

Using Video Inspection for CIP Rehabilitation Planning Spring Meeting 2013

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Plus – projects bidding in next 6 months

LWWS Equipment and Crew



- * There are 2 – T.V. trucks
- * With crews of 2 people
- * Inspect 100 mile annually
- * Truck equipped with multiple cameras



LWWS Data capture process

- * As video inspection takes place, video recorded with Pinnacle and observations recorded into CarteGraph asset management software
- * Field staff records items of note and associated footages: cracked joints, roots, holes, services off main, low spots, cracked pipe, etc.
- * Field staff flags items of note

Code		Type	Clock	From	To	Notes
PLEASE ROOT CUT THIS NEXT TIME YOU CLEAN IT. THE REPAIR LOOKS OK.						
MD	Media Data		0 ft			19 @ 13822
52	Joint - Broken		6	9.8 ft		POSSIBLE REPAIR
12	Service - Cracked Pipe		11	21.9 ft		C.I.
13	Service - roots/crack pipe		11	34.6 ft		C.I.
55	Joint - Roots			35 ft		
55	Joint - Roots			60.3 ft		
55	Joint - Roots			75.5 ft		
30	Pipe - Broken			85 ft	90.3 ft	POSSIBLE REPAIR
14	Service - Broken Pipe		12	86.4 ft		WITH ROOTS-POSSIBLE REPAIR-C.I.
55	Joint - Broken Pipe			90 ft		WITH ROOTS-C.I.-POSSIBLE REPAIR
55	Joint - Roots			90.3 ft		
55	Joint - Roots			125.5 ft		
43	Pipe - Main Repair			134.9 ft	140.1 ft	TRUSS
10	Service		12	136.6 ft		P.V.C.-ACTIVE
10	Service		12	138.5 ft		P.V.C.
55	Joint - Roots			140.1 ft		
55	Joint - Roots			150.1 ft		
10	Service		12	218.2 ft		C.I.
13	Service - roots/crack pipe		1	236.4 ft		C.I.-ACTIVE
55	Joint - Roots			300.1 ft		
55	Joint - Roots			330.5 ft		
55	Joint - Roots			340.5 ft		
DT	Distance Televised			344 ft		THE END MH # 28
WICJMD - 05/08/2012 11:34:44 AM. SECTION HAS MODERATE ROOTS, THERE IS MULTIPLE PIPE DEFECTS IN THIS SECTION THAT NEED REVIEWED FOR POSSIBLE REPAIRS.						
Date 5/8/2012 TV Direction North Inspected By: 124 Media No. 19 @ 13822						

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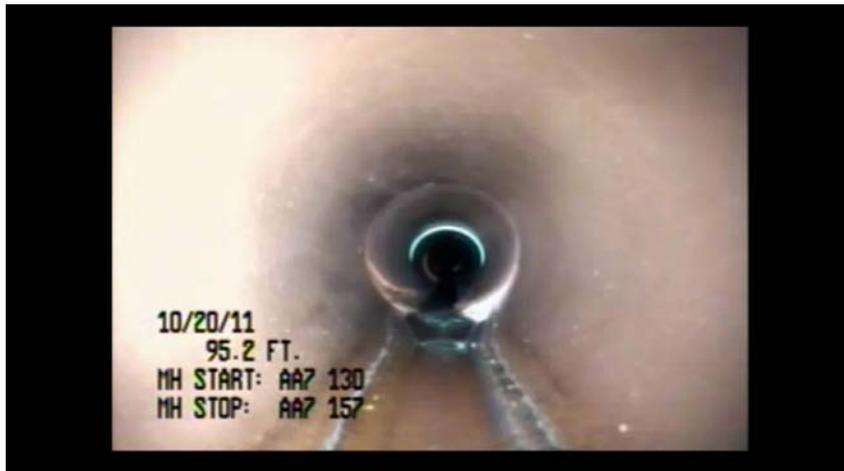
LWWS Video review process

- * T.V. crew supervisor reviews flagged items, edits Cartegraph record and forwards to CIP review group.
- * CIP review groups purpose is to review the video footage and decide appropriate CIP rehabilitation method.
- * The group utilizes, inspection video, observation record, aerials with over layed lines, Google Earth and Street View, and measuring tools.



