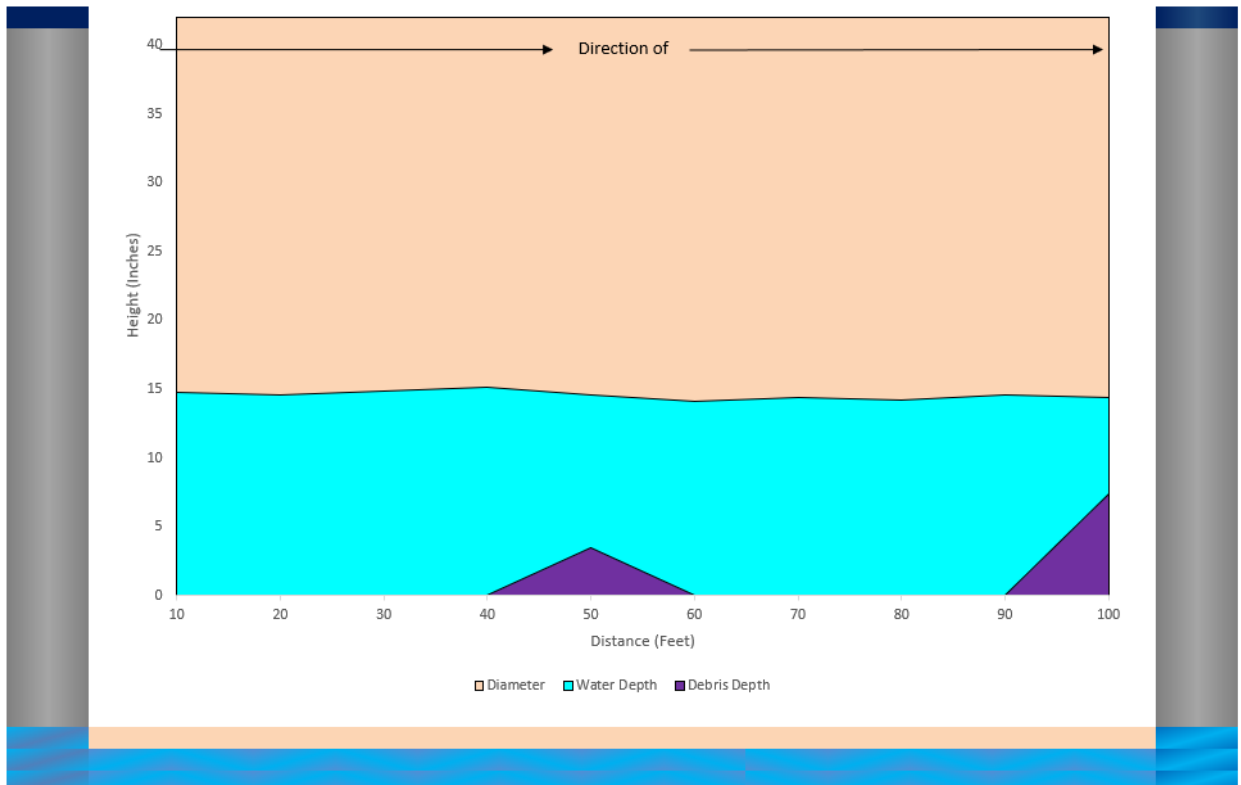
Date: 3/21/2023 **Time:** 3:50 PM
Operator: Evan
Total Length: 102.90'

Diameter: 42 Inches
Avg. Debris Depth: 1.09 Inches
Avg. Water Level: 14.57 Inches
Approx. Debris Vol.: 15.26 Cubic Ft.

