

7-1

21ST ST. NORTH

MH # 5449-418
Rework Manhole Bench & Invert
Approx depth = 5.4 ft

621 W.
21st St. N.

SHELTON

ARKANSAS

JACKSON

MACO

MH # 5449-417
Remove Manhole

MH # 5449-415
Construct Shallow Manhole over existing
sanitary sewer line approx. 300 lf south
of MH 5449-418. Approx depth = 5.4 ft

Unpaved Alley

MH # 5449-416
Remove Manhole

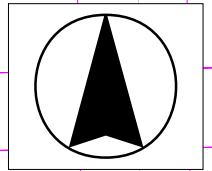
MH # 5449-391
Replace Manhole Frame & Cover
Rework Manhole Bench & Invert
Approx depth = 5.4 ft

2101 N.
Jackson

Remove and replace 4 lf Concrete Sidewalk
Remove and replace 7 lf Concrete Approach
Remove and replace 6 lf Concrete Pavement

20TH STREET

SITE 7



224'

199'

190'

213'

220'

21ST STREET NORTH

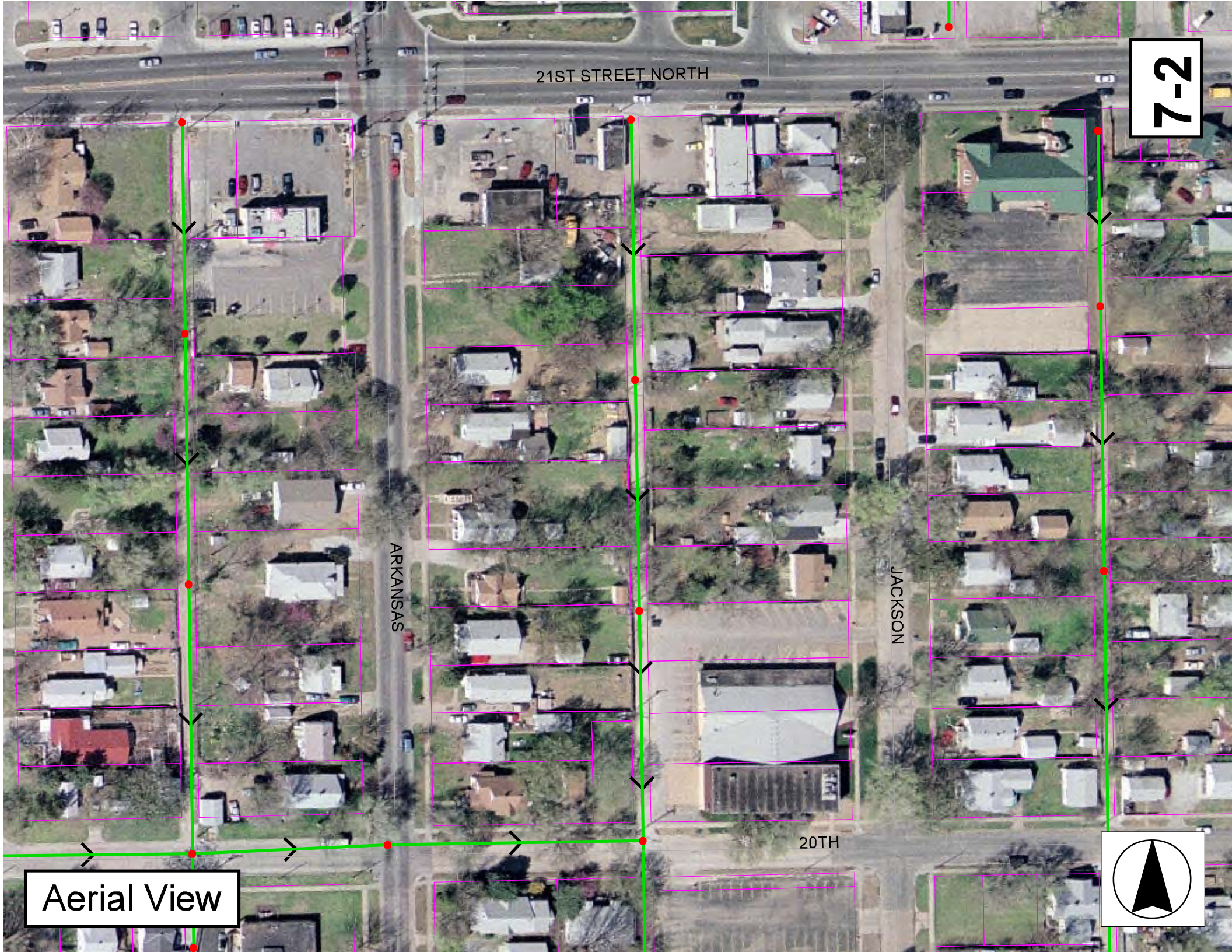
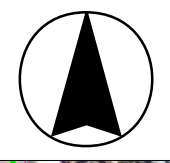
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ARKANSAS