Lining or Pipe Bursting or Open Cut

- * Line w\ multi cracked pipe



CIPP candidate

- * Line with roots



CIPP candidate

Lining or Pipe Bursting or Open Cut

Line with deformities

Line with low spot



Pipe Bursting candidate



Open Cut candidate

Spot Repair versus Spot Lining

Spot Repair

- Line generally good shape
- Large voids
- Adjacent to services
- Large joint off sets



Spot lining

- Line generally good shape
- No large voids
- Not impacting services
- Surface issues



Pipe Rehabilitation Choices

Lining

When to use

- Cracking
- No surface disruption
- Roots many joints

Pipe Characteristics

- On grade
- Mostly Straight
- Adequate Diameter
- No deformities

Pipe Bursting

When to use

- Cracking
- Min. surf. disruption
- Roots many joints
- Upsize pipe

Pipe Characteristics

- On grade
- Mostly Straight
- No large deformities

Open Cut

When to use

- Not on grade
- Pipe has bends
- Voids > 3' in length
- Less than 8" Dia.
- Change location
- Deformities of pipe

Point Lining

When to use

- No surface disruption
- Voids < 2' in length
- No Deformities of pipe

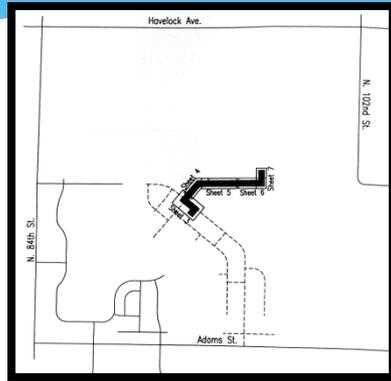
Point Repair

When to use

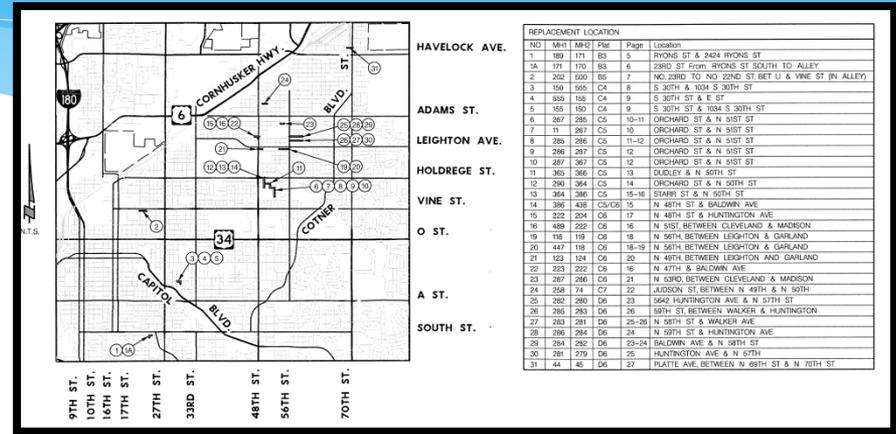
- Surface disruption ok
- Voids > 2' in length
- Deformities of pipe

Questions on video inspection?

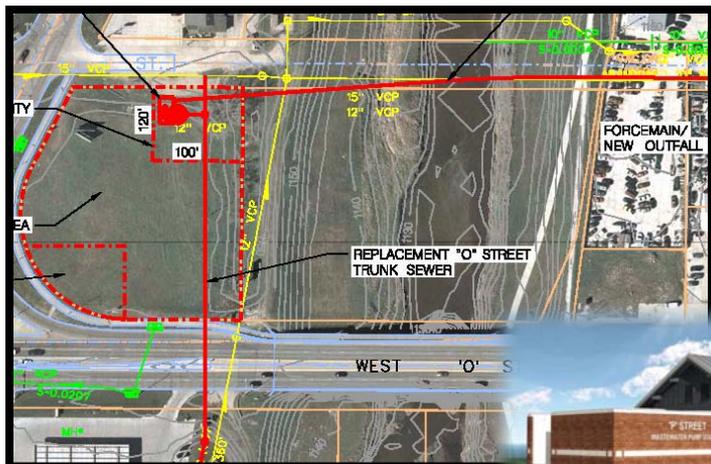
Projects bidding in next 6 months



Regents Heights 2000' of 15"



Pipe Upsizing 8700' of 6-8"



P Street Lift Station Replacement

- New Lift station
- 800' – 24" bore under salt creek
- 1500' – 30" outfall in P st.
- 1050' – 30" connection to West O trunk