SCMH-6202

45

SCMH-3539



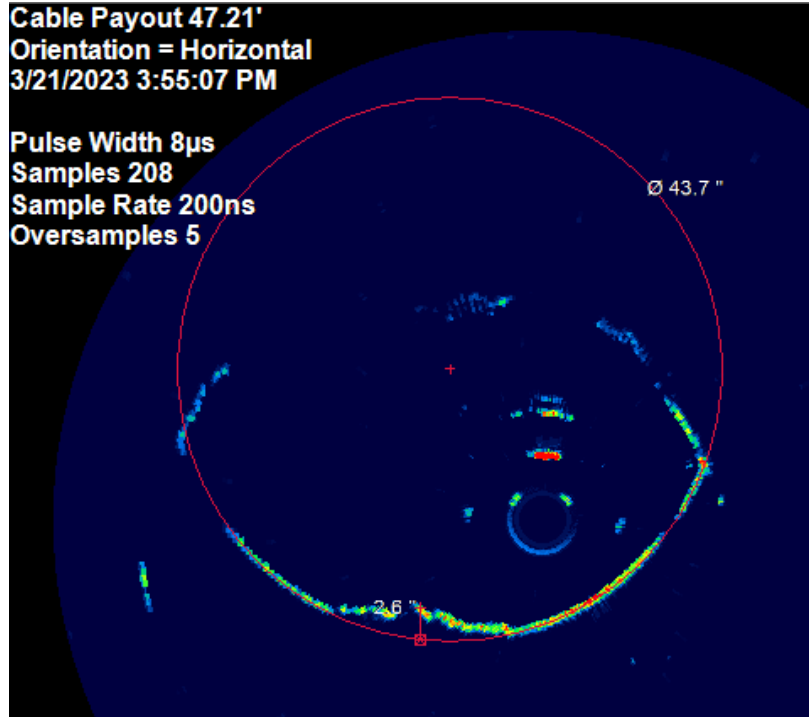


Image at 47.21' shows 2.6" of debris.

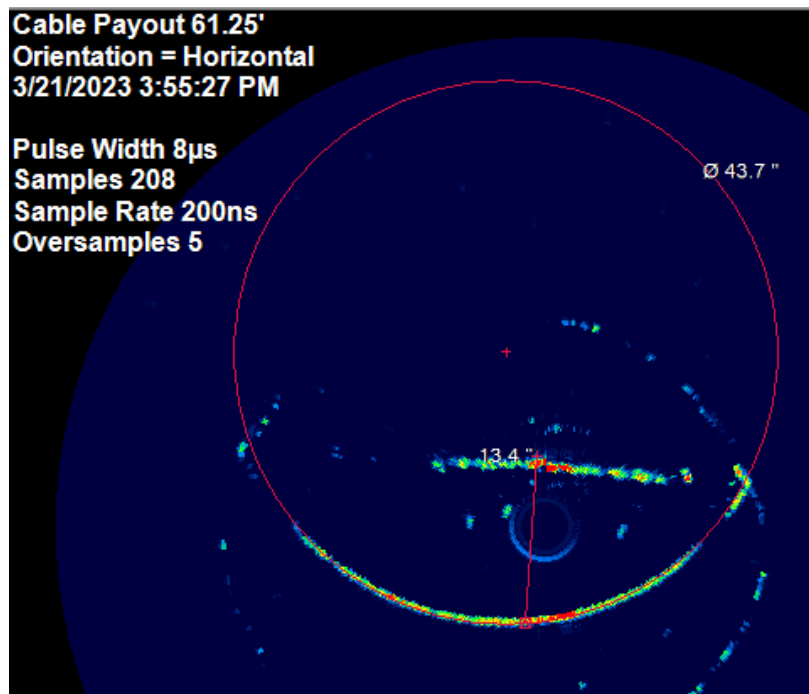
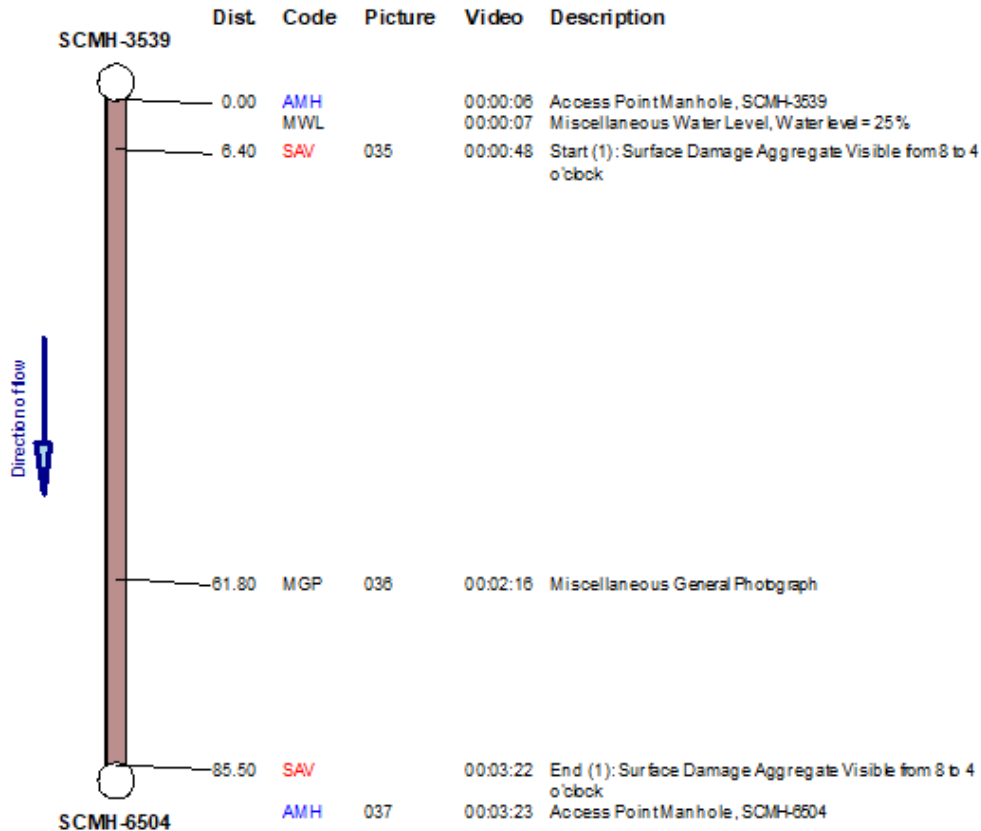


