DYED WATER FLOODING

Dyed Water Testing

- This Work will consist of the following;
    - Dyed water testing will be conducted as necessary to confirm illegal connections and structural defects (i.e., cross-connections) identified during smoke testing and CCTV inspections. Structural defects will be identified in accordance with NASSCO specifications per the CCTV and Manhole Inspection Procedures.
- Testing will be performed following classification of the suspect source as a Type 1, 2 or 3

  Type 1 – Suspected Private Property Cross-Connections

    - Pour water (5 gallons or less) in the immediate vicinity of the suspect source where smoke was observed. Due to the close proximity of the source location and entry point into the WCTS, non-dyed water may be used.
    - Observe discharged water using CCTV or by direct visual observations. Use of CCTV will be a site specific determination
    - Document observations and collect photographs

  Type 2 – Suspected Lateral Sources Covered with Soil

    - Inject dyed water, for a minimum of 5 minutes duration, into soil at the location of where smoke was observed. This will affect the transfer of the dyed water to the underground sewer defect.
    - The injection may be achieved by using a root fertilizing type spike attached to a garden hose or pressure injecting the water into the ground.
    - Observe discharged water using CCTV or by direct visual observations. Use of CCTV will be a site specific determination

  Type 3 – Suspected Large Public Storm Sewer Cross Connections

    - These are generally public sector sources.
    - Install a plug in the downstream storm sewer pipe. This includes the catch basin or storm sewer pipe segment that smoked. Fill the plugged pipe segment with dyed water.
    - Observe the downstream sanitary sewer manhole for presence of dyed water
    - Collect photographs of the downstream manhole to document the presence, or absence, of dyed water.

CORROSION DEFECT IDENTIFICATION

Corrosion Assessment

- This component is for the gravity portion of the collection system and will be used to inspect and identify WCTS infrastructure that is either corroded or at risk of corrosion. The work will consist of the following:
    - Visually document condition of pipes and manholes where the release of hydrogen sulfide gas exists in turbulent locations in the system, such as at force main discharge locations and large diameter drop connections.
    - Collect photographs of pipes and manholes.
    - Use CCTV camera footage to identify defects and deterioration of pipes caused by corrosion in accordance with NASSCO PACP guidance.
    - Identify defects and deterioration of manholes caused by corrosion in accordance with NASSCO MACP guidance.
    - Conduct SONAR and Laser Profiling, on 18” diameter and larger pipes and/or pipes with larger flow volumes, on an as needed basis.
    - Record corrosion-related defect information in the PACP and MACP electronic databases, where applicable.
    - Use results for prioritizing how the City will manage and respond to defects found in the WCTS

MANHOLE CONDITION ASSESSMENT

Manhole Inspections

- This Work will consist of the following;
    - Locate manhole using City GIS map
    - Obtain sub-meter grade GPS coordinates of manhole (including lamphole) cover
    - Conduct assessment in accordance with the National Association of Sewer Service Companies (NASSCO) Manhole Assessment Certification Program (MACP) protocol Level 1 and Level 2 manhole inspections (level 1 for full access manholes and level 2 for small diameter maintenance access or mainline cleanouts)
    - Collect photographs of the manhole and the associated pipe connections
    - Document manholes that are not found, not on grade and/or not shown on the GIS plans

Note: Copies of NASSCO manhole inspection forms for two manhole inspections are attached

CLOSED CIRCUIT TELEVISION (“CCTV”) INSPECTION

CCTV Inspections

- This Work will consist of the following;
    - The pipe segment will be ”light cleaned” by hydraulic sewer pipe cleaners or combination hydraulic/vacuum cleaners from manhole to manhole.
    - If light cleaning proves insufficient to remove the debris or roots as required to conduct CCTV inspections, the segment will be “heavy cleaned” by hydraulic sewer pipe cleaners, combination hydraulic/vacuum cleaners, or mechanical sewer pipe cleaners from manhole to manhole. Tap cutting and root removal will be performed on an as needed basis.
    - Materials will be trapped and removed from each sewer segment and not passed from one sewer segment to another.
    - An internal closed circuit television (CCTV) camera will be inserted into the line segment and the line surveyed to digitally inspect and record existing conditions. The camera will move through the line at a maximum speed of 30 feet per minute stopping to record lateral connections, mainline connections, defects, and features and points of interest. This work will be conducted in accordance with the National Association of Sewer Service Companies (NASSCO) Pipeline Assessment Certification Program (PACP). Data from the CCTV inspections will be retained on inspection forms and onto the City’s GIS system for subsequent retrieval and use.

Note: Copies of NASSCO CCTV inspection forms for two pipe segment inspections are attached.

GRAVITY SEWER Line and FORCE MAIN DEFECT ANALYSIS

Defect Analysis

- Identify and document gravity sewer, force main and manhole defects in accordance with the CCTV Inspections procedures using PACP and MACP nomenclature and defect identification procedures
- Input data into the defect inventory database;
- Use Esri's ArcGIS, incorporated with probability of failure and consequence of failure support tools, to assess and catalog linear assets and develop rehabilitation recommendations based on multiple criteria, which may include;
    - Nature and severity of the gravity and force main defects
    - Pipe diameter and material
    - Criticality of a failure leading to SSOs or backups
    - Probability of failure leading to SSOs or backups
    - Consequence of Failure
    - Customer complaints
        - Effect on Customers
    - Proximity to critical roads and sensitive water sources and environmental areas,
    - Critical customers (e.g. hospitals, nursing homes)
    - Overall public health & safety
- Incorporate engineering and business factors, as well as fiscal budget considerations, in developing rehabilitation recommendations.

SMOKE TESTING

Smoke Testing

Smoke testing of sanitary sewer manholes, sewer pipes, sewer laterals and interceptors will be conducted as follows:

- Public notices via door hangers will be issued in the affected areas prior to starting the work
- The Memphis Police and Fire Departments will be notified of the upcoming smoke testing prior to the work starting
- Necessary barriers will be installed around access points to minimize injury to the public
- Access to the sewer pipes will be secured and adjoining manholes will be temporarily plugged
- Blowers and smoke generators are stationed adjacent one of the manholes. The smoke is then introduced into the WCTS.
- The area around the test site is observed for smoke discharges. Smoke discharges are documented photographically and, where accessible, with GPS and pertinent information is logged on smoke testing forms.
- Upon completion of the test, temporary plugs will be removed from the manholes and equipment will be moved to the next test setup.

LIFT STATION PERFORMANCE AND ADEQUACY PROCEDURE

Lift Station Performance and Adequacy

- This assessment work will consist of the following;
    - Review and analyze pump run time meters;
    - Assess pump start counters;
    - Compute Nominal Average Pump Operating Time ("NAPOT");
        - Use one or months data to calculate for fixed-speed pumps
        - Sum the total hours of pump operation over assessment period,
        - Divide sum by the number of days included in the assessment period.
        - Divide result from previous calculation by one less than the total number of pumps installed at the lift station. This is the NAPOT.
        - Note: Lift stations determined to have a NAPOT greater than 10 hours per day may be targeted for additional investigations.
        - Use pump operating times to evaluate variable speed pumps.
    - Conduct root cause failure analysis (when applicable0;
        - Review operating histories of the lift station
        - Conduct assessment to try to determine the progression of events and consequences that led to the lift station failure.
        - Document types and trends of failures identified by the assessment.
        - Develop solutions that minimize future failures from similar issues which could be considered in subsequent evaluations of lift stations.
    - Review Supervisory Control and Data Acquisition ("SCADA") alarm history
- Evaluate station capacity in accordance with the Pumping Systems chapter of the most current version of WEF's Manual of Practice FD-4, Design of Wastewater and Stormwater Pumping Stations;
- Review station unit records and interview operators to evaluate critical response time (CRT), defined as the time interval between activation of the high wet well level alarm and the first SSO, under peak flow conditions ;
    - The CRT will be used to evaluate responsiveness capabilities including the potential use of mobile generators, quick connect electrical hookups, and mobile pumps as well as make recommendations to minimize SSOs. The CRT assessment will also include the evaluation of the ability of COM Lift Station and contract staff to take corrective action within the critical response time estimated for each Lift Station.
- Conduct physical inspection and review recent operating and mechanical failure history during at least the past five years to assess station condition.

- Evaluate station design and equipment in accordance with Chapter 40, Wastewater Pumping Stations of the most recent edition of Recommended Standards for Wastewater Facilities by the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers (commonly known as the “Ten State Standards”)

Manhole Inspection Header Form
Level 1 & 2 Inspections

2/7/2014

Surveyed By RJN\JOSEPH COLLEY **Certificate Number** 06-19293

Owner COM **Customer** SARP10

Drainage Area NN02 **Sheet Number**

PO Number

Date 01/31/2014 **Time** 2:04 pm

Street 1304 LAPALOMA **City** Memphis

Location SIDEWALK

Manhole Number NN020517 **Rim to Invert** 7.42 **Grade to Invert** 7.42 **Rim to Grade** 0.00

MH Use Sanitary **Year Built** **Year Renewed** **Media Label**

Purpose Sewer System Evaluation Survey **Category**

Pre-Cleaning No Pre-Cleaning **Date Cleaned** **Weather** Damp

Location Sidewalk

Additional Info

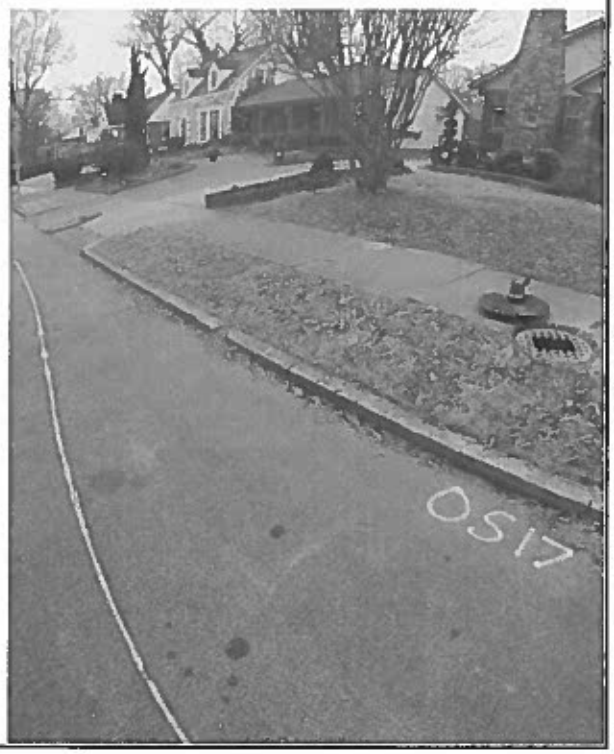
Surface Type Concrete Pavement **Potential for Runoff** Sheeting **Access Type** Manhole

Northing 772952.195483158 **Easting** 307257.248112237 **Elevation** 190.46735537464

Coordinate System TN State Plane NAD83 **GPS Accuracy** Sub-Meter

Inspection Status Remote Insoection **Evidence of Surcharge** Yes **IsImperial** Yes **Level** LEVEL 2

NN020517_MACP_20140131_001.JPG



NN020517_MACP_20140131_002.JPG

Manhole Component Observation Form Level 1 & 2

Cover Shape Circular
Cover Size 24.00
Cover Size Width 24.00
Cover Material Cast Iron
Cover Type Vented
Hole Diameter <= 1/2 inch (13mm)
Holes Number 4
Cover Bearing Surface Dia 26.50
Cover Bearing Surface Dia Width
Cover Frame Fit Good
Cover Condition Sound
Insert Type None
Insert Condition NA

Ring Type None
Ring Material
Ring Condition NA
Ring Height

Frame Material Cast Iron
Frame Bearing Surface Width 1.00
Frame Bearing Surface Depth 1.12
Frame Clear Opening Diam 22.00
Frame Depth 4.00
Frame Condition Sound
Seal Condition Sound
Offset Distance 0.00
Frame Seal Inflow None

Chimney Material1 Not Known
Chimney_Material2
Chimney I/I None
Chimney Clear Opening 0.00
Chimney Depth 0.00
Chimney Lining Interior None - No Coating
Chimney Lining Exterior

Cone Type Conical centered
Cone Material Brick
Cone Depth 4.96
Cone Lining Interior Cementitious
Cone Lining Exterior

Wall Diam 0
Wall By Size
Wall_Material Brick
Wall Depth 7.00
Wall Lining Interior Cementitious
Wall Lining Exterior

Bench Present Yes
Bench Material Brick
Bench Lining Cementitious

Channel Installed Yes
Channel Material Concrete (non-reinforced)
Channel Type Formed
Channel Exposure Fully Opened