JACKSON

20TH

Aerial View



Television Inspection Master Report

3/11/2004
1:37:25PM

US Manhole: 5449-418
DS Manhole: 5449-417

611 W 21ST ST N
2133 N JACKSON ST

Date Insp: 3/2/2004

Basin: C03F

Dir Televised: Upstream To Downstream

Pipe Information

Shape:	Round	Length Status:	Project No.:	D-060
Dia/Ht Width:	8 0	Material:	VCP	Index:
Length:	224.1	Slope:	0.147	Surface:

Inspection Information

Crew:	692	Percent Full:	10	Tape ID:	4269
Weather:	Sunny	Purpose:	TV Existing Line	Counter Start:	0.0
Surface Cond:	N/A	Flow:	Normal Flow	Counter Stop:	

Obs. #	VTR Counter Comment	Dist	Location	Description	Rating	Obsrvd (gpm)	Est. (gpm)	Ratings Struct	Clean	Remain (gpm)
1		0.0	US Manhole							0.000
2		6.0	East	Extended Tap	2		0.002	0	0	0.002
3		12.0	West	LIVE CONNECTION---2159 N JACKSON / broken & jagged Break-In Conn	1		0.001	0	0	0.001
4		13.0	Quad 4 / U-Lt	LIVE CONNECTION---621 W 21 ST Crack-Radial	3		0.004	5	0	0.004
5		14.0	West	Wye Service / Sealed Off	1		0.000	0	0	0.000
6		19.0	East	Break-In Conn	1		0.001	0	0	0.001
7		22.0	West	LIVE CONNECTION---2159 N JACKSON Break-In Conn	1		0.001	0	0	0.001
8		36.0	West	LIVE CONNECTION---621 W 21ST Break-In Conn	1		0.001	0	0	0.001
9		39.0	East	LIVE CONNECTION---621 W 21 ST Break-In Conn	1		0.001	0	0	0.001
10		45.0	East	cONNECTION---2152 N JACKSON (LOOKS SEALED OFF) Break-In Conn	1		0.001	0	0	0.001
11		51.0	West	LIVE CONNECTION---2157 NJACKSON Break-In Conn	1		0.001	0	0	0.001
12		53.0	East	LIVE CONNECTION---621 W 21 ST Break-In Conn	1		0.001	0	0	0.001
13		54.0	East	LIVE CONNECTION---2157 N JACKSON Break-In Conn	1		0.001	0	0	0.001
14		57.0	Invert	LIVE CONNECTION---2157 N JACKSON Broken Pipe	2		0.008	44	0	0.008
15		61.0	West	Break-In Conn / Sealed Off	1		0.001	0	0	0.001
16		63.0	East	Wye Service	1		0.000	0	0	0.000
17		64.0	Quad 4 / U-Lt	LIVE CONNECTION---2151 N JACKSON Crack-Radial	3		0.004	5	0	0.004
18		77.0	West	Break-In Conn	2		0.002	0	0	0.002
19		79.0	Crown	LIVE CONNECTION---2136 N ARKANSAS / roots - poor condition Broken Pipe	2		0.008	44	0	0.008
20		86.0	West	Wye Service	1		0.000	0	0	0.000
21	SO (means the wye is sealed off)	87.0	Quad 1 / U-Rt	Crack-Radial	3		0.004	5	0	0.004
22		88.0	East	Wye Service	1		0.000	0	0	0.000
23	SO	96.0	Crown	Broken Pipe	2		0.008	44	0	0.008
24		104.0	Crown	Broken Pipe	2		0.008	44	0	0.008
25		110.0	West	Wye Service	1		0.000	0	0	0.000
	SO									