Image at 61.25' shows 13.4" of water.

SCMH-3539 to SCMH-6504

Pipe Segment Graphics					
General information			Location		
Project	1 River Rd Inspection		Drainage Area		
Owner	Utility Manager		Pipe Segment Ref.	SCMH-3539	
Surveyed by	Evan		Location Code		
Date	3/21/2023	Time 15:59	Street	W Fort St	
Direction of Survey	Downstream		City	Shop	
Pipe					
Pipe Use	Combined Pipe		Total Length	85.500 ft	
Dimension [in]	42		Length Surveyed	85.500 ft	
Shape	Circular		Upstream MH	SCMH-3539	
Material	Reinforced Concrete Pipe		Downstream MH	SCMH-6504	
Quick Rating		Overall Rating (OR)		Rating Index (RI)	
QSR	QMR	QOR	Structural	O&M	Structural O&M
				Segment Grade 1 2 3 4 5	
				Structural O&M	

Drawing direction: In inspection direction



Start manhole :SCMH-3539

End manhole :SCMH-6504

(S) Start (1): Surface Damage Aggregate Visible from 8 to 4 o'clock



Image at 6.40' shows aggregate visible.

Start manhole :SCMH-3539

End manhole :SCMH-6504

Miscellaneous General Photograph



Image at 61.80' shows a general photo of the pipe.

Pipeline Debris Graph

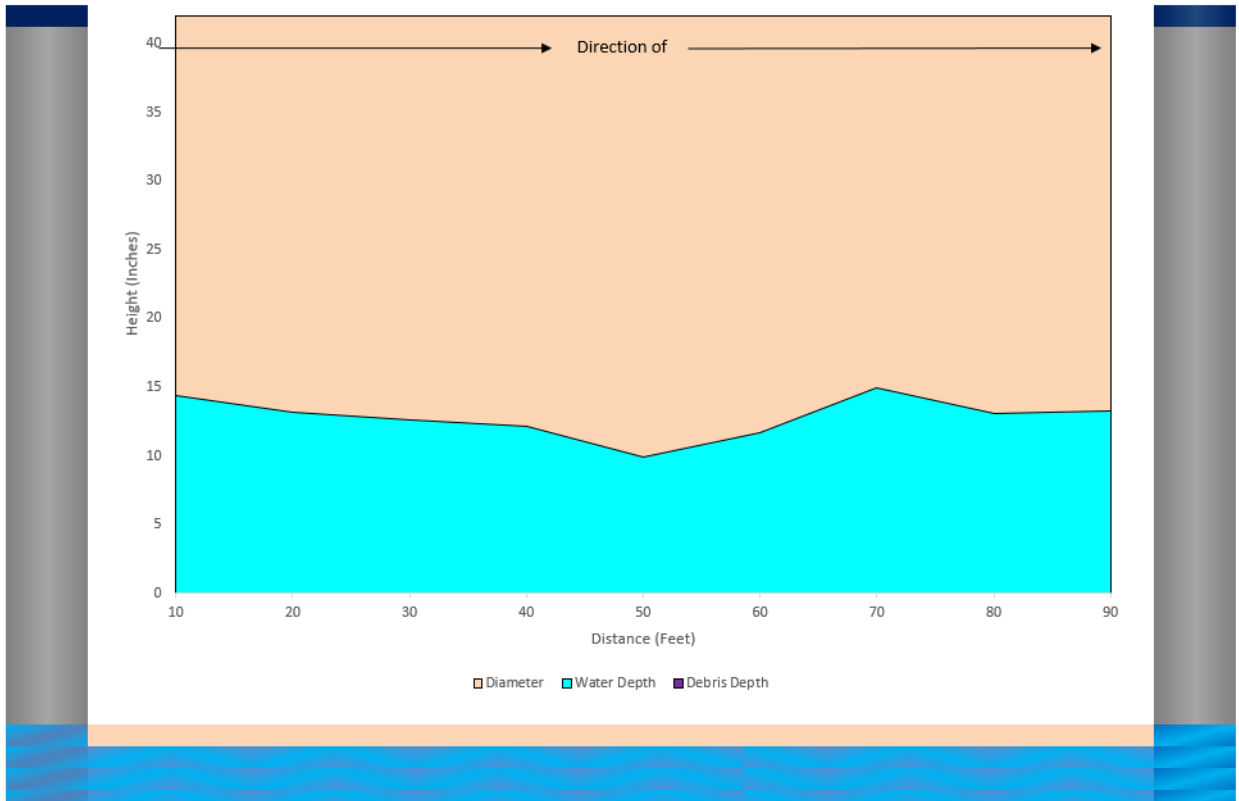
Date: 3/21/2023 **Time:** 4:00 PM
Operator: Evan
Total Length: 85.50'