Step Number 3
Step Material Metal

Work Order
Project
Pressure Value

Additional Component Info

NO CHIMNEY

Level 2 - Manhole Component Defect Form

Depth	Counter	Component	Descript	Code Modifier/ Severity	Contin Defect	S/M/L	Value 1st	Value 2nd	%	Joint	Step	Circumfrential Location Clock From	Clock To	Image Ref
7.00		Bench	MMM							No	No	3		

Remarks

NN020517_MACP_20140131_003.JPG

Manhole Pipe Connection Form Level 1 and Level 2

Pipe	Clock	Rim To Inv	Direction	Material	Shape	Dia1	Dia2	Pipe Cond	Seal Cond
1	6	7.46	Out	Vitrified Clay Pipe	Circular	24		Sound	Sound

Special Condition Gravity Relief Connection Structure NN020517S

Comments

NN020517_MACP_20140131_004.JPG

Pipe	Clock	Rim To Inv	Direction	Material	Shape	Dia1	Dia2	Pipe Cond	Seal Cond
3	10	7.48	In	Vitrified Clay Pipe	Circular	24		Sound	Sound

Special Condition Gravity Relief Connection Structure NN020518S

Comments

NN020517_MACP_20140131_006.JPG

Pipe	Clock	Rim To Inv	Direction	Material	Shape	Dia1	Dia2	Pipe Cond	Seal Cond
4	12	6.41	In	Vitrified Clay Pipe	Circular	8		Sound	Sound

Special Condition Lateral to Building Structure SVC

Comments

NN020517_MACP_20140131_007.JPG

Pipe	Clock	Rim To Inv	Direction	Material	Shape	Dia1	Dia2	Pipe Cond	Seal Cond
5	3	6.50	In	Vitrified Clay Pipe	Circular	8		Sound	Sound

Special Condition Gravity Relief Connection Structure SVC

Comments

NN020517_MACP_20140131_008.JPG

Raw Data from Field Crews

qryMH_Inspections_All

InspectionID	Origi	Im	Manhole_Number	Surveyed_By	Certificate_Number	Owner	Customer	Drainage_Area	Sheet_Num
619	446	20	NN020517	RUN\JOSEPH COLLE	06-19293	COM	SARP10	NN02	

Med	Orig	Image_Name	Ima	Vid	Vi	Image_Link
1274	348	NN020517_MACP_20140131_001.JPG				https://pr2-79-2.mydatastorm.com/MACP_Smoke/MACP/NN02/NN020517_MACP_20140131_001.JPG
1275	349	NN020517_MACP_20140131_002.JPG				https://pr2-79-2.mydatastorm.com/MACP_Smoke/MACP/NN02/NN020517_MACP_20140131_002.JPG

Record: 1 of 2 | No Filter | Search

Inspection form in system

frm_Main

Version 02

City of Memphis, TN
SARP10 Inspection Tracker

Data Delivery Name QC List

Select Sub-Basin NN02

Manhole Inspections

Manhole ID NN020517 — View Inspection

MACP Insp ID — View Inspection

Pipe Inspections

Pipe ID — View Inspection

PACP Insp ID — View Inspection

Smoke Testing

DS Manhole ID — View Inspection

Smoke Test ID — View Inspection

Dye Tracing

DS Manhole ID — View Inspection

Dye Trace ID — View Inspection

Queries / Reports

- Data Delivery QC Status Log
- Inspection Import Log
- MACP Engineer Review Status List
- PACP Engineer Review Status List
- Field Issue Reporting Log
- GPS Control Report

Delivery Reports

Start Delivery Date

End Delivery Date

Contractor Name

PACP | MACP | Smoke | Dye

Record: 1 of 1 | No Filter | Search

frmMH_Inspections

Manhole Inspections

MH #: NN020517 | Import ID: 20 | Inspect ID: 619 | Orig Insp Id: 446

Inspection Data Edits Are Not Permitted

Inspection Date:	1/31/2014	Inspection Status:	Remote Inspection
Street:	1304 LAPALOMA	Inspection Level:	LEVEL 2
Access Type:	Manhole	Evidence Surcharge:	Yes
Surveyed By:	RJN\JOSEPH COLLEY	Location Code:	Sidewalk
Location Details:	SIDEWALK		
MH Insp Report:	ps://pr2-79-2.myloadspring.com/MACP_Smoke/MACP_Reports/NN02/NN020517_20140131.pdf		

View All Attributes & MH Media | Conditions Form | Connections Form | Close Form

Inspection Engineering Review & Recommendations

Assigned To: Nolan Mills

Reviewed By:	Nolan Mills	Date: 4/1/2014	Review Comments: Appears to be a siphon. Evidence of surcharge
Review Status:	Approved		
Exceptions Noted:	☑		
Priority Structural:	Low		
Priority O&M:	Medium		

Record: 1 of 1 | Filtered | Search

frm_MH_Conditions

MH_Conditions

View MACP Codes

Condition ID	333 209	Inspection ID	619
MH Component ID	B	Bench	
MACP Code	MMM	Mortar Missing Medium	
Distance	7	Counter	
Continuous		Clock At/From	3
Value 1st Dim		Value 2nd Dim	
Remarks			

VCR Time | Joint ☐ Step ☐ | Clock To | Value Percent

View Condition Media

frm_MH_Conditions_Media

ConditionID	MediaI	Image_Reference	Video_File	Image_Link
333	342	NN020517_MACP_20140131_003		https://pr2-78-

Record: 1 of 1 | Filtered | Search

Record: 1 of 1 | Filtered | Search

frm_MH_Connections

MH_Connections

Connection ID	1397	443	Inspection ID	619	Pipe Number	1	Structure ID	NN020517S
Clock Position	6	Direction	Out	Rim To Invert	7.46			
Material	Vitrified Clay Pipe		Shape	Circular	Diam 1	24	Diam 2	
Pipe Condition	Sound		Seal Condition	Sound	Special Condition	Gravity Relief Connection		
Comments								

View Connections Media

Connection ID	1398	444	Inspection ID	619	Pipe Number	3	Structure ID	NN020518S
Clock Position	10	Direction	In	Rim To Invert	7.48			
Material	Vitrified Clay Pipe		Shape	Circular	Diam 1	24	Diam 2	
Pipe Condition	Sound		Seal Condition	Sound	Special Condition	Gravity Relief Connection		
Comments								

View Connections Media

Connection ID	1399	445	Inspection ID	619	Pipe Number	4	Structure ID	SVC
Clock Position	12	Direction	In	Rim To Invert	6.41			
Material	Vitrified Clay Pipe		Shape	Circular	Diam 1	8	Diam 2	
Pipe Condition	Sound		Seal Condition	Sound	Special Condition	Lateral to Building		
Comments								

View Connections Media

Connection ID	1400	446	Inspection ID	619	Pipe Number	5	Structure ID	SVC
Clock Position	3	Direction	In	Rim To Invert	6.5			
Material	Vitrified Clay Pipe		Shape	Circular	Diam 1	8	Diam 2	
Pipe Condition	Sound		Seal Condition	Sound	Special Condition	Gravity Relief Connection		
Comments								

View Connections Media

Record: 1 of 4 Filtered Search

frm_MH_Connections_Media

Connection ID	Media	Image_F	Video_File	Image_Link	Video_Link
1398	1467	NN020517		https://pr2-79-2.myloadspring.com	
0					

Record: 1 of 1 Filtered Search

Connection ID	1398	444	Inspection ID	619	Pipe Number	3	Structure ID	NN020518S
Clock Position	10	Direction	In	Rim To Invert	7.48			
Material	Vitrified Clay Pipe		Shape	Circular	Diam 1	24	Diam 2	
Pipe Condition	Sound		Seal Condition	Sound	Special Condition	Gravity Relief Connection		
Comments								

View Connections Media

Connection ID	1399	445			Pipe Number	4	Structure ID	SVC
Clock Position	12	Directi						
Material	Vitrified Clay P				Diam 1	8	Diam 2	
Pipe Condition	Sound				Special Condition	Lateral to Building		
Comments								

View Connections Media

Connection ID	1400	446			Pipe Number	5	Structure ID	SVC
Clock Position	3	Directi						
Material	Vitrified Clay P				Diam 1	8	Diam 2	
Pipe Condition	Sound				Special Condition	Gravity Relief Connection		
Comments								

View Connections Media

https://pr2-79-2.myload...

File Edit View Favorites Tools Help

Favorites Suggested Sites

https://pr2-79-2.myload...

Trusted sites 100%

Record: 2 of 4 Filt

Manhole Inspection Header Form
Level 1 & 2 Inspections

2/7/2014

Surveyed By RJN\JOSEPH COLLEY **Certificate Number** 06-19293

Owner COM **Customer** SARP10

Drainage Area NN02 **Sheet Number**

PO Number

Date 02/01/2014 **Time** 7:49 am

Street LAPALOMA AND PARKWAY **City** Memphis

Location CENTER STREET

Manhole Number NN020516 **Rim to Invert** 7.92 **Grade to Invert** 7.92 **Rim to Grade** 0.00

MH Use Sanitary **Year Built** **Year Renewed** **Media Label**

Purpose Sewer System Evaluation Survey **Category**

Pre-Cleaning No Pre-Cleaning **Date Cleaned** **Weather** Damp

Location Light Highway

Additional Info

Surface Type Asphalt **Potential for Runoff** Sheeting **Access Type** Manhole

Northing 772936.101459212 **Easting** 306826.222533109 **Elevation** 172.215501683033

Coordinate System TN State Plane NAD83 **GPS Accuracy** Sub-Meter

Inspection Status Remote Inspection **Evidence of Surcharge** No **IsImperial** Yes **Level** LEVEL 2

NN020516_MACP_20140201_001.JPG

NN020516_MACP_20140201_002.JPG

Manhole Component Observation Form Level 1 & 2

Cover Shape Circular
Cover Size 24.00
Cover Size Width 24.00
Cover Material Cast Iron
Cover Type Solid
Hole Diameter
Holes Number 0
Cover Bearing Surface Dia 26.50
Cover Bearing Surface Dia Width
Cover Frame Fit Good
Cover Condition Sound
Insert Type None
Insert Condition NA

Ring Type None
Ring Material
Ring Condition NA
Ring Height

Frame Material Cast Iron
Frame Bearing Surface Width 1.00
Frame Bearing Surface Depth 1.12
Frame Clear Opening Diam 22.00
Frame Depth 4.00
Frame Condition Sound
Seal Condition Sound
Offset Distance 0.00
Frame Seal Inflow None

Chimney Material1 Not Known
Chimney_Material2
Chimney I/I None
Chimney Clear Opening 0.00
Chimney Depth 0.00
Chimney Lining Interior None - No Coating
Chimney Lining Exterior

Cone Type Conical centered
Cone Material Brick
Cone Depth 3.74
Cone Lining Interior Cementitious
Cone Lining Exterior

Wall Diam 0
Wall By Size
Wall_Material Brick
Wall Depth 6.64
Wall Lining Interior Cementitious
Wall Lining Exterior

Bench Present Yes
Bench Material Concrete (non-reinforced)
Bench Lining None - No Coating

Channel Installed Yes
Channel Material Vitrified Clay
Channel Type Pipe
Channel Exposure Fully Opened

Step Number 2
Step Material Brick

Work Order
Project
Pressure Value

Additional Component Info

NO CHIMNEY

Level 2 - Manhole Component Defect Form

Depth	Counter	Component	Descript	Code Modifier/ Severity	Contin Defect	S/M/L	Value 1st	Value 2nd	%	Joint	Step	Circumfrential Location Clock From	Clock To	Image Ref
7.00		Channel	B							No	No	2		

Remarks

NN020516_MACP_20140201_003.JPG

Manhole Pipe Connection Form Level 1 and Level 2

Pipe	Clock	Rim To Inv	Direction	Material	Shape	Dia1	Dia2	Pipe Cond	Seal Cond
1	6	7.98	Out	Vitrified Clay Pipe	Circular	24		Sound	Defective

Special_Condition Gravity Relief Connection Structure NN020516S

Comments SEAL DETERIORATED

NN020516_MACP_20140201_004.JPG

NN020516_MACP_20140201_005.JPG

Pipe	Clock	Rim To Inv	Direction	Material	Shape	Dia1	Dia2	Pipe Cond	Seal Cond
2	9	6.32	In	Concrete Pipe (non-reinforced)	Circular	8		Sound	Sound

Special Condition Gravity Relief Connection Structure NN020607S

Comments

NN020516_MACP_20140201_006.JPG

Pipe	Clock	Rim To Inv	Direction	Material	Shape	Dia1	Dia2	Pipe Cond	Seal Cond
3	12	7.92	In	Vitrified Clay Pipe	Circular	24		Sound	Sound