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Television Inspection Master Report

3/11/2004
1:37:25PM

US Manhole:	5449-418	611 W 21ST ST N	Date Insp:	3/2/2004	Basin:	C03F	
DS Manhole:	5449-417	2133 N JACKSON ST					
26	113.0	East	Wye Service	1	0.000	0 0 0.000	
SO							
27	119.0	Crown	Broken Pipe		2.000		2.000
28	126.0	Crown	Crack-Radial	3	0.004	5 0 0.004	
29	128.0	Invert	Broken Pipe	3	0.010	60 0 0.010	
30	135.0	West	Wye Service	1	0.000	0 0 0.000	
SO							
31	136.0	West	Break-In Conn	1	0.001	0 0 0.001	
SO							
32	137.0	Quad 1 / U-Rt	Crack-Radial	3	0.004	5 0 0.004	
33	138.0	East	Break-In Conn	1	0.001	0 0 0.001	
LIVE CONNECTION---2145 N JACKSON							
34	148.0	Quad 1 / U-Rt	Crack-Radial	3	0.004	5 0 0.004	
35	155.0	West	Break-In Conn	2	0.002	0 0 0.002	
LIVE CONNECTION--- VACANT LOT							
36	156.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
37	158.0	Crown	Broken Pipe	3	0.010	60 0 0.010	
38	159.0	West	Wye Service	1	0.000	0 0 0.000	
SO							
39	162.0	East	Wye Service	1	0.000	0 0 0.000	
SO							
40	165.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
41	168.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
42	170.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
43	173.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
44	175.0	Invert	Broken Pipe	2	0.008	44 0 0.008	
45	179.0	West	Break-In Conn	2	0.002	0 0 0.002	
LIVE CONNECTION--- VACANT LOT							
46	180.0	Quad 4 / U-Lt	Crack-Radial	3	0.004	5 0 0.004	
47	184.0	East	Break-In Conn	1	0.001	0 0 0.001	
LIVE CONNECTION---2137 N JACKSON							
48	185.0	West	Break-In Conn	1	0.001	0 0 0.001	
SO							
49	187.0	East	Wye Service	1	0.000	0 0 0.000	
SO							
50	190.0	Quad 4 / U-Lt	Crack-Radial	3	0.004	5 0 0.004	
51	193.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
52	195.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
53	197.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
54	200.0	Quad 1 / U-Rt	Crack-Radial	3	0.004	5 0 0.004	
55	205.0	Quad 1 / U-Rt	Crack-Radial	3	0.004	5 0 0.004	
56	208.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
57	209.0	West	Wye Service	1	0.000	0 0 0.000	
SO							
58	210.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
59	211.0	East	Wye Service	1	0.000	0 0 0.000	
SO							
60	212.0	Crown	Broken Pipe	2	0.008	44 0 0.008	
61	224.0	DS Manhole					

Most of the connections are broken and in need of repair.