Diameter: 42 Inches
Avg. Debris Depth: 0.00 Inches
Avg. Water Level: 12.82 Inches
Approx. Debris Vol.: 0.00 Cubic Ft.

SCMH-3539

45

SCMH-6504



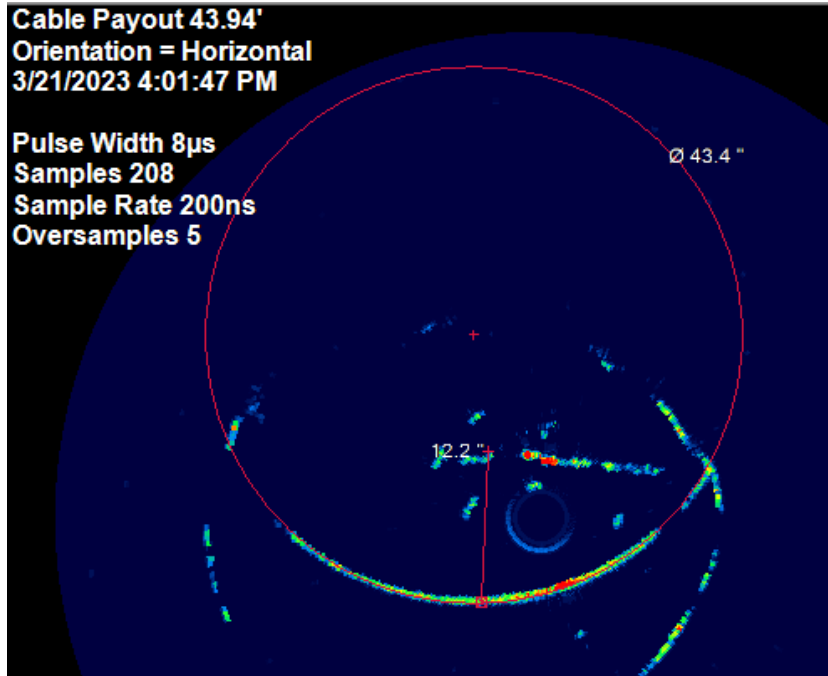


Image at 43.94' shows 12.2" of water.