Special Condition Gravity Relief Connection Structure NN020516.01S

Comments

NN020516_MACP_20140201_007.JPG

Pipe	Clock	Rim To Inv	Direction	Material		Shape	Dia1	Dia2	Pipe Cond	Seal Cond
4	3	7.60	In	Vitrified Clay Pipe		Circular	18		Sound	Defective

Special_Condition Gravity Relief Connection Structure NN020567S

Comments SEAL DETERIORATED

NN020516_MACP_20140201_008.JPG

NN020516_MACP_20140201_009.JPG

Raw Data from Field Crews

qryMH_Inspections_All

InspectionID	Origi	Im	Manhole_Number	Surveyed_By	Certificate_Number	Owner	Customer	Drainage_Area
617	444	20	NN020516	RJN\JOSEPH COLLE	06-19293	COM	SARP10	NN02

Med	Orig	Image_Name	Ima	Vid	Vi	Image_Link
1270	344	NN020516_MACP_20140201_001.JPG				https://pr2-79-2.mycloudspring.com/MACP_Smoke/MACP/NN02/NN020516_MACP_20140201_00
1271	345	NN020516_MACP_20140201_002.JPG				https://pr2-79-2.mycloudspring.com/MACP_Smoke/MACP/NN02/NN020516_MACP_20140201_002

Record: 1 of 2 No Filter Search

Inspection form in system

frm_Main

Version 02

City of Memphis, TN
SARP10 Inspection Tracker

Data Delivery Name QC List

Select Sub-Basin NN02

Manhole Inspections

Manhole ID NN020516 View Inspection

MACP Insp ID View Inspection

Pipe Inspections

Pipe ID View Inspection

PACP Insp ID View Inspection

Smoke Testing

DS Manhole ID View Inspection

Smoke Test ID View Inspection

Dye Tracing

DS Manhole ID View Inspection

Dye Trace ID View Inspection

Queries / Reports

- Data Delivery QC Status Log
- Inspection Import Log
- MACP Engineer Review Status List
- PACP Engineer Review Status List
- Field Issue Reporting Log
- GPS Control Report

Delivery Reports

Start Delivery Date

End Delivery Date

Contractor Name

PACP MACP Smoke Dye

Record: 1 of 1 No Filter Search

frmMH_Inspections

Manhole Inspections

MH #: NN020516 | Import ID: 20 | Inspect ID: 617 | Orig Insp Id: 444

Inspection Data Edits Are Not Permitted

Inspection Date:	2/1/2014	Inspection Status:	Remote Inspection
Street:	LAPALOMA AND PARKW	Inspection Level:	LEVEL 2
Access Type:	Manhole	Evidence Surcharge:	No
Surveyed By:	RJN\JOSEPH COLLEY	Location Code:	Light Highway
Location Details:	CENTER STREET		
MH Insp Report:	ps://pr2-79-2.myloadspring.com/MACP_Smoke/MACP_Reports/NN02/NN020516_20140201.pdf		

View All Attributes & MH Media | Conditions Form | Connections Form | Close Form

Inspection Engineering Review & Recommendations

Assigned To: Nolan Mills

Reviewed By:	Nolan Mills	Date: 4/1/2014	Review Comments: Does not appear to have a channel for one of the pipes.
Review Status:	Approved		
Exceptions Noted:	☐		
Priority Structural:	Low		
Priority O&M:	Medium		

Record: 1 of 1 | Filtered | Search

frm_MH_Conditions

MH_Conditions

View MACP Codes

Condition ID	332 208	Inspection ID	617
MH Component ID	C	Channel	
MACP Code	B	Broken	
Distance	7	Counter	VCR Time	Joint ☐ Step ☐
Continuous		Clock At/From 2	Clock To
Value 1st Dim		Value 2nd Dim	Value Percent
Remarks			

View Condition Media

frm_MH_Conditions_Media

ionID	Media	Image_Reference	Video_File	Image_Link
	341	NN020516_MACP_20140201_003		https://pr2-79-

1 of 1 | Filtered | Search

https://pr2-79-2.myloadspring.com

File Edit View Favorites Tools Help

Favorites | Suggested Sites

https://pr2-79-2.myload...

frm_MH_Connections

MH_Connections

Connection ID	1390 436	Inspection ID	617	Pipe Number	1
Clock Position	6	Direction	Out	Rim To Invert	7.98
Material	Vitrified Clay Pipe	Shape	Circular	Diam 1	24
Pipe Condition	Sound	Seal Condition	Defective	Special Condition	Gravity Relief Connection
Comments	SEAL DETERIORATED				

Structure ID: NN020516S

View Connections Media

Connection ID	1391 437	Inspection ID	617	Pipe Number	2
Clock Position	9	Direction	In	Rim To Invert	6.32
Material	Concrete Pipe (non-rein	Shape	Circular	Diam 1	8
Pipe Condition	Sound	Seal Condition	Sound	Special Condition	Gravity Relief Connection
Comments					

Structure ID: NN020607S

View Connections Media

Connection ID	1392 438	Inspection ID	617	Pipe Number	3
Clock Position	12	Direction	In	Rim To Invert	7.92
Material	Vitrified Clay Pipe	Shape	Circular	Diam 1	24
Pipe Condition	Sound	Seal Condition	Sound	Special Condition	Gravity Relief Connection
Comments					

Structure ID: NN020516 01S

View Connections Media

Connection ID	1393 439	Inspection ID	617	Pipe Number	4
Clock Position	3	Direction	In	Rim To Invert	7.6
Material	Vitrified Clay Pipe	Shape	Circular	Diam 1	18
Pipe Condition	Sound	Seal Condition	Defective	Special Condition	Gravity Relief Connection
Comments	SEAL DETERIORATED				

Structure ID: NN020567S

View Connections Media

Record: 1 of 4 Filtered Search

frm_MH_Connections_Media

Connection	Media	Image_F	Video_File	Image_Link	Video_Link
1391	1459	NN020516		https://pr2-79-2.myload.spring.co	
0					

Record: 1 of 1 Filtered Search

Surveyors name	Certificate Number	System Owner	Survey Customer	Drainage Area	Sheet
S.TARRANT	06-19342	CoM	SARP10	NN	1

P/O No.	Pipeline Segment Reference	Date	Time	Location (Street Name and number)	Locality
SSES Pilot	NN021574S	20131213	11:16	2150 CUSTER ST	MEMPHIS,TN

Further Location details	Upstream Manhole Number	Rim to Invert	Grade to Invert	Rim to Grade
STREET	NN021574	10.2	10.2	0

Downstream Manhole Number	Rim to Invert	Grade to Invert	Rim to Grade	Use of Sewer	Direction	Flow Control	Height
NN021573	8.4	8.4	0	Sanitary	Downstream	N	12

Width	Shape	Material	Ln. Method	Pipe Joint Length	Total Length	Length Surveyed	Year Laid	Year Rehabilitated	Tape / Media Number
12	Circular	VCP	SP	5	0	385.7	2200	2200	CJ100

Purpose	Sewer Category	Pre-Cleaning	Cleaned	Weather	Additional Information
G	Z	Jetting	20131213	Dry	CLEAN & CCTV

Distance (Feet)	Code		Continuous defect	Value				Joint	Circumferential Location		Image Ref.	Struct. Grade	O&M Grade	Remarks
	Group/ Descriptor	Modifier/ severity		S/M/L	Inches 1st	Inches 2nd	%		At / From	To				
0.0	AMH													Starting Manhole: NN021574
0.0	MWL						5							
7.0	RF							J	3				1	
8.2	CL		S01						12					
11.8	CM								10	4		3		
13.5	RF							J	12				1	
14.9	CL		F01						12			2×1		
25.5	FL								12			3		
31.5	CL								12			2		
70.1	MWL	S					15					2		
83.5	FL								12			3		
102.4	FL		S05						12					
114.5	FL		F05						12			3×2		
123.3	CM								10	12		3		
135.1	DA	GS	S06				5		12	6				
138.7	CL								12			2		
145.0	FL		S03						12					
149.8	CM								3	7		3		
161.2	FL		F03						12			3×3		
166.3	CM								9	2		3		
184.7	CS								11	3		2		
187.2	CL								12			2		
206.2	FL								9			3		
209.1	FM								12	4		4		
212.1	CL								2			2		
221.7	CC								2	12		1		
227.2	CL								12			2		

Generated on Thursday, 1/30/2014 at 08:13 AM by the PipeTech® TV inspection system.

Surveyors name	Certificate Number	System Owner	Survey Customer	Drainage Area	Sheet
S.TARRANT	06-19342	CoM	SARP10	NN	2

P/O No.	Pipeline Segment Reference	Date	Time	Location (Street Name and number)	Locality
SSES Pilot	NN021574S	20131213	11:16	2150 CUSTER ST	MEMPHIS,TN

Further Location details	Upstream Manhole Number	Rim to Invert	Grade to Invert	Rim to Grade
STREET	NN021574	10.2	10.2	0

Downstream Manhole Number	Rim to Invert	Grade to Invert	Rim to Grade	Use of Sewer	Direction	Flow Control	Height
NN021573	8.4	8.4	0	Sanitary	Downstream	N	12

Width	Shape	Material	Ln. Method	Pipe Joint Length	Total Length	Length Surveyed	Year Laid	Year Rehabilitated	Tape / Media Number
12	Circular	VCP	SP	5	0	385.7	2200	2200	CJ100

Purpose	Sewer Category	Pre-Cleaning	Cleaned	Weather	Additional Information
G	Z	Jetting	20131213	Dry	CLEAN & CCTV

Distance (Feet)	Code		Continuous defect	Value				Joint	Circumferential Location		Image Ref.	Struct. Grade	O&M Grade	Remarks
	Group/ Descriptor	Modifier/ severity		S/M/L	Inches 1st	Inches 2nd	%		At / From	To				
261.1	CM								12	4		3		
293.0	TB	A			4				9					
301.5	MWL	S					15					2		
309.9	RF							J	8	10			1	
310.0	CL								3			2		
313.3	DA	Z					5		9				2	ENCRUSTATION ATTACHED
331.5	CL								11			2		
337.4	CL								3			2		
340.9	FL		S04						1					
351.6	FL		F04						12			3×2		
365.4	FM								11	4		4		
374.3	DA	E					5		9				2	
378.8	DA	GS	F06				5		12	6			2×49	
380.2	DA	E					5		9	10			2	
380.7	DA	E					5		2	4			2	
385.7	AMH													NN021573

Segment	Structural								O & M								Overall							
	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Rating	Quick	Index	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Rating	Quick	Index	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Rating	Quick	Index
NN021574S_20131213	1	24	45	8	0	78	423B	2.6	3	106	0	0	0	109	2I13	1.9	4	130	45	8	0	187	423B	2.2

PACP Inspection Report

Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

Additional Information

CLEAN & CCTV

Ftg.	Code	Description	Position	Comment
0.0	AMH	Access Point - Manhole		Starting Manhole: NN021574
0.0	MWL	Water Level		
7.0	RFJ	Roots, Fine: Joint	3	
8.2	CL	Crack Longitudinal	12	
11.8	CM	Crack Multiple	10 to 4	
13.5	RFJ	Roots, Fine: Joint	12	
14.9	CL	Crack Longitudinal	12	
25.5	FL	Fracture Longitudinal	12	
31.5	CL	Crack Longitudinal	12	
70.1	MWLS	Water Level: Sag		
83.5	FL	Fracture Longitudinal	12	
102.4	FL	Fracture Longitudinal	12	
114.5	FL	Fracture Longitudinal	12	
123.3	CM	Crack Multiple	10 to 12	
135.1	DAGS	Deposits Attached: Grease	12 to 6	
138.7	CL	Crack Longitudinal	12	
145.0	FL	Fracture Longitudinal	12	
149.8	CM	Crack Multiple	3 to 7	
161.2	FL	Fracture Longitudinal	12	
166.3	CM	Crack Multiple	9 to 2	
184.7	CS	Crack Spiral	11 to 3	
187.2	CL	Crack Longitudinal	12	
206.2	FL	Fracture Longitudinal	9	
209.1	FM	Fracture Multiple	12 to 4	
212.1	CL	Crack Longitudinal	2	
221.7	CC	Crack Circumferential	2 to 12	
227.2	CL	Crack Longitudinal	12	
261.1	CM	Crack Multiple	12 to 4	
293.0	TBA	Tap, Break-in / Hammer: Active	9	
301.5	MWLS	Water Level: Sag		
309.9	RFJ	Roots, Fine: Joint	8 to 10	
310.0	CL	Crack Longitudinal	3	
313.3	DAZ	Deposits Attached: Other	9	ENCRUSTATION ATTACHED
331.5	CL	Crack Longitudinal	11	
337.4	CL	Crack Longitudinal	3	
340.9	FL	Fracture Longitudinal	1	
351.6	FL	Fracture Longitudinal	12	
365.4	FM	Fracture Multiple	11 to 4	
374.3	DAE	Deposits Attached: Encrustation	9	
378.8	DAGS	Deposits Attached: Grease	12 to 6	
380.2	DAE	Deposits Attached: Encrustation	9 to 10	
380.7	DAE	Deposits Attached: Encrustation	2 to 4	
385.7	AMH	Access Point - Manhole		NN021573

Generated on Thursday, 1/30/2014 at 08:13 AM by the PipeTech® TV inspection system.

