

APPENDICES

APPENDIX A: Economic Development Element Tables

Table LU-3 Development Capacity

		Assumptions				Acres				Projected Dwelling Units/Households				Projected Non-Residential Square Feet (thousands)				Projected Population			
		Maximum Du/Acre	FAR	Average Du/Acre	FAR	Focused Growth Areas	Remaining City	Future Growth Areas	Total	Focused Growth Areas	Remaining City	Future Growth Areas	Total	Focused Growth Areas	Remaining City	Future Growth Areas	Total	Focused Growth Areas	Remaining City	Future Growth Areas	Total
Open Space Land Use Designations																					
<i>agr</i>	Agriculture	0.1				0	22	0	22	0	0	0	0	0	0	0	0	0	0	0	0
<i>opn</i>	Open Space	0.05				2	106	503	611	0	0	0	0	0	0	0	0	0	0	0	0
<i>pks</i>	Parks		0.2		0.05	2	1,077 962	193	1,272 157	0	0	0	0	5	2,346 2,096	420	2,771 2,521	0	0	0	0
Residential Land Use Designations																					
<i>rld</i>	Residential Low Density	8		6.5		9	2,942	1,042	3,992	57	19,121	6,771	25,950	0	0	0	0	211	70,174	24,850	95,235
<i>rmd</i>	Residential Medium Density	15		11.75		43	856	515	1,414	507	10,060	6,052	16,619	0	0	0	0	1,859	36,922	22,210	60,991
<i>rhd</i>	Residential High Density	24		16.75		9	658	160	827	153	11,013	2,680	13,846	0	0	0	0	560	40,419	9,837	50,816
Commercial/Office Land Use Designation																					
<i>ret</i>	Retail																				
	<i>Citywide</i>	10	0.4	0.5	0.25	56	477 592	16	549 664	28	119	8	155	609	5,196 6,006	178	5,984 6,793	103	438	30	570
	<i>Central City</i>	18	3	1.5	1.5	9	0	0	9	13	0	0	13	586	0	0	586	49	0	0	49
	<i>Outside Existing Sphere of Influence</i>		0.4		<u>0.25</u>		<u>0</u>	<u>164</u>	<u>164</u>							<u>1,383</u>	<u>1,383</u>				
<i>off</i>	Office																				
	<i>Citywide</i>	10	0.4	0.5	0.25	41	83	3	126	20	21	1	42	442	898	30	1,371	74	76	5	155
	<i>Central City</i>	22	3	1.5	1.5	42	0	0	42	63	0	0	63	2,724	0	0	2,724	230	0	0	230
	<i>East Romie Lane Corridor</i>	10	1	0.5	0.5	0	47	0	47	0	24	0	24	0	1,030	0	1,030	0	87	0	87
Light Industrial/Industrial Land Use Designations																					
<i>bus</i>	Business Park		0.4		0.35	0	230	0 132	230 362	0	0	0	0	0	3,303	11,571	3,503 5,072	0	0	0	0
<i>gco</i>	Gen. Comm/Lt. Ind.		0.4		0.3	73	540	46	659	0	0	0	0	950	7,057	599	8,607	0	0	0	0
<i>gin</i>	General Industrial		0.5		0.3	0	641	670 817	1,311	0	0	0	0	0	8,376	8,670	17,136	0	0	0	0
																<u>10,173</u>	<u>18,639</u>				
Public/Semipublic Land Use Designations																					
<i>psp</i>	Public/Semipublic		0.4		0.25	58	925	247	1,241	0	0	0	0	636	10,078	2,799	13,513	0	0	0	0
	<i>Salinas Municipal Airport</i>		0.2		0.05	0	620	0	620	0	0	0	0	0	1,351	0	1,351	0	0	0	0
Other Land Use Designations																					
<i>mix</i>	Mixed Use																				
	<i>Citywide</i>	10	1	3	0.5	111	0	120	231	332	0	360	692	2,413	0	2,613	5,026	1,220	0	1,321	2,541
	<i>Central City</i>	varies	varies	5.5	3	62	0	0	62	339	0	0	339	8,056	0	0	8,056	1,244	0	0	1,244
<i>art</i>	Arterial Frontage	det plan	0.3	5	0.25	39	24	0	62	194	118	0	312	422	258	0	679	711	434	0	1,145
TOTAL						888	9,248	3,525 3,968	13,328 13,771	1,706	40,377	15,873	58,055	16,844	40,092 40,752	15,401 19,857	72,337 77,343	6,261	148,549	58,253	213,063

1 household = 1 dwelling unit; 3.67 persons per household; FAR = floor area ratio.

Table LU-ED-1 Additional Economic Development Element Development Capacity

Target Area	Land Use	Land Demand (gross acres)	Land Demand (net acres)	Building Capacity (square feet)
B	Industrial	147	115	1,502,820
Subtotal		147	115	1,502,820
B	Retail	10	8	87,120
F	Retail	10	8	87,120
K	Retail	30	23	250,470
L1/L1	Retail	74	57	620,730
N	Retail	40	31	337,590
V	Retail	115	74	810,448
Subtotal		279	201	2,193,478
K	Business Park	132	103	1,570,338
Subtotal		132	103	1,570,338
Total		558	419	5,255,959

5,266,636

The Land Demand (Net Acres) column reflects the gross acreage minus acreage required for infrastructure, roadways, etc.

APPENDIX B: 2017 Mark Thomas CCTV Sanitary Sewer Analysis



CCTV SANITARY SEWER ANALYSIS

Prepared For:
City of Salinas

Submitted by: Mark Thomas



MARK THOMAS

Date: December 7, 2017

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Introduction

This report presents the results of our Closed-Circuit Television (CCTV) inspections performed to address the conditions of sanitary sewer mains and manholes in various locations throughout the City of Salinas. The CCTV inspections were conducted on large diameter sewer mains ranging from 12" to 30" diameter pipes and were completed using Pipeline Assessment Certification Program (PACP) standards.

The City of Salinas retained Mark Thomas to inspect and analyze the condition of approximately 5,300 linear feet of sanitary sewer mains and 23 manhole structures.

The purpose of this report is to discuss existing sanitary sewer conditions. In addition, this report provides a detailed analysis of the pipeline conditions as well as an estimated cost for the recommended repairs.

Site and Project Description

The City of Salinas owns, maintains, and operates approximately 290 miles of sanitary sewer pipes ranging from 6 to 72 inches in diameter, 11 pump stations, and 7 flow split structures. The City's sewer waste ultimately flows to the Monterey Regional Water Pollution Control Agency's (MRWPCA's) treatment plant.

In 2011, the City of Salinas retained CDM Smith consultants to develop a city-wide master plan for the city's sanitary sewer system. Within this master plan, areas of concern were addressed due to capacity limitations based on the projected growth of the City and surrounding areas. The master plan analyzed and located various manholes and mains that exhibited high surcharge levels. In an effort to follow up on the recommendations from the master plan, the City retained Mark Thomas to inspect mains and manholes that are of concern to the City. The manholes and mains that Mark Thomas was asked to inspect are located throughout the City of Salinas. The following segments were chosen for inspection by the City:

- 30" sanitary sewer upstream of Lake Street Pump station. Mains and manholes are located at the intersection of Sherwood Drive & East Rossi Street and Calle Cebu
- 24" & 30" mains in agricultural easements near Kern Street and North Madeira Avenue
- 30" main crossing East Laurel Drive south of Monterey County Parks Department offices
- 21" main in easement just west of Monterey County Parks Department offices
- Various manholes on Katherine Avenue and East Romie Lane

Mark Thomas inspectors and CCTV operators were unable to complete the project per the original scope due to discrepancies between the maps provided by the City and actual on site conditions. For example, several of the manholes in agricultural easements had been buried 6-feet deep to allow for the mixing of the top 4-feet of soil after harvest seasons. In other instances, the manholes had been paved over from asphalt overlays, or the operators encountered unmarked manholes in the middle of segments they were asked to investigate. Due to these issues that were encountered while performing inspections, Mark Thomas operators met with staff from the City to obtain new direction in scope. Appendix A shows maps with assigned manhole names and their locations.

Assessment Standards for Gravity Sewer System

1. Pipeline Assessment and Certification Program (PACP)

The National Association of Sewer Service Companies (NASSCO), along with the assistance of the Water Research Centre (WRC), has developed a national certification program to establish a viable solution to standardize the identification, categorization, evaluation, and prioritization of sanitary sewer or storm sewer infrastructure through CCTV investigations. This standardized certification program was used to ensure consistent record-keeping when compiling CCTV reports into a common database that can then be used for operation and maintenance (O&M) activities as well as pipe rehabilitation and replacement.

A NASCCO PACP standard was used to conduct CCTV investigations and document findings. The PACP defect descriptions are organized into the following general categories:

- Structural Defect Coding: This group includes the type of defects where the pipe is considered to be damaged ranging from a minor case defect to a more severe case, depicted as pipe failure. The Structural Defect Coding group includes defects described as: cracks, fractures, broken pipe, holes, deformities, collapsed pipes, joint defects, surface damage defects, weld failures, point repair codes, brickwork defects, and lining failures.
- Operation and Maintenance (O&M) Coding: This group includes the various codes that involve the spectrum of defects that may impede the operation and maintenance of the sewer piping system. The Operation and Maintenance Coding group includes defects comprised of roots, infiltration, deposits and encrustations, obstacles/obstructions, and vermin.
- Construction Features Coding: This group includes the various codes associated with the typical construction of the sewer piping system. The Construction Features Coding group includes taps, intruding seal material, pipe alignment codes, and access points.
- Miscellaneous Features Coding: This group includes observation codes such as water levels (detection of sags), pipe material changes, and dye testing notes.

2. PACP Condition Grading System

The tables below describe the grading system for structural and O&M defects, and general guidelines regarding deterioration rates. Each defect can be scored with a grade ranging from 1 to 5, where a grade 5 has the greatest potential for pipe failure.

Table 1 – Structural and O&M Defects Grading Table		
Grade	Grade Description	Grade Definition
5	Immediate Attention	Defects requiring immediate attention
4	Poor	Severe defects that will become Grade 5 defects within the foreseeable future
3	Fair	Moderate defects that will continue to deteriorate
2	Good	Defects that have not begun to deteriorate
1	Excellent	Minor defects

Table 2 – General Guidelines Regarding Deterioration Rates	
Grade	Grade Definition
5	Pipe has failed or will likely fail within the next 5 years
4	Pipe will probably fail in 5 to 10 years
3	Pipe may fail in 10 to 20 years
2	Pipe unlikely to fail for at least 20 years
1	Failure unlikely in the foreseeable future

3. PACP Pipe Inspections

Close Circuit Television (CCTV) video inspections were performed to assess the condition of the sanitary sewer mains to confirm the location and magnitude of structural defects, points of inflow and infiltration, lateral locations, undocumented/illegal connections, existing pipe lining, and blockages within the system.

CCTV inspections were conducted in accordance with NASSCO PACP standards. Personnel performing CCTV inspections were PACP-certified and completed all inspections using standard PACP codes for all defects and observations during the inspection. The CCTV data was recorded using GraniteXP, PACP-compliant software. CCTV inspections were recorded in color using a pan and-tilt, radial-viewing, inspection to allow videos and images to be sufficiently clear to easily observe the sewer line defects and features.

The gravity sewer mains and manholes were cleaned prior to conducting CCTV inspections. Cleaning consisted of hydraulic jet cleaning to facilitate the internal CCTV inspection.

The inspections were conducted from the upstream manhole towards the downstream manhole in the direction of flow to minimize splashing onto the camera and for smoother movement of the CCTV equipment. During the CCTV inspection, the CCTV camera was temporarily stopped at each observed defect or feature in order to obtain a clear still picture and video image.

The camera inspections were performed between September 12 and September 25, 2017. It is necessary for the inspections to be performed during lower flow conditions to allow the camera

lenses to sit above the flow line within the pipe. *Roto Rooter Plumbers*, Mark Thomas contractor from San Jose, California, was on site and vacuumed out water to allow our camera lenses to have a clear view and to be able to capture the defects of the pipe whenever the flow of the water was too high. If the water had not been vacuumed out by our contractor's vacuum truck, the flow would have been at approximately 75% of the total pipe capacity, and we would not have been able to view and capture the defects.

4. Manhole Assessment and Certification Program (MACP)

Sanitary sewer manhole inspections are an important component of the gravity sewer system assessment due to the susceptibility of manholes to structural defects and/or Inflow/Infiltration which may contribute to SSOs. Manhole inspection not only provide valuable information on the physical condition of the manholes, but also an opportunity to observe pipe diameters, invert, and surcharging within mainline gravity sewers. Prior to conducting inspections of manhole components, a non-entry (topside) manhole inspection was conducted to determine the overall condition of the manhole as viewed from the ground surface. The surrounding area was observed and noted if manholes located in areas that are conducive to flooding or ponding that allows water to enter the sanitary sewer system. Alongside PACP assessments, NASSCO has also developed a program for rating and assessing defects within manholes. This system is called the Manhole Assessment and Certification Program, or MACP. There are two inspection protocols, or procedures, when conducting MACP inspections.

Level 1 MACP inspections provide basic condition assessment information of the manhole.

Level 2 MACP inspections provide full documentation of defects and conditions of the manhole, similar to a PACP inspection. Since Level 2 MACP inspections are similar to a PACP inspection, they use the established coding system required while performing PACP inspections.

For this project, Mark Thomas inspector used Level 2 MACP inspection procedure and form to document the defects and condition for all 23 manholes. See the PACP section above for information regarding O&M and structural coding, and attached photographs of the above ground location of each manhole in Appendix for result assessment and recommendation.

5. PACP Results

As stated in Section 3, pipe segments that were inspected differ from pipe segments that were in the original scope. Manholes for the project were not assigned with ID or any names by the City. Our operators had to coordinate with City's staff to come up with naming convention for each manhole that was assessed.

Below we will discuss the findings for each of these pipe segments.

a. SSMH 1 to SSMH 2

Segment SSMH 1 to SSMH 2 is located on North Madeira Avenue just to the north of the Cesar Chavez Community Park. The segment is 24" diameter VCP pipe and is approximately 321-feet in length. This segment was part of the original project scope.

There are seven (7) structural defects and ten (10) O&M defects in this section of pipe. A defect rated 4 is the highest defect out of the seven structural defects. This defect was a water

level sag (MWLS) that caused a water depth to pipe diameter ratio (d/D) of 60%. Several of the other defects were additional d/D sags ranging between 25% and 45%. All of the O&M defects were small encrustations that were found on the walls of the pipe.

b. SSMH 3 to SSMH 4

Segment SSMH 3 to SSMH 4 is located on the north end of Kern Street. SSMH 3 is located on Kern Street, while SSMH 4 is paved over and is located in the Holiday Inn Express & Suites hotel parking lot. This segment is approximately 126-feet of 24" diameter VCP pipe. The original scope consisted of inspecting this segment along with a parallel 30" main, but the manholes for the 30" line are buried 6 feet deep in an agricultural easement just north of the Sherwood Lake mobile home park.

Our investigation found one (1) structural defect and one (1) continuous O&M defect. The structural defect is located right at SSMH 3 and is a broken pipe, which is rated as a 5. Similar to segment SSMH 1 to SSMH 2, the O&M defect was encrustation attached to the walls of the pipe.

c. SSMH 6 to SSMH 7

Segment SSMH 6 to SSMH 7 is located in a bike trail just to the west of the Monterey County Parks Department on East Laurel Drive. It is approximately 264-feet of 21" diameter VCP pipe. The original scope of work asked Mark Thomas to inspect segment SSMH 7 to SSMH 8. SSMH 7 is paved over or buried, so the City instructed Mark Thomas to survey from SSMH 6 which is located further upstream. Since SSMH 7 is buried, Mark Thomas operators inspected from SSMH 6 to SSMH 7, and then continued onto SSMH 8 to complete the segment from the original scope.

Our CCTV finding of this pipe segment consisted of three (3) structural defects and six (6) O&M defects. The most severe structural defect was a water level sag of 35% which was rated a 3. Overall this segment was in great condition. There was one O&M defect that should be addressed, and that is a root ball that was found at the farthest downstream portion of the main, at SSMH 7. With an increase in routine maintenance, this root ball can be easily addressed.

d. SSMH 7 to SSMH 8

Segment SSMH 7 to SSMH 8 is located in a bike trail just to the west of the Monterey County Parks Department on East Laurel Drive. It is approximately 553-feet of 21" diameter VCP pipe. Entrance to SSMH 7 can only be accessed via the upstream segment by entering into SSMH 6 due to the lid to SSMH 7 being buried or paved over. As stated above, this segment is part of the original scope.

The inspection found nine (9) structural defects, which were all rated 2, and six (6) O&M defects, which were also all rated 2. Similar to segment SSMH 6 to SSMH 7, this segment is also in great condition.

e. SSMH 9 to SSMH 10

Segment SSMH 9 to SSMH 10 is located in an easement between Sun Street and Highway 101. This segment is a 30" diameter VCP pipe and is approximately 377-feet long. This segment was not in the original scope and was included as an alternate segment for inspection.

The inspection found only one (1) structural defect and one (1) O&M defect. The structural defects were multiple cracks which are rated 3. The one O&M defect present in the main was due to grease deposited along the walls of the pipe. This defect spanned the entire length of the pipe.

f. SSMH 11 to SSMH 12

Segment SSMH 11 to SSMH 12 is located in an easement between Sun Street and Highway 101. This segment is a 24" diameter VCP pipe and is approximately 385-feet long. Similar to the segment above, this segment was not in the original scope and was included as an alternate segment for inspection.

The inspection found two (2) structural defects and ten (10) O&M defects. Both structural defects were due to water level sags at 25%, which are rated 2. The O&M defects of most concern were two water mark levels of 90%. This water marks indicated that the water levels in the pipe at peak hour sometimes get up to 90%. Grease deposits were also found throughout the segment. Other than water mark and grease deposits, this segment of the pipe is in fair condition at the present time.

g. SSMH 13 to SSMH 14

Segment SSMH 13 to SSMH 14 is located alongside Natividad Creek to the south of the intersection of Freedom Parkway and Constitution Boulevard. It is a 24" diameter VCP pipe and is approximately 425-feet long. The original scope consisted of the next segment downstream from SSMH 13 to SSMH 14. Mark Thomas and the City were unable to locate the downstream manhole from SSMH 14, so the City allowed SSMH 13 to SSMH 14 to be used as an alternate segment to prevent difficulties removing the transponder in case it became stuck.

The inspection found one (1) structural defect and four (4) O&M defects. The only structural defect was due to a water level sag of 25%, which are rated as a 2. The O&M defects are not critical. There are grease deposits all throughout the pipe segment. Other than these cases, the pipe is in great condition.

h. SSMH 15 to SSMH 16

Segment SSMH 15 to SSMH 16 is located on a bike trail just to the south of the Monterey County Parks Department that is located on East Laurel Drive. It is a 27" VCP diameter pipe and is approximately 318-feet long.

There were no structural defects within this main and four (4) O&M defects. The O&M defects consisted of water level marks at 75%, encrustation, and grease deposits.

i. SSMH 17 to SSMH 18

Segment SSMH 17 to SSMH 18 is located in the parking lot between the buildings at 597 and 607 Brunken Avenue. The original scope consisted of surveying segments that are located farther downstream from this location on Malarin Street. The manholes were located but the channels of the manholes did not allow access into the pipe with the CCTV transporter. The pipes protruded far into the manholes and only had a gap of about 1 foot from pipe to pipe, instead of the 4 feet in a normal manhole channel. Due to the tightness in the channel, the City allowed us to inspect segment SSMH 17 to SSMH 18 as an alternate. This alternate segment is an 18" diameter polyethylene pipe that is approximately 350 feet long.

This segment has three (3) structural defects, all of which are 35%, 45% and 55% water level sag, one of which is rated a 4. There were five (5) O&M defects within this segment. The most severe was the level of the flow within the pipe. At one point, the camera became submerged. Our contractor had to pump out the water as we inspected to accurately inspect the main.

j. SSMH 19 to SSMH 20

Segment SSMH 19 to SSMH 20 is located on East Romie Lane between Los Palos Drive and Wilgart Way in front of the Salinas Valley Memorial Hospital. The original scope was to inspect from SSMH 19 downstream to a manhole just east of Alameda Avenue that the City thought was the next downstream manhole. While performing the CCTV inspection, our operator found an unmarked manhole, which we are now naming SSMH 20. We attempted to inspect that newly found "segment" but were unable to open the lid to SSMH 20 due to the lid being welded shut by the City due to the deterioration of the frame. This alternate segment, SSMH 19 to SSMH 20, is an 18" diameter polyethylene pipe that is approximately 435-feet long.

There is only one (1) structural defect and three (3) O&M defects within this segment. The defect of most concern is a water level mark that shows that the pipe segment reaches 85% flow.

k. SSMH 23 to SSMH 24

Segment SSMH 23 to SSMH 24 is located on East Market Street between Sun Street and Peach Drive. It is a 12" diameter VCP main and is approximately 359-feet long. It was included as part of the original scope.

This segment had three (3) structural defects, which were all rated 3. Another thing to note is that this segment had eight laterals that had full or partial grease blockages. This segment also had five (5) O&M defects that all had to do with the high water level marks on the pipe. The highest water level mark was shown at 60% and is rated a 4.

6. MACP Results

As part of the sewer conditional assessments, Mark Thomas performed 23 MACP inspections on manholes throughout the City of Salinas. Some of the manholes that were inspected were manholes that were also part of the PACP inspections. Similar to the PACP results, some manholes that were part of the original scope were not accessible, which resulted in the City assigning

different manholes for Mark Thomas to inspect.

Below we will discuss the findings for each of these manholes.

a. SSMH 1

SSMH 1 is located on North Madeira Ave just to the north of the Cesar Chavez Community Park. It is directly in front of the home at 259 North Madeira Avenue. The manhole is approximately 9-feet deep from rim to invert.

This manhole showed minor structural defects on the chimney, cone, and walls. The highest rated structural defect was visible aggregate on the chimney near the frame and cover of the manhole. The only defect of concern is the corroded and cracked frame & cover. Overall the interior structure of this manhole is in good condition.

b. SSMH 2

SSMH 2 is located on North Madeira Ave just to the north of the Cesar Chavez Community Park. It is the next downstream manhole from Manhole 1. It is located on the shoulder in the dirt area of North Madeira Ave, near the reclamation ditch. The manhole is approximately 14-feet deep from rim to invert.

This manhole showed minor structural defects on the chimney, cone, and walls. The highest rated structural defect was visible aggregate on the chimney, cone, and walls which is rated as a defect 3. Similar to SSMH 1, SSMH 2 had issues with the frame. The frame was broken, but the cover and the seal between the frame and cover appeared to be sound. Overall this manhole is in fair condition.

c. SSMH 3

SSMH 3 is located on the northern end of Kern Street near the Holiday Inn Express & Suites. The manhole is approximately 14-feet deep from rim to invert.

This manhole has no structural or operational defects. It is in good condition.

d. SSMH 4 & 5

SSMH 4 & SSMH 5 were included in the original scope and were inaccessible due to the covers being paved over with asphalt. SSMH 4 is located under the Holiday Inn Express & Suites parking lot, and SSMH 5 is under the asphalt at the intersection of Longbow Drive & Greenleaf Way within the Sherwood Lake Mobile Home Park.

Due to the operator's inability to access the manhole, a condition assessment was not performed.

e. SSMH 6

SSMH 6 is located on a bike trail to the northwest of the Monterey County Parks Department

on East Laurel Drive. It is approximately 22-feet deep from rim to invert.

The concrete collar around the frame and cover is broken all around the manhole lid. The only structural defect within the manhole is a Hole, Soil Visible, which is rated as a 5. This defect is located where the manhole frame meets the concrete of the manhole. Other than the issues with the frame and cover, the manhole interior is in fair condition.

f. SSMH 7

SSMH 7 is located on a bike trail to the northwest of the Monterey County Parks Department on East Laurel Drive. It is the next downstream manhole from SSMH 6.

Our operators and the City could not locate the manhole due to it possibly being buried next to the bike trail or paved over under the trail. Due to the operator's inability to access the manhole, a condition assessment was not completed.

g. SSMH 8

SSMH 8 is located on a bike trail to the northwest of the Monterey County Parks Department on East Laurel Drive. It is the next downstream manhole from SSMH 7. SSMH 8 is approximately 14-feet deep from rim to invert.

Half of the concrete collar on the outside of the manhole frame and cover is broken. There is another break on the inner wall of the chimney where the grade rings are located. The frame and cover are cracked and corroded. Other than the issues near the frame and cover, the manhole interior walls and bench are in great condition.

h. SSMH 9

SSMH 9 is located on the eastern corner of the Expo Grounds on Sun Street. The manhole's rim to invert elevation is approximately 18-feet deep.

Both the frame and cover for SSMH 9 are heavily corroded and loose-fitting. The other structural defect present inside the manhole is the visible aggregate in the concrete of the manhole walls. This is only given a rating of 3. Other than the visible aggregate, the manhole is in good structural condition.

i. SSMH 10

SSMH 10 is located just to the south of the baseball diamond in the Expo Grounds on Sun Street. The manhole's rim to invert depth is approximately 20-feet deep.

The frame for SSMH 10 is heavily corroded and bubbling. Other than the issues with the frame, the manhole is structurally sound. On the other hand, there is evidence of surcharging and heavy grease inside the manhole. The walls show evidence of surcharging up 16 feet from the invert. Also, there are heavy debris deposits on the bench due to possible surcharging.

j. SSMH 11

SSMH 11 is located on the eastern corner of the Expo Grounds on Sun Street. It is just south of SSMH 9. The manhole's rim to invert elevation is approximately 16-feet deep.

The frame and chimney area for SSMH 10 are both heavily corroded. Other than the issues with the chimney area, the manhole is structurally sound.

k. SSMH 12

SSMH 12 is located just to the south of the baseball diamond on the Expo Grounds on Sun Street. It is slightly to the south of SSMH 10. The manhole's rim to invert elevation is approximately 18-feet deep.

The frame and chimney area for SSMH 12 are both heavily corroded. Other than the issues with the chimney area, the manhole is structurally sound. There are apparent O&M defects within the manhole. There is evidence of grease and surcharging inside the manhole. The walls show surcharging marks and there are also deposits on the bench.

l. SSMH 13

SSMH 13 is located in the sidewalk on the south corner of the intersection between Constitution Boulevard and Freedom Parkway. The manhole's rim to invert elevation is approximately 25-feet deep.

The frame for SSMH 13 is heavily corroded and there is a break in the wall of the grade rings. Other issues present are roots at the joints where the pipes connect to the invert of the manhole.

m. SSMH 14

SSMH 14 is located in the landscaped area between Constitution Boulevard and Natividad Creek Park. It is near the intersection of Constitution Boulevard and Cape Cod Way. The manhole's rim to invert elevation is approximately 12-feet deep. The manhole's concrete collar has eroded away and has left the lid and frame exposed. The manhole is on a sloped surface which results in part of the manhole frame and cover being raised off the grade.

Unlike the other manholes that have been inspected, the frame and cover for this manhole is in good condition. The issues within the manhole are within the chimney where the grade rings are located. There is a crack on one of the grade ring joints and there is a hole visible to the outside. Not only is there a crack at this joint, the other joints do not have any proper grouting and are not sealed correctly. This hole is located on the side where the manhole chimney is exposed due to the concrete collar deteriorating away. There is exposed steel reinforcement bars at the location of the crack.

n. SSMH 15

SSMH 15 is located in an unpaved area adjacent to a bike trail that is located south of the

Monterey County Parks Department offices on East Laurel Drive. The manhole is rather shallow and is approximately 5.5-feet deep from rim to invert.

The frame for the manhole is heavily corroded. The top surface of the concrete has corroded away inside the manhole which results in the aggregate being exposed. This is rated as a defect level 3.

o. SSMH 16

SSMH 16 is located in an unpaved area adjacent to a bike trail that is located south of the Monterey County Parks Department offices on East Laurel Drive. SSMH 16 is downstream to SSMH 15. The manhole is approximately 9-feet deep from rim to invert.

The frame for the manhole is heavily corroded. The top surface of the concrete has corroded away inside the manhole which results in the aggregate being exposed. This is rated as a defect level 3. Exposed aggregate is also present on the bench and channel.

p. SSMH 17

SSMH 17 is located in the parking lot between the buildings at 597 and 607 Brunken Avenue. The manhole elevation is 9.5-feet from rim to invert.

Aggregate is exposed from the rim all the way down into the bench and channel. There is also exposed rebar in the upper wall of the channel at the downstream invert. The rebar is not protruding into the channel, but the concrete has eroded away and has made the rebar visible. The level of exposed aggregate and rebar is coded as a rating of 4.

q. SSMH 18

SSMH 18 is located in the parking lot between the buildings at 597 and 607 Brunken Avenue. Manhole 18 is the next downstream manhole from SSMH 17. The manhole elevation is 10.5-feet from rim to invert.

The walls of this manhole have areas where the aggregate in the concrete is not only exposed but also missing, which is rated as a defect 4. Also, it appears that the manhole had been lined at one point, but the lining has detached in several locations throughout the manhole. Another issue with the manhole is that the channel is not completely opened. At one point, a pipe was inserted into the manhole and the pipe was left within the channel and was not cut correctly to fit up against the inner wall of the manhole.

r. SSMH 19

SSMH 19 is located on East Romie Lane in front of Salinas Valley Memorial Hospital. The manhole is approximately 13.5 feet deep.

This manhole has exposed aggregate within the concrete of the rings and has a corroding frame. Due the condition of the frame, the cover has to be welded onto the frame by the City in order for the cover to sit flush within the frame. The manhole had been rehabilitated in the

past with a fiberglass liner that is now peeling off of the walls. Also, the concrete bench has large chunks of concrete missing, which is rated as a defect 4.

s. SSMH 20

SSMH 20 is located on the intersection of East Romie Lane and Alameda Avenue. The manhole is approximately 11-feet deep. This manhole is two manholes downstream from SSMH 19.

Similar to SSMH 19, SSMH 20 has a broken frame which requires the cover to be welded onto it to prevent rocking and knocking. Each time the City wants to access the manhole, they need to break the welds and reweld it when placing the cover back on. The interior of the manhole is in great condition.

t. SSMH 21

SSMH 21 is located on East Romie Lane in front of 106 East Romie Lane. The manhole is approximately 7-feet deep.

Similar to SSMH 19 & SSMH 20, SSMH 21 has a broken frame which requires the cover to be welded onto it to prevent rocking and knocking. The surface of the frame where the cover sits is extremely rusted and corroded. Each time the City wants to access the manhole, they need to break the welds and re-weld it when placing the cover back onto the frame. The chimney area of the manhole has exposed aggregate in the concrete. It appears that this manhole has been lined with fiberglass. The areas that are lined are in great condition but the exposed concrete has been badly damaged. This is evident in the chimney as well as on the bench. The bench has missing concrete and should be rechanneled. There is also a piece of pipe that is protruding far into the manhole channel and should be cut back.

u. SSMH 22

SSMH 22 is located on Katherine Avenue at the intersection of Katherine Avenue and Pajaro Street in front of 110 Katherine Avenue. It is the next downstream manhole from SSMH 21. The manhole is approximately 6.5-feet deep.

Similar to SSMH 19, 20, & 21, SSMH 22 has a broken frame that requires the cover to be welded onto it to prevent rocking and knocking. The surface of the frame where the cover sits is extremely rusted and corroded. Each time the City wants to access the manhole, they need to break the welds and reweld it when placing the cover back onto the frame. The concrete within this manhole is completely deteriorating and the walls of the chimney have missing chunks of concrete. The walls are lined with fiberglass but the exposed concrete is breaking away in the chimney and the bench.

v. SSMH 23

SSMH 23 is located at the intersection of Sun Street and East Market Street. The manhole is approximately 12.5-feet deep. This manhole is constructed of brick instead of concrete, which makes it dissimilar from the manholes that have been described above.

The frame of the manhole is heavily corroded. Some of the joints between the bricks are missing mortar from the chimney all the way to the bench. Other than this defect, the manhole is in great condition.

w. SSMH 24

SSMH 24 is located at the intersection of Peach Drive and East Market Street. The manhole is approximately 13.5-feet deep. SSMH 24 is also constructed out of brick instead of concrete. This manhole is the next downstream manhole from SSMH 23.

The frame of the manhole is heavily corroded. Some of the joints between the bricks are missing mortar from the chimney all the way to the bench. Other than this defect, the manhole is in great condition.

x. SSMH 25

SSMH 25 is located on Malarin Street in front of the driveway to 590 Brunken Avenue at the intersection of Brunken Avenue and Malarin Street. The manhole is approximately 11.5-feet deep.

The manhole has been lined with a fiberglass material. The liner seems to have not been installed correctly on the manhole cone and it appears to be detaching from the manhole walls on the cone.

y. SSMH 26

SSMH 26 is located on Sierra Street on the grass of Maple Park. The manhole is approximately 13-feet deep.

The manhole has been lined with a fiberglass material. Grease deposits high up on the manhole wall show evidence of surcharging within this manhole. There is also missing aggregate in the concrete of the channel.

Results and Recommendations

The goal of sewer system condition assessments is to create a plan of action for long term as well as on-going rehabilitation and maintenance. This plan of action is later developed into a Capital Improvement Program (CIP) that sets the structure for future rehabilitation projects. The following is a brief summary of the key findings.

1. PACP Results

Overall the mains that were inspected were in great condition. Most of the structural defects that were observed were rated as 2 or 3 per PACP ratings. These are of minor to moderate concern and shall be repaired within 10 years. Operational & Maintenance related defects were more common than structural defects in these mains.

The most common issue with the pipes was that several had evidence of grease deposits as well as high water marks. Since grease floats above water, there was evidence of grease deposits high up on the walls of the mains. These issues can be addressed by implementing a more rigorous Fats, Oils, & Grease (FOG) program throughout the City. A FOG program can be beneficial in educating the public about what can and cannot go down their drains. Not only was grease a problem in these mains, but the operators also discovered some lateral tie-ins that were completely blocked by grease. These blockages cannot be cleared during a mainline flushing and require a flushing of the laterals themselves. If the grease continues to build up in the laterals, they can lead to blockages which can lead to sewer overflows. The segment that had the most issues with lateral blockages was SSMH 23 to SSMH 24. Other segments with FOG issues were SSMH 9 to 10, SSMH 13 to 14, & SSMH 15 to 16. Implementing a new FOG program would aid in reducing the amount of grease entering the sewer system which will lead to a reduction in maintenance costs. Until the FOG program is implemented and is deemed effective, routine lateral cleaning can be conducted by the City to remove roots and grease from the laterals throughout the City. There were only two segments where our operator encountered high flow levels. These segments are SSMH 17 to SSMH 18 and SSMH 19 to SSMH 20. This segment had flow levels of up to 90% while our inspectors were conducting the inspections. The flow was so high that in order to complete the inspection, a contractor had to vacuum out the water near the CCTV transponder to prevent the camera lens from being submerged. We recommend performing a flow study in this area to see the required size for the pipes in this basin. Additional segments had water level marks up to 90%. These marks were most likely left behind from rainfall events where the flow within the system peaked by three or four times.