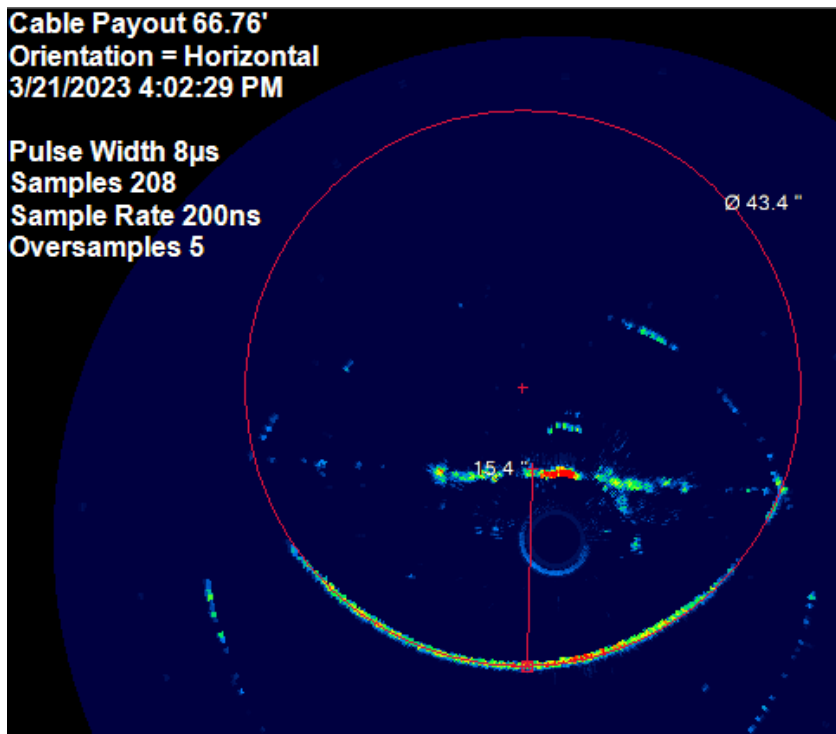
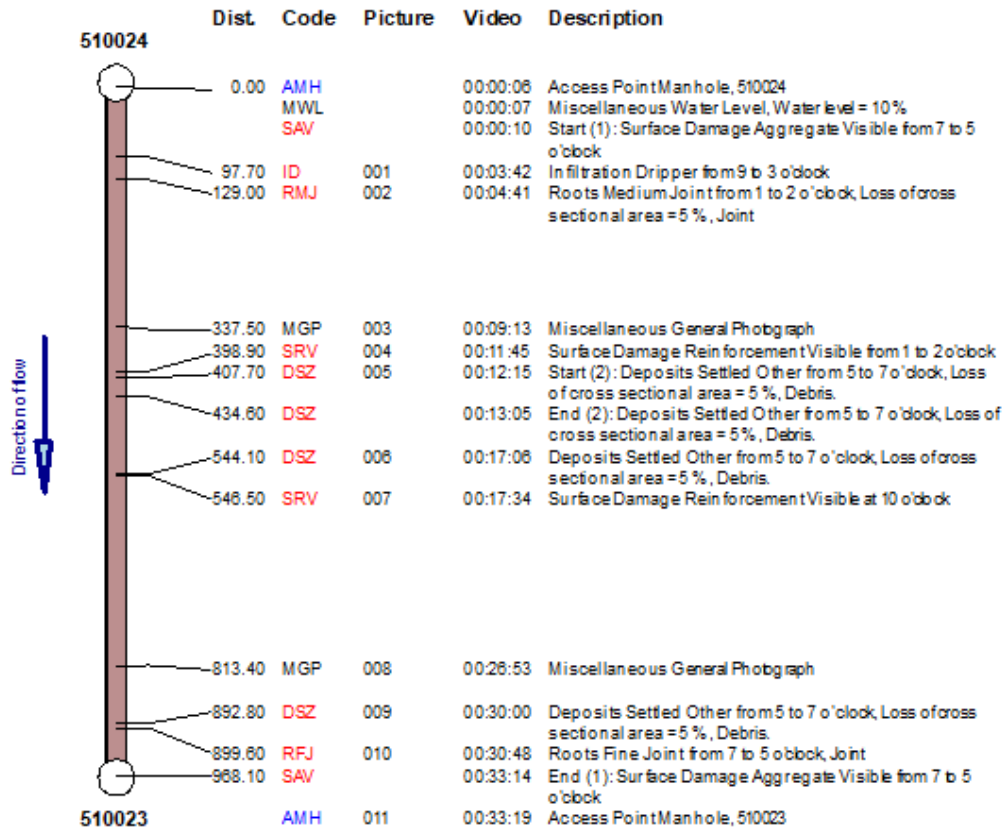


Image at 66.76' shows 15.4" of water.

510024 to 510023

Pipe Segment Graphics					
General information			Location		
Project	1 River Rd Inspection		Drainage Area		
Owner	Utility Manager		Pipe Segment Ref.	510024	
Surveyed by	Evan		Location Code		
Date	3/22/2023	Time 10:24	Street	W Fort St	
Direction of Survey	Downstream		City	Shop	
Pipe					
Pipe Use	Sanitary Sewage Pipe		Total Length	968.100 ft	
Dimension [in]	54		Length Surveyed	968.100 ft	
Shape	Circular		Upstream MH	510024	
Material	Reinforced Concrete Pipe		Downstream MH	510023	
Quick Rating		Overall Rating (OR)		Rating Index (RI)	
QSR	QMR	QOR	Structural	O&M	Structural O&M
				Segment Grade 1 2 3 4 5	
				Structural O&M	