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Television Inspection Master Report

3/11/2004
1:37:25PM

US Manhole: 5449-417
DS Manhole: 5449-416

2133 N JACKSON ST
2114 N ARKANSAS AVE

Date Insp: 3/4/2004

Basin: C03F

Dir Televised: Upstream To Downstream

Pipe Information

Shape: Round Length Status: Project No.: D-060
Dia/Ht Width: 8 0 Material: VCP Index:
Length: 198.7 Slope: 0.151 Surface:
Pipe Sec Length: Comment:

Inspection Information

Crew: 692 Percent Full: 10 Tape ID: 4269
Weather: Sunny Purpose: TV Existing Line Counter Start: 27.05
Surface Cond: N/A Flow: Normal Flow Counter Stop:
Dyed Test: No

Obs. #	VTR Counter Comment	Dist	Location	Description	Rating	Obsrvd (gpm)	Est. (gpm)	Ratings Struct	Clean	Remain (gpm)
1		0.0	US Manhole							0.000
2		6.0	West	Break-In Conn	1		0.001	0	0	0.001
3		11.0	Crown	LIVE CONNECTION---21345 N ARKANSAS / cavity outside of the service line	2		0.008	44	0	0.008
4		13.0	West	Wye Service	1		0.000	0	0	0.000
5		14.0	Crown	LIVE CONNECTION---2132 N ARKANSAS	2		0.008	44	0	0.008
6		15.0	East	Broken Pipe	2		0.002	0	0	0.002
7		18.0	Quad 1 / U-Rt	LIVE CONNECTION---2133 N JACKSON / bad connection / needs repair	3		0.004	5	0	0.004
8		21.0	Crown	Crack-Radial	2		0.008	44	0	0.008
9		28.0	Crown	Broken Pipe	2		0.008	44	0	0.008
10		31.0	Crown	Broken Pipe	2		0.008	44	0	0.008
11		37.0	West	Wye Service	1		0.000	0	0	0.000
12	SO	38.0	Crown	Broken Pipe	2		0.008	44	0	0.008
13		40.0	East	Wye Service	1		0.000	0	0	0.000
14	SO	43.0	Crown	Broken Pipe	2		0.008	44	0	0.008
15		53.0	Crown	Broken Pipe	2		0.008	44	0	0.008
16		55.0	Crown	Broken Pipe	2		0.008	44	0	0.008
17		60.0	Crown	Broken Pipe	2		0.008	44	0	0.008
18		62.0	West	Wye Service	1		0.000	0	0	0.000
19		63.0	Crown	LIVE CONNECTION---2124 N ARKANSAS	2		0.008	44	0	0.008
20		64.0	East	Broken Pipe	2		0.000	0	0	0.000
21		67.0	Crown	LIVE CONNECTION---2129 N JACKSON / ROOTS	2		0.008	44	0	0.008
22		72.0	Invert	Broken Pipe	2		0.008	44	0	0.008
23		75.0	Invert	Broken Pipe	2		0.008	44	0	0.008
24		77.0	Invert	Broken Pipe	2		0.008	44	0	0.008
25		84.0	Crown	Broken Pipe	2		0.008	44	0	0.008
26		86.0	West	Wye Service	1		0.000	0	0	0.000
27	SO	87.0	Crown	Broken Pipe	2		0.008	44	0	0.008
28		89.0	East	Wye Service	1		0.000	0	0	0.000
29	SO	90.0	Crown	Broken Pipe	2		0.008	44	0	0.000

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Television Inspection Master Report