Incident Snapshot Report

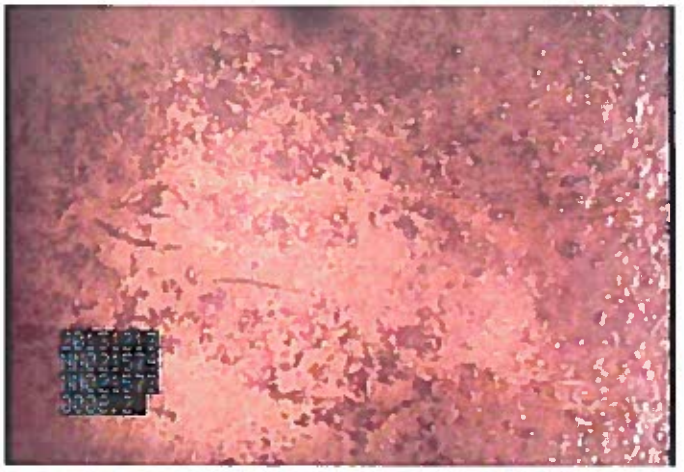
Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

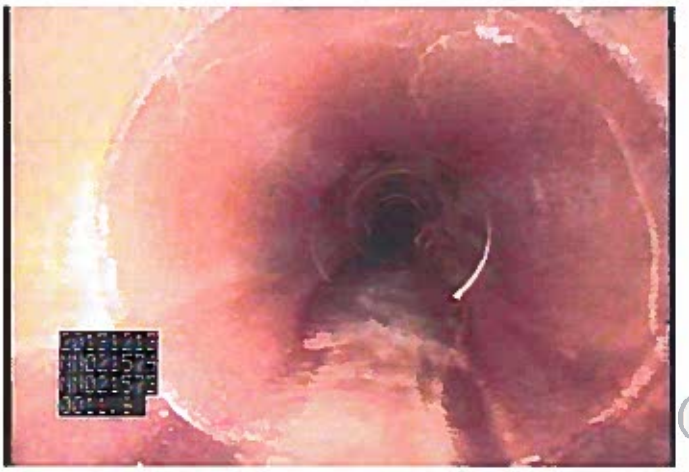
Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

Additional Information

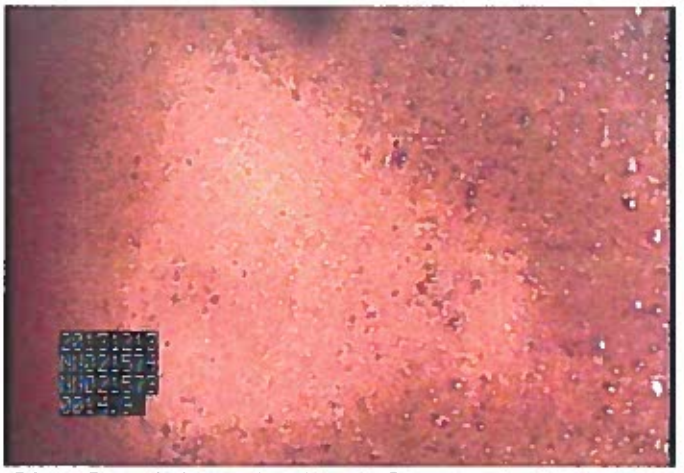
CLEAN & CCTV



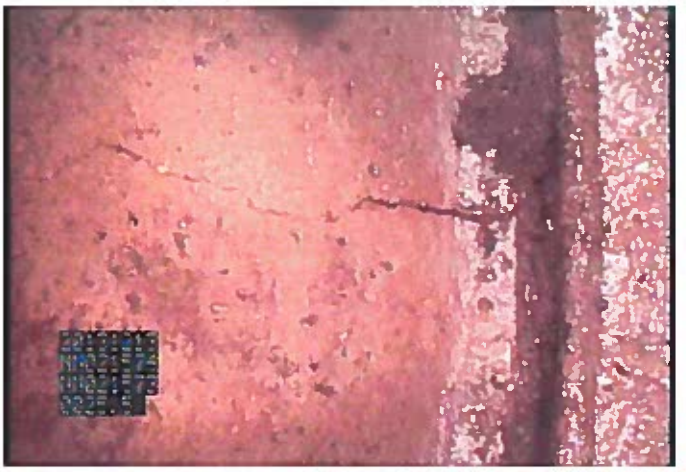
CL - Crack Longitudinal @ 8.2 ft.



CM - Crack Multiple @ 11.8 ft.



CL - Crack Longitudinal @ 14.9 ft.



FL - Fracture Longitudinal @ 25.5 ft.

Incident Snapshot Report

Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

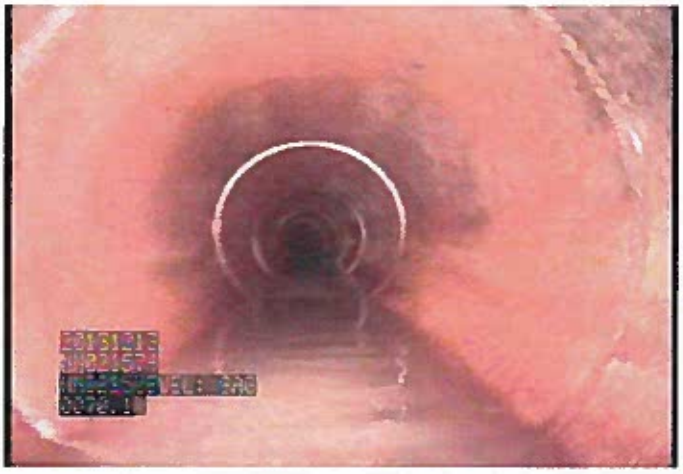
Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

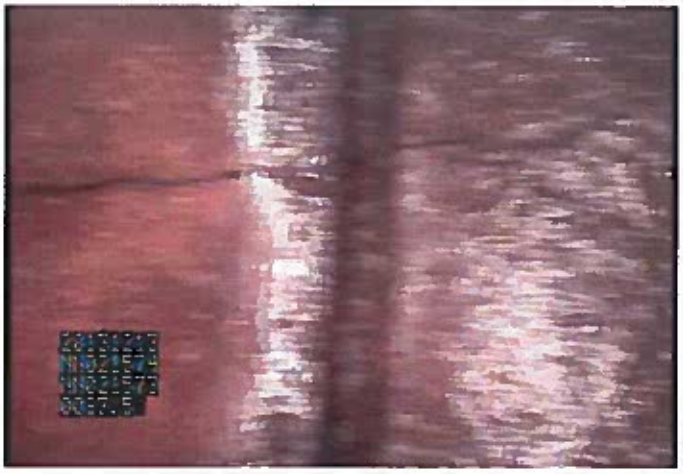
Additional Information

CLEAN & CCTV

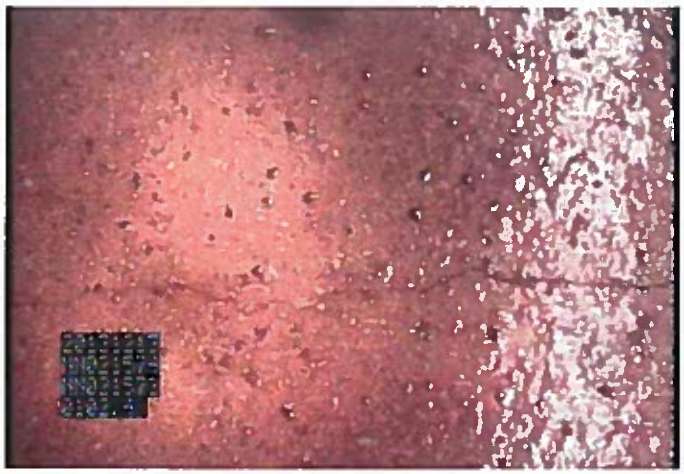
CL - Crack Longitudinal @ 31.5 ft.



MWLS - Water Level: Sag @ 70.1 ft.



FL - Fracture Longitudinal @ 83.5 ft.



FL - Fracture Longitudinal @ 102.4 ft.

Incident Snapshot Report

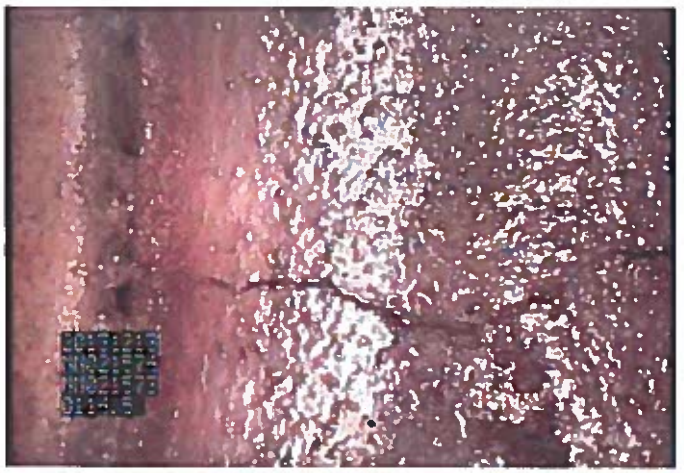
Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

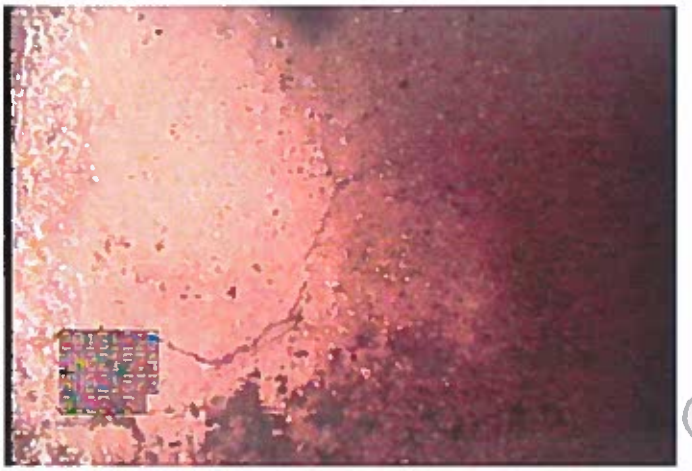
Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

Additional Information

CLEAN & CCTV

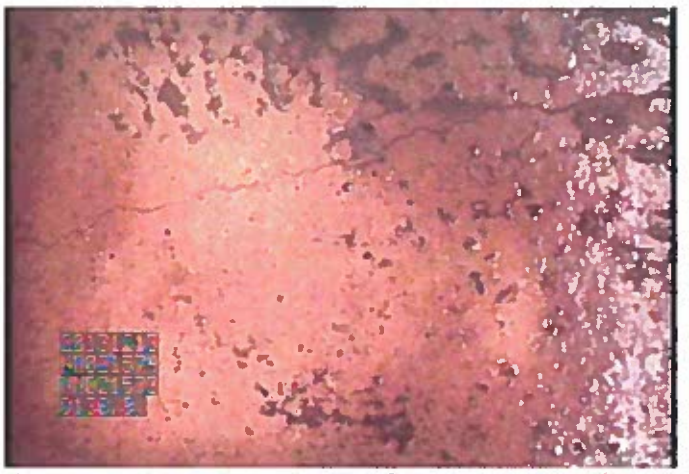


FL - Fracture Longitudinal @ 114.5 ft.



CM - Crack Multiple @ 123.3 ft.

DAGS - Deposits Attached: Grease @ 135.1 ft.



CL - Crack Longitudinal @ 138.7 ft.