Drawing direction: In inspection direction



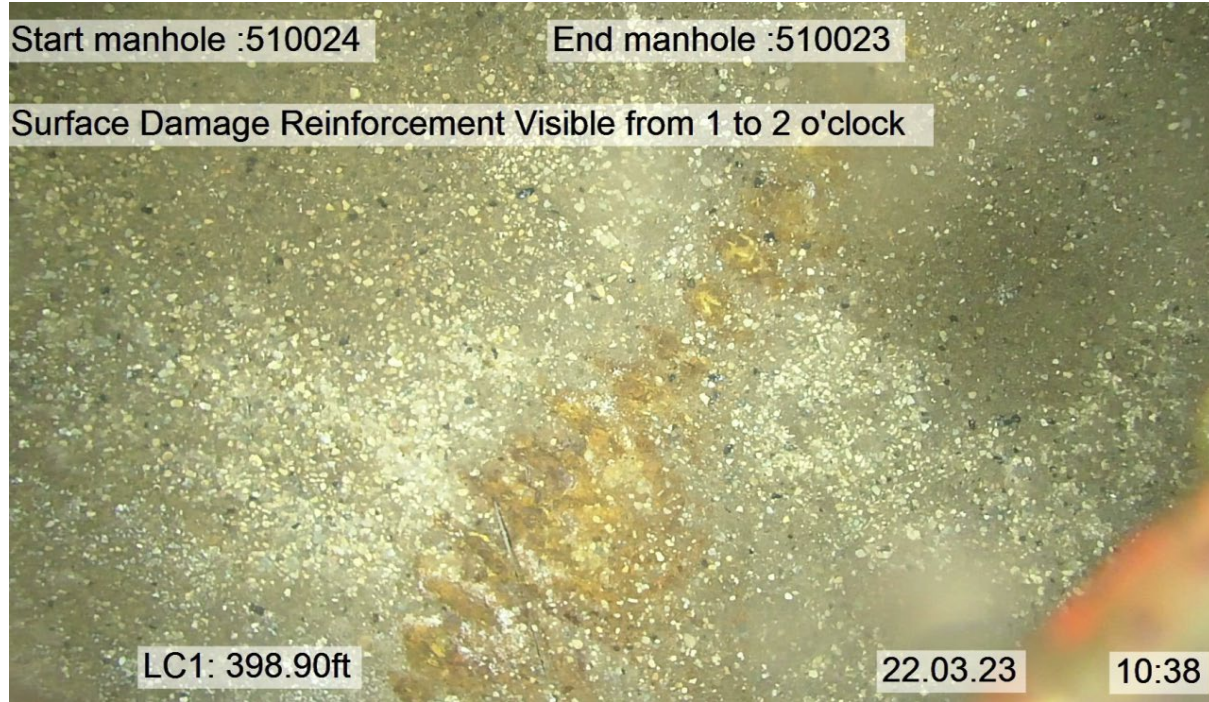


Image at 398.90' shows reinforcement visible.