3/11/2004
1:37:25PM

US Manhole:	5449-417	2133 N JACKSON ST	Date Insp:	3/4/2004	Basin:	C03F		
DS Manhole:	5449-416	2114 N ARKANSAS AVE						
30	97.0	Quad 2 / L-Rt	Crack-Radial	3	0.004	5	0	0.004
31	109.0	West	Break-In Conn	1	0.001	0	0	0.001
2124 N ARKANSAS								
32	111.0	West	Break-In Conn	1	0.001	0	0	0.001
SO								
33	114.0	East	Wye Service	2	0.000	0	0	0.000
LIVE CONNECTION---2125 N JACKSON								
34	125.0	Crown	Broken Pipe	2	0.008	44	0	0.008
35	127.0	Invert	Broken Pipe	2	0.008	44	0	0.008
36	130.0	Quad 4 / U-Lt	Crack-Radial	3	0.004	5	0	0.004
37	132.0	Quad 3 / L-Lt	Crack-Radial	3	0.004	5	0	0.004
38	136.0	West	Wye Service	1	0.000	0	0	0.000
SO								
39	138.0	East	Wye Service	1	0.000	0	0	0.000
SO								
40	147.0	Crown	Broken Pipe	2	0.008	44	0	0.008
41	149.0	Quad 4 / U-Lt	Crack-Radial	3	0.004	5	0	0.004
42	152.0	Crown	Broken Pipe	2	0.008	44	0	0.008
43	154.0	Crown	Broken Pipe	2	0.008	44	0	0.008
44	157.0	Crown	Broken Pipe	2	0.008	44	0	0.008
45	159.0	Quad 4 / U-Lt	Crack-Radial	3	0.004	5	0	0.004
46	161.0	West	Break-In Conn	1	0.001	0	0	0.001
LIVE CONNECTION---2122 N ARKANSAS								
47	163.0	East	Wye Service	2	0.000	0	0	0.000
LIVE CONNECTION----2121 N JACKSON								
48	167.0	Quad 1 / U-Rt	Crack-Radial	3	0.004	5	0	0.004
49	169.0	Crown	Broken Pipe	2	0.008	44	0	0.008
50	172.0	Crown	Broken Pipe	2	0.008	44	0	0.008
51	176.0	Crown	Broken Pipe	2	0.008	44	0	0.008
52	182.0	Crown	Broken Pipe	2	0.008	44	0	0.008
53	185.0	West	Wye Service	1	0.000	0	0	0.000
SO								
54	188.0	East	Wye Service	2	0.000	0	0	0.000
SO								
55	191.0	Crown	Broken Pipe	2	0.008	44	0	0.008
56	199.0	DS Manhole						0.000

Most of the connections are broken and in need of repair.

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Television Inspection Master Report

3/11/2004
1:37:25PM

US Manhole: 5449-416
DS Manhole: 5449-391

2114 N ARKANSAS AVE
535 W 20TH ST N

Date Insp: 3/4/2004

Basin: C03F

Dir Televised: Upstream To Downstream

Pipe Information

Shape: Round	Length Status:	Project No.: D-060
Dia/Ht Width: 8	Material: VCP	Index:
Length: 198.0	Slope: 0.152	Surface:

Inspection Information

Crew: 692	Percent Full: 10	Tape ID: 4269
Weather: Sunny	Purpose: TV Existing Line	Counter Start: 46.33
Surface Cond: N/A	Flow: Normal Flow	Counter Stop:

Obs. #	VTR Counter Comment	Dist	Location	Description	Rating	Obsrvd (gpm)	Est. (gpm)	Ratings Struct	Clean	Remain (gpm)
1		0.0	US Manhole							0.000
2		5.0	Crown	Broken Pipe	2		0.008	44	0	0.008
3		14.0	West	Wye Service	2		0.000	0	0	0.000
	LIVE CONNECTION---2114 N ARKANSAS									
4		16.0	East	Wye Service	2		0.000	0	0	0.000
	LIVE CONNECTION---2105 N JACKSON									
5		18.0	Quad 3 / L-Lt	Crack-Horizontal	3		0.004	5	0	0.004
6		24.0	Crown	Broken Pipe	2		0.008	44	0	0.008
7		27.0	Crown	Broken Pipe	2		0.008	44	0	0.008
8		35.0	Crown	Broken Pipe	2		0.008	44	0	0.008
9		38.0	West	Wye Service	2		0.000	0	0	0.000
	SO (means the wye is sealed off)									
10		40.0	East	Wye Service	1		0.000	0	0	0.000
	SO									
11		42.0	Quad 1 / U-Rt	Crack-Radial	3		0.004	5	0	0.004
12		49.0	Crown	Broken Pipe	3		0.010	60	0	0.010
13		54.0	Crown	Broken Pipe	2		0.008	44	0	0.008
14		59.0	Crown	Broken Pipe	3		0.010	60	0	0.010
15		62.0	West	Break-In Conn	2		0.002	0	0	0.002
	LIVE CONNECTION----2112 N ARKANSAS									
16		66.0	East	Wye Service	1		0.000	0	0	0.000
	SO									
17		67.0	Crown	Broken Pipe	2		0.008	44	0	0.008
18		76.0	Crown	Broken Pipe	2		0.008	44	0	0.008
19		79.0	Crown	Crack-Radial	3		0.004	5	0	0.004
20		85.0	West	Break-In Conn	3		0.004	2	0	0.004
	LIVE CONNECTION----2106 N ARKANSAS									
21		88.0	West	Wye Service	1		0.000	0	0	0.000
	SO									
22		90.0	East	Wye Service	1		0.000	0	0	0.000
	LIVE CONNECTION---2105 N JACKSON									
23		91.0	Quad 3 / L-Lt	Crack-Horizontal	3		0.004	5	0	0.004
24		94.0	Crown	Broken Pipe	2		0.008	44	0	0.008
25		99.0	Quad 4 / U-Lt	Crack-Radial	3		0.004	5	0	0.004
26		112.0	West	Wye Service	2		0.000	0	0	0.000
	SO									
27		114.0	Crown	Broken Pipe	2		0.008	44	0	0.008
28		115.0	East	Wye Service	2		0.000	0	0	0.000
	LIVE CONNECTION----2105 N JACKSON									

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Television Inspection Master Report

3/11/2004
1:37:25PM

US Manhole: 5449-416 2114 N ARKANSAS AVE Date Insp: 3/4/2004 Basin: C03F
DS Manhole: 5449-391 535 W 20TH ST N

29	116.0	Crown	Crack-Radial	3	0.004	5	0	0.004
30	119.0	Quad 1 / U-Rt	Crack-Radial	3	0.004	5	0	0.004
31	123.0	West	Break-In Conn	2	0.002	0	0	0.002
LIVE CONNECTION---2104 N ARKANSAS								
32	124.0	Quad 3 / L-Lt	Crack-Radial	3	0.004	5	0	0.004
33	126.0	Quad 1 / U-Rt	Crack-Radial	3	0.004	5	0	0.004
34	131.0	Crown	Crack-Radial	3	0.004	5	0	0.004
35	133.0	Quad 4 / U-Lt	Crack-Radial	3	0.004	5	0	0.004
36	137.0	West	Wye Service	1	0.000	0	0	0.000
SO								
37	140.0	East	Wye Service	1	0.000	0	0	0.000
SO								
38	141.0	Crown	Broken Pipe	3	0.010	60	0	0.010
39	143.0	Quad 2 / L-Rt	Crack-Radial	3	0.004	5	0	0.004
40	146.0	Quad 2 / L-Rt	Crack-Radial	3	0.004	5	0	0.004
41	151.0	Crown	Crack-Radial	3	0.004	5	0	0.004
42	154.0	Crown	Crack-Radial	3	0.004	5	0	0.004
43	155.0	Crown	Crack-Radial	3	0.004	5	0	0.004
44	163.0	West	Wye Service	1	0.000	0	0	0.000
LIVE CONNECTION---2104 N ARKANSAS								
45	165.0	East	Wye Service	1	0.000	0	0	0.000
LIVE CONNECTION---2105 N JACKSON								
46	166.0	Quad 4 / U-Lt	Crack-Horizontal	3	0.004	5	0	0.004
47	171.0	Crown	Crack-Radial	3	0.004	5	0	0.004
48	173.0	Crown	Broken Pipe	2	0.008	44	0	0.008
49	176.0	Crown	Broken Pipe	2	0.008	44	0	0.008
50	178.0	Quad 4 / U-Lt	Crack-Radial	3	0.004	5	0	0.004
51	181.0	Crown	Broken Pipe	2	0.008	44	0	0.008
52	186.0	DS Manhole MH 391						

Most of the connections are broken and in need of repair.

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