Incident Snapshot Report

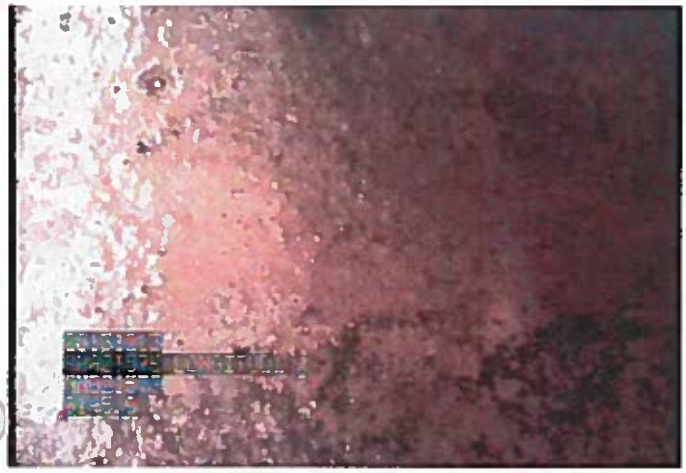
Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

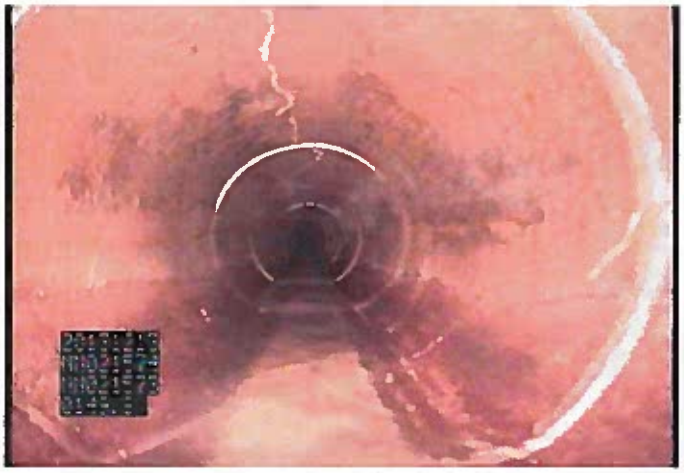
Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

Additional Information

CLEAN & CCTV

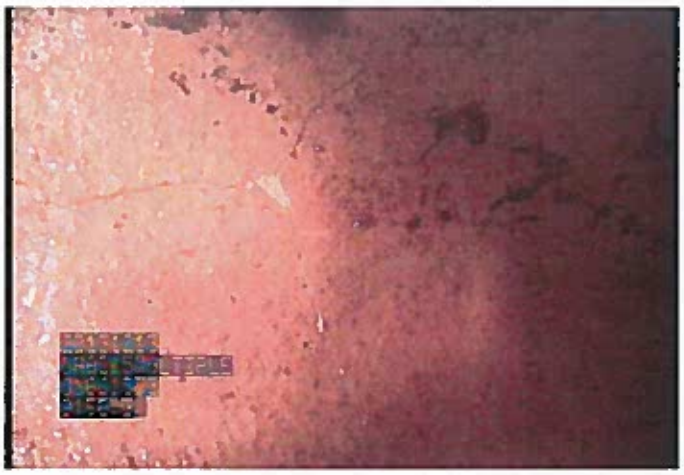


FL - Fracture Longitudinal @ 145.0 ft.



CM - Crack Multiple @ 149.8 ft.

FL - Fracture Longitudinal @ 161.2 ft.



CM - Crack Multiple @ 166.3 ft.

Incident Snapshot Report

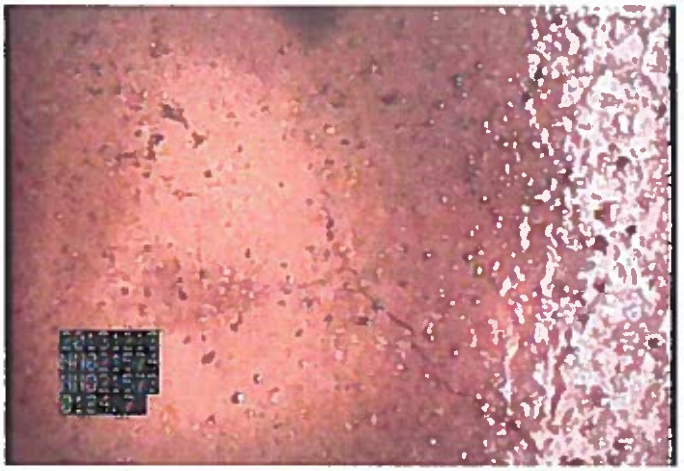
Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

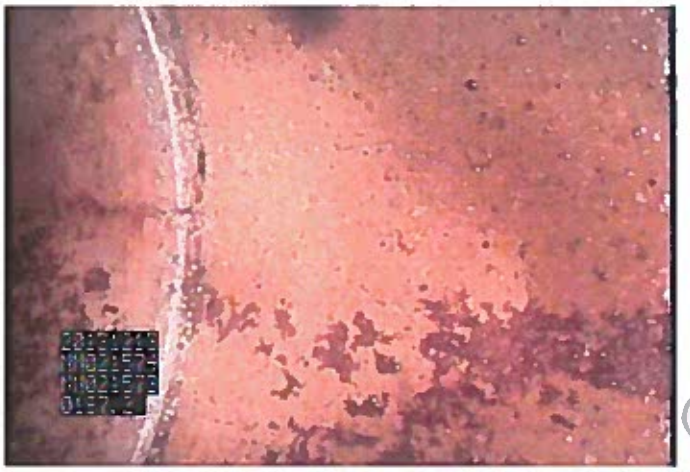
Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

Additional Information

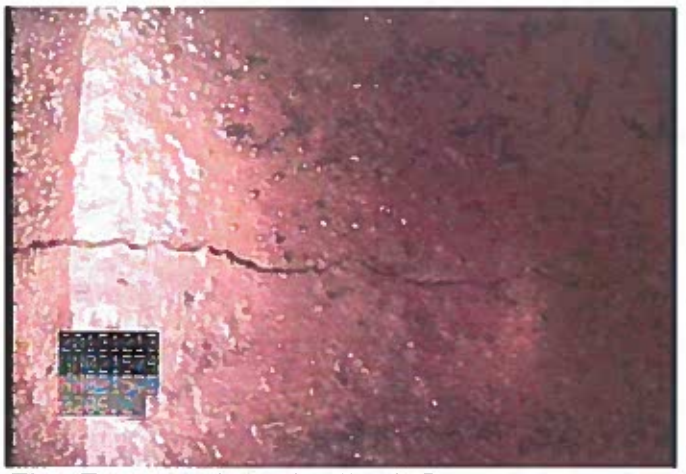
CLEAN & CCTV



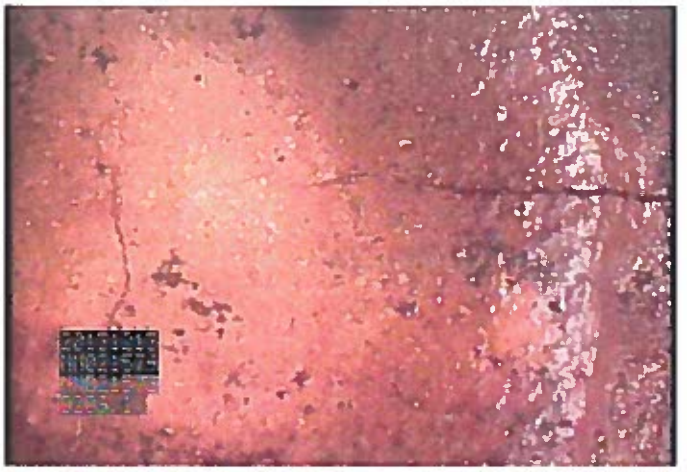
CS - Crack Spiral @ 184.7 ft.



CL - Crack Longitudinal @ 187.2 ft.



FL - Fracture Longitudinal @ 206.2 ft.



FM - Fracture Multiple @ 209.1 ft.

Incident Snapshot Report

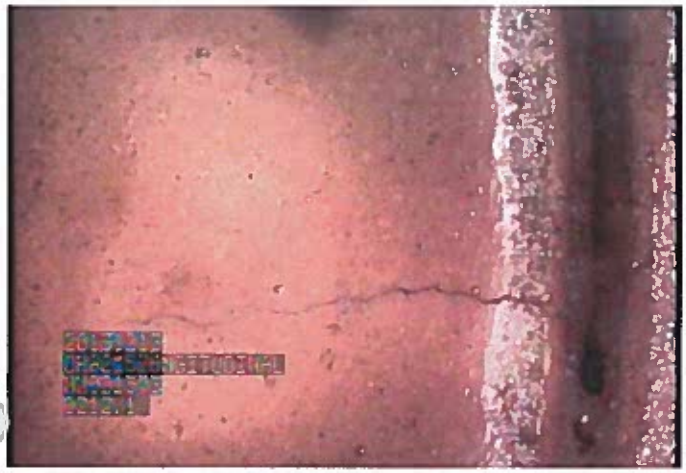
Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

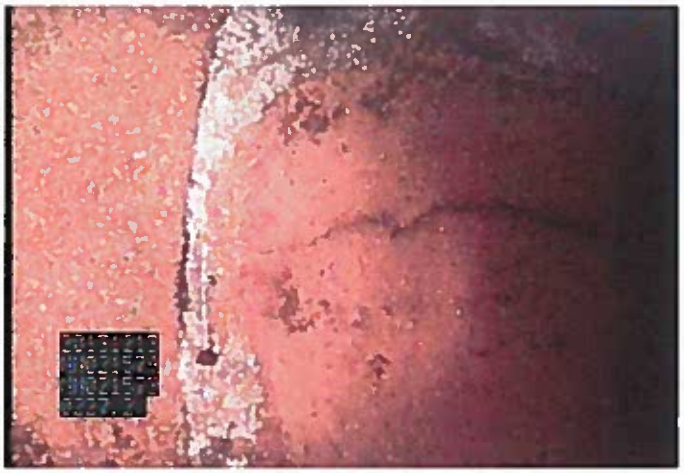
Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

Additional Information

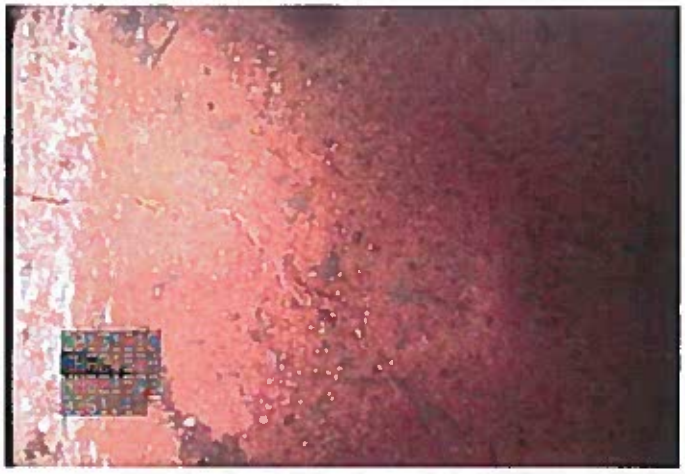
CLEAN & CCTV



CL - Crack Longitudinal @ 212.1 ft.



CL - Crack Longitudinal @ 227.2 ft.



CM - Crack Multiple @ 261.1 ft.

MWLS - Water Level: Sag @ 301.5 ft.

Incident Snapshot Report

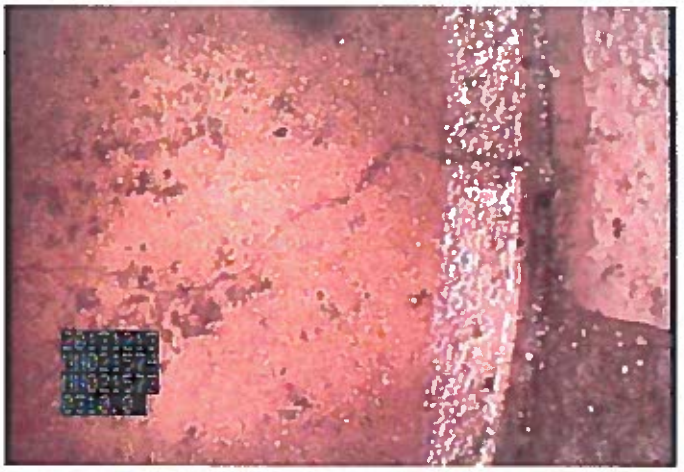
Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

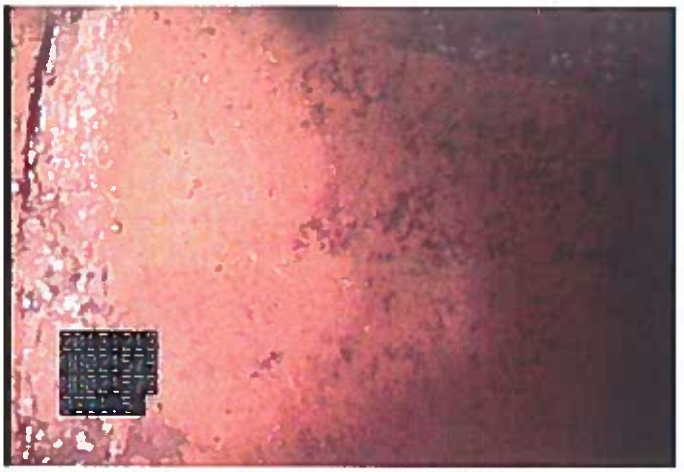
Additional Information

CLEAN & CCTV



CL - Crack Longitudinal @ 310.0 ft.