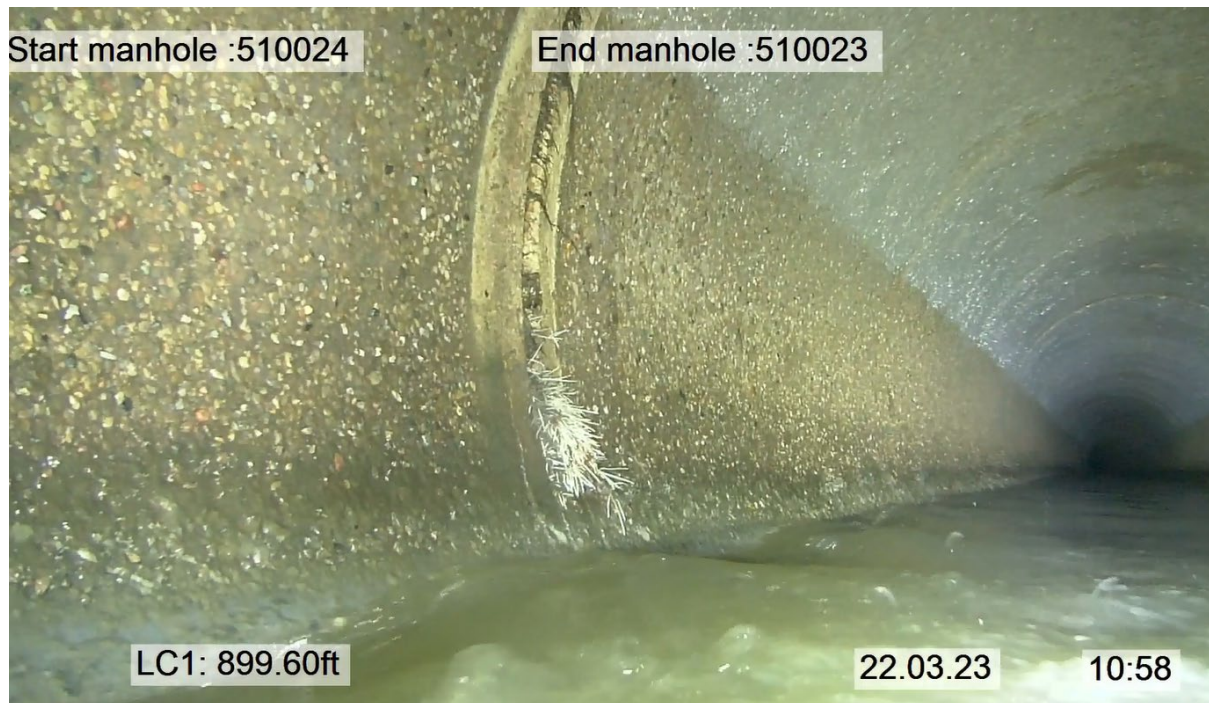


Image at 899.60' shows fine roots.

Pipeline Debris Graph

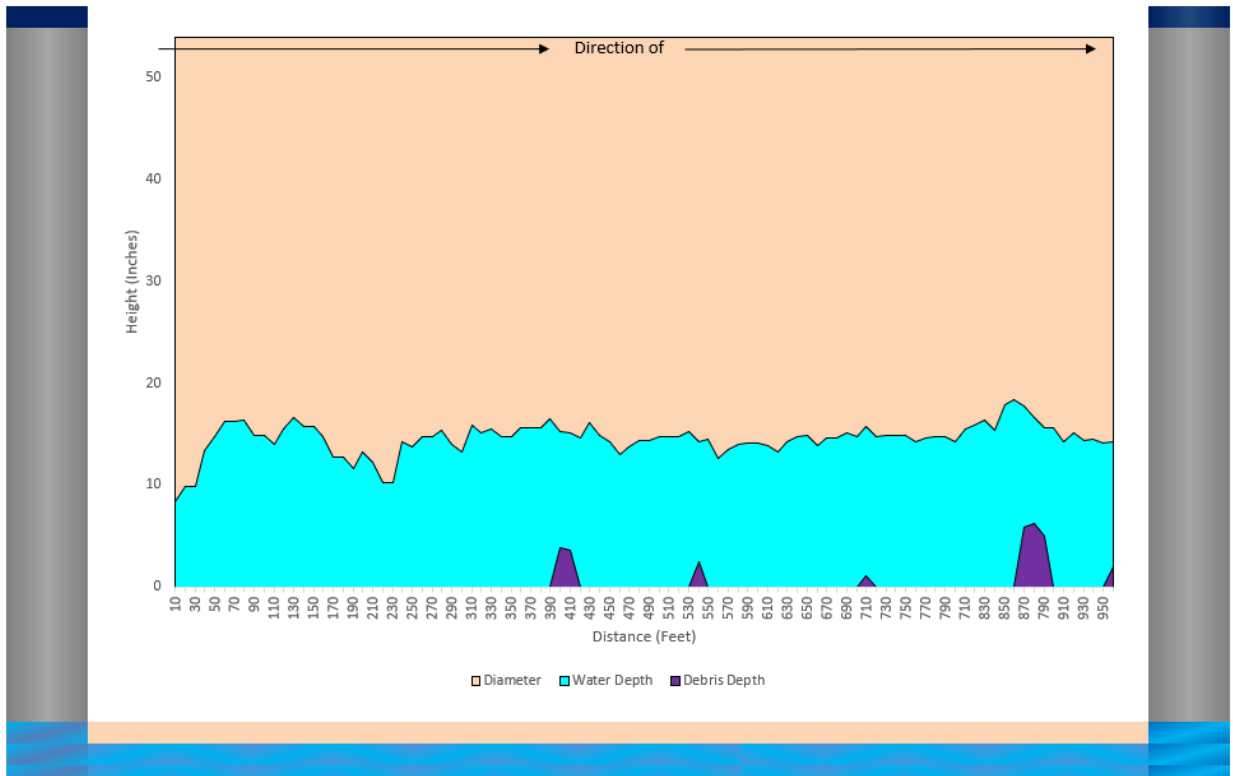
Date: 03/22/2023 **Time:** 11:00 AM
Operator: Evan
Total Length: 968.10'

Diameter: 54 Inches
Avg. Debris Depth: 0.31 Inches
Avg. Water Level: 14.54 Inches
Approx. Debris Vol.: 12.34 Cubic Ft.