Fortunately most of the mains are in great structural condition. There are only two pipeline repairs that are of concern. One defect was a broken pipe on segment SSMH 3 to SSMH 4. The break occurs just downstream of SSMH 3 and is at the connection of pipe to SSMH 3. This repair will require installing approximately 8-feet of new pipe and reconnecting to SSMH 3. The other repair of importance is due to infiltration at a joint in segment SSMH 11 to SSMH 12. The defect is occurring at a joint 45-feet downstream of SSMH 11 and there is evidence of water infiltrating into the system at this location. The inspection showed water infiltrating into the pipe even though there had not been any rain events for months. Since this segment is located near a soccer field, perhaps the source is from water that is used to irrigate the lawn for the field. This defect will be an access point for even more water during rain seasons, which will increase the flow during these times.

2. PACP Repair Cost Estimate

Below is a table showing the costs for performing the two suggested repairs. See Appendix B for cost breakdown. Cost estimate includes labor and installation.

Table 3 – Recommended Repair Cost Estimate						
Manhole		Location	Pipe			Total Amount
Upstream	Downstream		Length (LF)	Diameter (in)	Type	
3	4	Kern Street	8	24	PVC SDR26	\$14,600

Table 3 – Recommended Repair Cost Estimate						
Manhole		Location	Pipe			Total Amount
Upstream	Downstream		Length (LF)	Diameter (in)	Type	
11	12	Sun Way	8	24	PVC SDR26	\$13,800

3. MACP Results

The MACP inspections found many minor defects throughout the manholes. The most common issue was the corrosion and deterioration of the frames and covers. Other issues were the deterioration of the channel and walls. In one severe case, we recommend that one entire manhole be replaced. In other cases, Mark Thomas, along with the City maintenance workers, were unable to find manholes that were part of the original scope. The manholes were found via the PACP inspections, but the entry points were not found because they were overlaid with asphalt or buried in agricultural fields. Since the areas of concern all overlap with the manholes, please see Table 4 below for the recommended repairs for each of the manholes from the project.

A lot of the frames and chimney areas of the manholes have heavy corrosion and rust that should be replaced within the next two to three years. In some severe cases, the frame is so corroded that the City maintenance workers weld the lids onto the frame so the cover will sit flush against the frame. This means that every time the manhole needs to be accessed for inspection or maintenance, a crew needs to cut the welds and then re-weld the lid onto the frame. In other instances, it took Mark Thomas operators and City staff a long time to locate manholes in unpaved areas. Mark Thomas recommends installing markers to facilitate the locating of manholes.

Several manholes showed cases of deterioration, and one was so severe that we recommend completely replacing the existing manhole with a new manhole. The area of concern was the area downstream of Salinas Valley Memorial Hospital. There were 4 manholes inspected in this area and they all had issues with the deterioration of the concrete within the structure. These manholes are SSMHs 19, 20, 21, and 22. Salinas Valley Memorial and a medical office on the corner of East Romie Lane and Pajaro Street discharge into these segments. All four of these manholes were rehabilitated in the past with an epoxy or fiberglass lining. SSMH 22 is the most severe out of the four. All of the concrete is chipping and large chunks break off simply from the removal and replacement of the manhole cover.

Mark Thomas recommends performing a chemical analysis of the waste water discharge from the hospital and the medical offices to see if their waste had high concentration solution which produced heavy gas concentration caused these manholes deterioration so severely. Another possibility could be chemical runoff from the agricultural fields that is damaging the concrete in the system. Since our investigation only covered a small area and a small sample size, we can assume that the cause may be from the medical facilities or from agricultural runoff that is located upstream of these deteriorated manholes.

4. MACP Repair Cost Estimates

Below is a table showing the costs and the recommended repairs for each of the manholes from these inspections. See Appendix B for cost breakdown. Cost estimate includes labor and installation.

Table 4 – Manhole Repair & Cost Estimate		
Manhole #	Description of Repair & Recommendation	Amount (\$)
1	New Frame & Cover. Lining interior of manhole	\$9,800
2	New Frame & Cover. Lining interior of manhole	\$9,800
3	No Work	\$0
4	Expose and Raise Manhole to Grade. Manhole is currently buried	\$4,800
5	Expose and Raise Manhole to Grade. Manhole is currently buried	\$4,800
6	New Frame & Cover with PCC collar slope away from MH lid to prevent I/I and install marker.	\$5,800
7	Expose and Raise Manhole to Grade. Manhole is currently buried	\$4,200
8	New Frame & Cover with PCC collar slope away from MH lid to prevent I/I and install marker	\$5,800
9	New Frame & Cover with PCC collar and install marker. Lining interior of manhole	\$9,000
10	New Frame & Cover, replace exist cone with eccentric cone to avoid the conflict with the existing fence	\$6,500
11	New Frame & Cover with PCC collar slope away from MH lid to prevent I/I and install marker	\$5,800
12	New Frame & Cover with PCC collar slope away from MH lid to prevent I/I and install marker	\$5,800
13	New Frame & Cover	\$4,500
14	New Chimney area (3" grade rings"), PCC collar slope away from MH lid to prevent I/I, and Grouting of bricks, or lining, and install marker	\$9,000
15	New Frame & Cover with PCC collar slope away from MH lid to prevent I/I and install marker. Lining interior of manhole in 5 years	\$9,000
16	New Frame & Cover with PCC collar slope away from MH lid to prevent I/I and install marker. Lining interior of manhole in 5 years	\$9,000
17	Relining manhole in 2 years	\$7,600
18	Relining manhole, new bench, and re-channelize	\$8,500
19	Relining manhole, new bench, and re-channelize	\$8,500
20	New Frame & Cover	\$5,300.
21	New Frame & Cover. Relining manhole, new bench, and re-channelize, or (New Manhole)	\$12,500
22	New Manhole	\$12,000
23	New Frame & Cover. Lining interior of manhole	\$9,800
24	New Frame & Cover. Lining interior of manhole	\$9,800

25	No Work	\$0
26	PCC collar slope away from Manhole lid to prevent I/I, New bench and re-channelize	\$5,200

Appendix

1. Appendix A: Location Maps

Segments colored in yellow were part of the original project scope. Inability to locate or access manholes resulted in change of scope per City's direction.

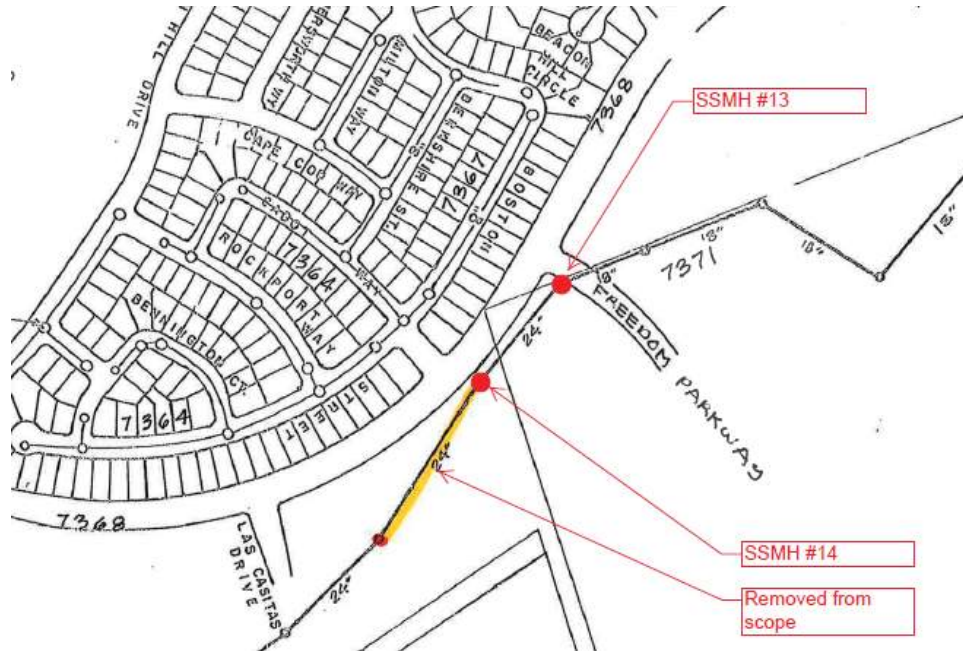


Figure 1

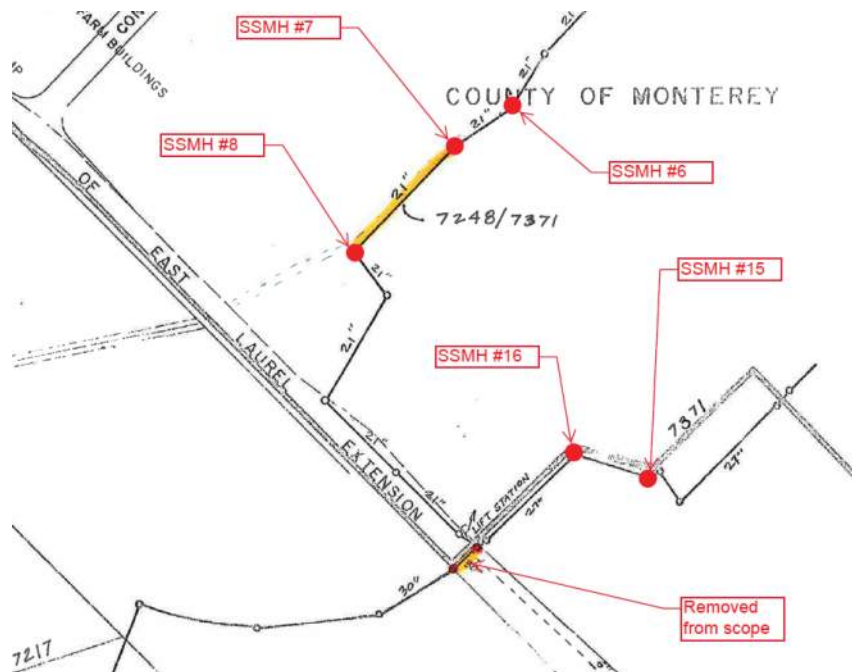


Figure 2

22

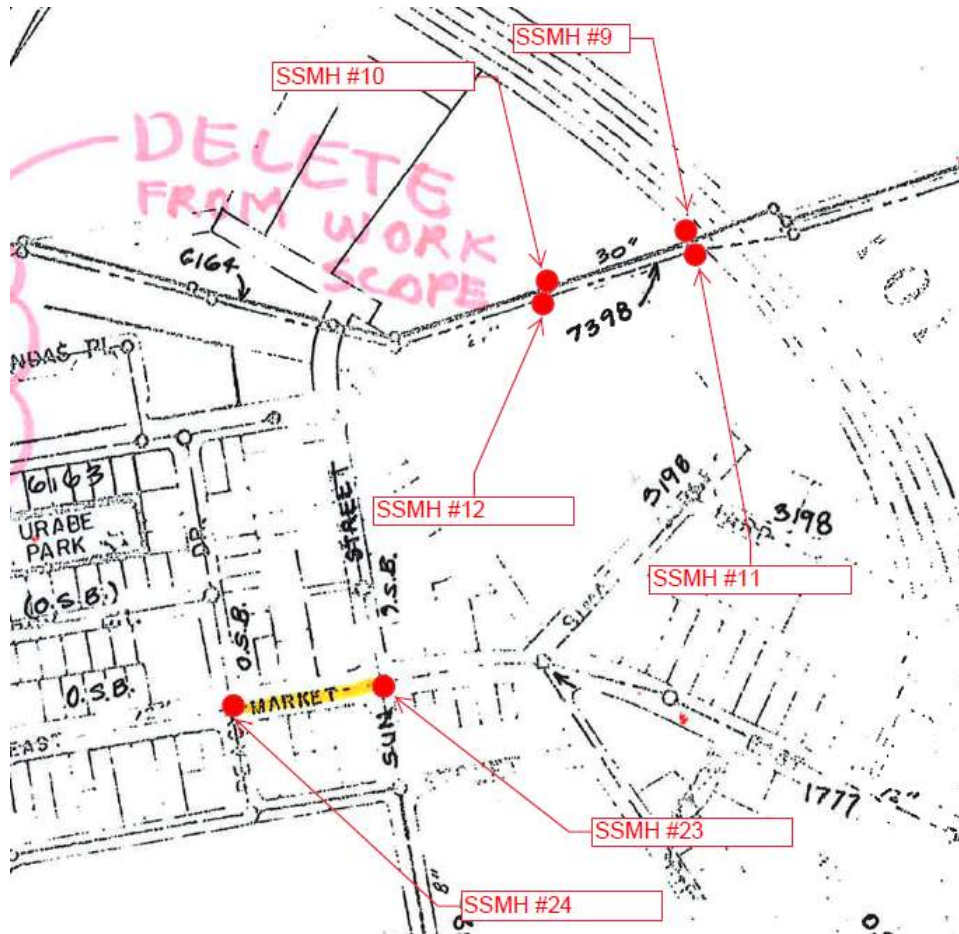


Figure 5

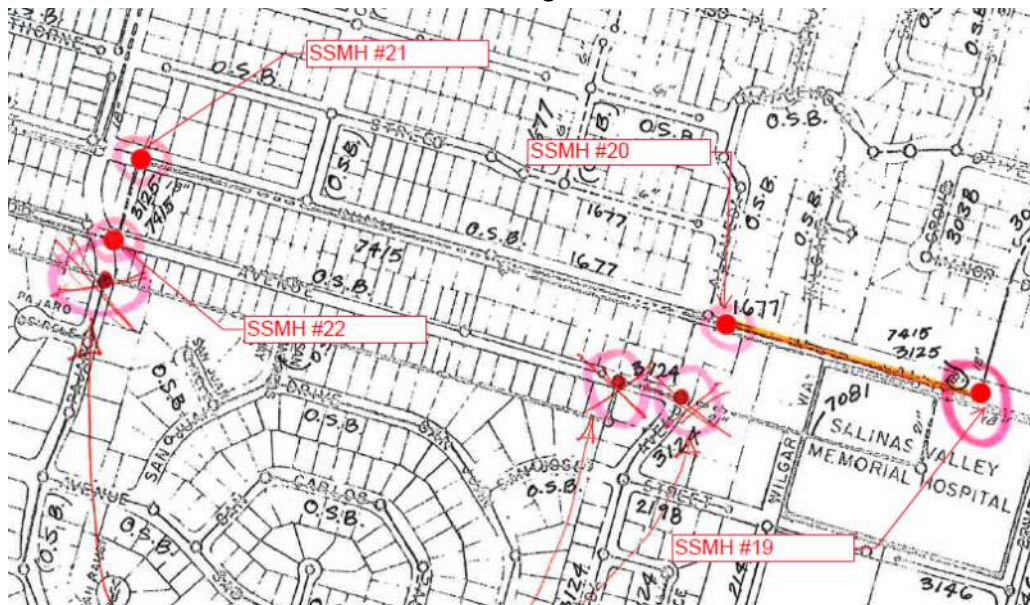


Figure 6

2. Appendix B: Cost Estimate

SSMH 3 to SSMH 4

Item Description	Quantity	Unit	Unit Price	Total Amount
24" PVC SDR25	8	LF	\$975	\$7,800
24" Plastic to Clay Coupling	1	EA	\$2,800	\$2,800
Reconnect Pipe to MH	1	EA	\$2,000	\$2,000
Temporary Bypass	1	LS	\$2,000	\$2,000
			TOTAL	\$14,600

SSMH 11 to SSMH 12

Item Description	Quantity	Unit	Unit Price	Total Amount
24" PVC SDR25	8	LF	\$775	\$6,200
24" Plastic to Clay Coupling	2	EA	\$2,800	\$5,600
Temporary Bypass	1	LS	\$2,000	\$2,000
			TOTAL	\$13,800

Manhole Rehabilitation Cost Estimate

Item Description	Total Amount
New Frame & Cover	\$5,300
Lining Interior of manhole	\$7,600
Expose and Raise to Grade	\$4,200
New Bench & Re-channelize	\$5,200
New Chimney	\$4,000
New Manhole	\$12,000

3. Appendix C:

PACP & MACP Reports

CUES, Inc.
 3600 Rio Vista Avenue
 Orlando, FL 32805
 Phone: 407-849-0190
 Fax: 407-425-1569



Observation Report with Still Images and Scores

Pipeline segment ref: 1 to 2	Project Name: Salinas CCTV Project	Start date/time: 9/12/2017 10:36:31 AM	Weather:	Surveyed by: Justin Young
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Upstream manhole No: 1	Depth US:	Downstream manhole No: 2	Depth DS:	Total length:	Extra:
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Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				Start of inspection.



0.0	MWL	No	/
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		DAE	No	3 / 5			O&M	
								
0.0		DAE	No	7 / 9			O&M	
 								
5.0		MWLS	No	/			Structural	
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
13.6		MWLS	No	/			Structural	
61.7		MWLS	No	/			Structural	
66.9		MCU	No	/			O&M	

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
66.9		MWLS	No	/			Structural	
98.6		MWL	No	/				
105.7		MWL	No	/				

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
172.2		MWL	No	/				
174.7		DAE	No	3 / 5			O&M	
174.8		DAE	No	7 / 9			O&M	

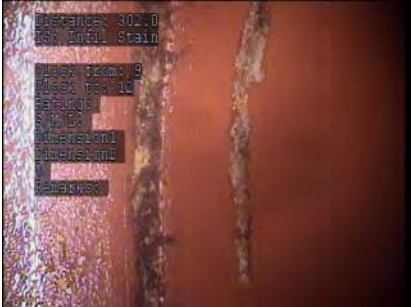
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
174.8		DAE	No	7 / 4			O&M	
								
200.9		DAE	No	7 / 4			O&M	
200.9		DAGS	No	3 /			O&M	
								
200.9		DAGS	No	9 /			O&M	
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
230.1		MWL	No	/				
230.1		LL	No	/			O&M	
241.7		JSM	No	/			Structural	

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
277.9	JSM	No	/				Structural	
Distance: 277.9 JSM: Joint Separated Medium Clock from: Clock to: Rating: S/M/L: M Dimension1: Dimension2: Remarks: 9/12/2017 10:55 AM 277.9 FT Upstream manhole No:1 Downstream manhole No:2 Cam Dir: Downstream								
302.0	CC	No	7 / 5				Structural	
Distance: 302.0 CC: Crack Circumferential Clock from: 7 Clock to: 5 Rating: S/M/L: Dimension1: Dimension2: Remarks: 9/12/2017 11:07 AM 302.0 FT Upstream manhole No:1 Downstream manhole No:2 Cam Dir: Downstream								
9/12/2017 11:07 AM 302.0 FT Upstream manhole No:1 Downstream manhole No:2 Cam Dir: Downstream 9/12/2017 11:07 AM 302.0 FT Upstream manhole No:1 Downstream manhole No:2 Cam Dir: Downstream 9/12/2017 11:07 AM 302.0 FT Upstream manhole No:1 Downstream manhole No:2 Cam Dir: Downstream								
9/12/2017 11:07 AM 302.0 FT Upstream manhole No:1 Downstream manhole No:2 Cam Dir: Downstream 9/12/2017 11:07 AM 302.0 FT Upstream manhole No:1 Downstream manhole No:2 Cam Dir: Downstream								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
302.0		IS	No	9 / 12				
								
302.0		IS	No	1 / 3				
								
309.8		MWL	No	/				
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
320.5		AMH	No	/				End of inspection.



320.5		DAGS	No	3 /			O&M	
320.5		DAGS	No	9 /			O&M	
320.5		STOP	No	/				

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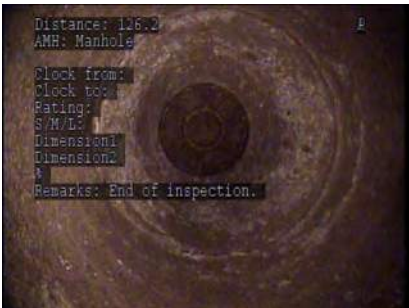


Observation Report with Still Images and Scores

Pipeline segment ref: 3 to 4	Project Name: Salinas CCTV Project	Start date/time: 9/12/2017 12:46:37 PM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 3	Depth US:	Downstream manhole No: 4	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
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0.0		AMH	No	/				Start of inspection
								
0.0		MWL	No	/				
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0	B		No	7 / 5			Structural	@ USMH
 								
0.0	DAE		No	7 / 5			O&M	
								
126.2	AMH		No	/				End of inspection.
								
126.2	DAE		No	7 / 5			O&M	
126.2	STOP		No	/				

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Observation Report with Still Images and Scores

Pipeline segment ref: 6 to 7	Project Name: Salinas CCTV Project	Start date/time: 9/13/2017 9:27:46 AM	Weather:	Surveyed by: Justin Young
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Extra:				
Additional info:				

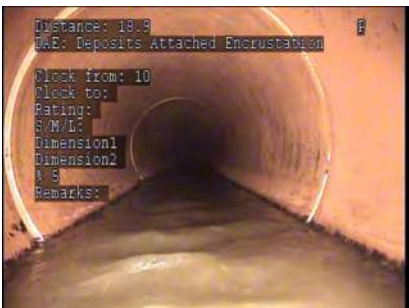
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				Start of inspection.



0.0	MWL	No	/
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9.4		DAE	No	10 /			O&M	
  								
17.6		DAE	No	3 /			O&M	
								
18.9		DAE	No	10 /			O&M	
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
72.5		MWLS	No	/			Structural	
98.7		MWL	No	/				

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
177.4		DAGS	No	12 /			O&M	
Distance: 177.4 DAG: Deposits Attached Encrustation Clock from: 12 Clock to: Rating: S/M/L: Dimension1: Dimension2: 0.5 Remarks: 9/14/2011 8:44 AM 188.9 FT Upstream manhole No.6 Downstream manhole No.7 Jam Log: Downstream 9/14/2011 8:45 AM 188.9 FT Upstream manhole No.6 Downstream manhole No.7 Jam Log: Downstream								
9/14/2011 8:45 AM 188.9 FT Upstream manhole No.6 Downstream manhole No.7 Jam Log: Downstream 9/14/2011 8:45 AM 187.1 FT Upstream manhole No.6 Downstream manhole No.7 Jam Log: Downstream								
Distance: 149.8 DAGS: Deposits Attached Grease Clock from: 12 Clock to: Rating: S/M/L: Dimension1: Dimension2: 0.5 Remarks: 9/14/2011 8:45 AM 187.1 FT Upstream manhole No.6 Downstream manhole No.7 Jam Log: Downstream								
198.0		MWLS	No	/			Structural	
Distance: 198.0 MWLS: Water Level Sag Clock from: Clock to: Rating: S/M/L: Dimension1: Dimension2: 0.35 Remarks: 9/14/2011 8:45 AM 187.1 FT Upstream manhole No.6 Downstream manhole No.7 Jam Log: Downstream								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
238.3		MWLS	No	/			Structural	
								
244.3		DAGS	No	3 /			O&M	
								
244.3		DAGS	No	9 /			O&M	
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
261.0		RBC	No	7 / 5			O&M	@ DSMH Connection
								
264.2		AMH	No	/				End of inspection.
								
264.2		DAGS	No	12 /			O&M	
264.2		DAGS	No	3 /			O&M	
264.2		DAGS	No	9 /			O&M	
264.2		STOP	No	/				

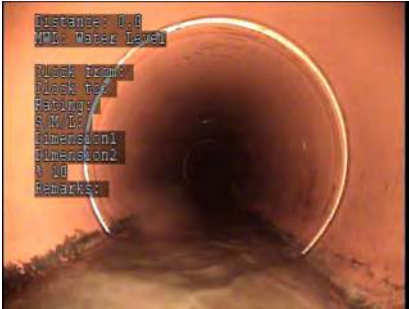
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Observation Report with Still Images and Scores

Pipeline segment ref: 7 to 8	Project Name: Salinas CCTV Project	Start date/time: 9/13/2017 1:36:39 PM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 7	Depth US:	Downstream manhole No: 8	Depth DS:	Total length:
Extra:				
Additional info:				

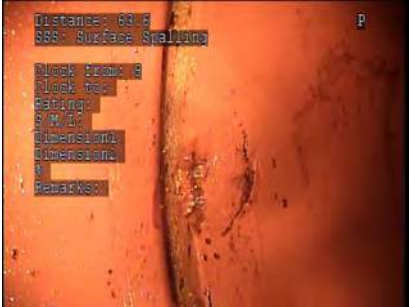
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				Start of inspection
								
0.0		MWL	No	/				
								

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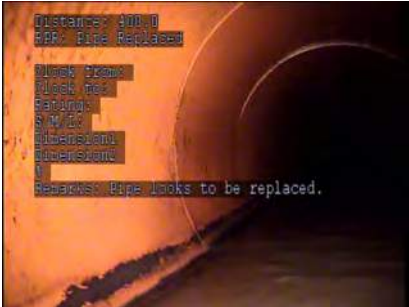


Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.9		DAGS	No	5 /			O&M	
0.9		DAGS	No	7 /			O&M	
32.7		MWLS	No	/			Structural	

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
63.6		SSS	No	9 /			Structural	
								
81.4		MWL	No	/				
								
93.6		MWLS	No	/			Structural	
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
104.5		CL	No	3 /			Structural	
Distance: 104.5 CL: Crack Longitudinal Clock from: 3 Clock to: Rating: S/M/L: Dimension1 Dimension2 % Remarks: Distance: 104.5 CL: Crack Longitudinal Clock from: 3 Clock to: Rating: S/M/L: Dimension1 Dimension2 % Remarks:								
117.0		MWL	No	/				
Distance: 117.0 MWL: Water Level Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 % 10 Remarks:								
170.9		MWLS	No	/			Structural	
Distance: 170.9 MWLS: Water Level Sag Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 % 25 Remarks:								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
262.1		SSS	No	2 /			Structural	
Distance: 262.1 SSS: Surface Spalling Clock from: 2 Clock to: Rating: S/M/L: Dimension1 Dimension2 Remarks: Distance: 262.1 SSS: Surface Spalling Clock from: 2 Clock to: Rating: S/M/L: Dimension1 Dimension2 Remarks: Distance: 262.1 SSS: Surface Spalling Clock from: 2 Clock to: Rating: S/M/L: Dimension1 Dimension2 Remarks:								
301.2		MWL	No	/				
Distance: 301.2 MWL: Water Level Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 Remarks: 9/13/2017 10:54 AM 343.7 FT Upstream manhole No:7 Downstream manhole No:8 Cam Dir: Downstream								
372.9		DAE	No	9 / 3			O&M	
Distance: 372.9 DAE: Deposits Attached Encrustation Clock from: 2 Clock to: 2 Rating: S/M/L: Dimension1 Dimension2 Remarks:								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
376.2		MWLS	No	/			Structural	
								
399.8		SSS	No	3 /			Structural	
								
400.0		RPR	No	/				Pipe looks to be replaced.
  								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
410.0		DAGS	No	10 / 3			O&M	
								
416.7		STOP	No	/				
426.8		DAGS	No	10 / 3			O&M	
461.2		RPR	No	/				looks like a point repair
 								
472.1		MWLS	No	/			Structural	
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
507.7		MWL	No	/				
553.0		DAGS	No	5 /			O&M	
553.0		DAGS	No	7 /			O&M	

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
553.0		AMH	No	/				END OF INSPECTION



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Observation Report with Still Images and Scores

Pipeline segment ref: 9 TO 10	Project Name: Salinas CCTV Project	Start date/time: 9/18/2017 8:03:34 AM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 9	Depth US:	Downstream manhole No: 10	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF INSPECTION
0.0		MWL	No	/				

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		DAGS	No	7 / 5			O&M	
Distance: 0.0 DAGS: Deposits Attached Grease Clock from: 7 Clock to: 5 Rating: S/M/L: Dimension1 Dimension2 4.5 Remarks: Distance: 0.0 DAGS: Deposits Attached Grease Clock from: 7 Clock to: 5 Rating: S/M/L: Dimension1 Dimension2 4.5 Remarks: Distance: 0.0 DAGS: Deposits Attached Grease Clock from: 7 Clock to: 5 Rating: S/M/L: Dimension1 Dimension2 4.5 Remarks:								
Distance: 15.5 DAGS: Deposits Attached Grease Clock from: 7 Clock to: 12 Rating: S/M/L: Dimension1 Dimension2 4.5 Remarks: 9/18/2017 8:11 AM 96.0 FT Upstream manhole No:9 Downstream manhole No:10 Cam Dir: Downstream 9/18/2017 8:11 AM 96.0 FT Upstream manhole No:9 Downstream manhole No:10 Cam Dir: Downstream								
9/18/2017 8:11 AM 96.0 FT Upstream manhole No:9 Downstream manhole No:10 Cam Dir: Downstream 9/18/2017 8:12 AM 96.0 FT Upstream manhole No:9 Downstream manhole No:10 Cam Dir: Downstream 9/18/2017 8:12 AM 96.0 FT Upstream manhole No:9 Downstream manhole No:10 Cam Dir: Downstream								
9/18/2017 8:13 AM 174.1 FT Upstream manhole No:9 Downstream manhole No:10 Cam Dir: Downstream 9/18/2017 8:14 AM 184.3 FT Upstream manhole No:9 Downstream manhole No:10 Cam Dir: Downstream								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
5.0		MWL	No	/				



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
310.7	CM		No	7 / 5			Structural	



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
								
								
								
								
								
								
								
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
376.3		AMH	No	/				END OF INSPECTION. FOUND DAGS THROUGHOUT LINE SEGMENT AND FOUND CM @ 310 FT.



376.3		DAGS	No	7 / 5			O&M	
376.3		STOP	No	/				

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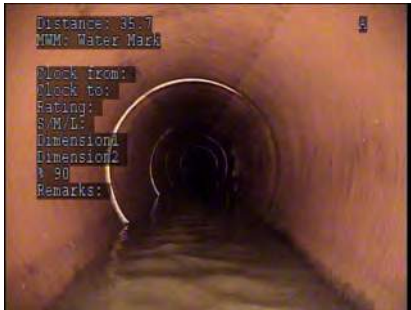
Observation Report with Still Images and Scores

Pipeline segment ref: 11 TO 12	Project Name: Salinas CCTV Project	Start date/time: 9/18/2017 8:53:15 AM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 11	Depth US:	Downstream manhole No: 12	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF INSPECTION
Distance: 0.0 AMH: Manhole Clock from: Clock to: Rating: S/M/L: dimension1: dimension2: Remarks: START OF INSPECTION Distance: 0.0 AMH: Manhole Clock from: Clock to: Rating: S/M/L: dimension1: dimension2: Remarks: START OF INSPECTION								
0.0		MWL	No	/				
Distance: 0.0 MWL: Water Level Clock from: Clock to: Rating: S/M/L: dimension1: dimension2: Remarks:								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
35.7		MWM	No	/			O&M	



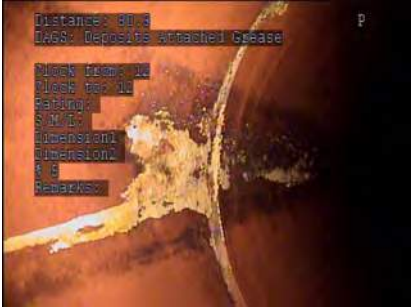
45.1		IR	No	3 /			O&M	AT J.C.
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
64.1		DAGS	No	12 /			O&M	
								
70.7		MWL	No	/				
								
78.6		MWLS	No	/			Structural	
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
80.3		DAGS	No	12 / 12			O&M	
								
119.3		DAGS	No	12 /			O&M	
 								
162.7		DAGS	No	12 /			O&M	
167.5		MWL	No	/				
								

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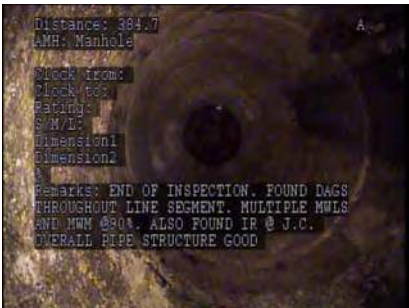


Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
184.0		DAGS	No	7 / 3			O&M	
								
202.8		DAGS	No	9 / 3			O&M	
249.0		MWM	No	/			O&M	
								
253.8		DAGS	No	12 /			O&M	
								
281.1		DAGS	No	12 /			O&M	

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
295.4		DAGS	No	12 /			O&M	
								
296.8		MWLS	No	/			Structural	
								
305.4		DAGS	No	12 /			O&M	
330.0		LL	No	/			O&M	
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
364.4		MWL	No	/				
								
384.7		AMH	No	/				END OF INSPECTION. FOUND DAGS THROUGHOUT LINE SEGMENT. MULTIPLE MWLS AND MWM @90%. ALSO FOUND IR @ J.C. OVERALL PIPE STRUCTURE GOOD
								
384.7		STOP	No	/				

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Observation Report with Still Images and Scores

Pipeline segment ref: 13 TO 14	Project Name: Salinas CCTV Project	Start date/time: 9/18/2017 10:31:19 AM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 13	Depth US:	Downstream manhole No: 14	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF INSPECTION
0.0		MWL	No	/				

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		DAGS	No	7 /			O&M	
9/18/2017 10:32 AM 0.0 FT Upstream manhole No:13 Downstream manhole No:14 Run Dir: Downstream Distance: 0.0 DAGS: Deposits Attached Grease Clock from: 7 Clock to: Rating: S/M/L: Dimension1 Dimension2 # 5 Remarks:								
0.0		DAGS	No	5 /			O&M	
Distance: 0.0 DAGS: Deposits Attached Grease Clock from: 5 Clock to: Rating: S/M/L: Dimension1 Dimension2 # 5 Remarks:								
39.6		MWM	No	/			O&M	
Distance: 39.6 MWM: Water Mark Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 # 39 Remarks:								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
46.0		MWL	No	/				
122.4		MWM	No	/			O&M	
132.7		MWLS	No	/			Structural	

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
297.2		DAE	No	7 / 5			O&M	

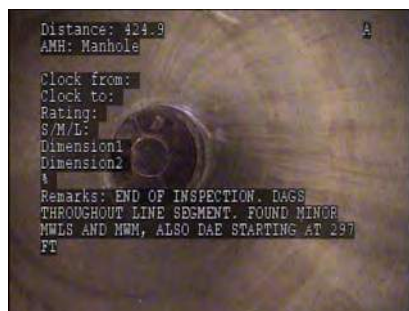


406.8		MWL	No	/				
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424.9		DAGS	No	7 /			O&M	
424.9		DAGS	No	5 /			O&M	
424.9		DAE	No	6 / 5			O&M	
424.9		AMH	No	/				

END OF INSPECTION.
 DAGS THROUGHOUT
 LINE SEGMENT.
 FOUND MINOR MWLS
 AND MWM, ALSO DAE
 STARTING AT 297 FT



424.9		STOP	No	/				
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
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Observation Report with Still Images and Scores

Pipeline segment ref: 15 TO 16	Project Name: Salinas CCTV Project	Start date/time: 9/18/2017 11:43:53 AM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 15	Depth US:	Downstream manhole No: 16	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF INSPECTION



0.0	MWL	No	/
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		DAGS	No	7 /			O&M	
0.0		DAGS	No	5 /			O&M	
7.9		MWM	No	/			O&M	

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
182.6		DAE	No	9 / 3			O&M	
								
185.9		MWM	No	/			O&M	
								
318.0		DAGS	No	7 /			O&M	
318.0		DAGS	No	5 /			O&M	
318.0		DAE	No	9 / 3			O&M	
318.0		AMH	No	/				END OF INSPECTION. FOUND DAGS, DAE, AND MWM @ 75 %. OVERALL PIPE STRUCTURE GOOD.
								