DAZ - Deposits Attached: Other @ 313.3 ft. ENCRUSTATION ATTACHED



CL - Crack Longitudinal @ 331.5 ft.

CL - Crack Longitudinal @ 337.4 ft.

Incident Snapshot Report

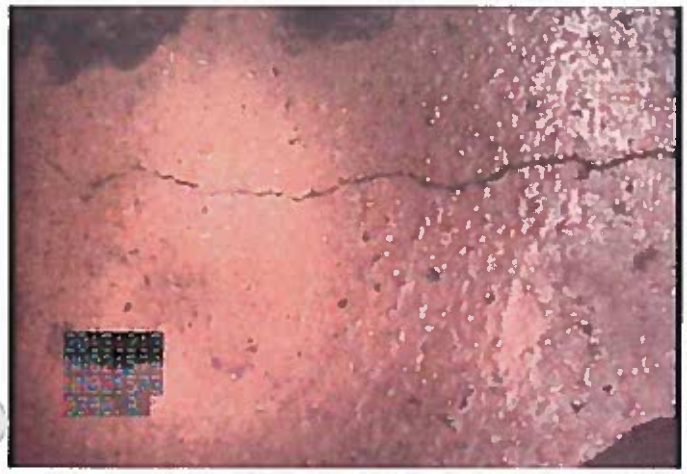
Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

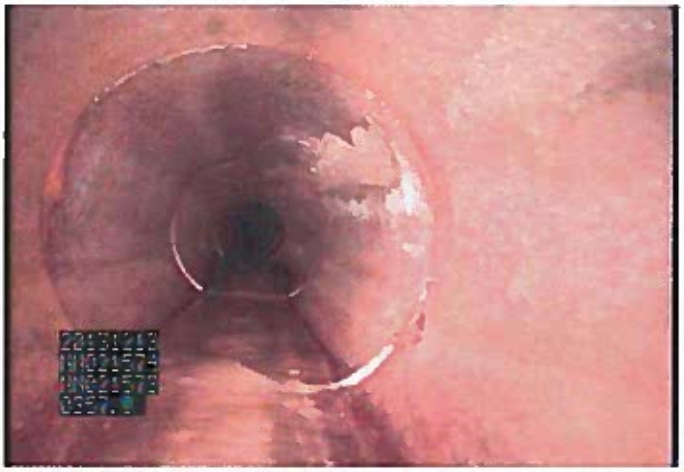
Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

Additional Information

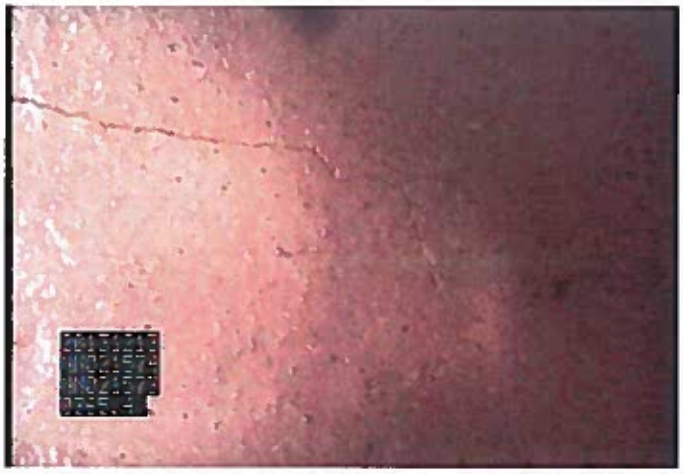
CLEAN & CCTV



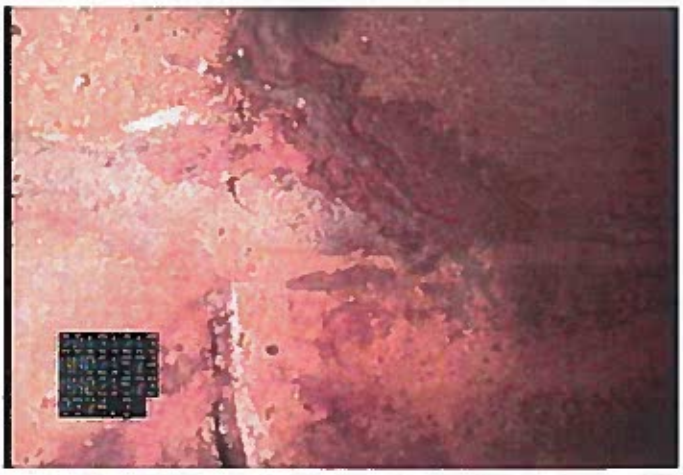
FL - Fracture Longitudinal @ 340.9 ft.



FL - Fracture Longitudinal @ 351.6 ft.



FM - Fracture Multiple @ 365.4 ft.



DAE - Deposits Attached: Encrustation @ 374.3 ft.

Incident Snapshot Report

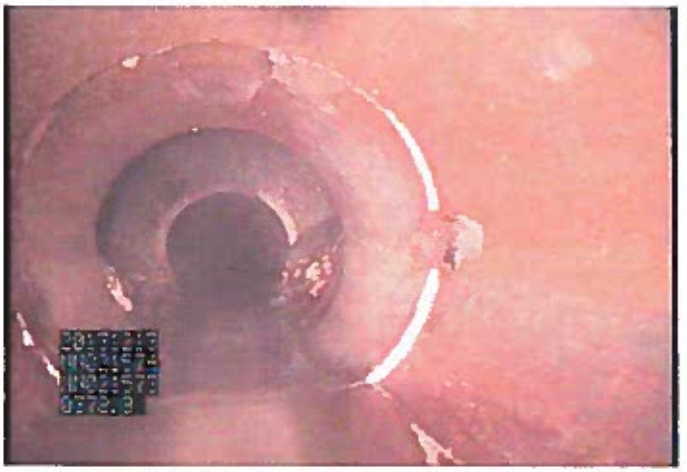
Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021574	NN021573	12	Vitrified Clay Pipe	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2150 CUSTER ST	STREET

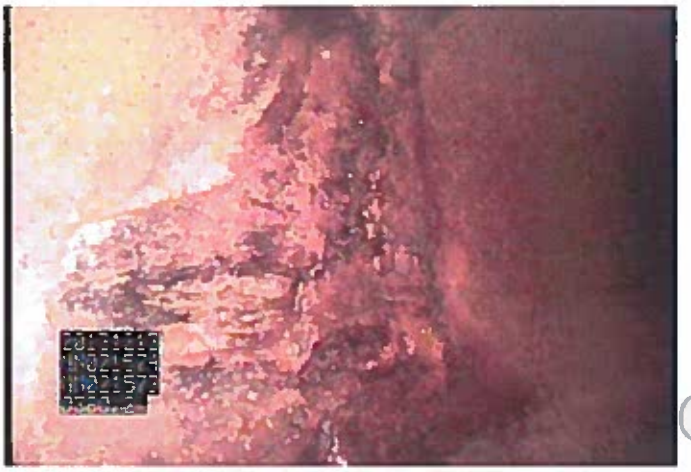
Direction	Purpose	Weather	Date	Time	Length Surveyed
Downstream	Capital Improvement Program Assessment	Dry	20131213	11:16	385.7

Additional Information

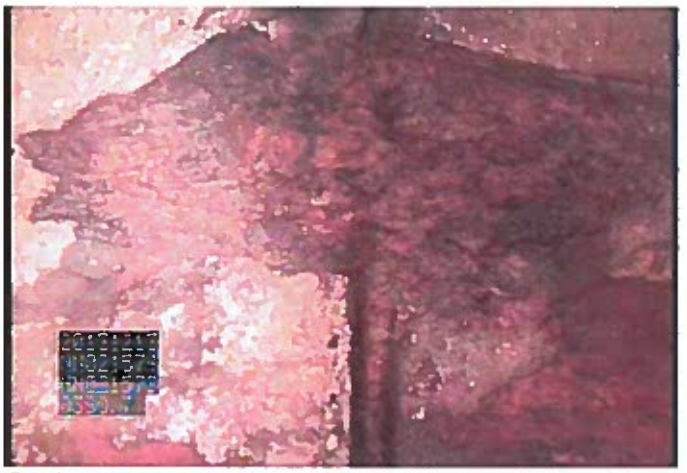
CLEAN & CCTV



DAGS - Deposits Attached: Grease @ 378.8 ft.



DAE - Deposits Attached: Encrustation @ 380.2 ft.



DAE - Deposits Attached: Encrustation @ 380.7 ft.

Raw Data from Field Crews

qryPipe_Inspections

Inspectic	Originsp	Importi	Surveyed_By	Certificate_N	Owne	Custome	Drain	PO_Numbe	Pipe_Segme	Date	Time	Stree	Cit	Location_Detail	Upstream_MI	Up_F
80	50	19	VIS/S:TARRANT	06-19942	CoM	SARP10	NN02	SSES Pilot	NN021574S	20131213	11:16	2150 CU	MEMP	STREET	NN021574	

Cond	OrigCo	Distance	Counter	PACP_Code	Continu	Value_1st_Di	Value_2nd_Di	Value_Percen	Joint	Clock_At_From	Clock_To	Remarks
1153	1153	0	9.2	AMH					☐			Starting Manhole
1154	1154	0	12.6	MWL				5	☐			
1155	1155	7	78.5	RFJ					☐	3		
1156	1156	8.2	115.5	CL	S01				☐	12		
1157	1157	19.5	148.6	RFJ					☐	12		
1158	1158	14.9	175.5	CL	F01				☐	12		
1159	1159	25.5	208.6	FL					☐	12		
1160	1160	70.1	321.3	MWLS				15	☐			
1161	1161	102.4	462.3	FL	S05				☐	12		
1162	1162	114.5	510.1	FL	F05				☐	12		
1163	1163	123.3	550.3	CM					☐	10	12	
1164	1164	138.7	604.3	CL					☐	12		
1165	1165	145	635.2	FL	S03				☐	12		
1166	1166	161.2	684.4	FL	F03				☐	12		
1167	1167	166.3	710	CM					☐	9	2	
1168	1168	184.7	759.2	CS					☐	11	3	
1169	1169	187.2	778.5	CL					☐	12		
1170	1170	206.2	821.8	FL					☐	9		
1171	1171	209.1	842.9	FM					☐	12	4	
1172	1172	212.1	862.2	CL					☐	2		
1173	1173	221.7	906.2	CC					☐	2	12	
1174	1174	227.2	934	CL					☐	12		
1175	1175	261.1	1012	CM					☐	12	4	
1176	1176	293	1120.9	TBA		4			☐	9		
1177	1177	301.5	1150.5	MWLS				15	☐			
1178	1178	309.9	1178.7	RFJ					☐	8	10	
1179	1179	310	1194.9	CL					☐	3		
1180	1180	313.3	1220.1	DAZ				5	☐	9		ENCRUSTATION A
1181	1181	331.5	1273.7	CL					☐	11		
1182	1182	337.4	1299.7	CL					☐	3		
1183	1183	340.9	1323	FL	S04				☐	1		
1184	1184	351.6	1352.6	FL	F04				☐	12		
1185	1185	365.4	1378.6	FM					☐	11	4	
1186	1186	374.3	1417.7	DAE				5	☐	9		
1187	1187	[illegible]	[illegible]	DAE				5	☐	9	10	

Inspection form in system

frm_Main

Version 02

City of Memphis, TN
SARP10 Inspection Tracker

Data Delivery Name QC List

Select Sub-Basin: NN02

Manhole Inspections

Manhole ID [ ] View Inspection

MACP Insp ID [ ] View Inspection

Pipe Inspections

Pipe ID: NN021574S View Inspection

PACP Insp ID [ ] View Inspection

Smoke Testing

DS Manhole ID [ ] View Inspection

Smoke Test ID [ ] View Inspection

Dye Tracing

DS Manhole ID [ ] View Inspection

Dye Trace ID [ ] View Inspection

Queries / Reports

- Data Delivery QC Status Log
- Inspection Import Log
- MACP Engineer Review Status List
- PACP Engineer Review Status List
- Field Issue Reporting Log
- GPS Control Report