510024

60

510023



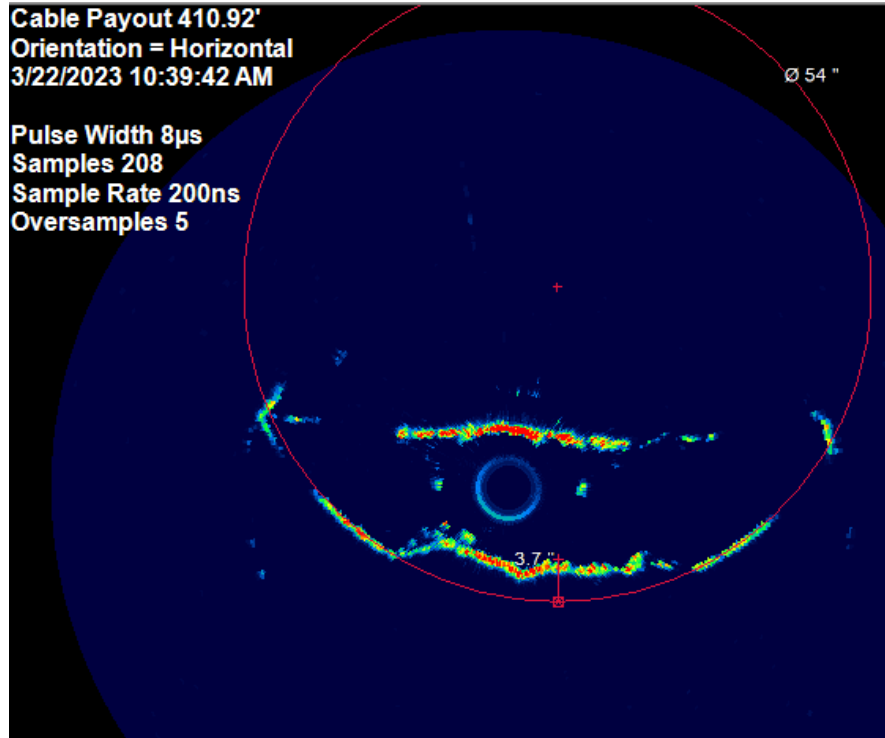


Image at 410.92' shows 3.7" of debris.

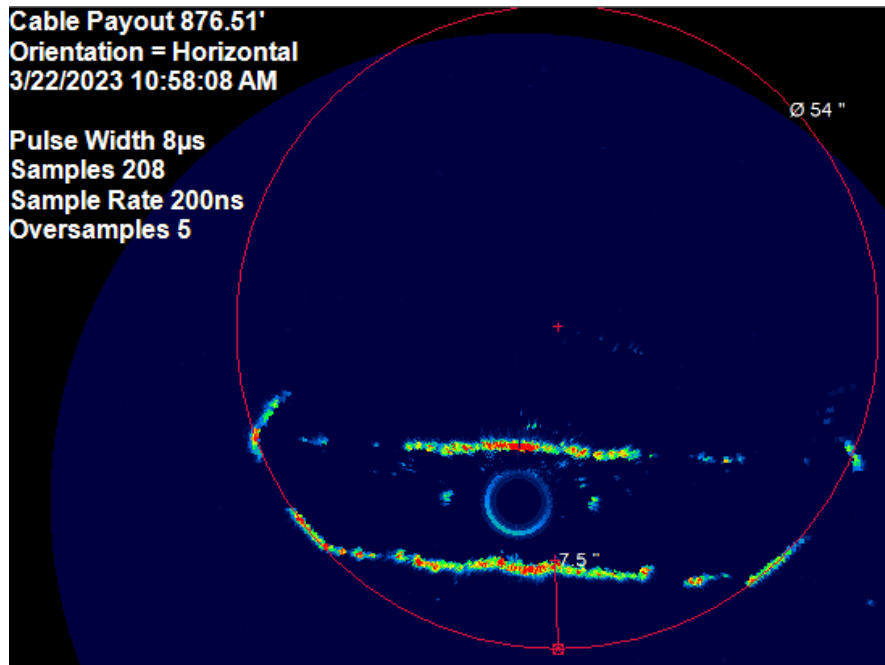


Image at 876.51' shows 7.5" of debris.