318.0		STOP	No	/				

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Observation Report with Still Images and Scores

Pipeline segment ref:	Project Name:	Start date/time:	Weather:	Surveyed by:	
17 TO 18	Salinas CCTV Project	9/18/2017 1:54:37 PM		Justin Young	
Upstream manhole No:	Depth US:	Downstream manhole No:	Depth DS:	Total length:	Extra:
17		18			
Additional info:					

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				

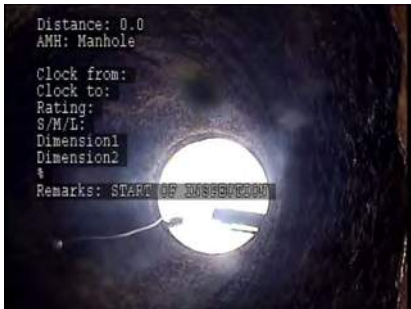
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Observation Report with Still Images and Scores

Pipeline segment ref: 17 TO 18	Project Name: Salinas CCTV Project	Start date/time: 9/18/2017 1:56:09 PM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 17	Depth US:	Downstream manhole No: 18	Depth DS:	Total length:
Extra:				
Additional info:				

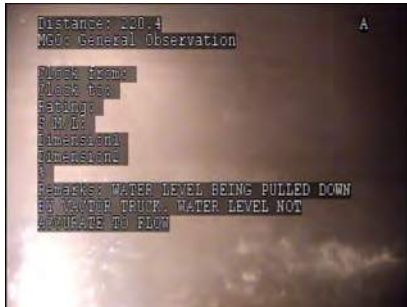
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF INSPECTION
 								
0.0		MWL	No	/				
								

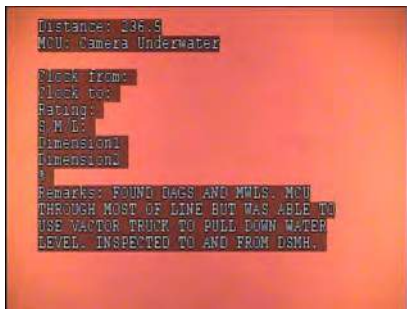
Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		RFC	No	11 / 3			O&M	@ USMH
								
26.1		DAGS	No	7 /			O&M	
								
26.1		DAGS	No	5 /			O&M	
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
54.7		MWLS	No	/			Structural	
								
152.1		MWLS	No	/			Structural	
								
152.1		MCU	No	/			O&M	
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
220.4		MGO	No	/				WATER LEVEL BEING PULLED DOWN BY VACTOR TRUCK. WATER LEVEL NOT ACCURATE TO FLOW



236.5		MCU	No	/			O&M	FOUND DAGS AND MWLS. MCU THROUGH MOST OF LINE BUT WAS ABLE TO USE VACTOR TRUCK TO PULL DOWN WATER LEVEL. INSPECTED TO AND FROM DSMH.
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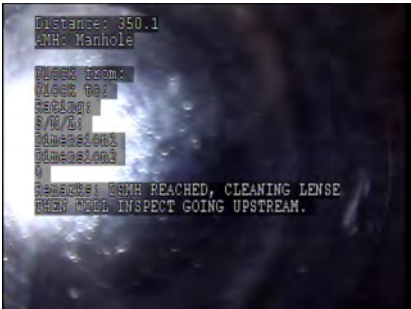


236.5		DAGS	No	7 /			O&M	
236.5		DAGS	No	5 /			O&M	
236.5		STOP	No	/				

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
350.1		AMH	No	/				DSMH REACHED, CLEANING LENSE THEN WILL INSPECT GOING UPSTREAM.



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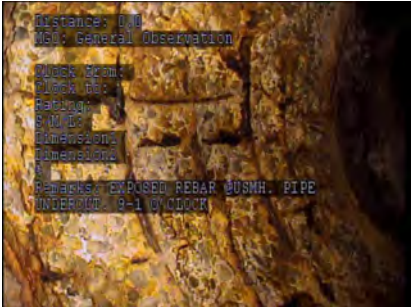
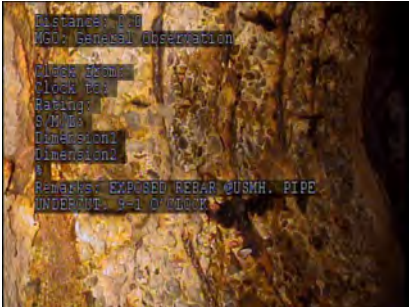
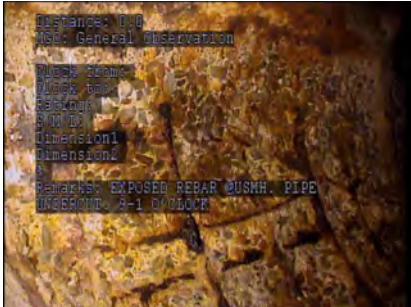


Observation Report with Still Images and Scores

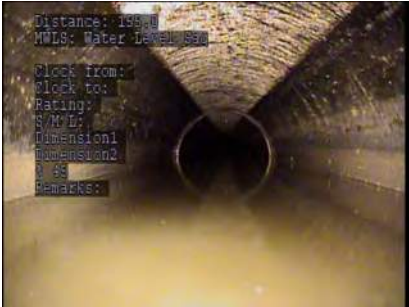
Pipeline segment ref:	Project Name:	Start date/time:	Weather:	Surveyed by:
17 TO 18	Salinas CCTV Project	9/25/2017 12:58:54 AM		Justin Young
Upstream manhole No:	Depth US:	Downstream manhole No:	Depth DS:	Total length:
17		18		
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF INSPECTION
0.0		MWL	No	/				
 								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		MGO	No	/				EXPOSED REBAR @USMH. PIPE UNDERCUT. 9-1 O'CLOCK
Distance: 0.0 MGO: General Observation Clock from: Clock to: Rating: S/M/LC: Dimension1: Dimension2: Remarks: EXPOSED REBAR @USMH. PIPE UNDERCUT. 9-1 O'CLOCK  Distance: 1.0 MGO: General Observation Clock from: Clock to: Rating: S/M/LC: Dimension1: Dimension2: Remarks: EXPOSED REBAR @USMH. PIPE UNDERCUT. 9-1 O'CLOCK  Distance: 0.0 MGO: General Observation Clock from: Clock to: Rating: S/M/LC: Dimension1: Dimension2: Remarks: EXPOSED REBAR @USMH. PIPE UNDERCUT. 9-1 O'CLOCK 								
0.0		DAGS	No	7 / 5			O&M	
Distance: 0.0 DAGS: Deposits Attached Grease Clock from: Clock to: Rating: S/M/LC: Dimension1: Dimension2: Remarks:  Distance: 0.0 DAGS: Deposits Attached Grease Clock from: Clock to: Rating: S/M/LC: Dimension1: Dimension2: Remarks:  Distance: 47.3 DAGS: Deposits Attached Grease Clock from: 7 Clock to: 5 Rating: S/M/LC: Dimension1: Dimension2: Remarks: 								
9/25/2017 1:21 AM 307.2 FT Upstream manhole No.17 Downstream manhole No.18 Cam Dir: Downstream  9/25/2017 1:21 AM 307.2 FT Upstream manhole No.17 Downstream manhole No.18 Cam Dir: Downstream 								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
15.7		MWL	No	/				
82.4		MWM	No	/			O&M	
107.5		MWLS	No	/			Structural	

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
127.9		MWM	No	/			O&M	
								
155.0		MWLS	No	/			Structural	
								
158.8		MWM	No	/			O&M	
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
226.7		MWL	No	/				
								
226.7		MWM	No	/			O&M	
								
276.3		MWL	No	/				
								

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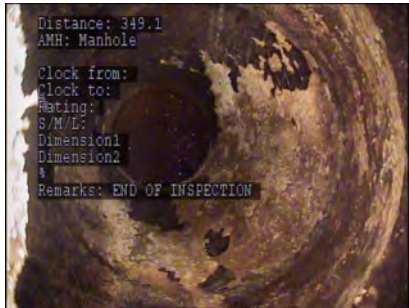
Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
276.8		MWM	No	/			O&M	
311.3		MWM	No	/			O&M	
315.0		MWLS	No	/			Structural	

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
327.3		MWL	No	/				
327.3		MWM	No	/			O&M	
348.0		MGO	No	/			DSMH CHANNEL	

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
349.1		AMH	No	/				END OF INSPECTION



349.1		DAGS	No	7 / 5			O&M	
349.1		STOP	No	/				

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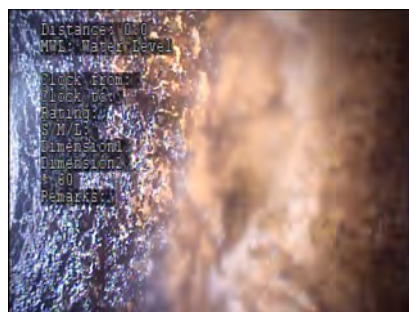
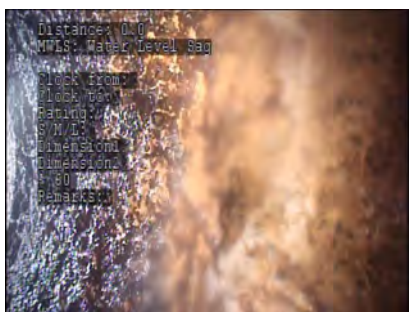
Pipeline segment ref: 18 TO 19	Project Name: Salinas CCTV Project	Start date/time: 9/18/2017 2:48:15 PM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 18	Depth US:	Downstream manhole No: 19	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF INSPECTION



0.0	MWL	No	/
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
2.3	MCU	No	/				O&M	
Distance: 2.3 MCU: Camera Underwater P Block Beam: Block 00: Refined: SWR: Immersant: Immersant: Immersant: Immersant: Distance: 2.3 MCU: Camera Underwater P Block Beam: Block 00: Refined: SWR: Immersant: Immersant: Immersant: Immersant:								
8.9	DAGS	No	11 /				O&M	
Distance: 8.9 DAGS: Deposits Attached Grease A Block Beam: Block 00: Refined: SWR: Immersant: Immersant: Immersant: Immersant:								
40.7	MSA	No	/					WATER LEVEL TO HIGH. WILL RE-INSPECT THIS AND UPSTREAM SEGMENT AS WELL.
Distance: 40.7 MSA: Handheld Survey WATER LEVEL TO HIGH. WILL RE-INSPECT THIS AND UPSTREAM SEGMENT AS WELL. Block Beam: Block 00: Refined: SWR: Immersant: Immersant: Immersant: Immersant:								

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Observation Report with Still Images and Scores

Pipeline segment ref: 19 TO 20	Project Name: Salinas CCTV Project	Start date/time: 9/25/2017 2:05:10 AM	Weather:	Surveyed by: Justin Young
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Upstream manhole No: 19	Depth US:	Downstream manhole No: 20	Depth DS:	Total length:	Extra:
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Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF INSPECTION
  								
0.0		MWL	No	/				
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
5.0		DAGS	No	7 / 5			O&M	
 								
20.3		MWM	No	/			O&M	
								
309.6		MWLS	No	/			Structural	
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
310.5		MWM	No	/			O&M	
351.3		MWL	No	/				
434.9		DAGS	No	7 / 5			O&M	
434.9		AMH	No	/				END OF INSPECTION
434.9		STOP	No	/				

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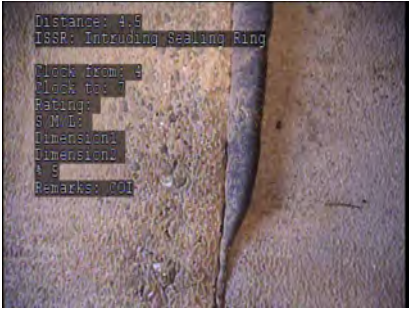
Observation Report with Still Images and Scores

Pipeline segment ref: 1	Project Name: Salinas CCTV Project	Start date/time: 9/14/2017 9:32:49 AM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 1	Depth US:	Downstream manhole No: 1	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
0.0		MWL	No	/				START OF MACP INSPECTION

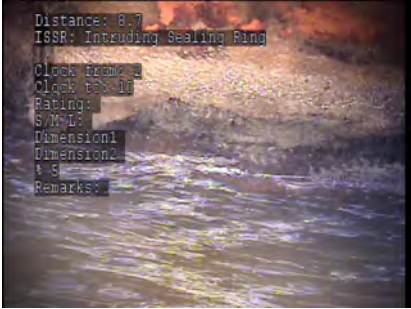
Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.7		SSS	No	4 /			Structural	CMI
								
0.7		CL	No	3 /			Structural	CMI
								
0.7		CL	No	5 /			Structural	CMI
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.7		SAV	No	12 / 12			Structural	CMI
								
5.0		ISSR	No	2 / 10			O&M	COI
 								
7.2		SSS	No	1 /			Structural	WI
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
7.2		SSS	No	4 /			Structural	WI
Distance: 7.2 SSS: Surface Spalling Clock from: 9 Clock to: 9 Rating: 4 S/N/L: 1 Dimension1: 1 Dimension2: 1 Remarks: WI 9/14/2017 10:02 AM 7.2 FT Upstream manhole No: 1 Downstream manhole No: 1 Run Dir: Downstream 9/14/2017 10:02 AM 7.2 FT Upstream manhole No: 1 Downstream manhole No: 1 Run Dir: Downstream								
9/14/2017 10:02 AM 7.2 FT Upstream manhole No: 1 Downstream manhole No: 1 Run Dir: Downstream								
8.7		AMH	No	/				END OF MACP INSPECTION
Distance: 8.7 AMH: Manhole Clock from: 9 Clock to: 9 Rating: 4 S/N/L: 1 Dimension1: 1 Dimension2: 1 Remarks: END OF MACP INSPECTION								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
8.7		ISSR	No	2 / 10			O&M	
								
8.7		STOP	No	/				

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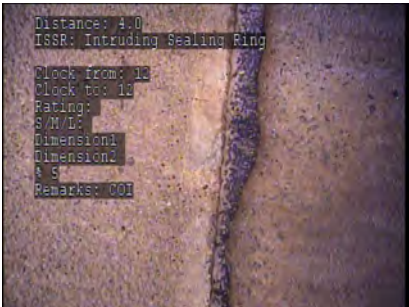


Observation Report with Still Images and Scores

Pipeline segment ref: 2	Project Name: Salinas CCTV Project	Start date/time: 9/14/2017 11:25:28 AM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 2	Depth US:	Downstream manhole No: 2	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
0.0		MWL	No	/				START OF MACP INSPECTION

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.5		SAV	No	12 / 12			Structural	CMI
								
4.0		ISSR	No	12 / 12			O&M	COI
								
4.0		MGO	No	/				COI- APPEARS TO BE PATCHED.
 								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
13.8		AMH	No	/				END OF MACP INSPECTION



13.8	SAV	No	12 / 12	Structural
13.8	ISSR	No	12 / 12	O&M
13.8	STOP	No	/	

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Observation Report with Still Images and Scores

Pipeline segment ref: 3	Project Name: Salinas CCTV Project	Start date/time: 9/14/2017 8:47:15 AM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 3	Depth US:	Downstream manhole No: 3	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				Start of MACP INSPECTION
								
0.0		MWL	No	/				MACP INSPECTION
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
13.9		AMH	No	/				END OF MACP INSPECTION
13.9		STOP	No	/				

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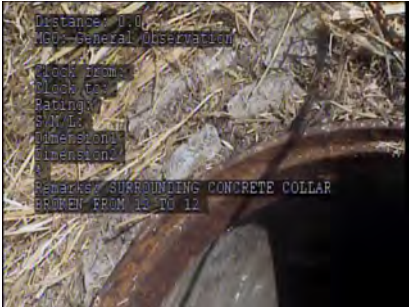
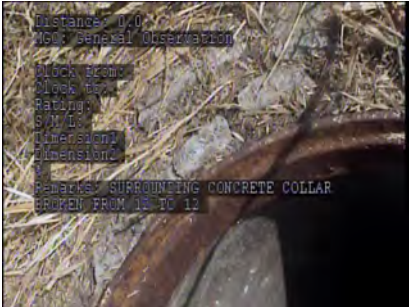
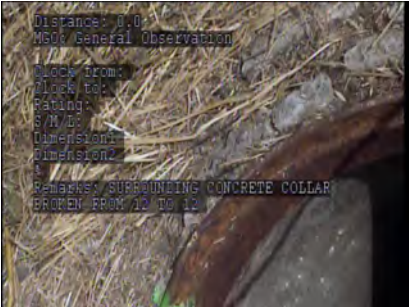


Observation Report with Still Images and Scores

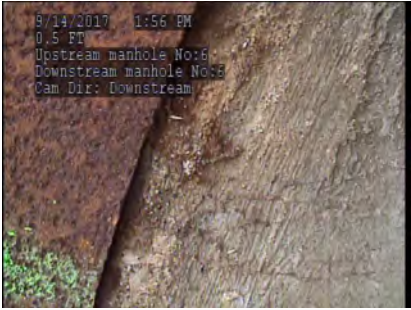
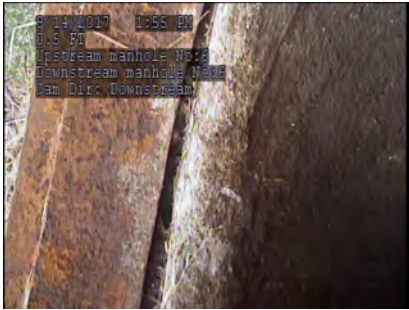
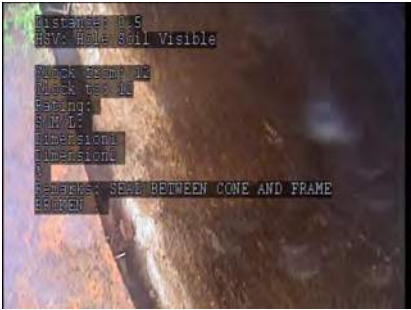
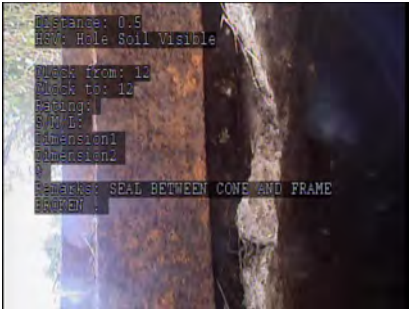
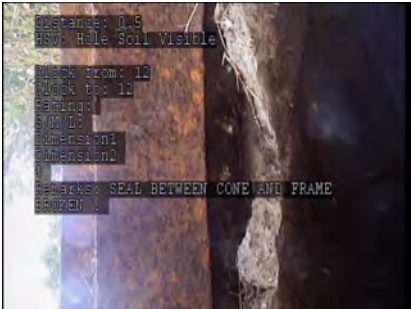
Pipeline segment ref: 6	Project Name: Salinas CCTV Project	Start date/time: 9/14/2017 1:51:45 PM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 6	Depth US:	Downstream manhole No: 6	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
								
0.0		MWL	No	/				START OF MACP INSPECTION
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		MGO	No	/				SURROUNDING CONCRETE COLLAR BROKEN FROM 12 TO 12
								
								
								
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.5	HSV		No	12 / 12			Structural	CMI- SEAL BETWEEN CONE AND FRAME BROKEN .



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
3.5	ISSR	No		12 / 12			O&M	
Distance: 3.5 ISSR: Intruding Sealing Ring Clock from: 12 Clock to: 12 Rating: S/M/L: Dimension1: Dimension2: 0.5 Remarks: 9/14/2017 2:00 PM 3.5 FT Upstream manhole No:6 Downstream manhole No:6 Cam Dir: Downstream 9/14/2017 2:00 PM 3.5 FT Upstream manhole No:6 Downstream manhole No:6 Cam Dir: Downstream								
9/14/2017 2:00 PM 3.5 FT Upstream manhole No:6 Downstream manhole No:6 Cam Dir: Downstream 9/14/2017 2:00 PM 3.5 FT Upstream manhole No:6 Downstream manhole No:6 Cam Dir: Downstream 9/14/2017 2:00 PM 3.5 FT Upstream manhole No:6 Downstream manhole No:6 Cam Dir: Downstream								
21.8	AMH	No		/				END OF MACP INSPECTION
Distance: 21.8 AMH: Manhole Clock from: Clock to: Rating: S/M/L: Dimension1: Dimension2: 6 Remarks: END OF MACP INSPECTION								
21.8	ISSR	No		12 / 12			O&M	
21.8	STOP	No		/				

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Observation Report with Still Images and Scores

Pipeline segment ref: 8	Project Name: Salinas CCTV Project	Start date/time: 9/14/2017 12:59:36 PM	Weather:	Surveyed by: Justin Young
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Upstream manhole No: 8	Depth US:	Downstream manhole No: 8	Depth DS:	Total length:	Extra:
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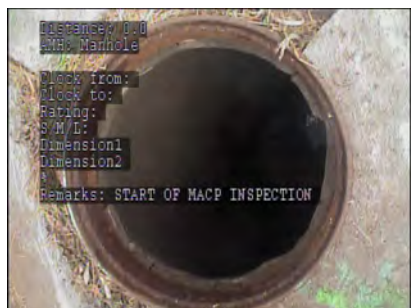
Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
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0.0		START WITH FLOW	No	/				
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0.0		AMH	No	/				START OF MACP INSPECTION
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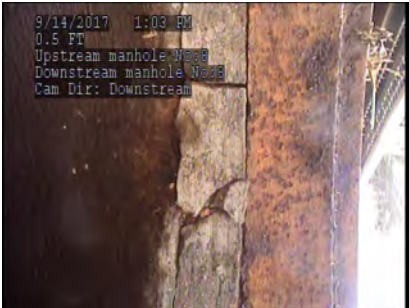
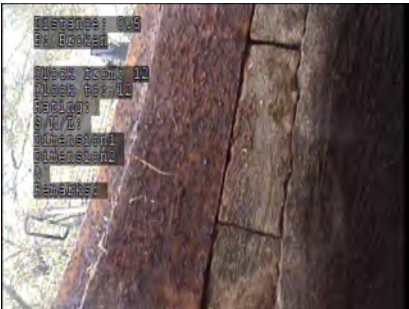
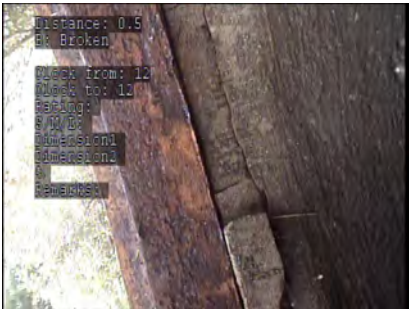
0.0		MWL	No	/				START OF MACP INSPECTION
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		MGO	No	/				SURROUNDING CONCRETE COLLAR BROKEN FROM 9 TO 3 O' CLOCK



0.5		B	No	12 / 12			Structural	
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9.0	IS	No	7 / 4					
Distance: 9.0 IS: Infil Stain Clock from: Clock to: 4 Rating: S/M/L: Dimension1 Dimension2 Remarks: Distance: 9.0 IS: Infil Stain Clock from: Clock to: 4 Rating: S/M/L: Dimension1 Dimension2 Remarks: Distance: 9.0 IS: Infil Stain Clock from: Clock to: 4 Rating: S/M/L: Dimension1 Dimension2 Remarks:								
Distance: 9.0 IS: Infil Stain Clock from: Clock to: 4 Rating: S/M/L: Dimension1 Dimension2 Remarks: Distance: 9.0 IS: Infil Stain Clock from: Clock to: 4 Rating: S/M/L: Dimension1 Dimension2 Remarks:								
13.4	AMH	No	/					END OF MACP INSPECTION
Distance: 13.4 AMH: Manhole Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 Remarks: END OF MACP INSPECTION								
13.4	STOP	No	/					

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Observation Report with Still Images and Scores

Pipeline segment ref: 9	Project Name: Salinas CCTV Project	Start date/time: 9/15/2017 8:10:53 AM	Weather:	Surveyed by: Justin Young
Upstream manhole No: 9	Depth US:	Downstream manhole No: 9	Depth DS:	Total length:
Extra:				
Additional info:				

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
								
0.0		MWL	No	/				START OF MACP INSPECTION
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		IS	No	12 / 12				FRAME- CMI - HEAVILY CORRODED



0.0		STOP	No	/				
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.8	SAV	No		12 / 12			Structural	
  								
  								
  								
  								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
17.9		AMH	No	/				END OF INSPECTION
17.9		SAV	No	12 / 12			Structural	

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Observation Report with Still Images and Scores

Pipeline segment ref: **10** Project Name: **Salinas CCTV Project** Start date/time: **9/15/2017 11:31:02 AM** Weather: Surveyed by: **Justin Young**

Upstream manhole No: **10** Depth US: Downstream manhole No: **10** Depth DS: Total length: Extra:

Additional info:

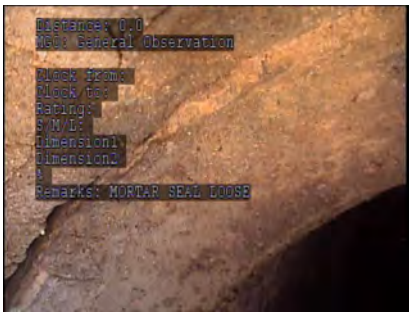
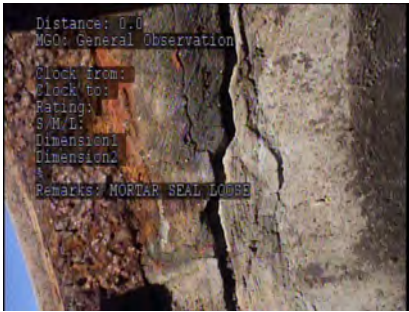
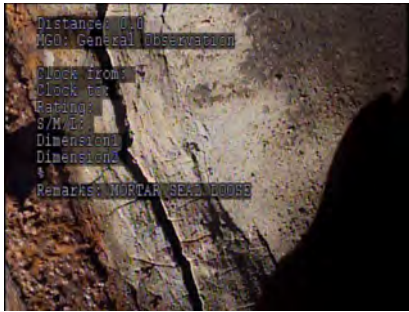
Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
0.0		MWL	No	/				START OF MACP INSPECTION

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		SCP	No	12 / 12			Structural	FRAME - CMI - HEAVILY CORRODED AND BUBBLING



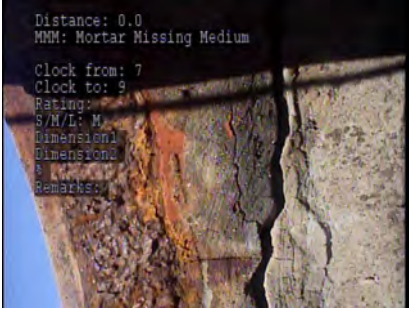
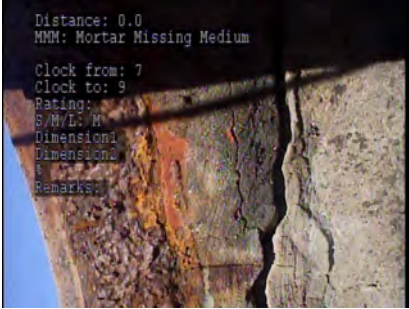
0.0		MGO	No	/				MORTAR SEAL LOOSE
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.5		MMM	No	7 / 9			Structural	



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
4.0		DAGS	No	12 / 12			O&M	POSSIBLE EVIDENCE OF SURCHARGE
Distance: 4.0 DAGS: Deposits Attached Grease Clock from: 12 Clock to: 12 Rating: S/M/L: Dimension1: Dimension2: # S: Remarks: POSSIBLE EVIDENCE OF SURCHARGE 9/15/2017 11:37 AM 4.0 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 11:37 AM 4.0 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								
9/15/2017 11:37 AM 4.0 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 11:38 AM 6.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 11:38 AM 6.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								
9/15/2017 11:38 AM 6.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 11:38 AM 6.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9.5		MGO	No	/				APPARENT FREQUENT SURCHARGE BASED OFF OF HEAVY GREASE LINE.
Distance: 9.5 MGO: General Observation Clock Pos: Clock Pos: Rating: 9/15/2017 Dimension1: Dimension2: Remarks: APPARENT FREQUENT SURCHARGE BASED OFF OF HEAVY GREASE LINE. Distance: 9.5 MGO: General Observation Clock Pos: Clock Pos: Rating: 9/15/2017 Dimension1: Dimension2: Remarks: APPARENT FREQUENT SURCHARGE BASED OFF OF HEAVY GREASE LINE. 9/15/2017 11:40 AM 9.5 FT Upstream manhole No:10 Downstream manhole No:11 Cam Dir: Downstream 9/15/2017 11:40 AM 9.5 FT Upstream manhole No:10 Downstream manhole No:11 Cam Dir: Downstream								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9.5		MGO	No	/				HEAVY DEBRIS ON SHELF DUE TO SURCHARGE
Distance: 9.5 MGO: General Observation Clock from: Clock to: Rating: S/H/L: Dimension1: Dimension2: Remarks: HEAVY DEBRIS ON SHELF DUE TO SURCHARGE Distance: 9.5 MGO: General Observation Clock from: Clock to: Rating: S/H/L: Dimension1: Dimension2: Remarks: HEAVY DEBRIS ON SHELF DUE TO SURCHARGE Distance: 9.5 MGO: General Observation Clock from: Clock to: Rating: S/H/L: Dimension1: Dimension2: Remarks: HEAVY DEBRIS ON SHELF DUE TO SURCHARGE								
Distance: 9.5 MGO: General Observation Clock from: Clock to: Rating: S/H/L: Dimension1: Dimension2: Remarks: HEAVY DEBRIS ON SHELF DUE TO SURCHARGE 9/15/2017 11:44 AM 12.0 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 11:44 AM 12.0 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								
9/15/2017 11:44 AM 12.0 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 11:45 AM 19.9 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 11:45 AM 19.9 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								
9/15/2017 11:45 AM 19.9 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9.5		DAGS	No	12 / 12			O&M	
19.9		AMH	No	/				END OF MACP INSPECTION
19.9		STOP	No	/				

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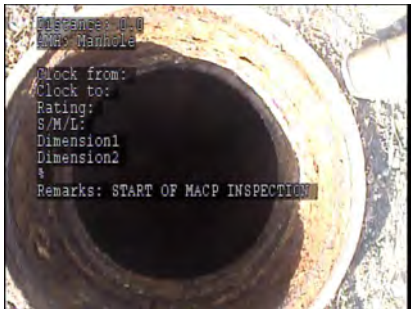
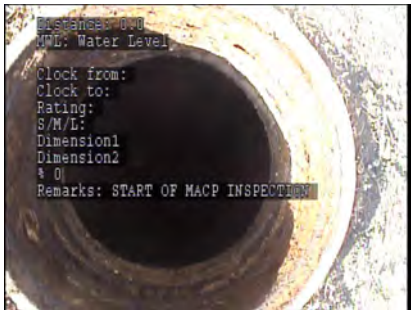
Observation Report with Still Images and Scores

Pipeline segment ref: 11	Project Name: Salinas CCTV Project	Start date/time: 9/15/2017 8:49:31 AM	Weather:	Surveyed by: Justin Young
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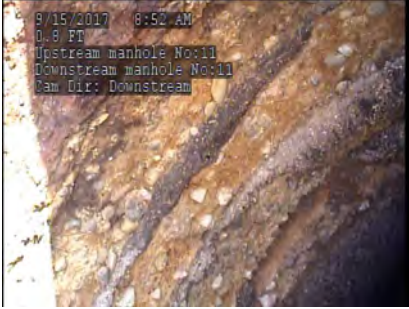
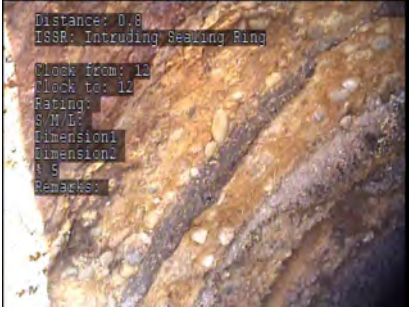
Upstream manhole No: 11	Depth US:	Downstream manhole No: 11	Depth DS:	Total length:	Extra:
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Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
								
0.0		MWL	No	/				START OF MACP INSPECTION
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0	IS		No	12 / 12				FRAME - CMI - HEAVY CORROSION
Distance: 0.0 IS: Infil Stain Clock from: 12 Clock to: 12 Rating: S/M/L: Dimension1 Dimension2 % Remarks: FRAME - CMI - HEAVY CORROSION Distance: 0.0 IS: Infil Stain Clock from: 12 Clock to: 12 Rating: S/M/L: Dimension1 Dimension2 % Remarks: FRAME - CMI - HEAVY CORROSION 9/19/2017 8:58 AM 0.8 FT Upstream manhole No:11 Downstream manhole No:11 Cam Dir: Downstream 9/19/2017 8:58 AM 1.8 FT Upstream manhole No:11 Downstream manhole No:11 Cam Dir: Downstream								
0.0	STOP		No	/				