Delivery Reports

Start Delivery Date

End Delivery Date

Contractor Name

PACP | MACP | Smoke | Dye

Record: 1 of 1 | No Filter | Search

frmPipe_Inspections

Pipe Inspections

Import ID: 19 Inspect ID: 50 Orig Inspect ID: 50

Inspection Data Edits Are Not Permitted

Pipe ID: NN021574S Inspect Date: 12/13/2013 Street: 2150 CUSTER ST Total Length: 0 View All Attributes

Survey By: VIS/S. TARRANT Direction: Downstream Setup: 0 Length Surveyed: 385.7 Conditions Form

Additional Info: CLEAN & CCTV

Location Details: STREET

Inspect Report: https://er2-75-2.mylogadspring.com/NACP_Smoke/PACP_Reports/NN02/NN CCTV Video: https://ws2-75-2.mylogadspring.com/watch.aspx?filename=NN021574S_20

		Insp ID	Surcharged?	Runoff Potential	Priority Struct	Priority O&M
US MH:	NN021574	143	No	Sheeting	Low	Low
DS MH:	NN021573	142	Yes	Sheeting	Low	Low

Close Form

Inspection Engineering Review & Recommendations

Assigned To:

Reviewed By 1: John Brito Date: 3/10/2014

Reviewed By 2: Date:

Review Comments:

Review Status: Approved

Exceptions Noted: ☐ Report OK: ☑ Video OK: ☑

PACP Scores	Rating	Quick	Index
Structural:	78.00	423b	2.6
O&M:	109.00	2113	1.9
Overall:	187.00	423b	2.2

PM Recommendations			Rehab Recommendations		
Criticality:	Low		Criticality:	Low	
Recom / Frequency1:			Rehab Recom 1:		?
Recom / Frequency2:			Rehab Recom 2:		

Rehab Comments:

Record: 1 of 1 Filtered Search

frm_Conditions

PACP Inspection Conditions

View PACP Codes

QC Review

Condition ID 1156 1156 Insp ID 50
Distance 8.2 Counter 115.5 VCR Time 000156
PACP Code CL Crack Longitudinal
Continuous S01 Clock At/From 12 Clock To
Value 1st Dim Value 2nd Dim Value Percent Joint
Remarks
CCTV Cond Hyperlink https://ws2-73-2.myloadspring.com/watch.aspx?filename=NN0:

Review Status
Followup Tag
Review Comments

Condition ID 1190 1190 Insp ID 50
Distance 11.8 Counter 126 VCR Time 000206
PACP Code CM Crack Multiple
Continuous Clock At/From 10 Clock To 4
Value 1st Dim Value 2nd Dim Value Percent Joint
Remarks
CCTV Cond Hyperlink https://ws2-73-2.myloadspring.com/watch.aspx?filename=NN0:

Review Status
Followup Tag
Review Comments

Condition ID 1157 1157 Insp ID 50
Distance 13.5 Counter 148.6 VCR Time 000229
PACP Code RFJ Roots Fine Joint
Continuous Clock At/From 12 Clock To
Value 1st Dim Value 2nd Dim Value Percent Joint
Remarks
CCTV Cond Hyperlink https://ws2-73-2.myloadspring.com/watch.aspx?filename=NN0:

Review Status
Followup Tag
Review Comments

Condition ID 1158 1158 Insp ID 50
Distance 14.9 Counter 175.5 VCR Time 000256

Review Status
Followup Tag

Record: 1 of 43 Filtered Search

Surveyors name	Certificate Number	System Owner	Survey Customer	Drainage Area	Sheet
S.TARRANT	06-19342	CoM	SARP10	NN	1

P/O No.	Pipeline Segment Reference	Date	Time	Location (Street Name and number)	Locality
SSES Pilot	NN021575S	20131213	13:46	2174 FREEMONT RD	MEMPHIS,TN

Further Location details	Upstream Manhole Number	Rim to Invert	Grade to Invert	Rim to Grade
STREET	NN021575	9	9	0

Downstream Manhole Number	Rim to Invert	Grade to Invert	Rim to Grade	Use of Sewer	Direction	Flow Control	Height
NN021574	10.2	10.2	0	Sanitary	Upstream	N	8

Width	Shape	Material	Ln. Method	Pipe Joint Length	Total Length	Length Surveyed	Year Laid	Year Rehabilitated	Tape / Media Number
8	Circular	CP	SP	5	0	188.8	2200	2200	CJ100

Purpose	Sewer Category	Pre-Cleaning	Cleaned	Weather	Additional Information
G	Z	Jetting	20131213	Dry	CLEAN & CCTV, REVERSE SETUP

Distance (Feet)	Code		Continuous defect	Value				Joint	Circumferential Location		Image Ref.	Struct. Grade	O&M Grade	Remarks
	Group/ Descriptor	Modifier/ severity		S/M/L	Inches 1st	Inches 2nd	%		At / From	To				
0.0	AMH													Starting Manhole: NN021574
0.0	SAP		S03						6	6				
0.0	MWL						5							
11.4	RF							J	7	8			1	
17.5	IW								5	7			2	
23.6	LR						5						1	
26.7	DA	E					5		2	5			2	
26.7	LL						5						1	
82.3	TF	C			6				9					DEBRIS
83.6	FL								3			3		
85.1	TF	C			6				3					DEBRIS
116.8	SAM		S01						12	12				
134.6	SAM		F01						12	12		4×4		
134.6	JO			M								1		
134.6	MMC													CP TO VCP
136.6	TF	A			6				9					
137.9	MMC													VCP TO CP
137.9	SAM		S02						12	12				
138.9	TF	C			6				9					DEBRIS
141.9	TF	C			6				3					DEBRIS
155.1	D						20					5		
185.1	B	VV							3	4		5		
188.8	SAP		F03						6	6		3×38		
188.8	B	VV							4	8		5		INVERT MISSING
188.8	SAM		F02						12	12		4×10		
188.8	MSA													INVERT MISSING

Generated on Thursday, 1/30/2014 at 08:14 AM by the PipeTech® TV inspection system.

Surveyors name	Certificate Number	System Owner	Survey Customer	Drainage Area	Sheet
S.TARRANT	06-19342	CoM	SARP10	NN	2

P/O No.	Pipeline Segment Reference	Date	Time	Location (Street Name and number)	Locality
SSES Pilot	NN021575S	20131213	13:46	2174 FREEMONT RD	MEMPHIS,TN

Further Location details	Upstream Manhole Number	Rim to Invert	Grade to Invert	Rim to Grade
STREET	NN021575	9	9	0

Downstream Manhole Number	Rim to Invert	Grade to Invert	Rim to Grade	Use of Sewer	Direction	Flow Control	Height
NN021574	10.2	10.2	0	Sanitary	Upstream	N	8

Width	Shape	Material	Ln. Method	Pipe Joint Length	Total Length	Length Surveyed	Year Laid	Year Rehabilitated	Tape / Media Number
8	Circular	CP	SP	5	0	188.8	2200	2200	CJ100

Purpose	Sewer Category	Pre-Cleaning	Cleaned	Weather	Additional Information
G	Z	Jetting	20131213	Dry	CLEAN & CCTV, REVERSE SETUP

Distance (Feet)	Code		Continuous defect	Value				Joint	Circumferential Location		Image Ref.	Struct. Grade	O&M Grade	Remarks
	Group/ Descriptor	Modifier/ severity		S/M/L	Inches 1st	Inches 2nd	%		At / From	To				

	Structural								O & M								Overall							
Segment	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Rating	Quick	Index	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Rating	Quick	Index	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Rating	Quick	Index
NN021575S_20131213	1	0	117	56	15	189	534A	3.3	3	4	0	0	0	7	2213	1.4	4	4	117	56	15	196	534A	3.2

PACP Inspection Report

Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021575	NN021574	8	Concrete Pipe (non-reinforced)	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2174 FREEMONT RD	STREET

Direction	Purpose	Weather	Date	Time	Length Surveyed
Upstream	Capital Improvement Program Assessment	Dry	20131213	13:46	188.8

Additional Information

CLEAN & CCTV, REVERSE SETUP

Ftg.	Code	Description	Position	Comment
0.0	SAP	Surface: Aggregate Projecting	6 to 6	
188.8	SAP	Surface: Aggregate Projecting	6 to 6	
188.8	MSA	Survey Abandoned		INVERT MISSING
188.8	SAM	Surface: Aggregate Missing	12 to 12	
188.8	BVV	Pipe Broken: Void Visible	4 to 8	INVERT MISSING
185.1	BVV	Pipe Broken: Void Visible	3 to 4	
155.1	D	Pipe Deformed		
141.9	TFC	Tap, Factory Made: Capped	3	DEBRIS
138.9	TFC	Tap, Factory Made: Capped	9	DEBRIS
137.9	SAM	Surface: Aggregate Missing	12 to 12	
137.9	MMC	Material Change		VCP TO CP
136.6	TFA	Tap, Factory Made: Active	9	
134.6	MMC	Material Change		CP TO VCP
134.6	JOM	Joint Offset (displaced): Medium		
134.6	SAM	Surface: Aggregate Missing	12 to 12	
116.8	SAM	Surface: Aggregate Missing	12 to 12	
85.1	TFC	Tap, Factory Made: Capped	3	DEBRIS
83.6	FL	Fracture Longitudinal	3	
82.3	TFC	Tap, Factory Made: Capped	9	DEBRIS
26.7	LL	Line - Left		
26.7	DAE	Deposits Attached: Encrustation	2 to 5	
23.6	LR	Line - Right		
17.5	IW	Infiltration - Weeper	5 to 7	
11.4	RFJ	Roots, Fine: Joint	7 to 8	
0.0	MWL	Water Level		
0.0	AMH	Access Point - Manhole		Starting Manhole: NN021574

Generated on Thursday, 1/30/2014 at 08:14 AM by the PipeTech® TV inspection system.

Incident Snapshot Report

Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021575	NN021574	8	Concrete Pipe (non-reinforced)	0	MEMPHIS,TN

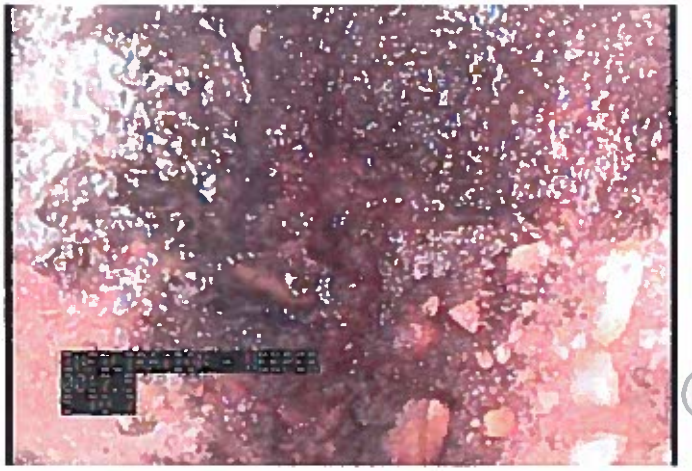
Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2174 FREEMONT RD	STREET

Direction	Purpose	Weather	Date	Time	Length Surveyed
Upstream	Capital Improvement Program Assessment	Dry	20131213	13:46	188.8

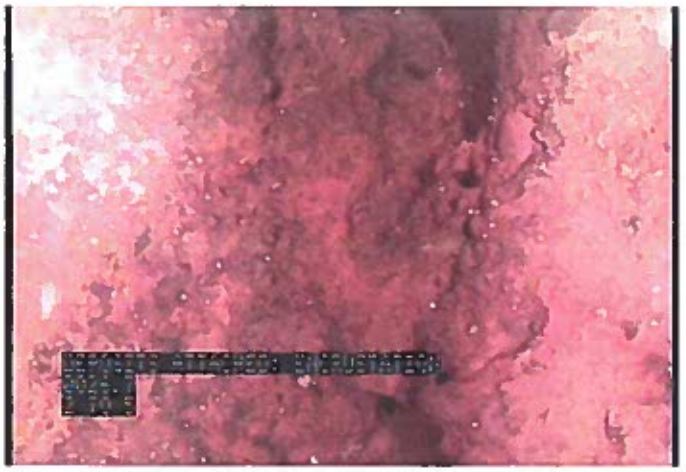
Additional Information

CLEAN & CCTV, REVERSE SETUP

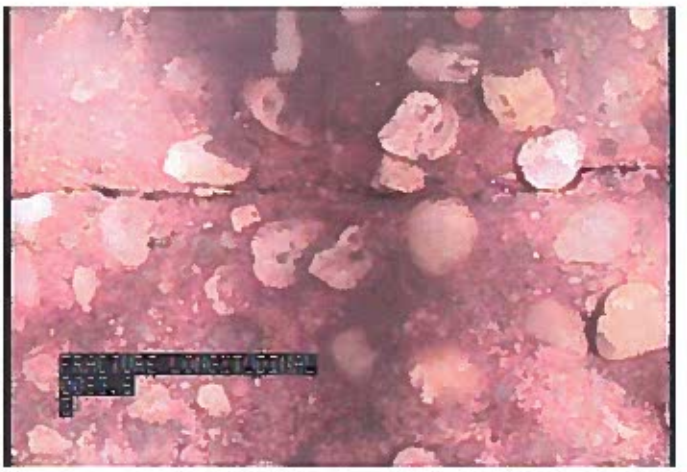
SAP - Surface: Aggregate Projecting @ 0.0 ft.