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.8	SAP	No		12 / 12			Structural	
								
								
								
								
								
								
								
0.8	ISSR	No		12 / 12			O&M	
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
15.9		SAP	No	12 / 12			Structural	
15.9		ISSR	No	12 / 12			O&M	
15.9		AMH	No	/				END OF MACP INSPECTION



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Observation Report with Still Images and Scores

Pipeline segment ref: **12** Project Name: **Salinas CCTV Project** Start date/time: **9/15/2017 10:08:41 AM** Weather: Surveyed by: **Justin Young**

Upstream manhole No: **12** Depth US: Downstream manhole No: **12** Depth DS: Total length: Extra:

Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
								
0.0		MWL	No	/				START OF MACP INSPECTION
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		IS	No	12 / 12				FRAME - CMI - HEAVY CORROSION

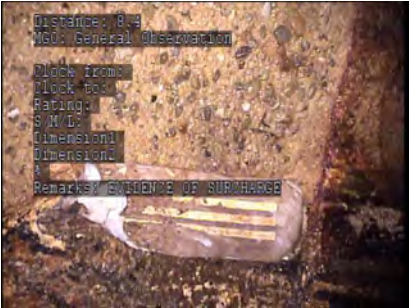
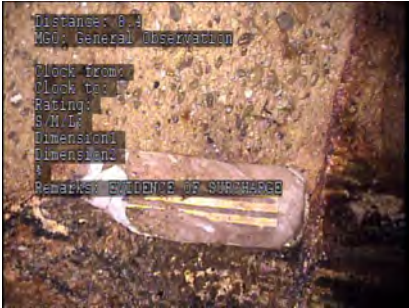


Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0	SAP	No	12 / 12				Structural	
Distance: 0.0 SAP: Sag/Aggregate Projection Clock Pos: 12 Clock Pos: 12 Rating: S/N: 0 Dimension1 Dimension2 Remarks: 9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								
9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								
9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								
9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream 9/15/2017 10:11 AM 0.8 FT Upstream manhole No:10 Downstream manhole No:10 Cam Dir: Downstream								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
4.4		SAM	No	6 /			Structural	AGGREGATE MISSING AROUND INCOMING 4" VCP

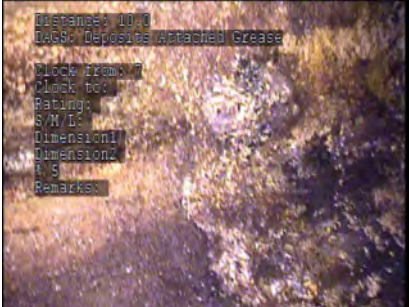


8.4		MGO	No	/				EVIDENCE OF SURCHARGE
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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
8.4	IS		No	1 /				COMING FROM JOINT CONNECTION



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
10.0		DAGS	No	7 /			O&M	
								
								
								
								
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
15.6		MGO	No	/				EVIDENCE OF SURCHARGE ON BENCH
								
								
								
								
								
								
								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
17.6		SAP	No	12 / 12			Structural	
17.6		AMH	No	/				END OF MACP INSPECTION
17.6		STOP	No	/				

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Observation Report with Still Images and Scores

Pipeline segment ref: **13** Project Name: **Salinas CCTV Project** Start date/time: **9/15/2017 1:42:30 PM** Weather: Surveyed by: **Justin Young**

Upstream manhole No: **13** Depth US: Downstream manhole No: **13** Depth DS: Total length: Extra:

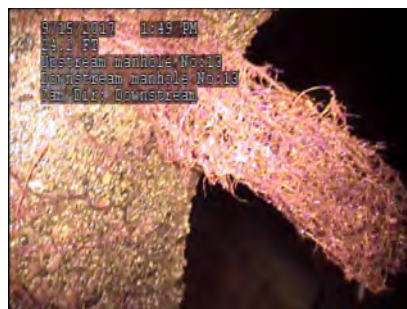
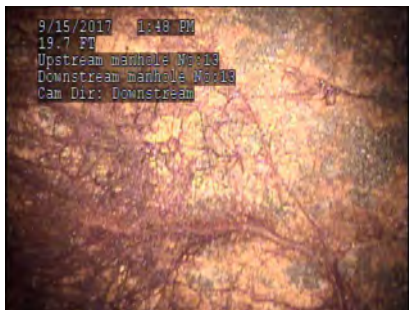
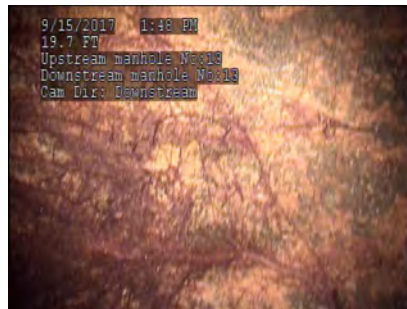
Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
								
0.0		MWL	No	/				START OF INSPECTION
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.5	B		No	12 / 12			Structural	RING BROKEN
Distance: 0.5 B: Broken Clock from: 12 Clock to: 12 Rating: 9/15/17 Dimension1 Dimension2 Remarks: RING BROKEN Distance: 0.0 B: Broken Clock from: 12 Clock to: 12 Rating: 9/15/17 Dimension1 Dimension2 Remarks: RING BROKEN 9/15/2017 1:44 PM 0.0 FT Upstream manhole No:13 Downstream manhole No:13 Cam Dir: Downstream  9/15/2017 1:44 PM 0.0 FT Upstream manhole No:13 Downstream manhole No:13 Cam Dir: Downstream  9/15/2017 1:44 PM 0.0 FT Upstream manhole No:13 Downstream manhole No:13 Cam Dir: Downstream  9/15/2017 1:44 PM 0.0 FT Upstream manhole No:13 Downstream manhole No:13 Cam Dir: Downstream  9/15/2017 1:44 PM 0.0 FT Upstream manhole No:13 Downstream manhole No:13 Cam Dir: Downstream  9/15/2017 1:44 PM 0.0 FT Upstream manhole No:13 Downstream manhole No:13 Cam Dir: Downstream 								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.5		RMJ	No	12 / 12			O&M	



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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
25.0		RMJ	No	12 / 12			O&M	
25.0		AMH	No	/			END OF MACP INSPECTION	
25.0		STOP	No	/				

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Observation Report with Still Images and Scores

Pipeline segment ref: **14** Project Name: **Salinas CCTV Project** Start date/time: **9/15/2017 2:28:56 PM** Weather: Surveyed by: **Justin Young**

Upstream manhole No: **14** Depth US: Downstream manhole No: **14** Depth DS: Total length: Extra:

Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
								
0.0		MWL	No	/				START OF MACP INSPECTION
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
1.0		MGO	No	/				CMI - GRADE RINGS NOT SEALED
Distance: 0.0 MO: General observation Clock from: Clock to: Rating: S/M/L: Dimension1: Dimension2: Remarks: CMI - GRADE RINGS NOT SEALED 9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream								
9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream								
9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream								
9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:32 PM 10.6 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9/15/2017 2:34 PM 10.6 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:35 PM 11.6 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:35 PM 11.6 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream								
1.0		HVV	No	1 / 3			Structural	
Distance: 0.0 HW: Hole Wide Visible Clock from: 1 Clock to: 3 Rating: S/M/E: Dimension1 Dimension2 Remarks: 9/15/2017 2:31 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream 9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream								
11.8		AMH	No	/			END OF MACP INSPECTION	
Distance: 0.0 HW: Manhole Clock from: 1 Clock to: 3 Rating: S/M/E: Dimension1 Dimension2 Remarks: END OF MACP INSPECTION 9/15/2017 2:32 PM 0.0 FT Upstream manhole No:14 Downstream manhole No:14 Cam Dir: Downstream								

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
11.9		STOP	No	/				

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Observation Report with Still Images and Scores

Pipeline segment ref: 15	Project Name: Salinas CCTV Project	Start date/time: 9/22/2017 8:35:38 AM	Weather:	Surveyed by: Justin Young
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Upstream manhole No: 15	Depth US:	Downstream manhole No: 15	Depth DS:	Total length:	Extra:
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Additional info:

Observations

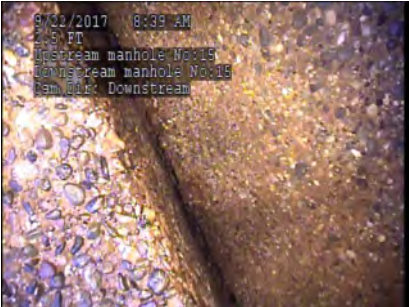
Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
0.0		MWL	No	/				START OF MACP INSPECTION

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		MGO	No	/				FRAME HEAVILY CORRODED

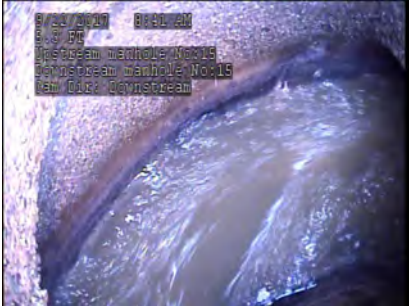
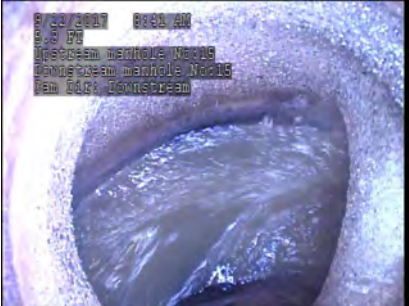


Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.8		SAP	No	12 / 12			Structural	CMI



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
								
								
								
								
								
								
								
								
								
								
								
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9/22/2017 8:40 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:40 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:40 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:40 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:40 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:40 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:40 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:40 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:41 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:41 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								
9/22/2017 8:41 AM 5.3 FT Upstream manhole No:15 Downstream manhole No:15 Cam Dir: Downstream								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
								
								
								
								
5.3		SAP	No	12 / 12			Structural	CMI - CHANNEL
5.3		AMH	No	/				END OF MACP INSPECTION
								
5.3		STOP	No	/				

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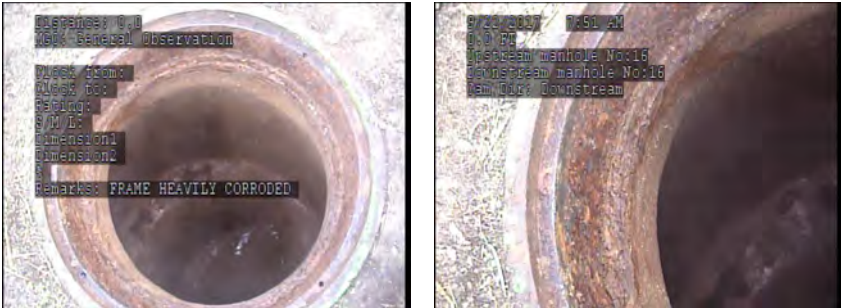
Pipeline segment ref: **16** Project Name: **Salinas CCTV Project** Start date/time: **9/22/2017 7:50:44 AM** Weather: Surveyed by: **Justin Young**

Upstream manhole No: **16** Depth US: Downstream manhole No: **16** Depth DS: Total length: Extra:

Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
0.0		MWL	No	/				START OF MACP INSPECTION

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		MGO	No	/				FRAME HEAVILY CORRODED
Distance: 0.0 MGO: General Observation Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 % S Remarks: FRAME HEAVILY CORRODED 9/20/2007 7:51 AM 0.0 ft Upstream manhole No:16 Downstream manhole No:16 Manhole? Downstream 								
0.8		DAGS	No	12 / 12			O&M	GREASY FILM COVERING ENTIRE MANHOLE.
Distance: 0.8 DAGS: Deposits Attached Grease Clock from: 12 Clock to: 12 Rating: S/M/L: Dimension1 Dimension2 % S Remarks: GREASY FILM COVERING ENTIRE MANHOLE. Distance: 0.8 DAGS: Deposits Attached Grease Clock from: 12 Clock to: 12 Rating: S/M/L: Dimension1 Dimension2 % S Remarks: GREASY FILM COVERING ENTIRE MANHOLE. 								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.8		SAV	No	12 / 12			Structural	



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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
								
								
8.7		DAGS	No	12 / 12			O&M	CMI - CHANNEL
								
8.7		SAV	No	12 / 12			Structural	CMI - CHANNEL

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Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
8.7		AMH	No	/				END OF MACP INSPECTION



8.7		STOP	No	/				
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Observation Report with Still Images and Scores

Pipeline segment ref: 17	Project Name: Salinas CCTV Project	Start date/time: 9/21/2017 2:09:25 PM	Weather:	Surveyed by: Justin Young
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Upstream manhole No: 17	Depth US:	Downstream manhole No: 17	Depth DS:	Total length:	Extra:
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Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
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0.0		START WITH FLOW	No	/				
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0.0		AMH	No	/				START OF MACP INSPECTION
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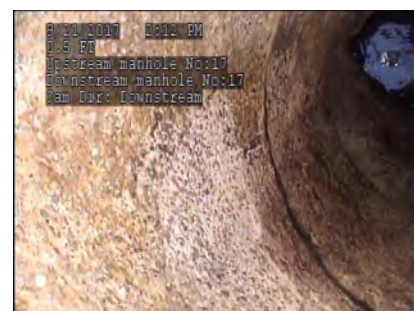


0.0		MWL	No	/				
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								START OF MACP INSPECTION
--	--	--	--	--	--	--	--	--------------------------



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.5		SAM	No	12 / 12			Structural	COI TO CHANNEL



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
								
								
								
								
								
								
								
								
								
								
								
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								
9/21/2017 2:15 PM 9.5 FT Upstream manhole No:17 Downstream manhole No:17 Cam Dir: Downstream								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9.5		MGO	No	/				EXPOSED REBAR
Distance: 9.5 MGO: General Observation Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 % Remarks: EXPOSED REBAR Distance: 9.5 MGO: General Observation Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 % Remarks: EXPOSED REBAR Distance: 9.5 MGO: General Observation Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 % Remarks: EXPOSED REBAR								
Distance: 9.5 MGO: General Observation Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 % Remarks: EXPOSED REBAR								
9.5		AMH	No	/				END OF MACP INSPECTION
Distance: 9.5 AMH: Manhole Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 % Remarks: END OF MACP INSPECTION								
9.5		SAM	No	12 / 12			Structural	
9.5		STOP	No	/				

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Observation Report with Still Images and Scores

Pipeline segment ref: 20	Project Name: Salinas CCTV Project	Start date/time: 9/20/2017 8:28:11 AM	Weather:	Surveyed by: Justin Young
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Upstream manhole No: 20	Depth US:	Downstream manhole No: 20	Depth DS:	Total length:	Extra:
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Additional info:

Observations

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
0.0		MWL	No	/				START OF MACP INSPECTION

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0	B		No	2 / 3			Structural	FRAME BROKEN
Distance: 0.0 B: Broken Block from: 2 Block to: 3 Rating: S/M/L: Dimension1 Dimension2 Remarks: FRAME BROKEN 9/20/2017 8:33 AM 0.0 FT Upstream manhole No:10 Downstream manhole No:20 Cam Dir: Downstream 9/20/2017 8:33 AM 0.0 FT Upstream manhole No:10 Downstream manhole No:20 Cam Dir: Downstream								



Observations with Still Images and Scores Wednesday, December 31, 2008 11:35 PM Page 3 of 4

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
11.1		AMH	No	/				END OF MACP INSPECTION
11.1		STOP	No	/				

CUES, Inc.
 3600 Rio Vista Avenue
 Orlando, FL 32805
 Phone: 407-849-0190
 Fax: 407-425-1569



Observation Report with Still Images and Scores

Pipeline segment ref: **26** Project Name: **Salinas CCTV Project** Start date/time: **9/22/2017 10:31:41 AM** Weather: Surveyed by: **Justin Young**

Upstream manhole No: **26** Depth US: Downstream manhole No: **26** Depth DS: Total length: Extra:

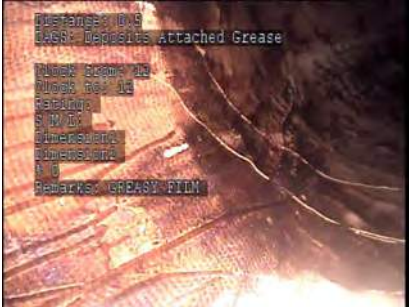
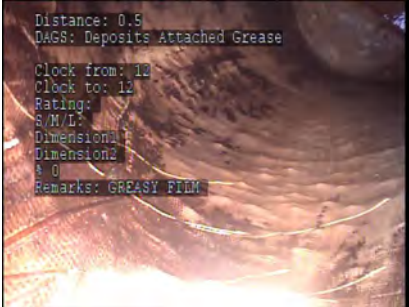
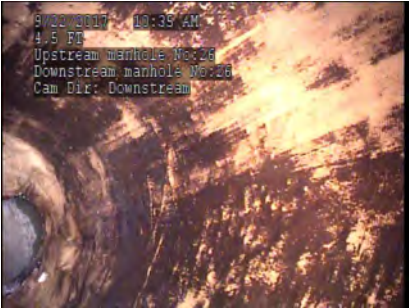
Additional info:

Observations

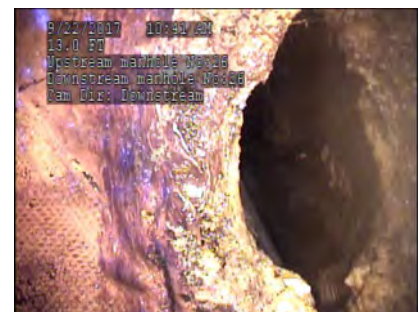
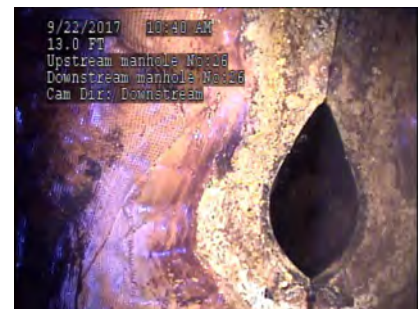
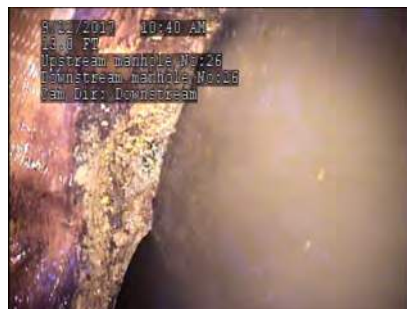
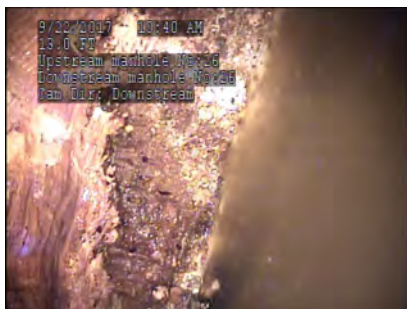
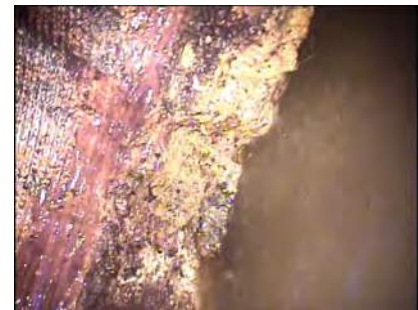
Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0		START WITH FLOW	No	/				
0.0		AMH	No	/				START OF MACP INSPECTION
								
0.0		MWL	No	/				START OF MACP INSPECTION
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.0	MGO		No	/				FRAME CORRODED / MANHOLE HAS FIBERGLASS LINER



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
0.5		DAGS	No	12 / 12			O&M	GREASY FILM
								
								
								
								
								
								
								

Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
13.0		SAM	No	12 / 12			Structural	CHANNEL



Distance	Length	Code	Reversed	Clock Pos.	Severity	Rating	Category	Comment
9/22/2017 10:41 AM 13.0 FT Upstream manhole No:26 Downstream manhole No:26 Run Dir: Downstream 9/22/2017 10:41 AM 13.0 FT Upstream manhole No:26 Downstream manhole No:26 Run Dir: Downstream								
13.0		DAGS	No	12 / 12			O&M	
Distance: 13.0 DAGS: Deposits Attached Grease Clock from: 12 Clock to: 12 Rating: S/M/L: Dimension1 Dimension2 % 0 Remarks: Distance: 13.0 AMH Manhole Clock from: Clock to: Rating: S/M/L: Dimension1 Dimension2 % 1 Remarks: END OF MACP INSPECTION								
13.0		AMH	No	/			END OF MACP INSPECTION	
13.0		STOP	No	/				

Sanitary Sewer Manhole Photos

Date 10/26/2017

Ref	Description	Remark
1	SSMH - 1	No work need at pavement surface
2	SSMH - 2	No work need at ground surface
3	SSMH - 3	No work need at pavement surface
4	SSMH - 6	Recommend PCC collar and bring MH lid 6" up & install marker
5	SSMH - 8	Redo PCC collar around the rim and install marker
6	SSMH - 9	Recommend PCC collar and bring MH lid 6" up & install marker

 Photo SSMH - 1	 Photo SSMH - 2	 Photo SSMH - 3
 Photo SSMH - 6	 Photo SSMH - 8	 Photo SSMH - 9

Sanitary Sewer Manhole Photos

Date 10/26/2017

Ref	Description	Remark
1	SSMH – 10	Replace exist cone with eccentric cone, MH will be outside the fence
2	SSMH – 11	Recommend PCC collar and bring MH lid 6" up & install marker
3	SSMH - 12	Recommend PCC collar and bring MH lid 6" up & install marker
4	SSMH - 13	No work need at top surface
5	SSMH - 14	Recommend PCC collar and install marker
6	SSMH - 15	Recommend PCC collar and bring MH lid 6" up slope away MH lid to prevent I/I & install marker



Photo SSMH – 10



Photo SSMH – 11



Photo SSMH – 12



Photo SSMH – 13



Photo SSMH – 14



Photo SSMH – 15

Sanitary Sewer Manhole Photos

Date 10/26/2017

Ref	Description	Remark
1	SSMH – 16	Recommend PCC collar and bring MH lid 6" up slope away MH lid to prevent I/I & install marker
2	SSMH – 17	Replace exist lid with new MH lid have an "S" stamp
3	SSMH – 18	No work need at pavement surface
4	SSMH – 19	No work need at pavement surface
5	SSMH – 20	No work need at pavement surface
6	SSMH – 21	No work need at pavement surface



Photo SSMH – 16



Photo SSMH – 17



Photo SSMH – 18



Photo SSMH – 19



Photo SSMH – 20



Photo SSMH – 21

Sanitary Sewer Manhole Photos

Date 10/26/2017

Ref	Description	Remark
1	SSMH – 22	No work need at pavement surface, New Manhole
2	SSMH – 23	No work need at pavement surface
3	SSMH – 24	No work need at pavement surface
4	SSMH – 25	No work need at pavement surface
5	SSMH - 26	Provide PCC color slope away from MH lid prevent I/I
6		
		
Photo SSMH – 22		
		
Photo SSMH – 23		
		
Photo SSMH – 24		
		
Photo SSMH – 25		
		
Photo SSMH – 26		

APPENDIX C: City Sewer Repair Atlas Map



SEWER REPAIRS
ATLAS

Legend

- SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
C5

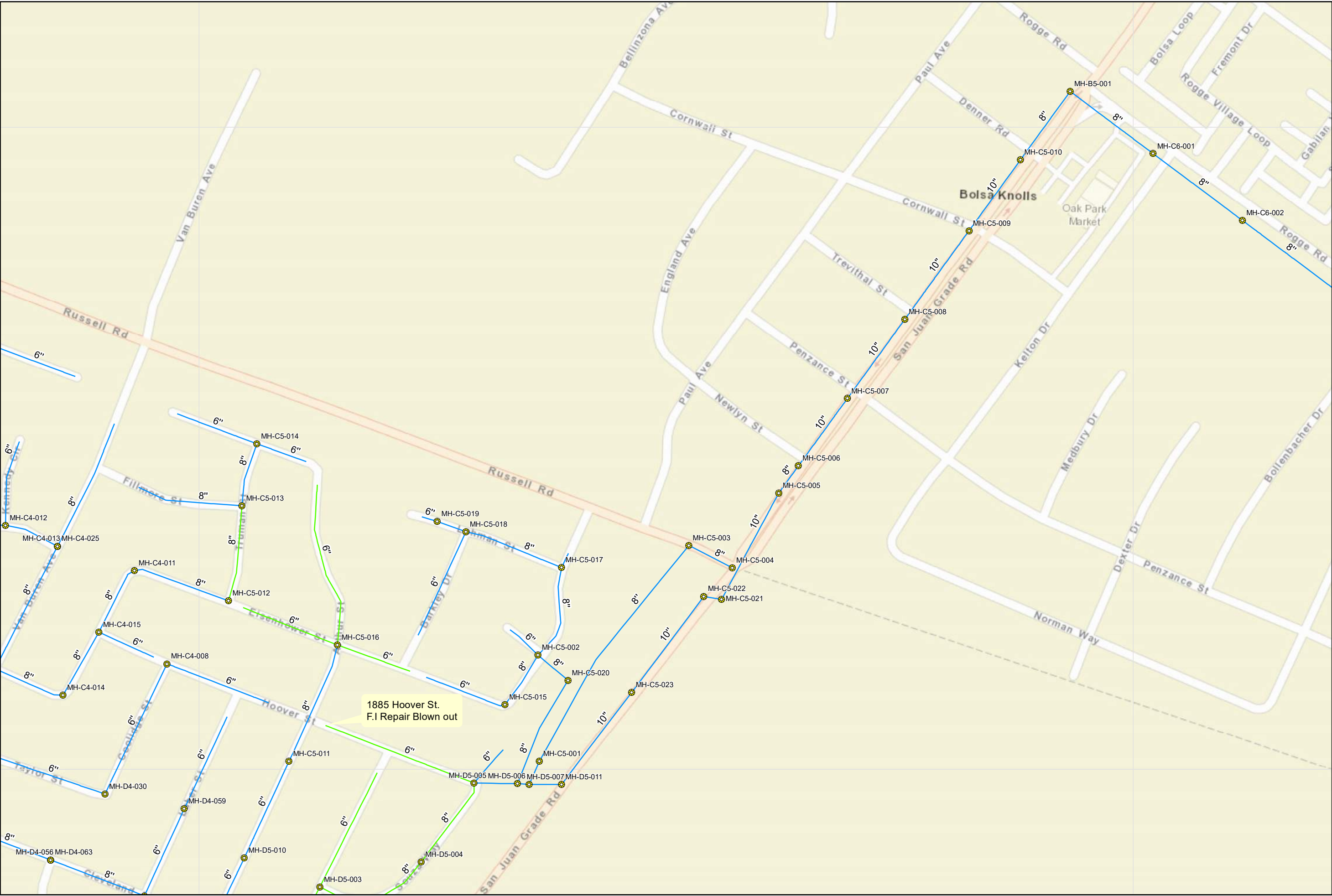
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B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10

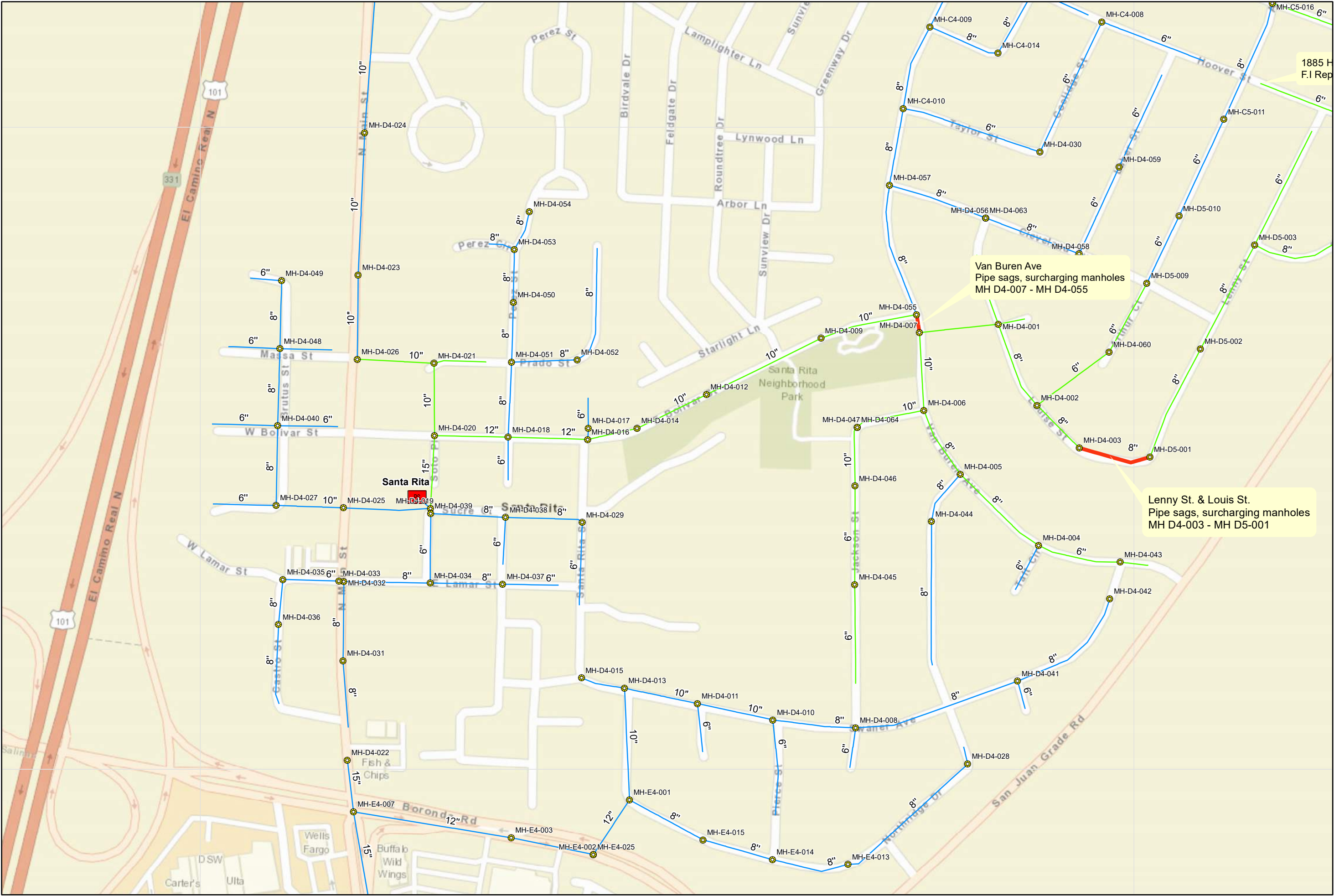


1 inch = 300 Feet



PROJECT NOTES:
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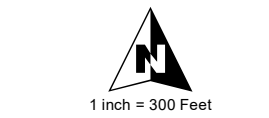
SEWER REPAIRS ATLAS

Legend

- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET: D4

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



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SEWER REPAIRS
ATLAS

Legend

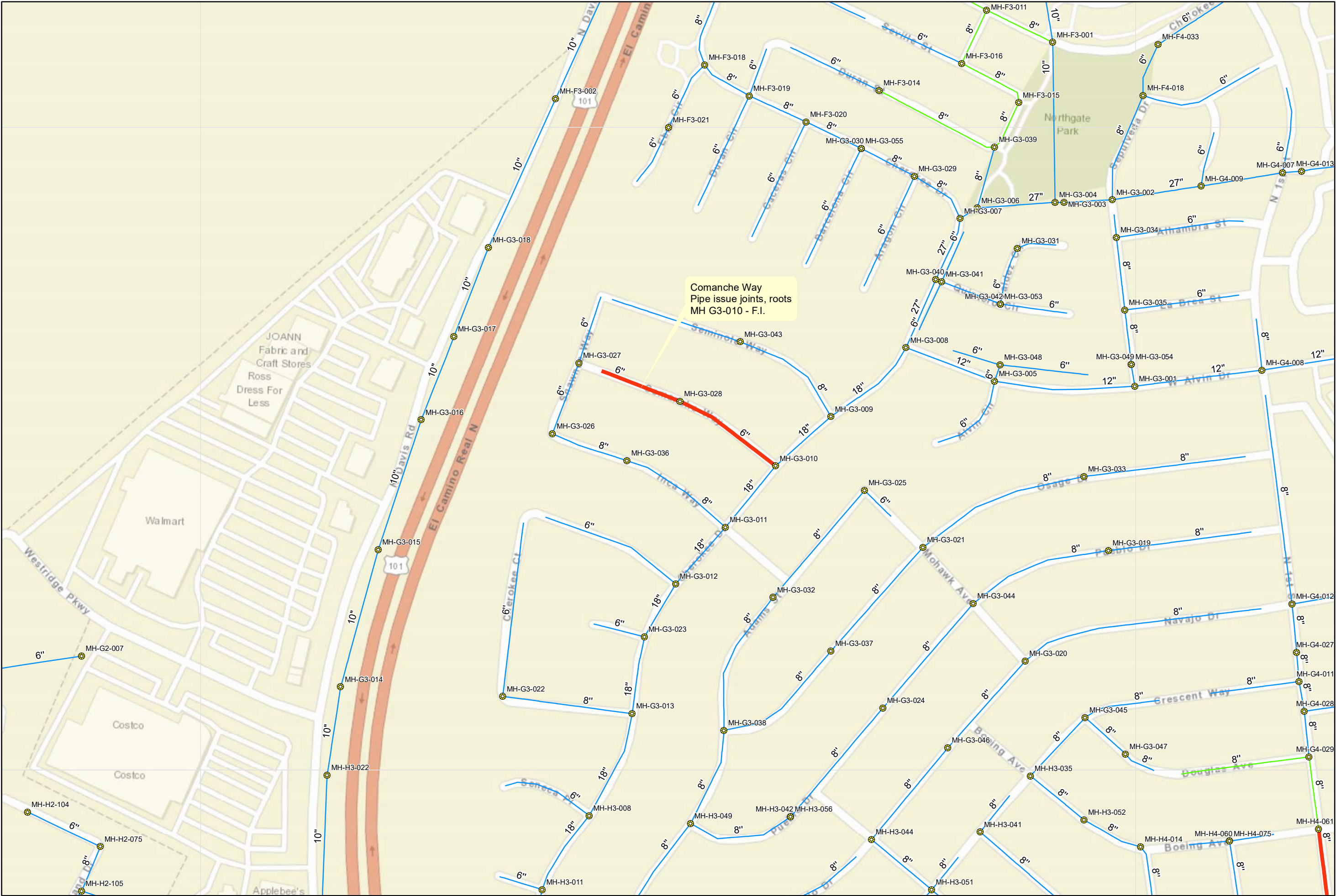
- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
G3

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



PROJECT NOTES:
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SEWER REPAIRS ATLAS

Legend

- SS Lift Stations
-  City Manholes
-  Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET: G6

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



1 inch = 300 Feet



WALLACE GROUP

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SEWER REPAIRS
ATLAS

Legend

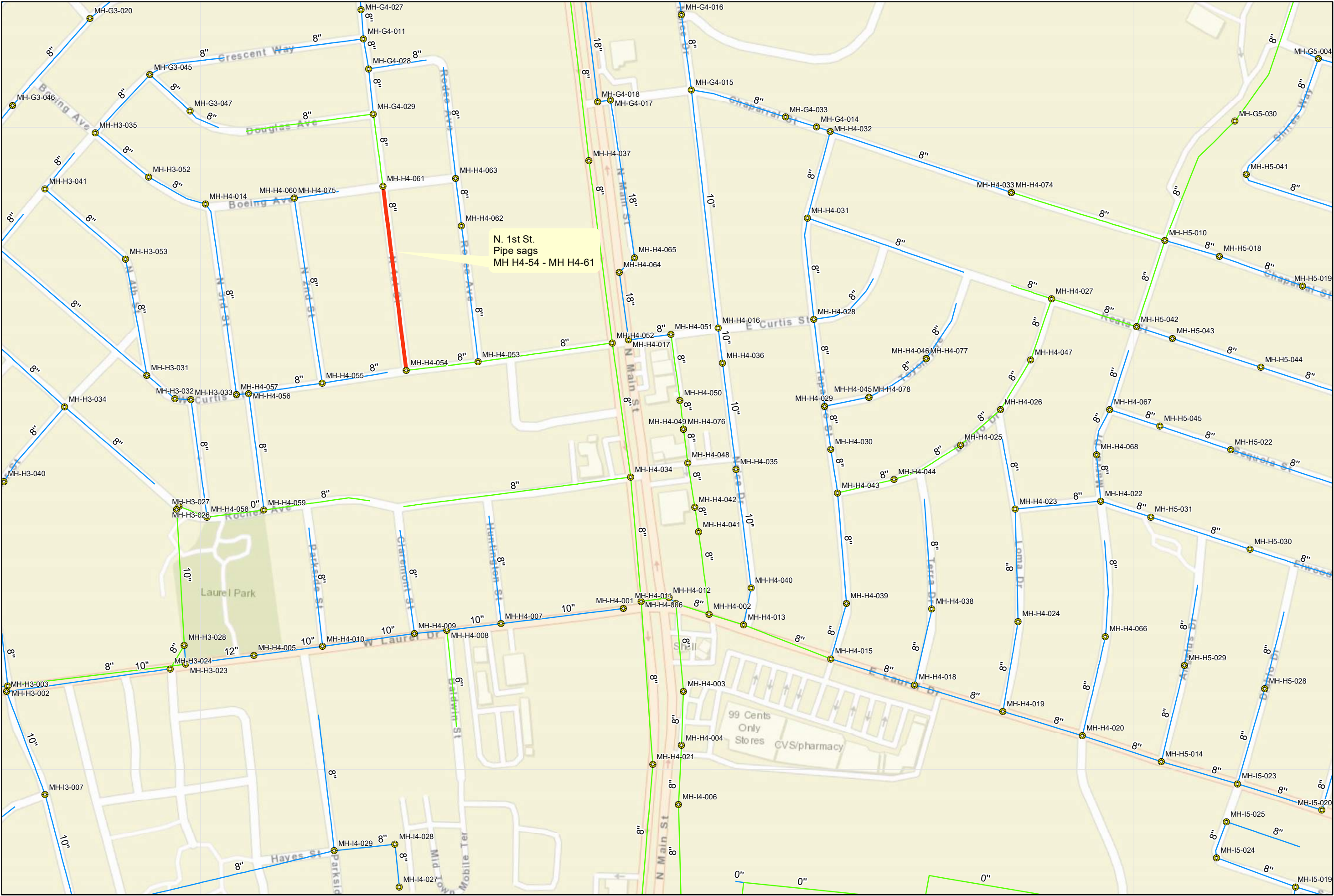
- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
H4

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B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



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SEWER REPAIRS ATLAS

Legend

- PS SS Lift Stations
- City Manholes
- + Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET: I3

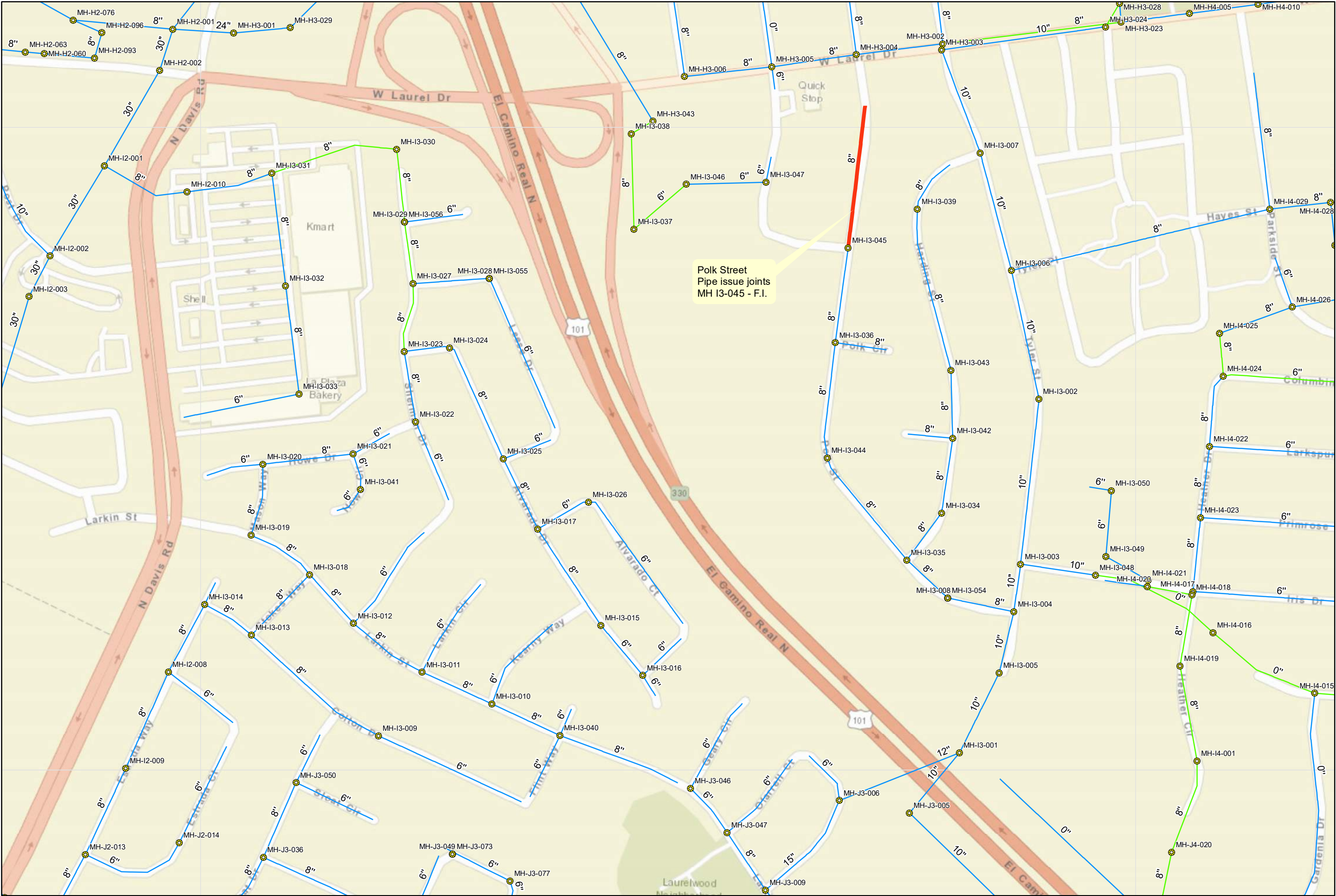
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D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



1 inch = 300 Feet



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SEWER REPAIRS
ATLAS

Legend

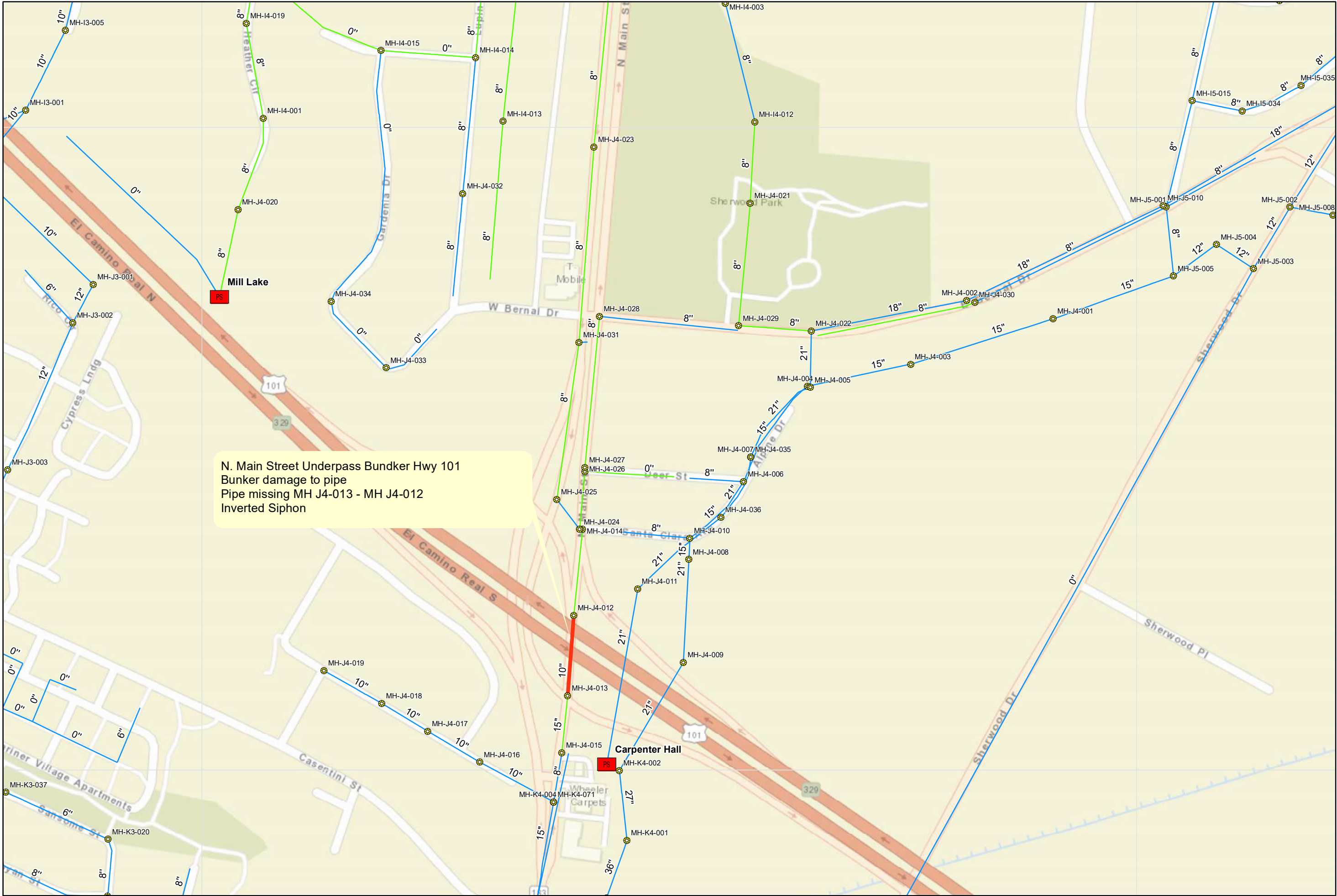
- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
J4

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



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SEWER REPAIRS
ATLAS

Legend

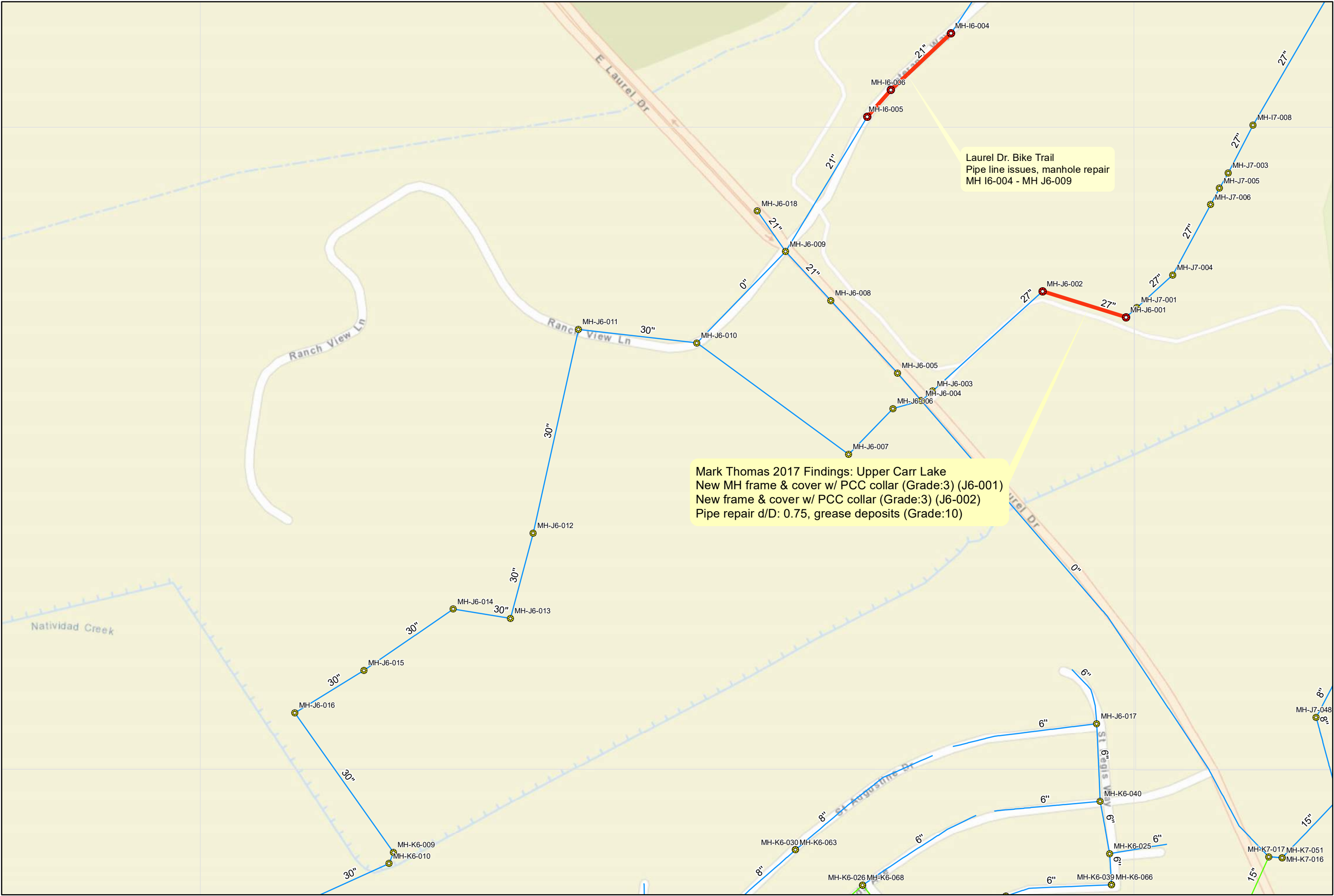
- PS SS Lift Stations
- City Manholes
- ⊕ Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
J6

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



PROJECT NOTES:
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SEWER REPAIRS
ATLAS

Legend

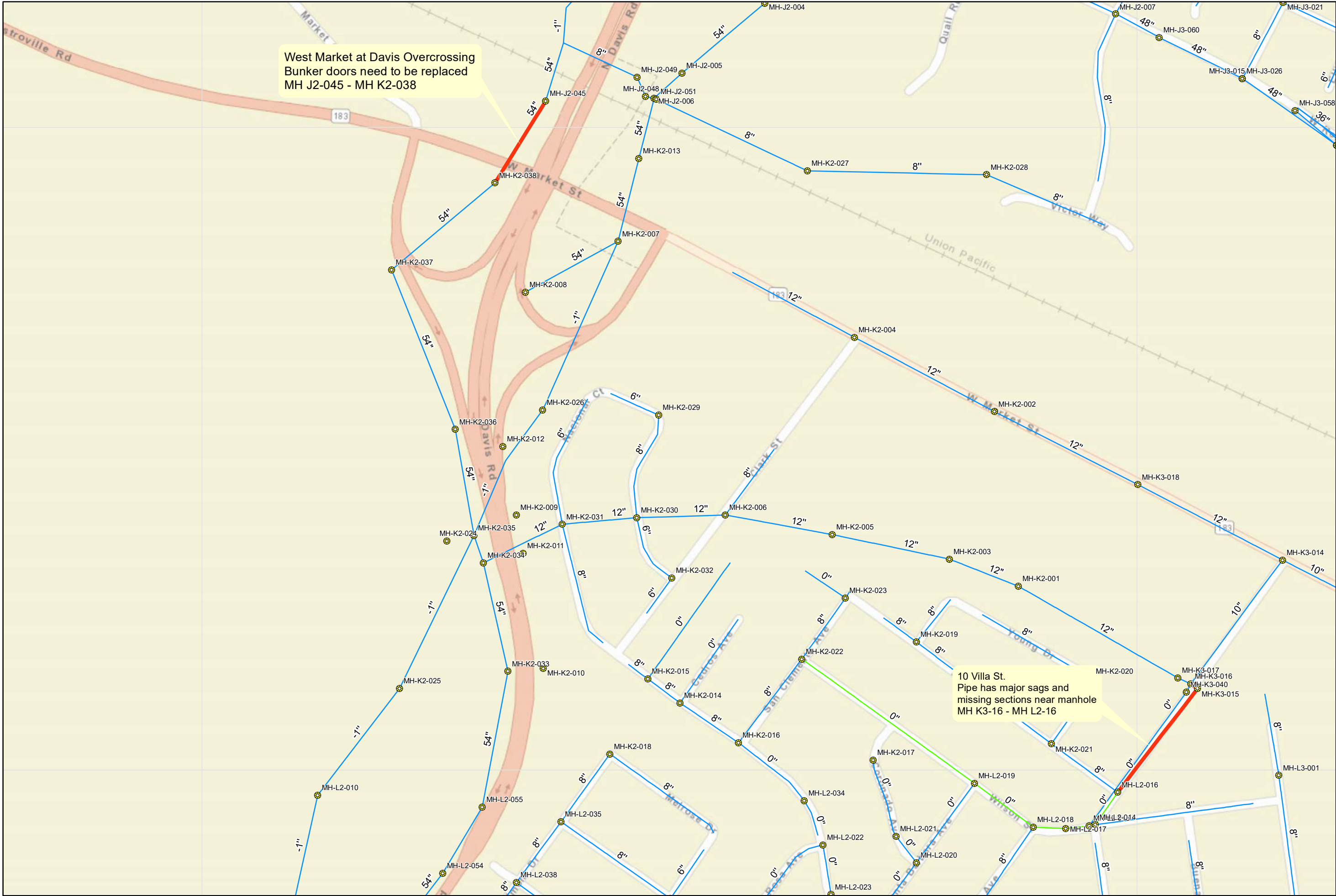
- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
K2

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



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SEWER REPAIRS
ATLAS

- Legend**
- PS SS Lift Stations
 - City Manholes
 - Manhole Repair
 - Sewer Mains
 - Sewer Repairs
 - High Priority

SHEET:
K4

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



PROJECT NOTES:
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SEWER REPAIRS
ATLAS

Legend

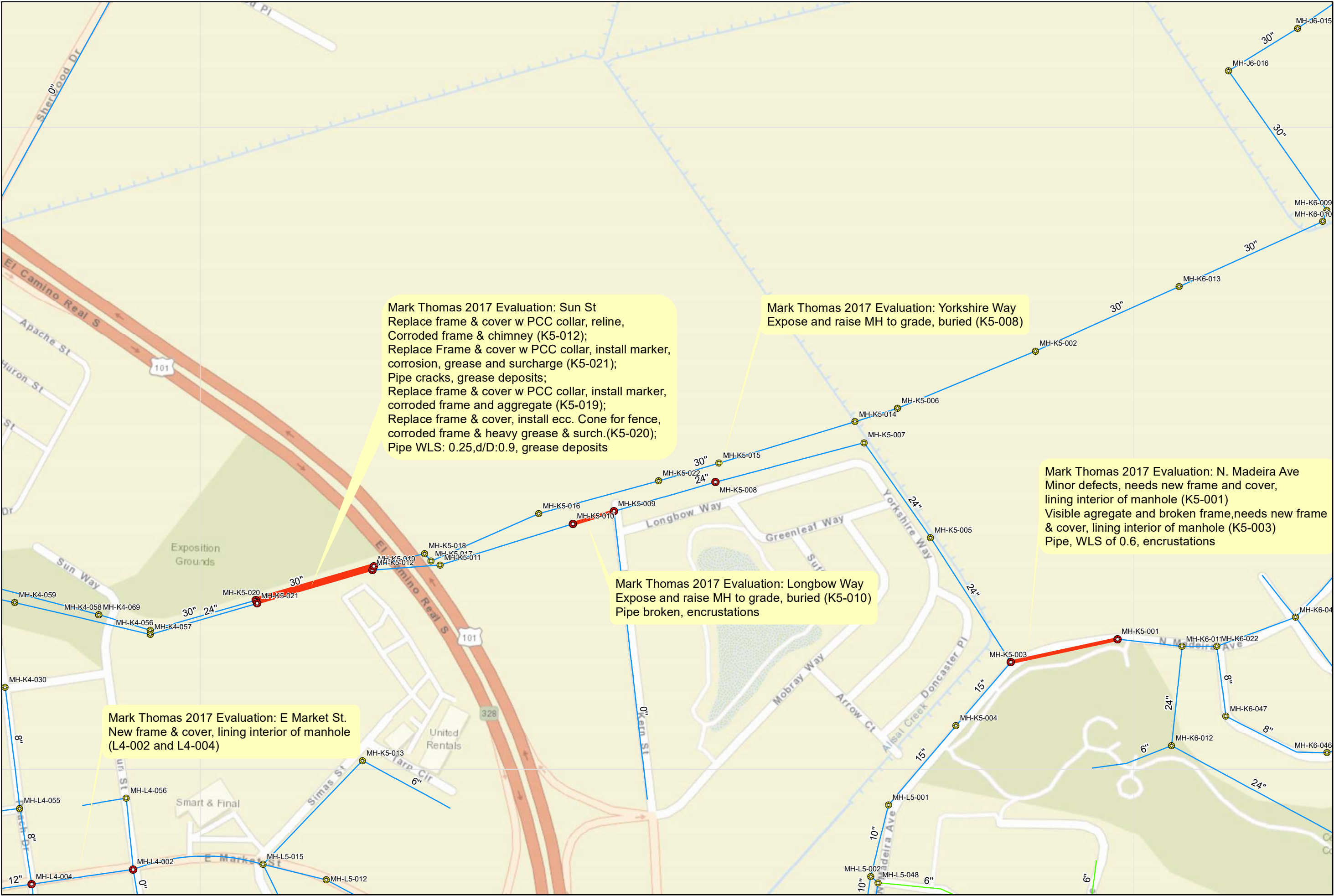
- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
K5

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



PROJECT NOTES:
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SEWER REPAIRS
ATLAS

Legend

- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
K7

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



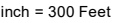
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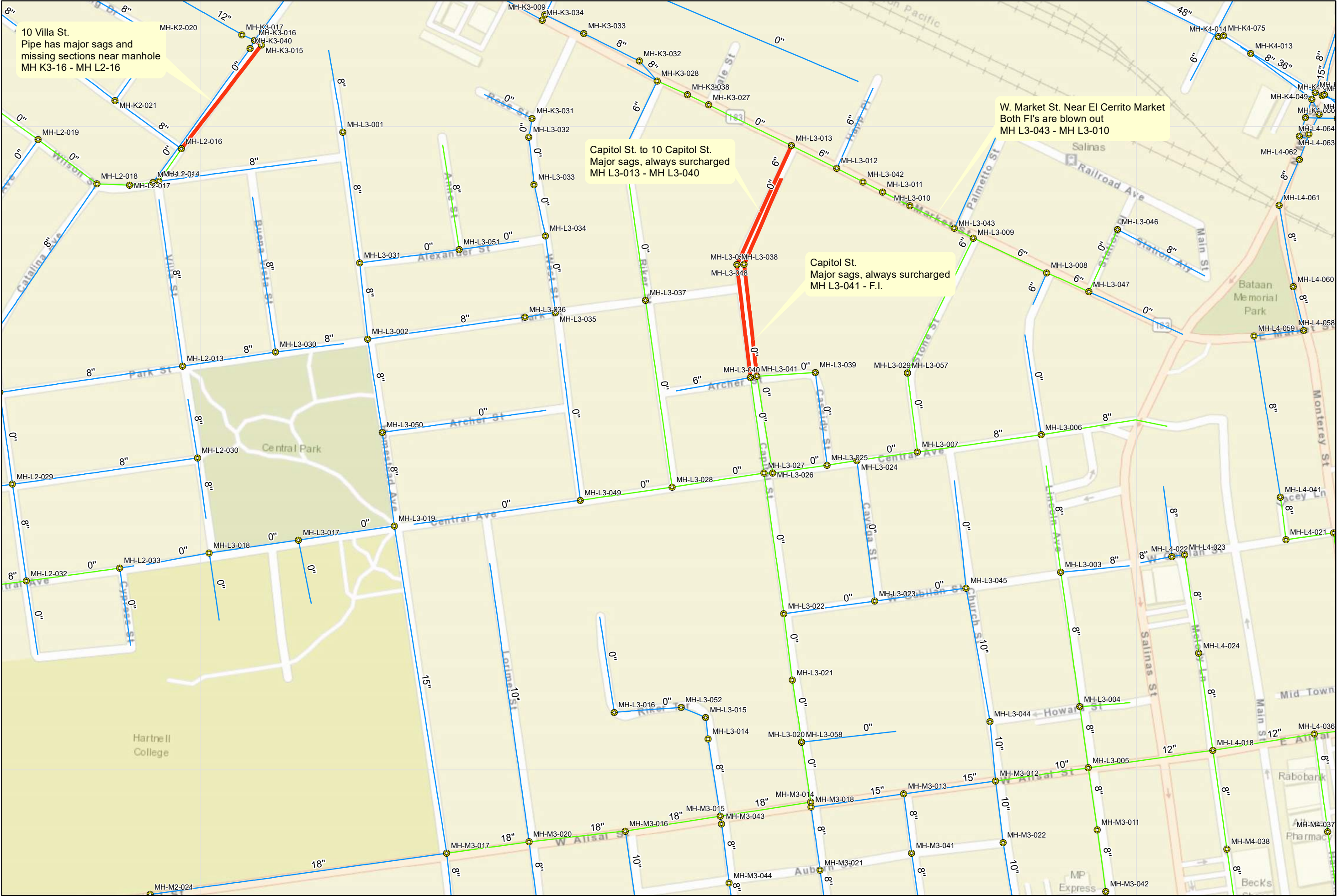


- SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

B1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B2	B3	B4	B5	B6	B7	B8	B9	B10	
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



PROJECT NOTES:
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SEWER REPAIRS ATLAS

Legend

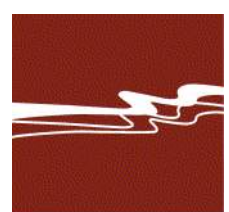
- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET: L3

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



1 inch = 300 Feet



WALLACE GROUP

PROJECT NOTES:
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SEWER REPAIRS
ATLAS

Legend

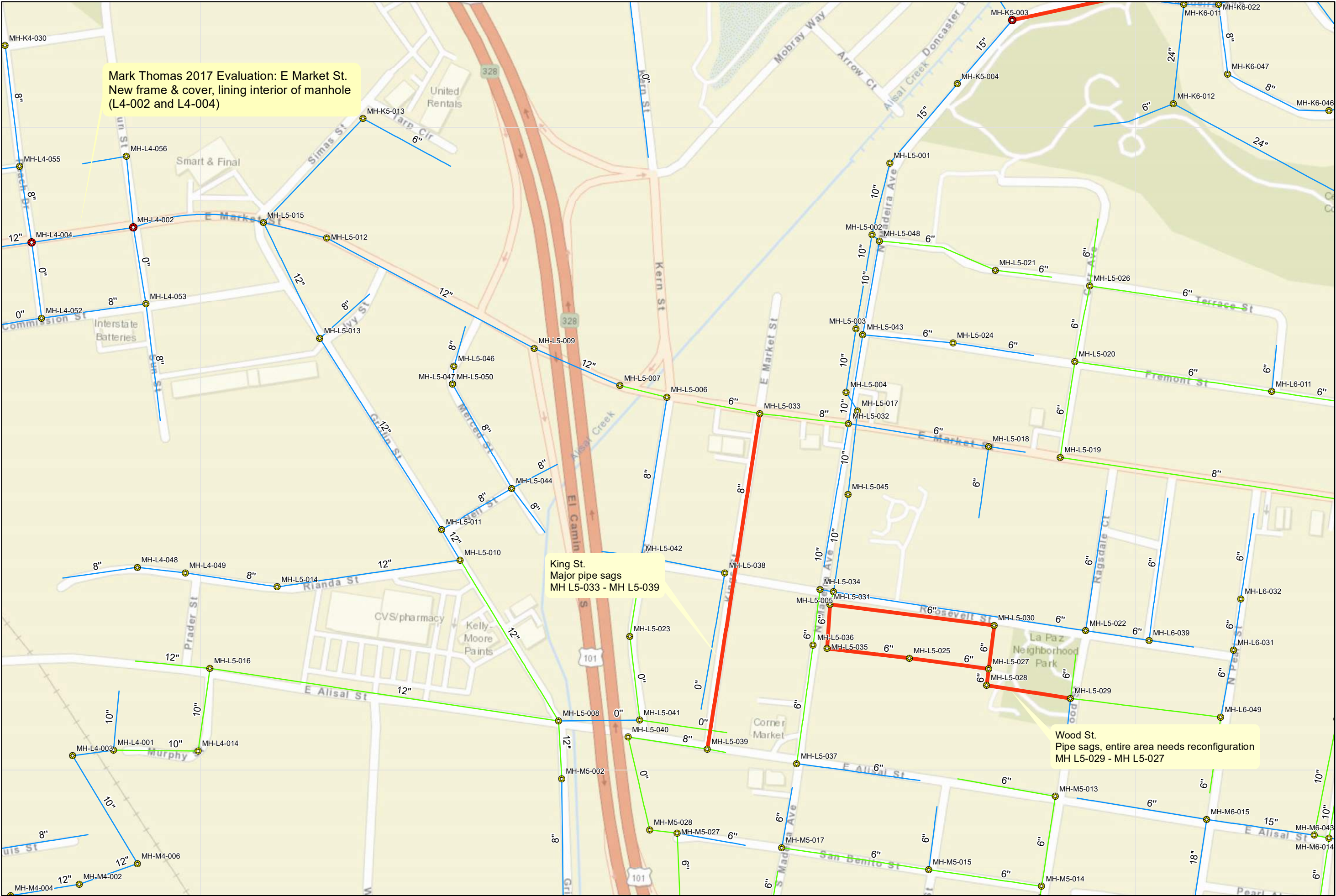
- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
L5

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



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SEWER REPAIRS
ATLAS

Legend

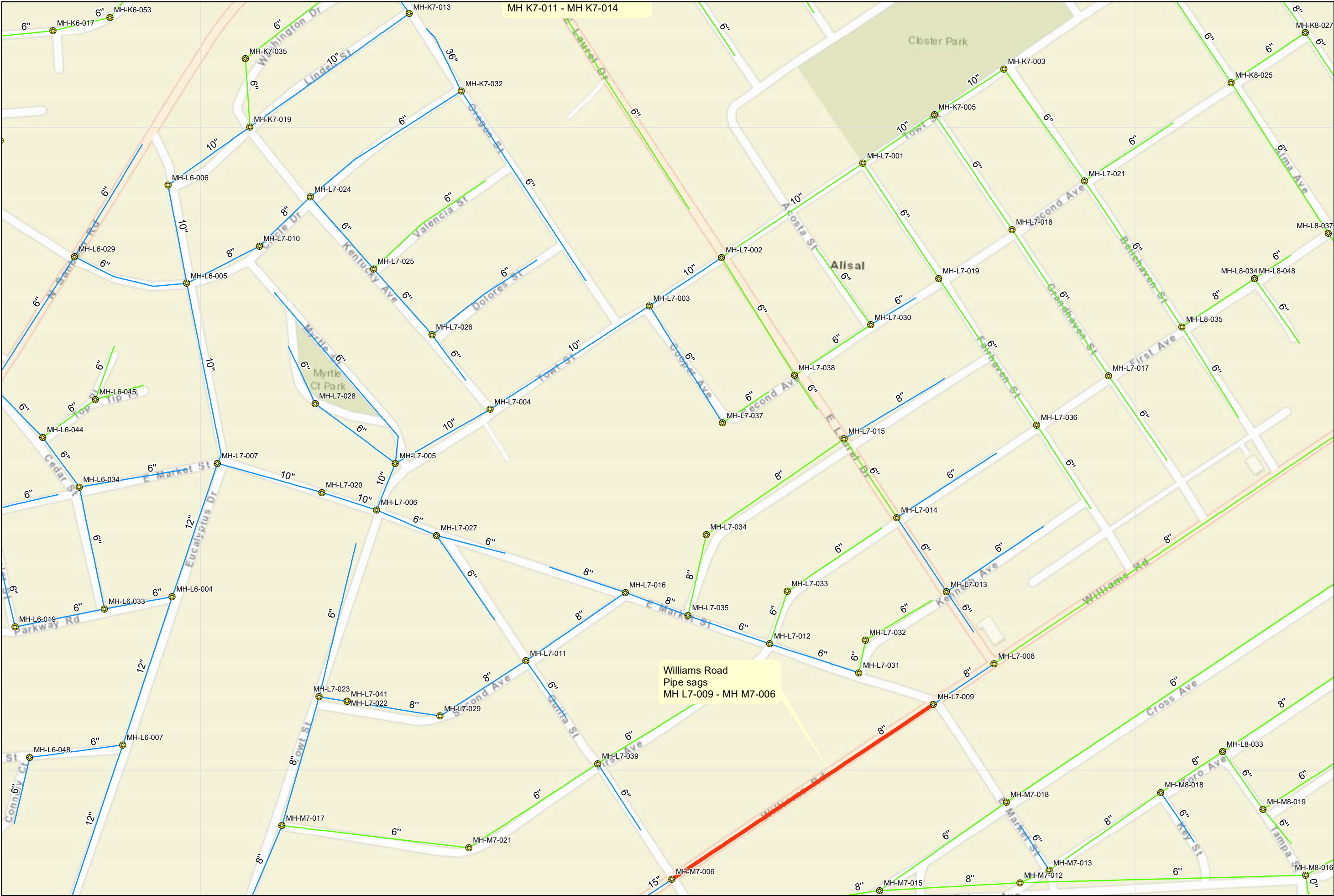
- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