IW - Infiltration - Weeper @ 17.5 ft.



DAE - Deposits Attached: Encrustation @ 26.7 ft.



FL - Fracture Longitudinal @ 83.6 ft.

Incident Snapshot Report

Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021575	NN021574	8	Concrete Pipe (non-reinforced)	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2174 FREEMONT RD	STREET

Direction	Purpose	Weather	Date	Time	Length Surveyed
Upstream	Capital Improvement Program Assessment	Dry	20131213	13:46	188.8

Additional Information

CLEAN & CCTV, REVERSE SETUP

SAM - Surface: Aggregate Missing @ 116.8 ft.

SAM - Surface: Aggregate Missing @ 134.6 ft.

SAM - Surface: Aggregate Missing @ 137.9 ft.

D - Pipe Deformed @ 155.1 ft.

Incident Snapshot Report

Upstream MH	Downstream MH	Size	Material	Total Length	City
NN021575	NN021574	8	Concrete Pipe (non-reinforced)	0	MEMPHIS,TN

Surveyor's Name	Certificate Number	Street Address	Location Details
S.TARRANT	06-19342	2174 FREEMONT RD	STREET

Direction	Purpose	Weather	Date	Time	Length Surveyed
Upstream	Capital Improvement Program Assessment	Dry	20131213	13:46	188.8

Additional Information

CLEAN & CCTV, REVERSE SETUP

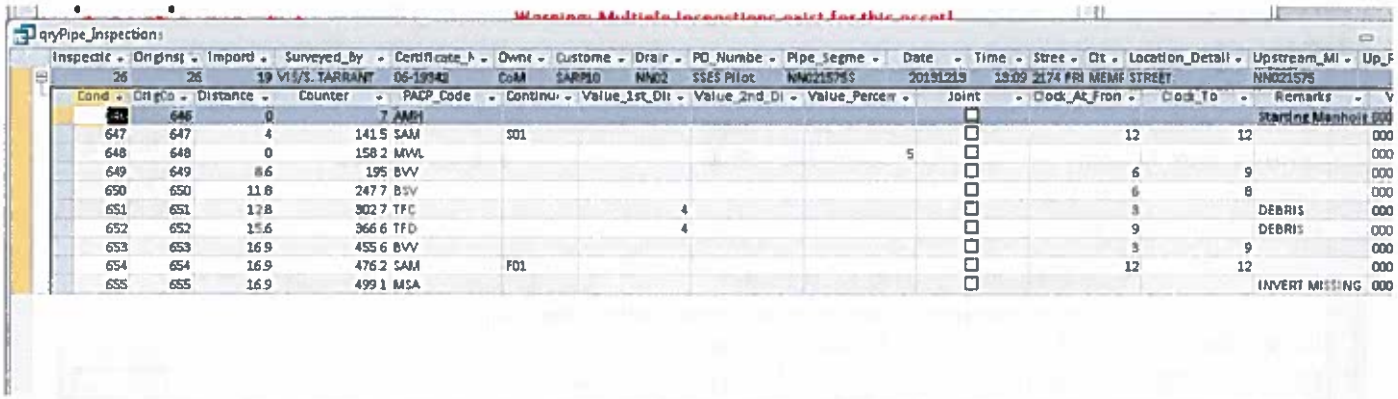
BVV - Pipe Broken: Void Visible @ 185.1 ft.

SAP - Surface: Aggregate Projecting @ 188.8 ft.

BVV - Pipe Broken: Void Visible @ 188.8 ft. INVERT MISSING

SAM - Surface: Aggregate Missing @ 188.8 ft.

Raw Data from Field Crews

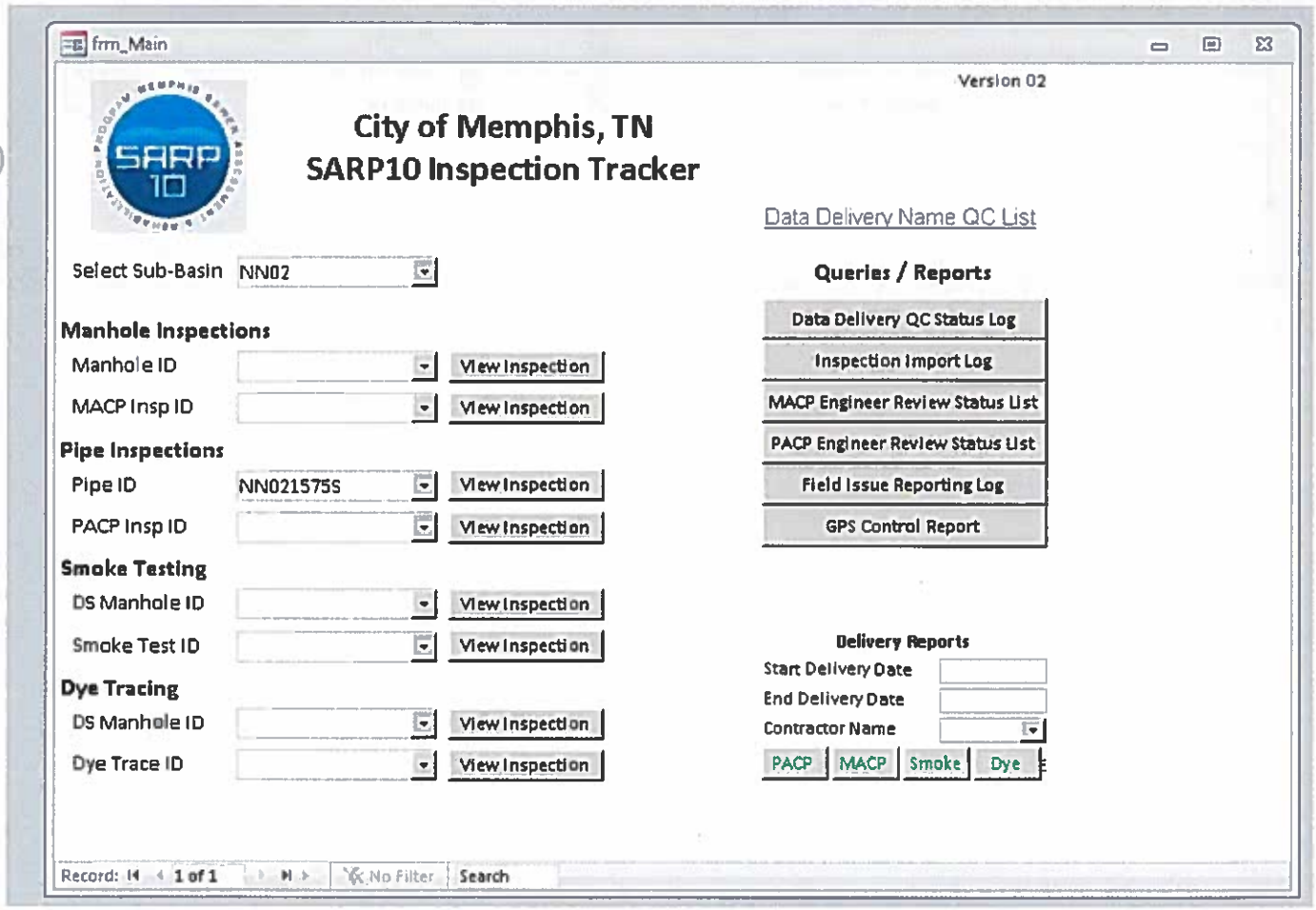


qryPipe_Inspections

Inspectio	Originsp	Importd	Surveyed_by	Certificate_N	Owne	Custome	Drain	PO_Numbe	Pipe_Segme	Date	Time	Stree	Cit	Location_Detail	Upstream_Mi	Up_F
26	26	19	VI S/S. TARRANT	06-19942	CoM	SARP10	NN02	SSES Pilot	NN021575S	20151219	13:09	2174 FRI	MEMF	STREET	NN021575	

Cond	OrigCo	Distance	Counter	PACP_Code	Continu	Value_1st_Di	Value_2nd_Di	Value_Percen	Joint	Clock_At_Fron	Clock_To	Remarks	V
[illegible]	646	0	7	AMH					☐			Starting Manhole	000
647	647	4	141.5	SAM	S01				☐	12	12		000
648	648	0	158.2	MWL				5	☐				000
649	649	8.6	195	BVV					☐	6	9		000
650	650	11.8	247.7	BSV					☐	6	8		000
651	651	12.8	302.7	TFC		4			☐	8		DEBRIS	000
652	652	15.6	366.6	TFD		4			☐	9		DEBRIS	000
653	653	16.9	455.6	BVV					☐	8	9		000
654	654	16.9	476.2	SAM	F01				☐	12	12		000
655	655	16.9	499.1	MSA					☐			INVERT MISSING	000

Inspection form in system



frmPipe_Inspections

Pipe Inspections

Import ID: 19 Inspect ID: 26 Orig Inspect ID: 26

Inspection Data Edits Are Not Permitted

Warning: Multiple Inspections exist for this asset!

Pipe ID: NN021575S Inspect Date: 12/13/2013 Street: 2174 FREEMONT RD Total Length: 0

Survey By: VIS/S. TARRANT Direction: Downstream Setup: 0 Length Surveyed: 16.9

View All Attributes

Conditions Form

Additional Info: CLEAN & CCTV

Location Details: STREET

Inspect Report: https://pr2-73-2.myloadspring.com/MACP_Smoke/PACP_Reports/NN02/NN

CCTV Video: https://vs2-73-2.myloadspring.com/watch.aspx?filename=NN021575S_20

		Insp ID	Surcharged?	Runoff Potential	Priority Struct	Priority O&M
US MH	NN021575	9	No	Sheeting	Low	Low
DS MH	NN021574	143	No	Sheeting	Low	Low

Close Form

Inspection Engineering Review & Recommendations

Assigned To: Phil Hannan

Reviewed By 1: Nolan Mills Date: 3/18/2014

Reviewed By 2: Date:

Review Status: Approved

Exceptions Noted: ☑ Report OK: ☑ Video OK: ☑

Review Comments: Pipe is missing in some places

PACP Scores	Rating	Quick	Index
Structural:			
O&M:			
Overall:			

PM Recommendations		
Criticality:	Low	
Recom / Frequency1:	Jet	12 Months
Recom / Frequency2:		

Rehab Recommendations	
Criticality:	High
Rehab Recom 1:	Mainline Relay
Rehab Recom 2:	

?

Rehab Comments:

Record: 1 Filtered Search

frm_Conditions

PACP Inspection Conditions

View PACP Codes

QC Review

Condition ID 646 646 | Insp ID 26
Distance: 0 | Counter 7 | VCR Time 000007
PACP Code AMH | Manhole
Continuous: | Clock At/From | Clock To
Value 1st Dim: | Value 2nd Dim | Value Percent | Joint ☐
Remarks: Starting Manhole: NN021575
CCTV Cond Hyperlink https://ws2-73-2.myloadspring.com/watch.aspx?filename=NN0

Review Status
Followup Tag ☐
Review Comments

Condition ID 648 648 | Insp ID 26
Distance: 0 | Counter 158.2 | VCR Time 000238
PACP Code MWL | Water Level
Continuous: | Clock At/From | Clock To
Value 1st Dim: | Value 2nd Dim | Value Percent 5 | Joint ☐
Remarks:
CCTV Cond Hyperlink https://ws2-73-2.myloadspring.com/watch.aspx?filename=NN0

Review Status
Followup Tag ☐
Review Comments

Condition ID 647 647 | Insp ID 26
Distance: 4 | Counter 141.5 | VCR Time 000222
PACP Code SAM | Surface Aggregate Missing
Continuous: S01 | Clock At/From 12 | Clock To 12
Value 1st Dim: | Value 2nd Dim | Value Percent | Joint ☐
Remarks:
CCTV Cond Hyperlink https://ws2-73-2.myloadspring.com/watch.aspx?filename=NN0

Review Status
Followup Tag ☐
Review Comments

Condition ID 649 649 | Insp ID 26
Distance: 8.6 | Counter 195 | VCR Time 000315

Review Status
Followup Tag ☐

Record: 1 of 10 | Filtered | Search