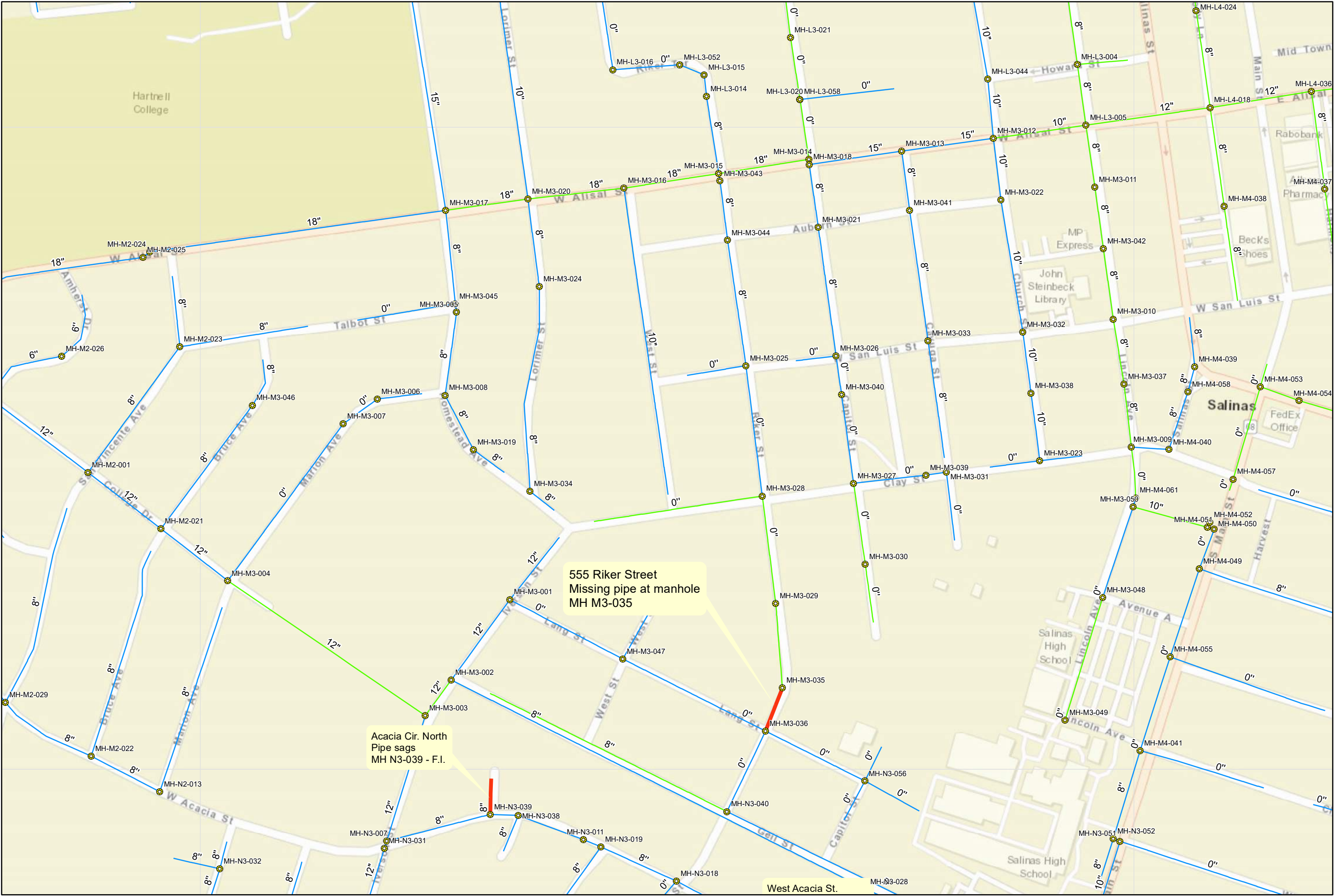
SHEET:
L7

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



PROJECT NOTES:
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SEWER REPAIRS ATLAS

Legend

- SS Lift Stations
- City Manholes
- ⊕ Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET: M3

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



1 inch = 300 Feet



WALLACE GROUP

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- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

A1	B2	A3	B4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



OBJECT NOTES:
RI BASEMAP. MAP
VELOPED FOR SANITARY
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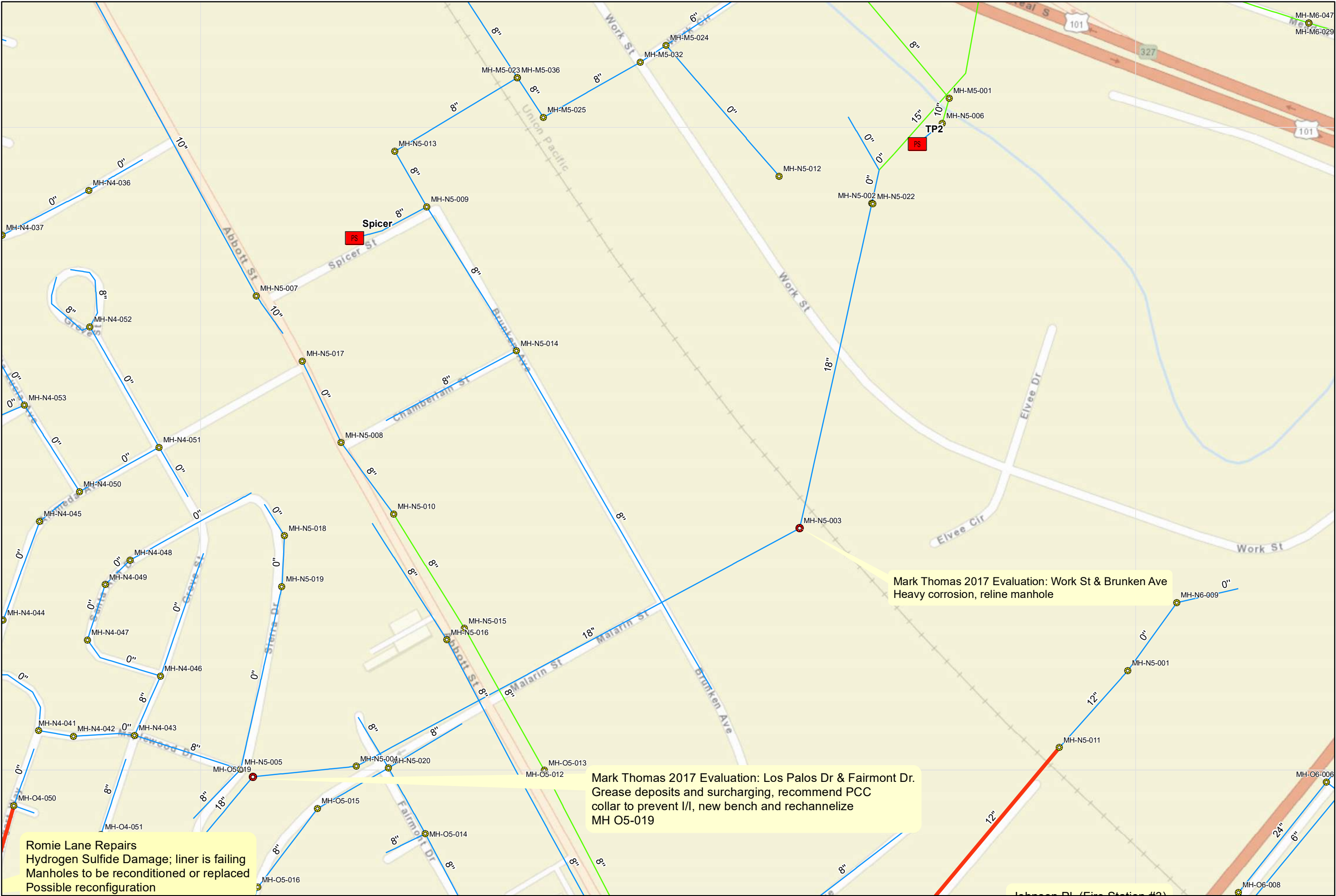


- SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

A1	B2	A3	B4	A5	A6	A7	A8	A9	A10
B1	B3	B4	B5	B6	B7	B8	B9	B10	
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



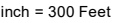
PROJECT NOTES:
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- SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

A1	B2	A3	B4	A5	A6	A7	A8	A9	A10
B1	B3	B4	B5	B6	B7	B8	B9	B10	
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10
F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10



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SEWER REPAIRS
ATLAS

Legend

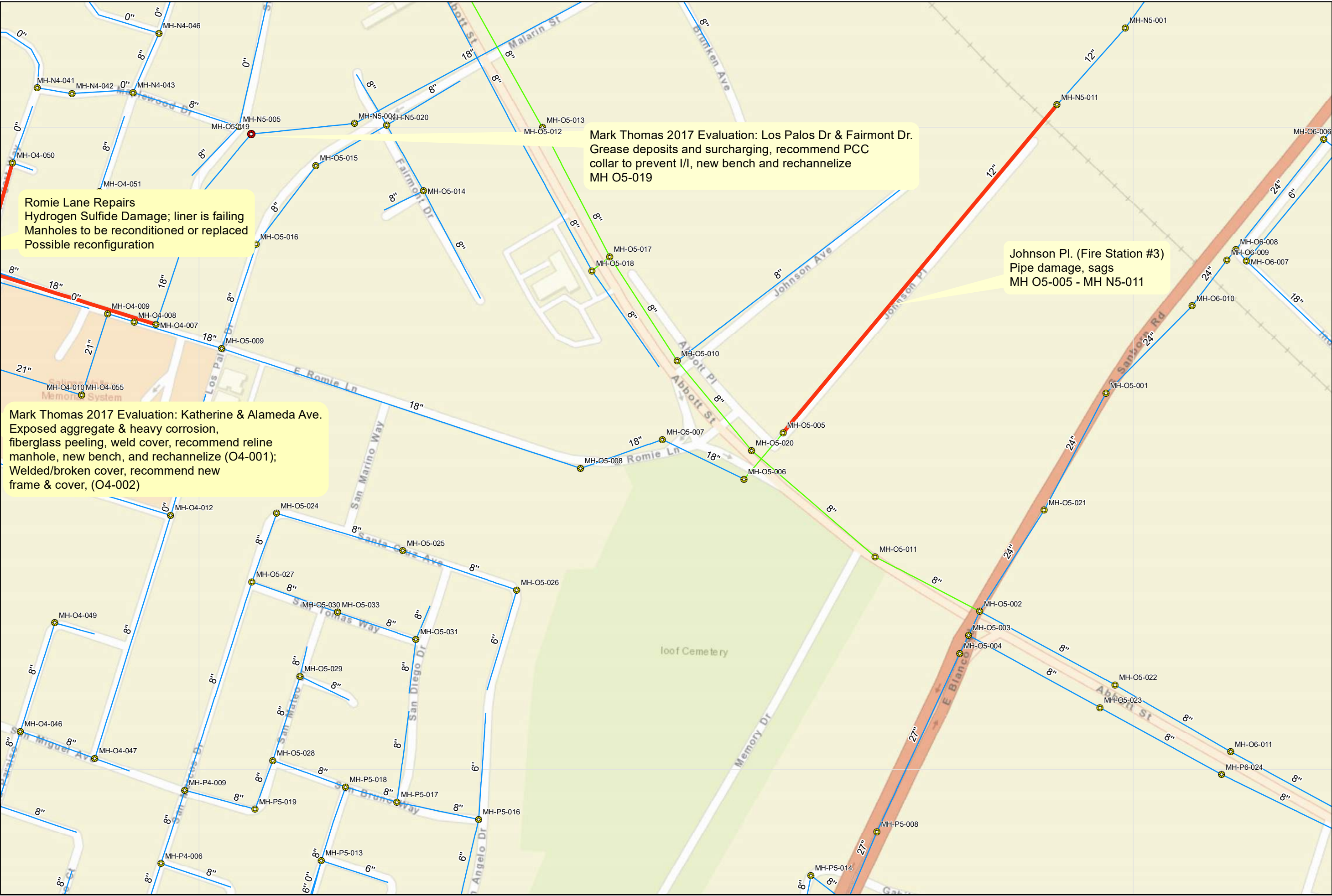
- PS SS Lift Stations
- City Manholes
- Manhole Repair
- Sewer Mains
- Sewer Repairs
- High Priority

SHEET:
O5

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
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F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
H1	H2	H3	H4	H5	H6	H7	H8	H9	H10
I1	I2	I3	I4	I5	I6	I7	I8	I9	I10
J1	J2	J3	J4	J5	J6	J7	J8	J9	J10
K1	K2	K3	K4	K5	K6	K7	K8	K9	K10
L1	L2	L3	L4	L5	L6	L7	L8	L9	L10
M1	M2	M3	M4	M5	M6	M7	M8	M9	M10
N1	N2	N3	N4	N5	N6	N7	N8	N9	N10
O1	O2	O3	O4	O5	O6	O7	O8	O9	O10
P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
R1	R2	R3	R4	R5	R6	R7	R8	R9	R10

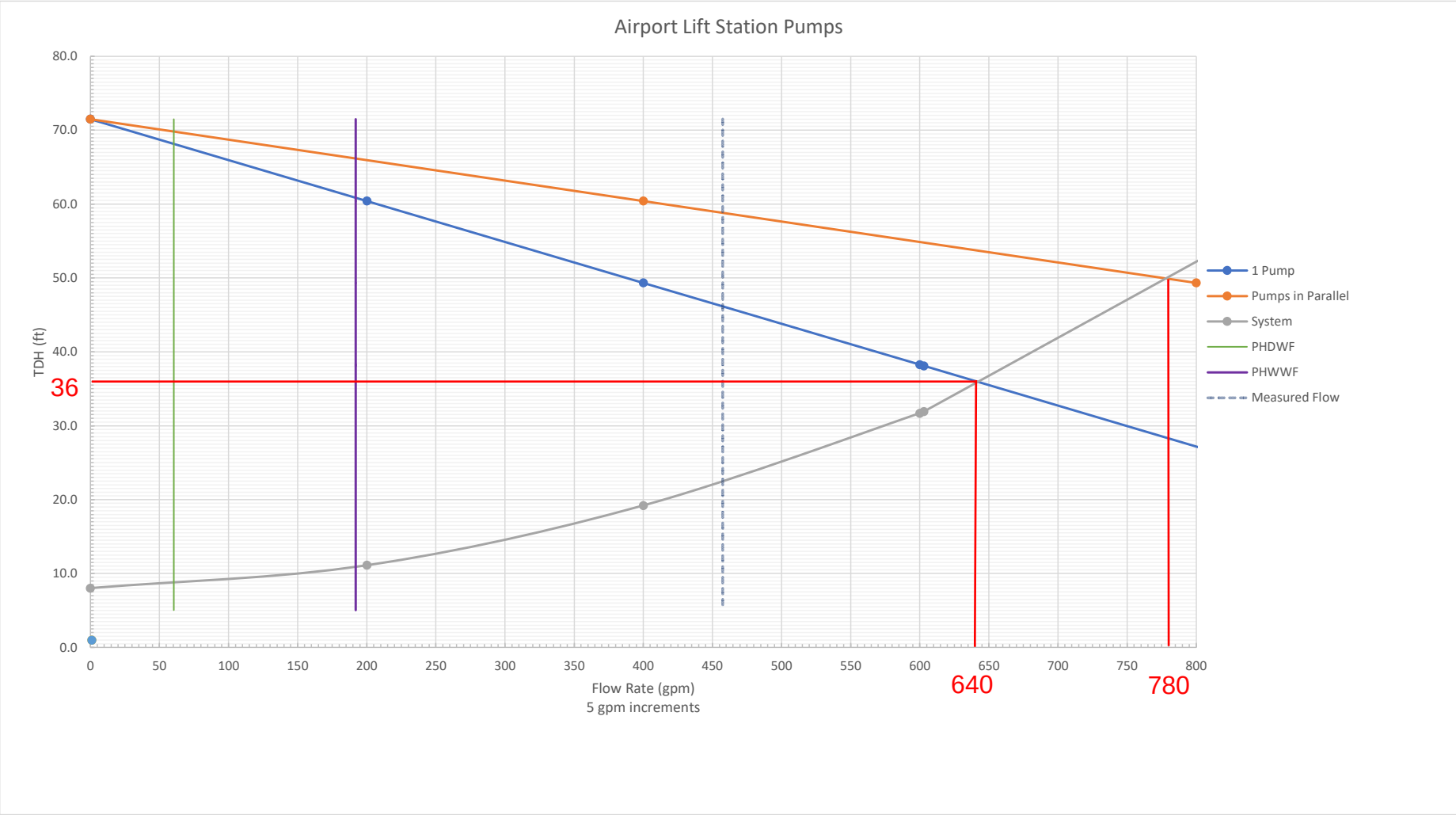


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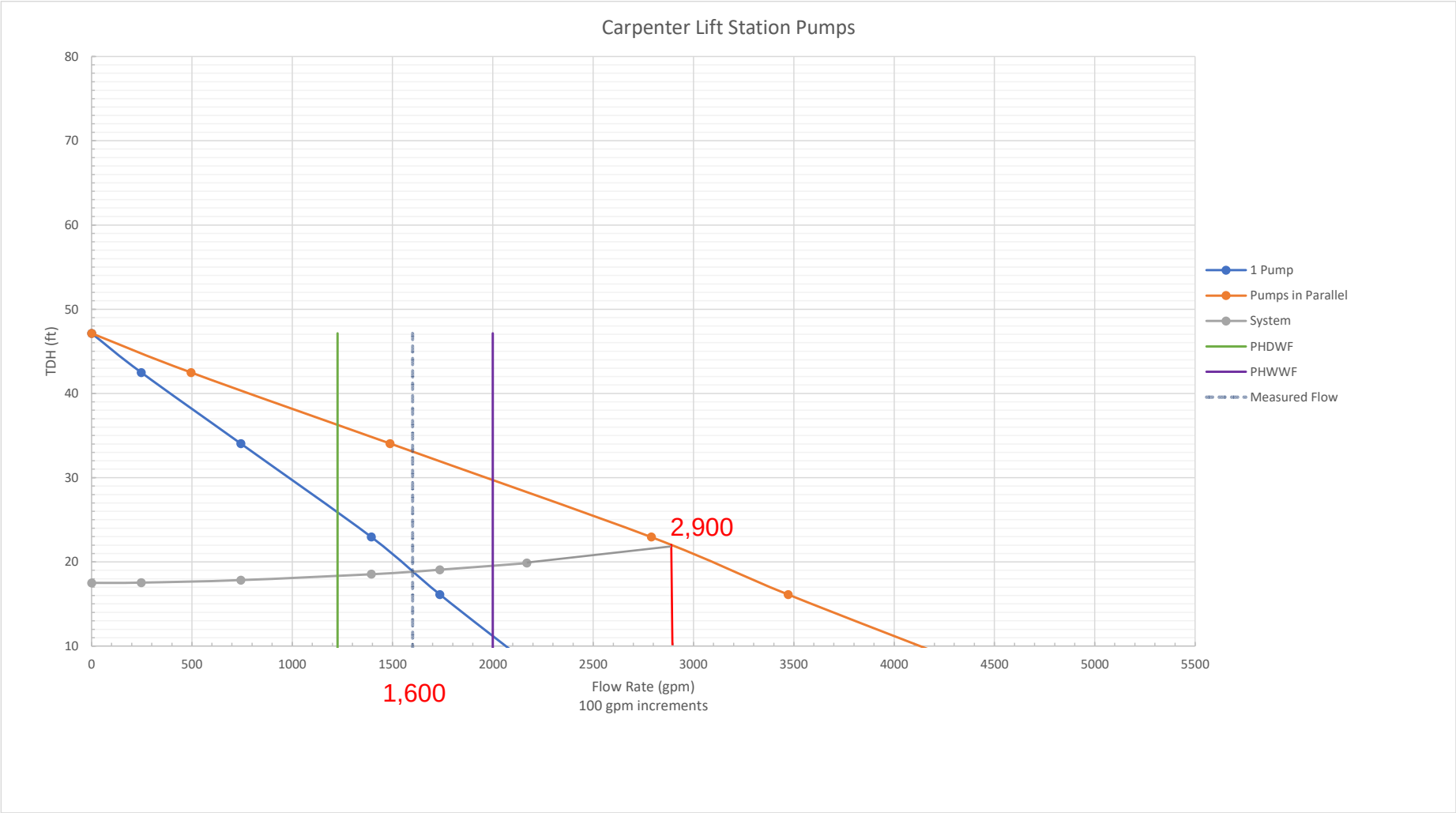


APPENDIX D: Lift Station Pump Curves

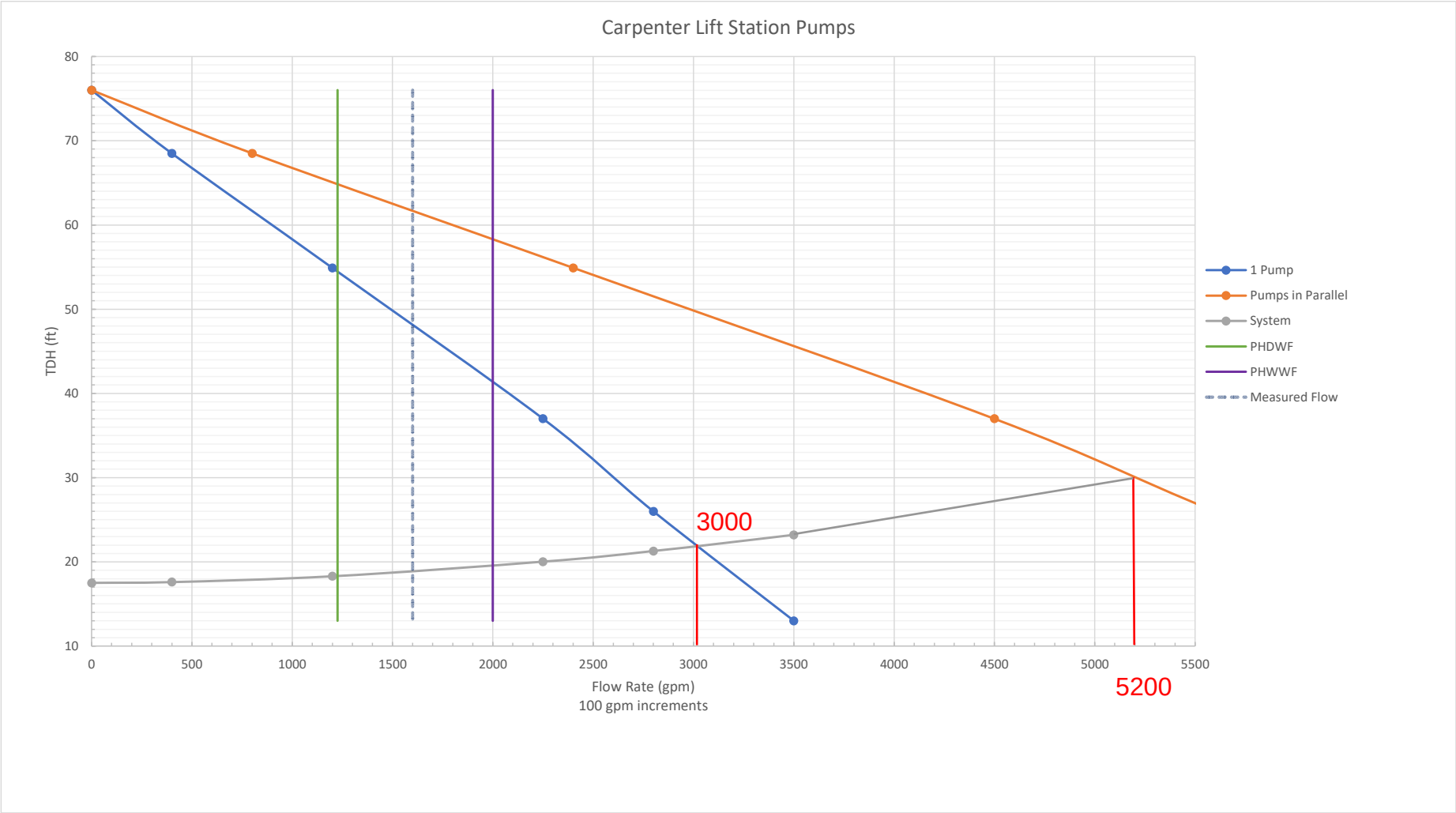
Airport LS
Salinas Sewer Master Plan



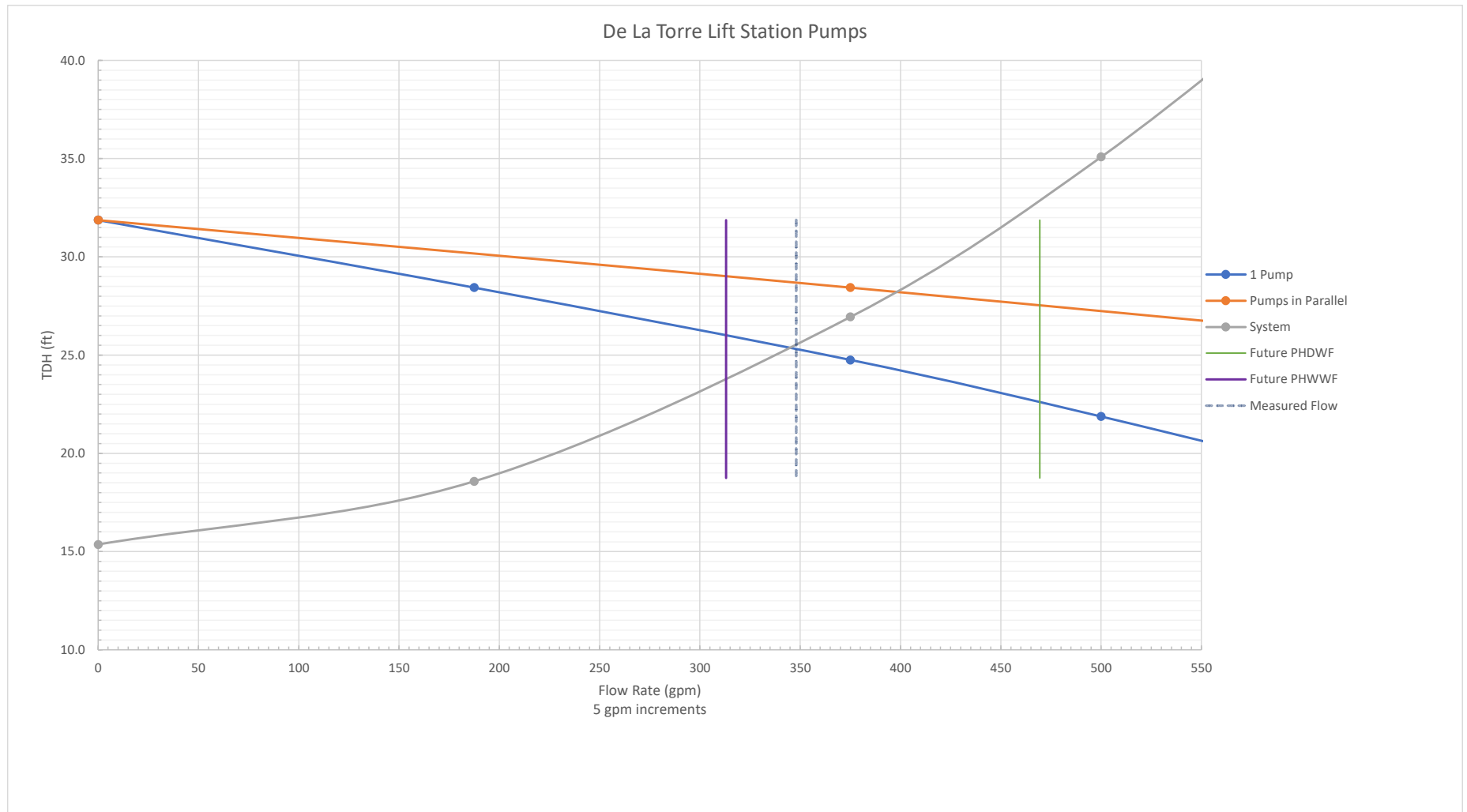
Carpenter Hall LS derated for VFD
Salinas Sewer Master Plan



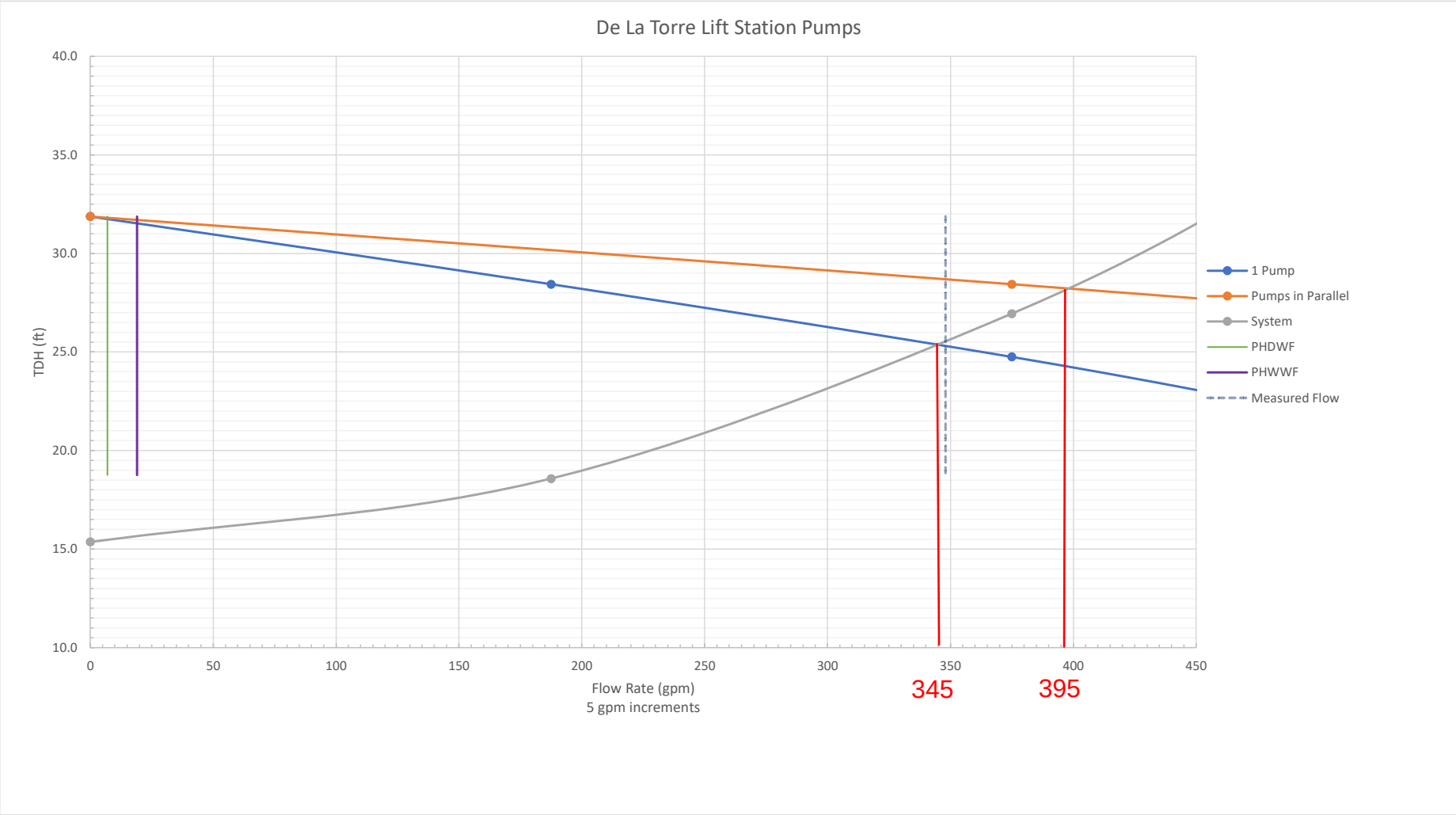
Carpenter Hall LS without VFD
Salinas Sewer Master Plan



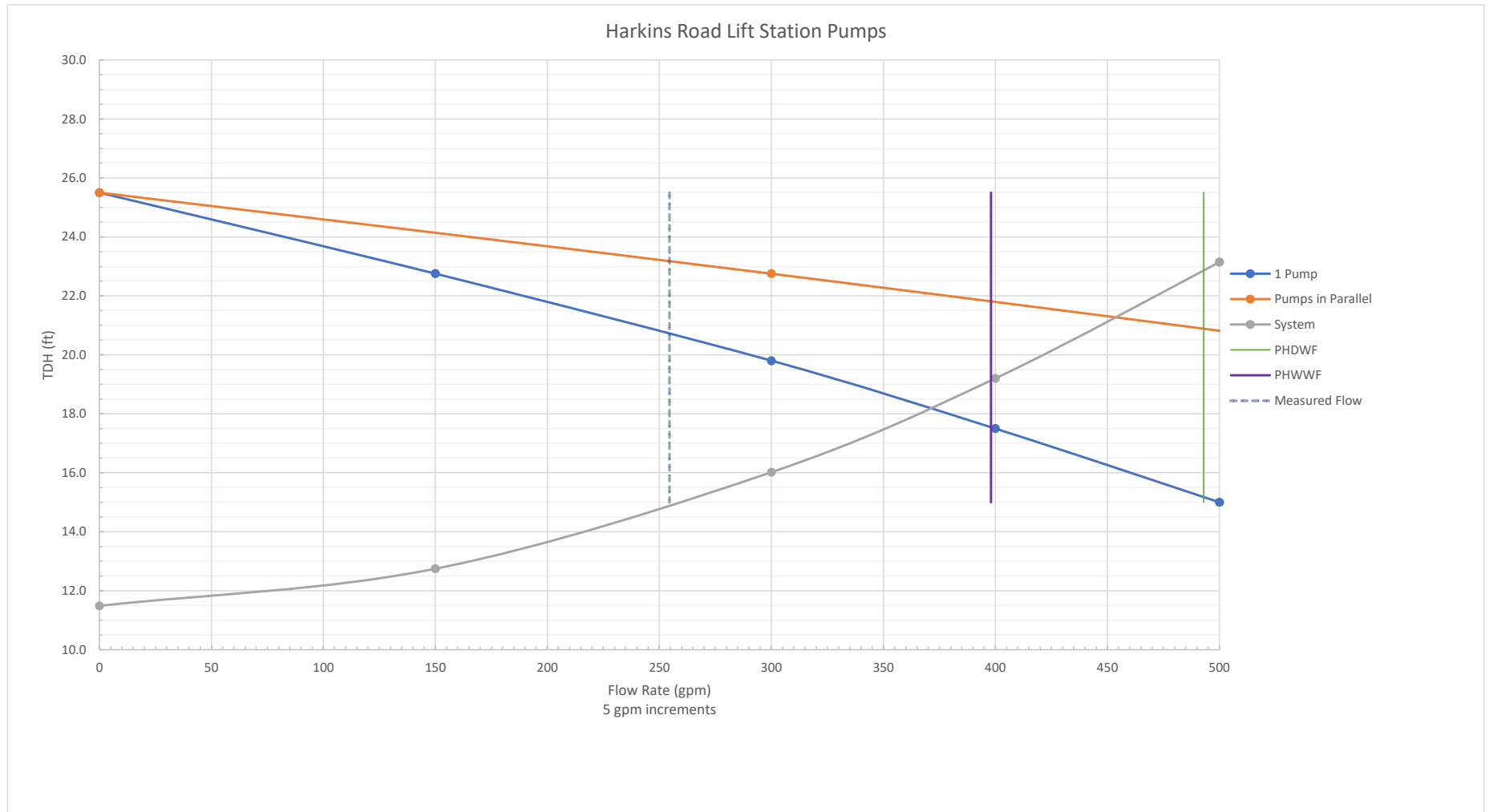
De La Torre LS - Future Flow Condition
Salinas Sewer Master Plan



De La Torre LS
Salinas Sewer Master Plan

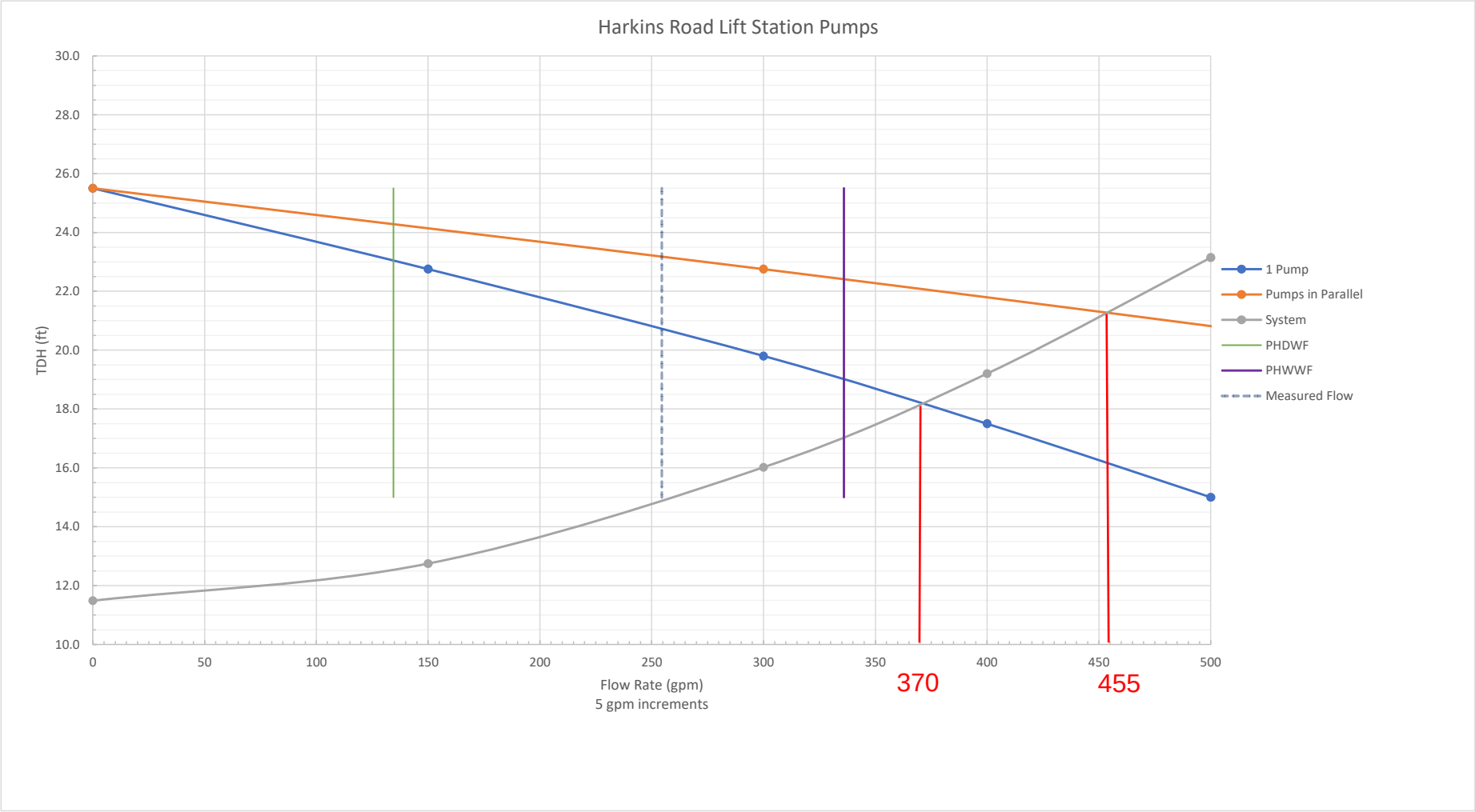


Harkins Road LS- Future Flow Condition
Salinas Sewer Master Plan

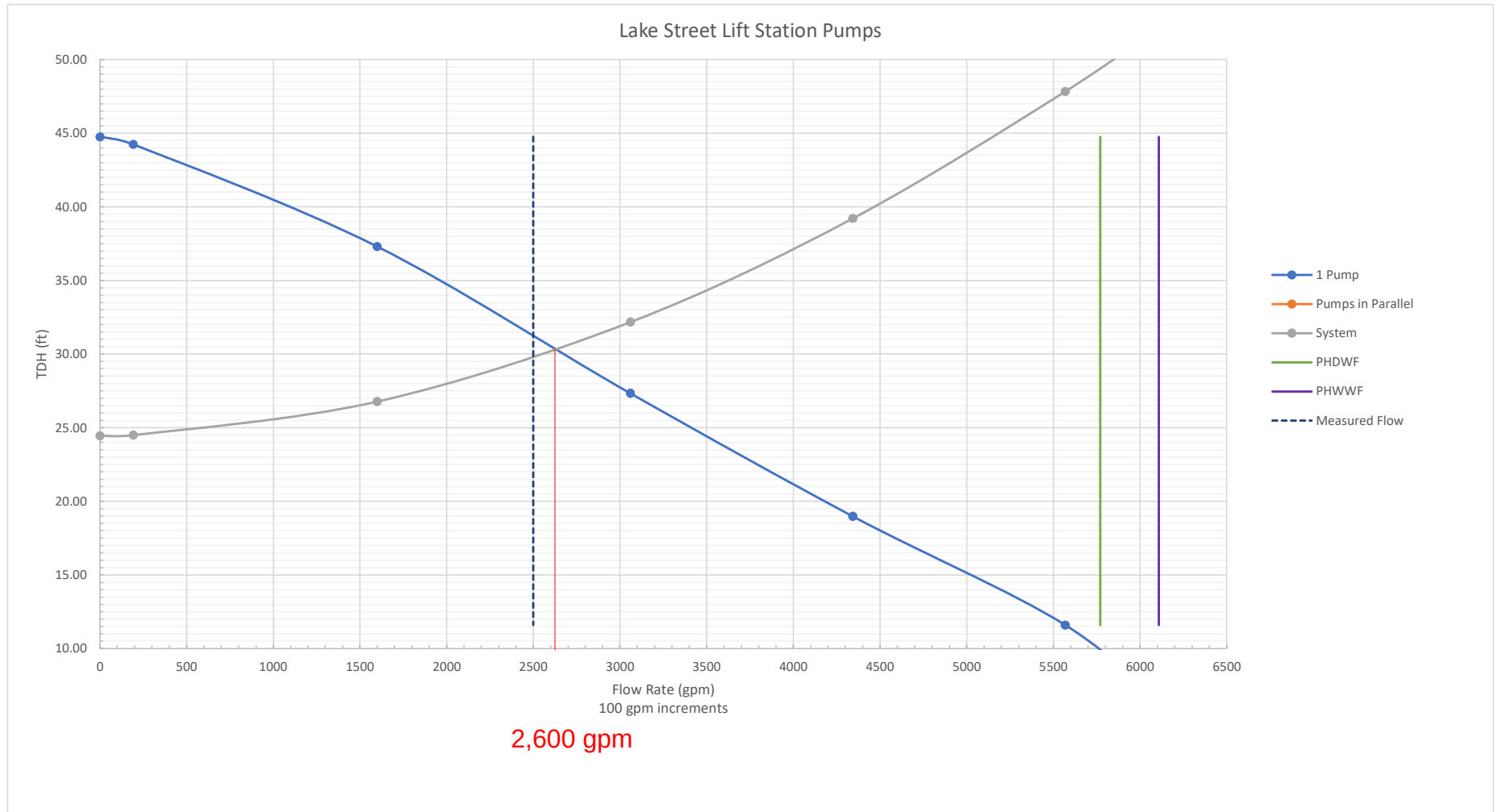


Harkins Road LS
Salinas Sewer Master Plan

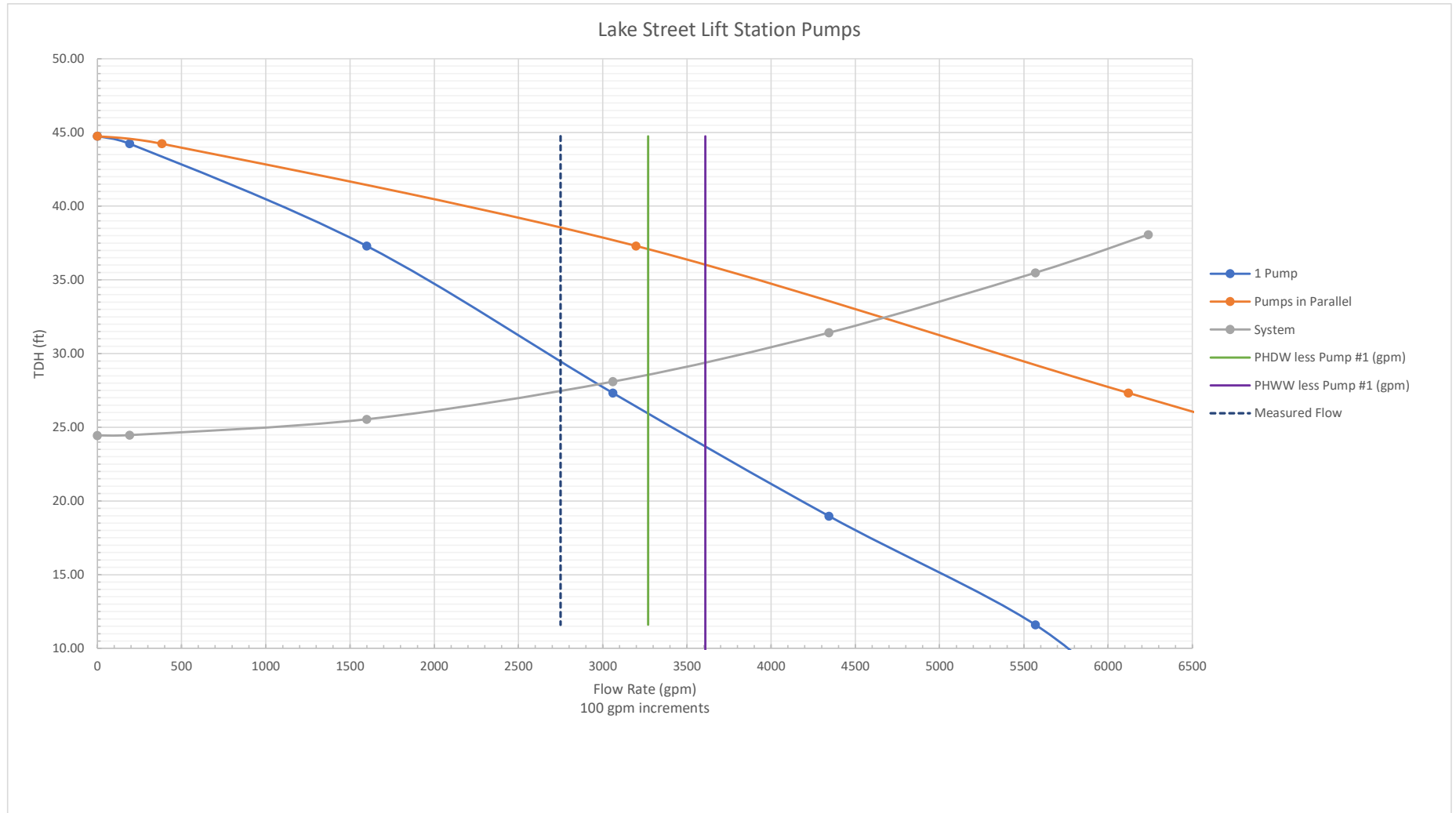
Note: the flow was measured when there were potential problems with the check valves



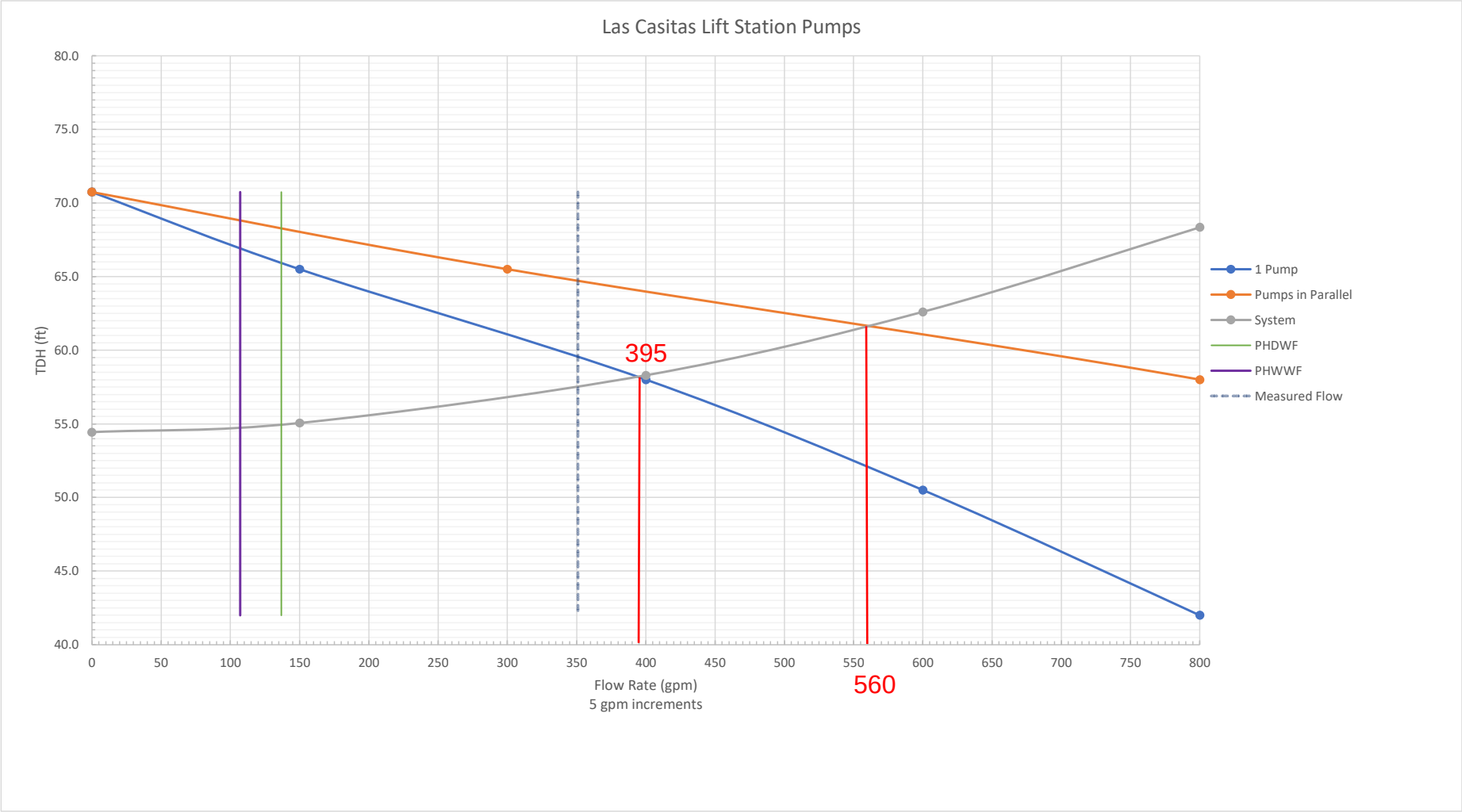
Lake St LS Pump #1 Existing Conditions
Salinas Sewer Master Plan



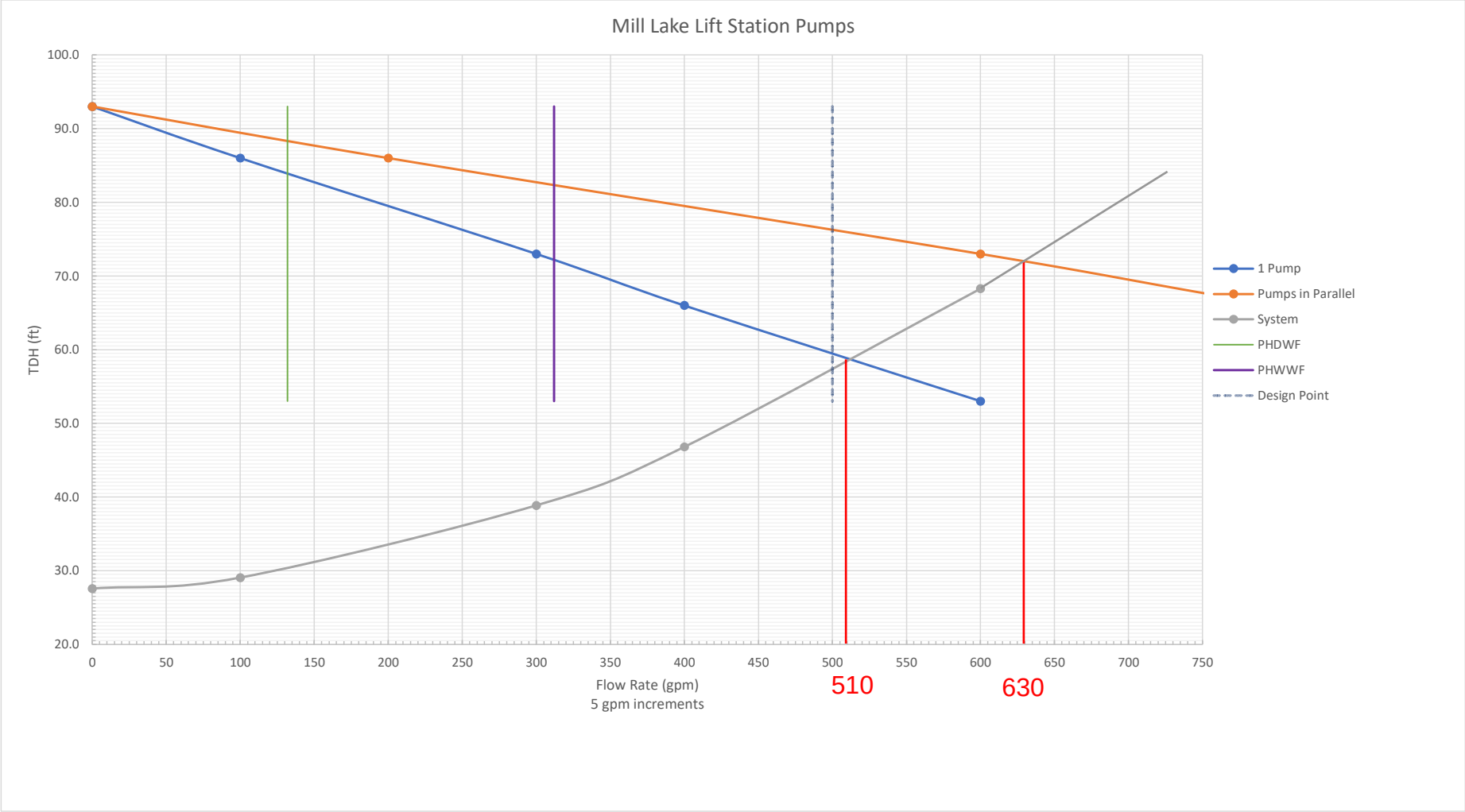
Lake Street Pumps 2 and 3 Existing Conditions
Salinas Sewer Master Plan



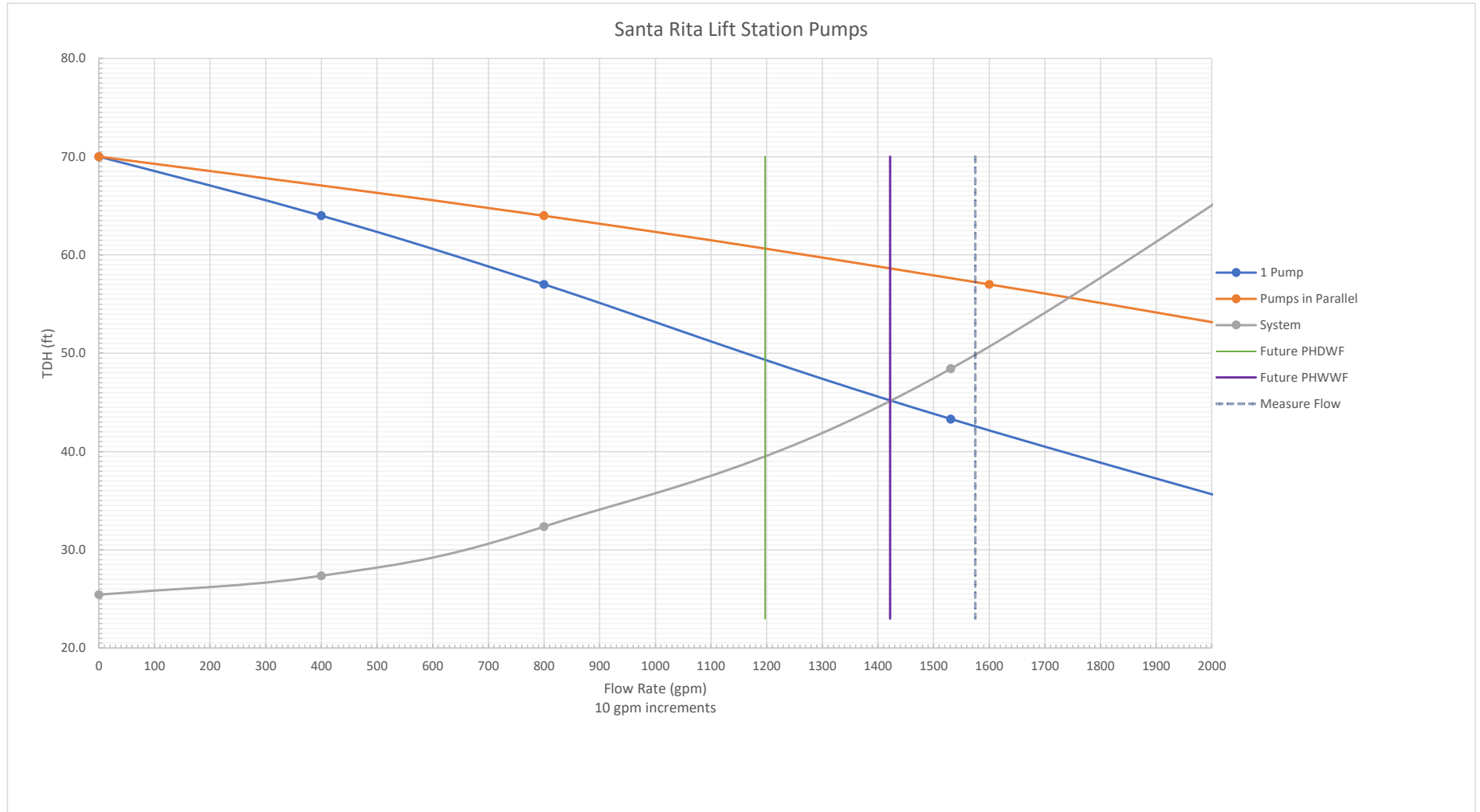
Las Casitas LS
Salinas Sewer Master Plan



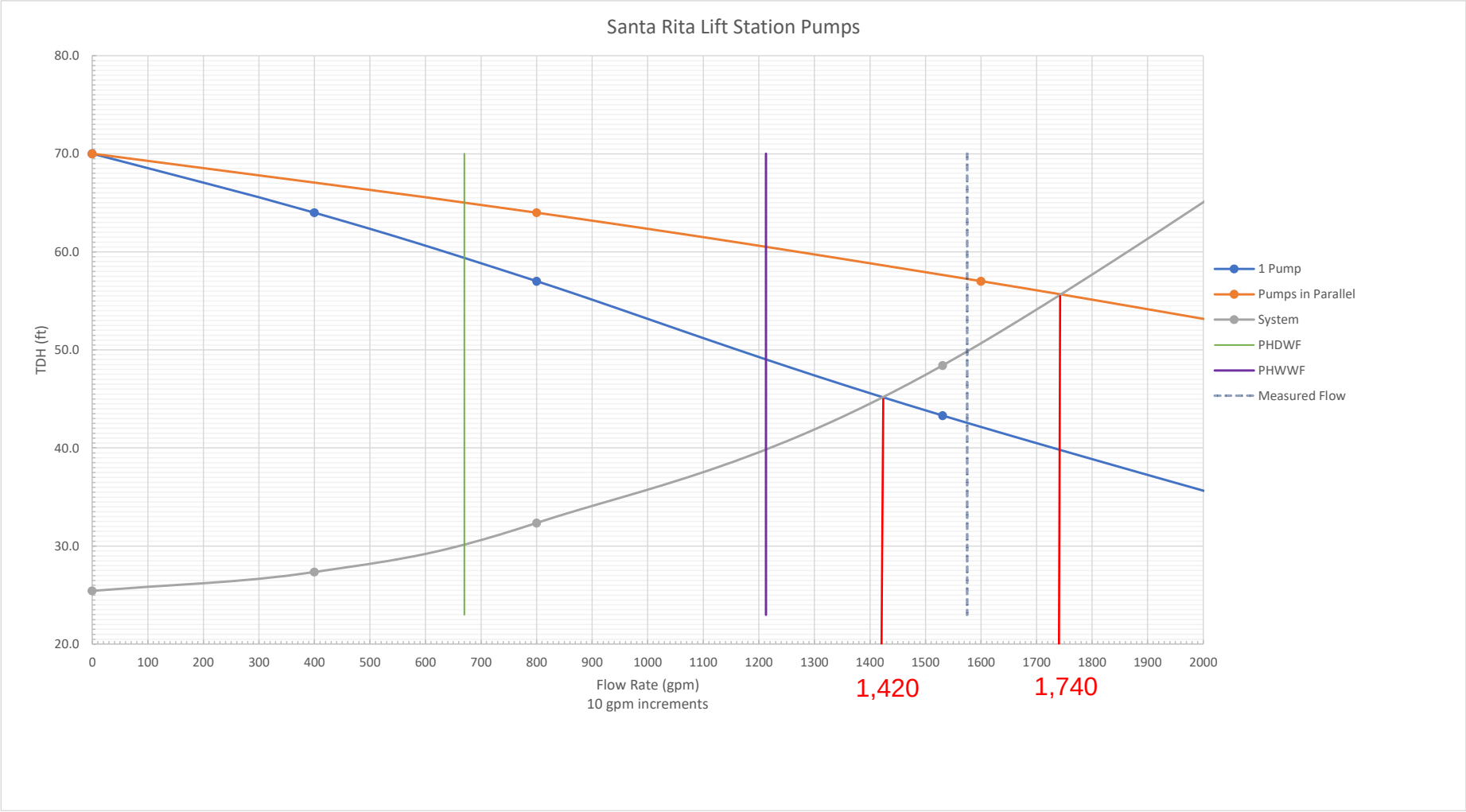
Mill Lake LS
Salinas Sewer Master Plan



Santa Rita LS - Future Condition
Salinas Sewer Master Plan



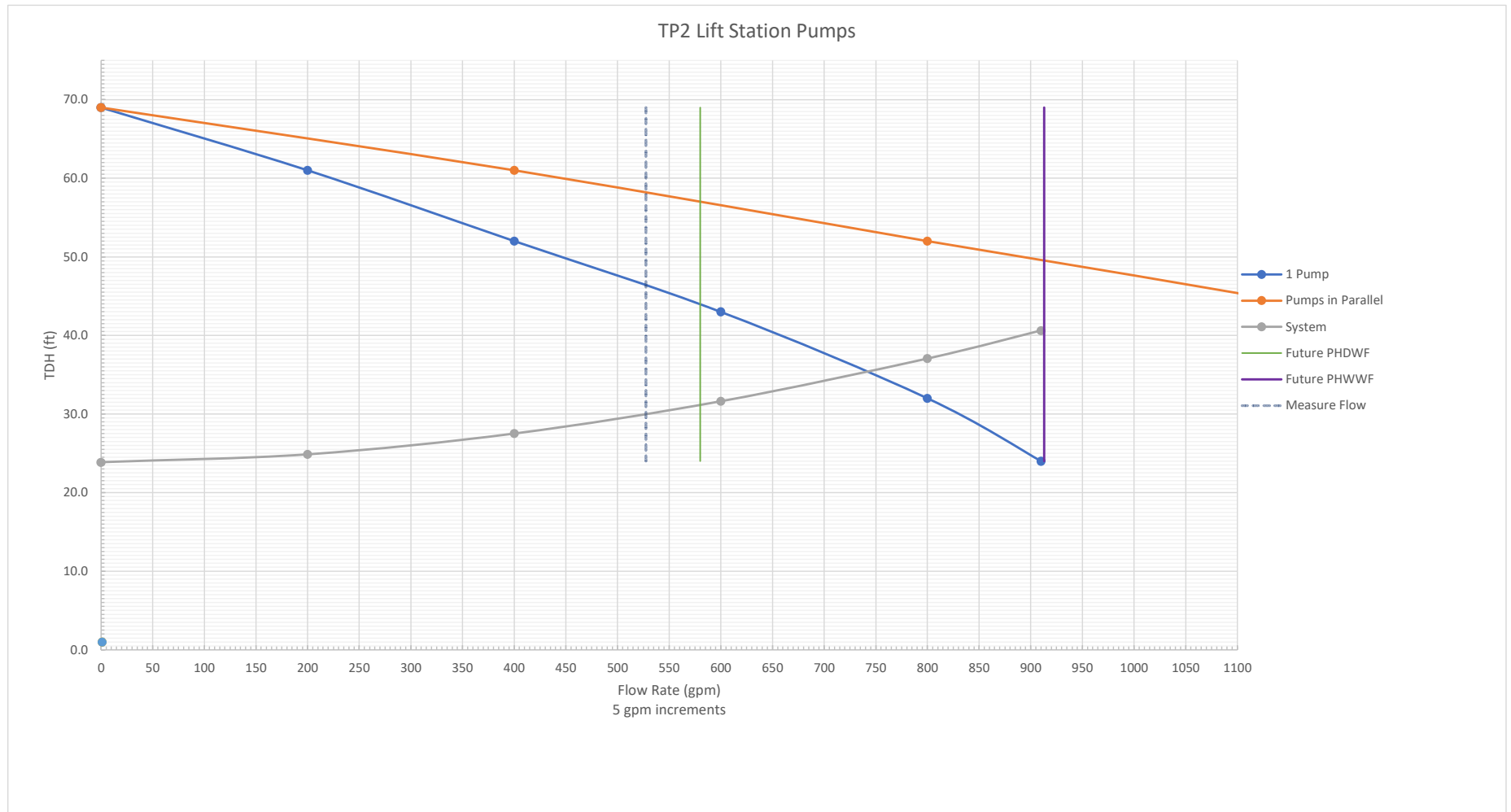
Santa Rita LS
Salinas Sewer Master Plan



Spicer LS
Salinas Sewer Master Plan



TP2 LS - Future Condition (VFD at 60 Hz max)
Salinas Sewer Master Plan



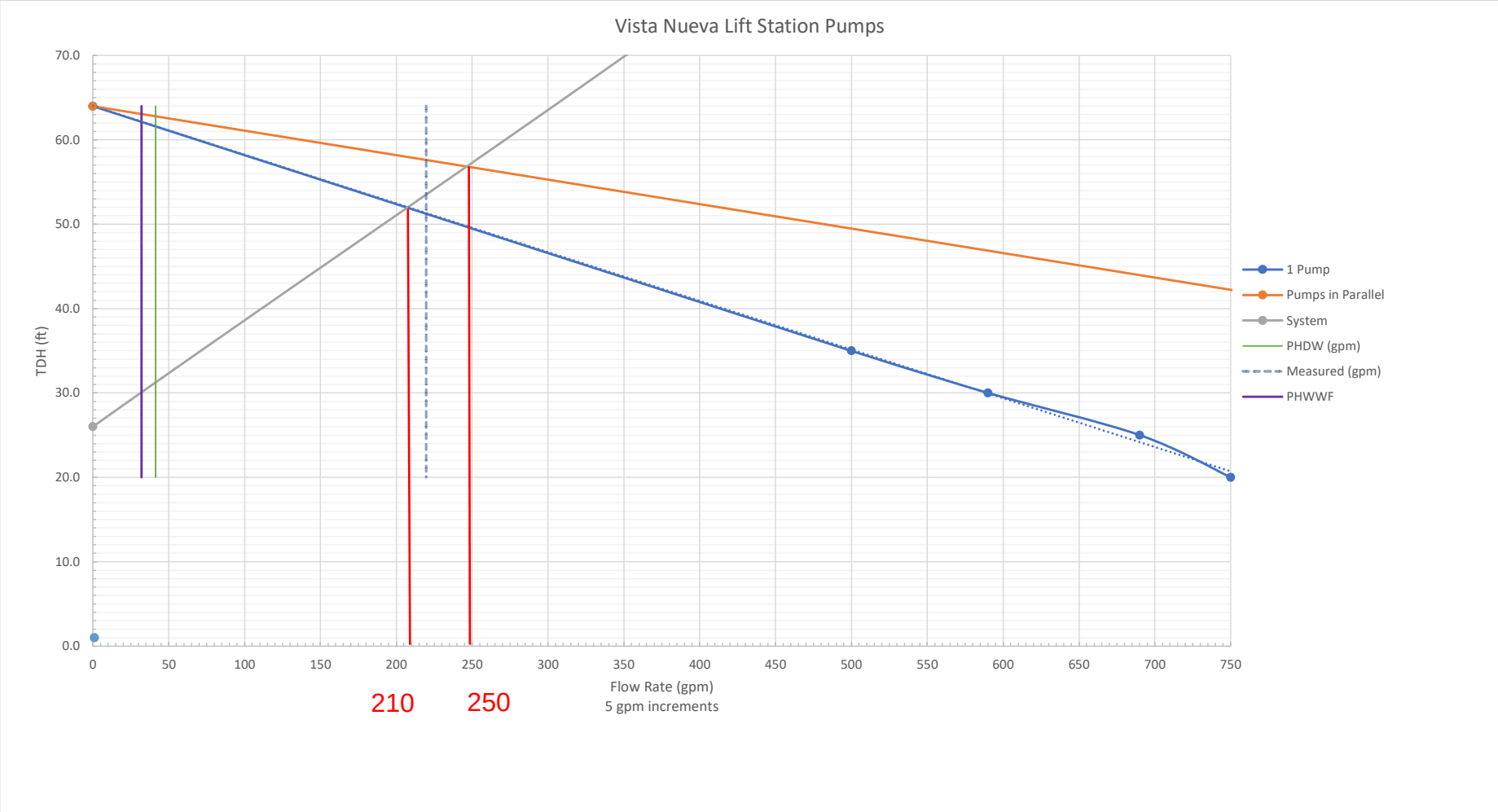
TP2 LS - Existing Conditions (VFD at 60 Hz max)
Salinas Sewer Master Plan



TP2 LS Existing Conditions (VFD at 48 Hz max)
Salinas Sewer Master Plan



Vista Nueva LS
Salinas Sewer Master Plan



APPENDIX E: FRM Lift Station Condition Assessment

Lift Station:	Airport (Moffett)	Facility ID:	
Lift Station Type	Submersible		
Number of Pumps	2		
Pump 1 Information			
Manufacturer	Flygt		
Serial/Model #	3127.090-181044		
Motor Controller/VFD	Across the line contactor		
Horse Power	10		
Phase/Voltage	3 Phase/208V		
Megohm	1.28 / 1.16 / 1.57 @1133 Volts		
Amperage (Per Leg)	35.6 / 36.1 / 35.4		
Speed	1740 RPM		
Pump Level Settings			
Impeller/Bowl	481		
Flow (GPM)	Rated: 550 Measured: 467		
Pump 1 Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor Describe in notes 		
Pump 2 Information			
Manufacturer	Flygt		
Serial/Model #	3127.090-5766		
Motor Controller/VFD	Across the line contactor		
Horse Power	10		
Phase/Voltage	Unknown/208V		
Megohm	706 / 930 / 895 @1132 Volts		
Amperage	24.6 / 25.0 / 24.4		
Speed	1740 RPM		
Pump Level Settings			
Impeller/Bowl	481		
Flow (GPM)	Rated: 550 Measured: 448		
Pump 2 Condition	☒ Good ☐ Satisfactory ☐ Operational ☐ Poor Describe in notes 		
Wet Well Information/Recommendations			
Wet Well Diameter (ft)	6'		
Wet Well Depth (ft)	15'		
Wet Well Coating	No		
Discharge Pipe Size (in)	6"		
Discharge Pipe Material	Ductile Iron		
EYS Seal-offs Installed?	No		
Check Valve?	In wet well		
Guide Rail System	Yes, needs repair		
Level Controls	Multi Trode Liquid Level Control System (Probe)		
Emergency Back Up Generator?	Yes, tested OK, also has manual transfer switch with ability to connect a portable generator.		
Bypass	Yes		
Controller/SCADA	Multi Smart/Mission Ctrl/Sensaphone		
Overall Station Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor Describe in notes 		
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure			

Lift Station:	Carpenter Hall	Facility ID:	
Lift Station Type	Smith/Loveless Dry Pit		
Number of Pumps	2		
Pump 1 Information			
Manufacturer	Smith/Loveless		
Serial/Model #	MU237600-03/10-02		
Motor Controller/VFD	VFD Altivar 660		
Horse Power	30		
Phase/Voltage	3 Phase / 230 Volt		
Megohm	292 / 299 / 286 @ 1131 Volts		
Amperage	64.9 / 67.2 / 64.2		
Speed	1175 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	1600 GPM est.		
Pump 1 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor Describe in notes 		
The flow meter for pump 1 is not reading correctly and needs to be calibrated. Ops stated that pump 1 sometimes has higher hours on it when compared to pump 2, pump and piping/check valve has been inspected with no obvious conclusion. Grease is coming out of the seal on the bottom of the motor. Amp readings are substantially lower when compared to Pump 2 and the motor plate rating. Hour Meter: 25,894.2 Lead on @ 5.6' Off @ 2.0' Lag on @ 6.0' Off @ 2.0' High Level Alarm: 8.0' Low Level Alarm: 1.0'			
Pump 2 Information			
Manufacturer	Smith/Loveless		
Serial/Model #	MU237600-03/10-01		
Motor Controller/VFD	VFD Altivar 660		
Horse Power	30		
Phase/Voltage	3 Phase / 230 Volt		
Megohm	188 / 164 / 160 @ 1134 Volts		
Amperage	75.6 / 71.3 / 72.1		
Speed	1175		
Pump Level Settings			
Impeller/Bowl			
Flow	1600 GPM		
Pump 2 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor Describe in notes 		
Pump has leak at mechanical seal. Suction side piping/penetration from wet well into dry well is in poor condition and needs to be evaluated for repairs.			
Wet Well Information/Recommendations			
Wet Well Diameter (ft)	7'		
Wet Well Depth (ft)	30'		
Wet Well Coating	Peeling		
Discharge Pipe Size (in)	10"		
Discharge Pipe Material	Ductile Iron		
EYS Seal-offs Installed?	Yes		
Check Valve?	Satisfactory		
Guide Rail System	N/A Hoist on-site for pumps		
Level Controls	Digi Gage Plus w/transducer		
Emergency Back Up Generator?	Yes, generator and transfer switch tested OK.		
Bypass	NO		
Controller/SCADA	Digi Gage Plus/Mission Ctrl/Sensaphone		
Overall Station Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor Describe in notes 		
1) Wet well access lid is bent, recommend repair/replacement 2) Electrical cabinets are not labeled with line voltage, recommend labeling 3) Wet well coating is peeling at grout lines, recommend re-coating 4) The Endress & Hauser flow meter for pump 1 is not reading accurately, recommend calibration 5) The suction side piping/penetration into the wet well for Pump 2 needs to be evaluated and repaired. 6) The grease seal for Pump 1 is damaged and the mechanical seal for Pump 2 is leaking, recommend repairing both. 7) Recommend installing disconnect switches for each pump at the bottom of the dry pit. 8) Recommend water connection for wash down. 9) Generator has recently required extensive repairs, recommend further evaluation to determine overall condition of the generator.			
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure			

Lift Station:	De La Torre		Facility ID:	
Lift Station Type	Smith/Loveless Dry Pit			
Number of Pumps	2			
Pump 1 Information				
Manufacturer	Smith/Loveless		Megohms on pump are low but amp readings are acceptable based on motor plate data. Measured flow was 342 GPM Lead on @ 3.5' Lead off @ 1.7' Lag on @ 3.8' Lag off @ 1.7' High level alarm: 5.5' Low level alarm: 0.8'	
Serial/Model #	6412746			
Motor Controller/VFD	Across the line contactor			
Horse Power	5			
Phase/Voltage	3 Phase / 240V			
Megohm	3.41 / 3.76 / 3.81 @ 1128 Volts			
Amperage	14.5 / 14.6 / 13.7			
Speed	1165 RPM			
Pump Level Settings				
Impeller/Bowl				
Flow	Rated 200 GPM @ 37' Head			
Pump 1 Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor		Describe in notes 	
Pump 2 Information				
Manufacturer	Smith/Loveless		Mechanical seal needs to be replaced, megohms are slightly higher than Pump 1. Measured flow was 354 GPM.	
Serial/Model #	6412763			
Motor Controller/VFD	Across the line contactor			
Horse Power	5			
Phase/Voltage	3 Phase / 240V			
Megohm	24.03/23.78/24.05 @ 1130 Volts			
Amperage	13.4 / 13.0 / 13.3			
Speed	1165 RPM			
Pump Level Settings				
Impeller/Bowl				
Flow	Rated 200 GPM @ 37' Head			
Pump 2 Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor		Describe in notes 	
Wet Well Information/Recommendations				
Wet Well Diameter (ft)	4'		1) Recommend replacing inlet and discharge isolation valves. 2) Check valve arms are not functioning, recommend repair or replacement. 3) Recommend either moving the main panel/meter closer to the station or installing fencing at the current location to protect against vandalism. Also, recommend installing fencing to protect the dry well. 4) Motor contactors look to be original, there are open knockouts on the control panel, breaker disconnects are broken and overload reset push buttons are missing, control panel cover can be removed while controls are still energized. Recommend new control panel mounted above ground. 5) Pump motors are showing low megohms, recommend replacing complete pump and motor with more efficient model and having a complete motor/pump as a back up. 6) Station is set up for portable generator, recommend installing a permanent back-up generator and automatic transfer switch. 7) Recommend on-site water for wash down 8) Coating on the dry pit floor is peeling, recommend re-coating 9) Influent flow was calculated at 15 GPM, pumps only run for 1 minute each cycle. Recommend evaluating current inflow and sourcing pumps that are more representative of actual flows. 10) Wet well is not coated and showing exposed aggregate, recommend coating wet well. 11) Recommend installing a system to bypass wet well. 12) Debris is stuck in the wye located on the discharge side of the check valves, recommend removing wye and cleaning out debris. 13) Recommend upgrading Micro-Mac control system. 14) Recommend investigating rated flow compared to actual flow.	
Wet Well Depth (ft)	14.5'			
Wet Well Coating	No			
Discharge Pipe Size (in)	4" into 6" F.M.			
Discharge Pipe Material	Ductile Iron			
EYS Seal-offs Installed?	N/A			
Check Valve?	Need Repair/Replace			
Guide Rail System	N/A			
Level Controls	Micro-Mac 2300 #Mo28814 (Bubbler)			
Emergency Back Up Generator?	No, manual transfer switch and connector installed for portable generator			
Bypass	No			
Controller/SCADA	Mission Ctrl/Sensaphone			
Overall Station Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor			
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure				

Lift Station:	Harkins Road	Facility ID:	
Lift Station Type	Smith/Loveless Dry Pit		
Number of Pumps	2		
Pump 1 Information			
Manufacturer	Smith/Loveless	Amps are lower when compared to Pump 2 and the motor plate data. The check valve makes a loud noise when the pump turns off. The city has new isolation valves/check valves and will install as time permits. Hours: 14741.5 Lead on @ 4.0' Lead off @ 2.0' Lag on @ 4.3' Lag off @ 2.0' High alarm: 5.0' Low Level Alarm: 1.0' Measured flow: 228 GPM	
Serial/Model #	66N40657		
Motor Controller/VFD	Across the line contactor		
Horse Power	5		
Phase/Voltage	3 Phase / 240		
Megohm	567 / 590 / 560 @ 1133 Volts		
Amperage	13.7 / 13.8 / 13.3		
Speed	870 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated 350 GPM @ 18' Head		
Pump 1 Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor	Describe in notes 	
Pump 2 Information			
Manufacturer	Smith/Loveless	Check valve arm does not move when running or shutting down. Hours: 14506.6 Measured flow: 281 GPM	
Serial/Model #	66N40658		
Motor Controller/VFD	Across the line contactor		
Horse Power	5		
Phase/Voltage	Unknown/240		
Megohm	421 / 442 / 427 @ 1133 Volts		
Amperage	15.5 / 16.2 / 15.5		
Speed	870 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated 350 GPM @ 18' Head		
Pump 2 Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor	Describe in notes 	
Wet Well Information/Recommendations			
Wet Well Diameter (ft)	4'	1) High inflow and infiltration into station, recommend finding the source. 2) Recommend evaluating pump and motor efficiency, if replacing pumps/motors order three complete pumps and motors, this will allow for a complete spare. 3) There is a connection to hook up a portable generator but there is no transfer switch, the generator is tied into the load side of the main breaker in the dry well, the danger of backfeeding generator power to the utility side is possible and a safety issue. Highly recommend installing a transfer switch ASAP. Recommend a permanent back up generator. 4) Recommend replacing isolation and check valves 5) There is a leak in the 6" force main downstream of the wye, recommend repairing. 6) Recommend labeling control panel with line voltage 7) Recommend installing fencing around lift station 8) The control panel breaker disconnects are broken and the panel cover can be removed while it is still energized. The overload reset buttons for the contactors do not work with the new contactors. Recommend installing new control panel above ground. 9) Recommend finding a source of water for wash down purposes. 10) Bypass is accomplished using manholes, recommend installing bypass system. 11) Recommend upgrading Micro-Mac system. 12) Spare parts consist of a motor and a contactor, recommend having one complete pump/motor assembly on hand. Influent flow was calculated at 38 GPM.	
Wet Well Depth (ft)	18'		
Wet Well Coating	NO		
Discharge Pipe Size (in)	6"		
Discharge Pipe Material	Ductile Iron		
EYS Seal-offs Installed?	N/A		
Check Valve?	Arms not lifting		
Guide Rail System	N/A		
Level Controls	Micro-Mac 2300 #M9501002 (Bubbler)		
Emergency Back Up Generator?	No, unsafe connection, highly recommend installing transfer switch		
Bypass	No		
Controller/SCADA	Mission Ctrl/Sensaphone		
Overall Station Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor		
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure			

Lift Station:	Lake Street		Facility ID:	
Lift Station Type	Dry Pit			
Number of Pumps	3			
Pump 1 Information				
Manufacturer	ITT Flygt	Amps are comparable to what is listed on motor data plate. GPM is lower compared to Pumps 2 & 3. Pump 1 rags up more compared to Pumps 2 & 3 possibly due to the wet well design. Lead on @ 2.5' Lead off @ 1.8' Lag on @ 3.2' Lag off @ 2.55' Standby on @ 4.2' Standby off @ 3.5' High Alarm: 6.0' Low Alarm: 1.1' Hours: 12847.6 Spare parts consist of a complete back up pump. Gate valves and check valves for all three pumps were replaced approximately three years ago.		
Serial/Model #	9080091			
Motor Controller/VFD	VFD 1Y1261			
Horse Power	30			
Phase/Voltage	3 Phase / 240 Volt			
Megohm	234 / 249 / 279 @ 1134 Volts			
Amperage	79.1 / 78.7 / 78.7			
Speed	860 RPM			
Pump Level Settings				
Impeller/Bowl				
Flow	2300-2400 GPM			
Pump 1 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor			
Pump 2 Information				
Manufacturer	ITT Flygt	Megohms are OK, amp readings are correct. Flow is higher than Pump 1 but lower than Pump 3. Hours: 65735.4		
Serial/Model #	980150			
Motor Controller/VFD	VFD 1Y1267			
Horse Power	30			
Phase/Voltage	3 Phase / 240 Volt			
Megohm	675 / 636 / 737 @ 1134 Volts			
Amperage	76.8 / 77.4 / 81.8			
Speed	860 RPM			
Pump Level Settings				
Impeller/Bowl				
Flow	2500-2600 GPM			
Pump 2 Condition	☒ Good ☐ Satisfactory ☐ Operational ☐ Poor			
Pump 3 Information				
Manufacturer	ITT Flygt	Pump 3 is the newest pump. No amp meter on MCC panel like Pumps 1 & 2. Hours: 13629.0		
Serial/Model #	3201.091-5645			
Motor Controller/VFD	VFD 1Y1263			
Horse Power	30			
Phase/Voltage	3 Phase / 240 Volt			
Megohm	325 / 276 / 312 @ 1134 Volts			
Amperage	76.5 / 76.9 / 79.1			
Speed	860 RPM			
Pump Level Settings				
Impeller/Bowl				
Flow	2700-2800 GPM			
Pump 3 Condition	☒ Good ☐ Satisfactory ☐ Operational ☐ Poor			
Wet Well Information/Recommendations				
Wet Well Size (ft)	5.25' X 25'	1) VFD settings and low max speed (860 RPM) of motors leads to frequent clogging of pumps with rags. Recommend changing minimum speed in VFD to help with ragging. Changing impellers on current pumps or switching to a higher RPM lower GPM pump may help. Lift station would benefit from some form of screening or head works prior to pumping. 2) Recommend alarm system and video surveillance for security purposes. 3) Lift station has inflow and infiltration issues, recommend determining source and correcting. 4) MCC cabinet is not labeled with line voltage, breaker disconnects and cabinet locks are broken. Pump contactors have expanded metal covers and offer no protection against arc flash, also no disconnect at contactor panels. Recommend complete MCC cabinet replacement. 5) Conduit which feeds the three VFD's is not supported, recommend using uni-strut and pipe clamps to support conduit. 6) Ventilation system intake is on generator side of building and pulls in fumes from generator. Drive belt assembly for the ventilation system is open, recommend moving ventilation intake and installing a guard for the drive belt. 7) Generator is operational but has recently required extensive repairs, recommend an evaluation of the generators overall condition. 8) Conduit from wet well into building is galvanized and failing, recommend replacing galvanized conduit with PVC conduit. 9) The 4" drain pipe for the floor drains and the sink is failing. A portion of the drain pipe has been replaced, recommend completing replacement of old pipe. 10) The 1.25" sump pump is unable to keep up with the flow when bleeding the pumps to remove rags, recommend installing a higher GPM sump pump. 11) Unknown how emergency shut off works or if it functions, recommend researching operation before testing. 12) Recommend installing transducer to provide level control and removing bubbler system/upgrading Mico-mac controller. 13) Recommend removing cat walk and ladder from wet well. Staff would like to have hot water and a bathroom on-site.		
Wet Well Depth (ft)	40'			
Wet Well Coating	Yes			
Discharge Pipe Size (in)	12" & 14"			
Discharge Pipe Material	Ductile Iron			
EYS Seal-offs Installed?	N/A			
Check Valve?	Yes			
Guide Rail System	N/A			
Level Controls	Micro-Mac 2300 #M9111079 (Bubbler)			
Emergency Back Up Generator?	Yes, Tested OK, additional plug for portable generator			
Bypass	No			
Controller/SCADA	Mission Ctrl/Sensaphone			
Overall Station Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor	Describe in notes		
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure				

Lift Station:	Las Casitas	Facility ID:	
Lift Station Type	Smith/Loveless Dry Pit		
Number of Pumps	2		
Pump 1 Information			
Manufacturer	Smith/Loveless	Spare parts: motor Hours: 20000.0 @ 60% Lead off @ 20% Lag on @ 70% Lag off @ 20% 357 GPM Lead on Measured flow:	
Serial/Model #	122190009		
Motor Controller/VFD	Soft Start		
Horse Power	10		
Phase/Voltage	3 Phase / 240V		
Megohm	536 / 586 / 571 @1113 Volts		
Amperage	20.0 / 21.8 / 20.6		
Speed	1200 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated: 150 GPM @ 50' TDH		
Pump 1 Condition	☒ Good ☐ Satisfactory ☐ Operational ☐ Poor	Describe in notes 	
Pump 2 Information			
Manufacturer	Smith/Loveless	High pitched noise while running. Measured flow: 345 GPM	
Serial/Model #	122190011		
Motor Controller/VFD	Soft Start		
Horse Power	10		
Phase/Voltage	3 Phase / 240V		
Megohm	416 / 408 / 390 @ 1131 Volts		
Amperage	23.4 / 24.2 / 23.7		
Speed	1200 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated: 150 GPM @ 50' TDH		
Pump 2 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor	Describe in notes 	
Wet Well Information/Recommendations			
Wet Well Diameter (ft)	4'	1) Automatic transfer switch LCD screen is illegible, recommend replacing. 2) Corrosion on generator enclosure, recommend spot repairs 3) Recommend pulling Pump 2 and installing spare pump to try and determine cause of high pitch noise. 4) Debris stuck in wye downstream of check valves, recommend pulling wye and cleaning out, install a blind flange at bottom of wye to make cleaning easier. 5) Bottom of dry well showing rust, recommend spot coating. 6) Volutes have heli-coils installed, recommend reviewing the efficiency of the current pumps/motors. Recommend having one complete spare motor/pump on hand. 7) The control cabinet is showing corrosion on connections due to moisture, dry pit has been flooded before. The breaker disconnects no longer work. Recommend a new control panel with proper disconnects installed above ground. 8) Minimal corrosion to wet well, recommend coating. 9) On-site water is needed to wash down well. 10) Heavy grease build-up, recommend quarterly cleaning of all lift stations. 11) Recommend investigating GPM discrepancy between rated GPM and actual GPM.	
Wet Well Depth (ft)	21'		
Wet Well Coating	No		
Discharge Pipe Size (in)	10"		
Discharge Pipe Material	Ductile Iron		
EYS Seal-offs Installed?	N/A		
Check Valve?	Operational		
Guide Rail System	N/A		
Level Controls	Multi Smart w/probe		
Emergency Back Up Generator?	Yes, tested OK		
Bypass			
Controller/SCADA	Mission Ctrl		
Overall Station Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor	Describe in notes 	
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure			

Lift Station:	Mill Lake	Facility ID:	
Lift Station Type	Smith/Loveless Dry Pit		
Number of Pumps	2		
Pump 1 Information			
Manufacturer	Smith/Loveless	Lead on @ 60% Lead off @ 20% Lag on @ 70% Lag off @ 20% Level Alarm: 80% Low Level Alarm: 8% pump is running 47 GPM High Vibration when Hours: 36782.8 Measured:	
Serial/Model #	3Y6579005A13DQ		
Motor Controller/VFD	Soft Start		
Horse Power	15		
Phase/Voltage	3 Phase/240V		
Megohm	503 / 434 / 416 @ 1134 Volts		
Amperage	32.5 / 32.1 / 33.1		
Speed	1760 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated: 500 GPM @ 58'		
Pump 1 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor	Describe in notes 	
Pump 2 Information			
Manufacturer	Smith/Loveless	Vibration when pump is running 38678.5 Measured: 63 GPM Hours:	
Serial/Model #	3YG570005A5DQ		
Motor Controller/VFD	Soft Start		
Horse Power	15		
Phase/Voltage	3 Phase/240V		
Megohm	412 / 421 / 420 @ 1128 Volts		
Amperage	32.7 / 33.6 / 33.4		
Speed	1760 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated: 500 GPM @ 58'		
Pump 2 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor	Describe in notes 	
Wet Well Information/Recommendations			
Wet Well Diameter (ft)	4'	1) Broken conduit leading into dry well, recommend moving conduit underground like Las Casitas. 2) Rust on generator enclosure, recommend spot repairs 3) Vibration in pumps started when impellers were changed to the "X" style. If pumps are not being replaced, recommend removing impellers and having them balanced to potentially solve vibration. 4) Recommend reasearching efficiency of current pumps and replacing if necessary 5) Control panel breaker disconnects are broken,voltage is not labeled on the cabinet, removal of control panel cover is required to access soft starts, no electrical drawings on-site. Recommend replacing control cabinet and placing it above ground. 6) Recommend installation of fencing around dry well 7) Recommend coating the wet well 8) Heavy grease deposits in well, recommend completing quarterly cleaning of the well 9) Recommend water on-site for wash down purposes. 10) Recommend installing bypass structure	
Wet Well Depth (ft)	22'		
Wet Well Coating	No		
Discharge Pipe Size (in)	6"		
Discharge Pipe Material	Ductile Iron		
EYS Seal-offs Installed?	No		
Check Valve?	Operational		
Guide Rail System	N/A		
Level Controls	Multi Smart w/probe		
Emergency Back Up Generator?	Yes, tested OK		
Bypass	No		
Controller/SCADA	Mission Ctrl w/Sensaphone		
Overall Station Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor	Describe in notes 	
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure			

Lift Station:	Santa Rita	Facility ID:	
Lift Station Type	Smith/Loveless Dry Pit		
Number of Pumps	2		
Pump 1 Information			
Manufacturer	Smith/Loveless		
Serial/Model #	790770L-1		
Motor Controller/VFD	Across the line contactor		
Horse Power	30		
Phase/Voltage	3 Phase/240V		
Megohm	332 / 362 / 371 @ 1128 Volts		
Amperage	61.8 / 63.4 / 63.9		
Speed	1200 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	1531 GPM @ 433 TDH		
Pump 1 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor Describe in notes 		
Pump 2 Information			
Manufacturer	Smith/Loveless		
Serial/Model #	791170C-1		
Motor Controller/VFD	Across the line contactor		
Horse Power	30		
Phase/Voltage	3 Phase/240V		
Megohm	1040 / 1077 / 1071 @ 1115 Volts		
Amperage	67.8 / 67.0 / 69.1		
Speed	1200 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Calculated 1,661 GPM		
Pump 2 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor Describe in notes 		
Wet Well Information/Recommendations			
Wet Well Diameter (ft)	8"		
Wet Well Depth (ft)	19' 6"		
Wet Well Coating	Yes		
Discharge Pipe Size (in)	10" into 12"		
Discharge Pipe Material	Ductile Iron		
EYS Seal-offs Installed?	N/A		
Check Valve?	Operational		
Guide Rail System	N/A		
Level Controls	Micro-Mac 2300 #M9501007 (Bubbler)		
Emergency Back Up Generator?	Yes, tested OK		
Bypass	No		
Controller/SCADA	Mission Ctrl		
Overall Station Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor Describe in notes 		
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure			

Lead on @ 6.5' Lead off @ 3.5' Lag on @ 7.0' Lag off @ 3.5' High alarm: 8.5' Low alarm: 1.5'
 Hours: 52033.0 Calculated flow: 1489 GPM There is
 an oil leak at the base of the motor. Megohms, flow and amps are substantially lower than pump
 2.

Small oil leak on motor, pump is making a grinding noise. Hours: 60126.0

1) Wet well coating is showing possible peeling on grout lines, recommend coating repair. 2) The pump cycles are very short but frequent due to high flow pumps and a small wet well. Recommend replacing contactors with VFD's to minimize the pump cycles and provide ramping ability. 3) The breaker disconnects and overload reset buttons do not work on the control cabinet. Also the voltage is not labeled, recommend installing a new control cabinet at surface level. 4) Broken conduit between dry and wet well, also it appears the holes from the conduit have been torch cut into the dry well, recommend moving the conduit underground and coating the penetrations into the dry well. 5) Based on the current condition of Pump 1 and 2, recommend reviewing pumping (GPM) needs and possibly replacing current pumps with lower GPM pumps. 6) Generator enclosure has significant corrosion, recommend spot coating/repair. Influent was 7) Recommend upgrading Mico-Mac control system. 8) Recommend installing a bypass system. Influent calculated at 440 GPM.

Lift Station:	Spicer	Facility ID:	
Lift Station Type	Smith/Loveless Dry Pit		
Number of Pumps	2		
Pump 1 Information			
Manufacturer	Smith/Loveless		
Serial/Model #	67541123		
Motor Controller/VFD	Across the line contactor		
Horse Power	7.5		
Phase/Voltage	3 Phase/240V		
Megohm	897 / 855 / 874 @ 1134 volts		
Amperage	14.9 / 12.1 / 14.2		
Speed	1155 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated: 400 GPM @ 32' TDH		
Pump 1 Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor Describe in notes 		
Pump 2 Information			
Manufacturer	Smith/Loveless		
Serial/Model #	67541125		
Motor Controller/VFD	Across the line contactor		
Horse Power	7.5		
Phase/Voltage	3 Phase/240V		
Megohm	818 / 740 / 725 @ 1135 Volts		
Amperage	15.1 / 13.4 / 14.6		
Speed	1155 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated: 400 GPM @ 32' TDH		
Pump 2 Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor Describe in notes 		
Wet Well Information			
Wet Well Diameter (ft)	4'		
Wet Well Depth (ft)	25'		
Wet Well Coating	No		
Discharge Pipe Size (in)	6"		
Discharge Pipe Material	Ductile Iron		
EYS Seal-offs Installed?	N/A		
Check Valve?	Operational		
Guide Rail System	N/A		
Level Controls	Micro-Mac 2300 #M0189002 (Bubbler)		
Emergency Back Up Generator?	No, unsafe connection		
Bypass	No		
Controller/SCADA	Mission Ctrl		
Overall Station Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor Describe in notes 		
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure			

Impeller is worn, measured flow is 195 GPM. Hours: 19167.5 New slide valve on suction side of pump.
 on @ 4.5' Lead off @ 1.8' Lag on @ 5.0' Lag off @ 1.8' High alarm: 6.0' Low alarm: 0.1'

Impeller is worn, measured flow is 218 GPM. Hours: 19826.2 New slide valve on suction side of pump.

1) The wiring for the generator is hooked into the load side of the main breaker located inside the dry well, there is no transfer switch. The current connection has the possibility of back feeding utility power when a generator is connected. Recommend installing a transfer switch and dedicated back-up generator. 2) The 6" force main in the dry well has a leak where the ductile iron meets the flange, recommend repairing 3) Corrosion is present on the floor of the dry well, recommend spot repairs to coating. 4) The existing control cabinet has broken breaker disconnects, the overload reset buttons do not work, there is no wiring diagram and the voltage is not labeled on the cabinet. Recommend installing a new controls cabinet at surface level. 5) Recommend finding a source of on-site water for wash down. 6) Recommend upgrading the Micro-Mac control system. 7) The barrier around the dry well is insufficient, bent and poorly welded. Recommend installing removeable bollards for protection and easier access to the dry well. 8) The wet well is located in the middle of the street, recommend relocating the wet well if possible. 9) The wet well is not coated and has signs of exposed aggregate and concrete chipping away, recommend coating. 10) The impellers on the pumps are worn and GPM is drastically lower than listed, recommend reviewing pumping needs and purchasing new pumps which are suited to actual conditions and having one complete pump/motor. 11) Recommend replacing corroded conduit in wet well. Influent flow measured 16 GPM.

Lift Station:	TP2		Facility ID:	
Lift Station Type	Smith/Loveless Dry Pit			
Number of Pumps	2			
Pump 1 Information				
Manufacturer	Smith/Loveless		Pump shakes due to no clog impeller. Hours: 20985.8 Slight chipping of coating on suction side pipe work. 3.3' Lead off @ 1.3' Lag on @ 3.5' Lag off @ 1.3' High alarm: 4.5' Low alarm: 0.2' Influent flow: 88 GPM Measured flow: 564 GPM Slight Lead on @	
Serial/Model #	99-1024B-2			
Motor Controller/VFD	VFD, hand mode uses contactor			
Horse Power	10			
Phase/Voltage	3 Phase/240 Volt			
Megohm	490 / 498 / 486 Volts			
Amperage	20.6 / 21.3 / 21.6			
Speed	1300 RPM			
Pump Level Settings				
Impeller/Bowl				
Flow	Rated: 400 GPM @ 50' TDH			
Pump 1 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor		Describe in notes 	
Pump 2 Information				
Manufacturer	Smith/Loveless		Pump shakes due to no clog impeller. Hours: 22182.1 Slight chipping of coating on suction side pipe work. Measured flow is 491 GPM, which is lower than Pump 1.	
Serial/Model #	99-1024B-1			
Motor Controller/VFD	VFD, hand mode uses contactor			
Horse Power	10			
Phase/Voltage	3 Phase/240 Volt			
Megohm	510 / 539 / 536 @ 1131 Volts			
Amperage	22.1 / 20.7 / 20.6			
Speed	1300 RPM			
Pump Level Settings				
Impeller/Bowl				
Flow	400 GPM @ 50' TDH			
Pump 2 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor		Describe in notes 	
Wet Well Information				
Wet Well Diameter (ft)	6'		1) High inflow and infiltration into station, recommend finding source. 2) Generator has required extensive repairs, recommend evaluating overall condition 3) Recommend replacing corroded/damaged splice box in wet well 4) Recommend bypass structure 5) Recommend finding an on-site water source for wash down purposes 6) No GFI protection on air compressor outlet, recommend installing GFI protected plug 7) Both pumps vibrate after changing to non clog impellers, recommend having the impellers balanced to potentially solve vibration issue. 8) VFD max speed is set to 48 Hz to minimize vibration, recommend changing this to 60 Hz once vibration issue is solved. 9) Control cabinet does not have a main breaker in the dry well, also the pump breakers are inside the cabinet. Operator has to open an energized cabinet to turn pump power off. Recommend installing a main breaker with disconnect and disconnects for both pumps on the outside of the cabinet, also the cabinet needs to be labeled with the voltage. 10) Pump 2 is running lower GPM compared to Pump 1, recommend pulling pump and checking for obstruction. 11) Spare parts consist of a motor and volute, recommend having one complete spare pump/motor assembly. 12) If flow monitoring is needed, recommend wiring/repairing on-site flow meter	
Wet Well Depth (ft)	34.5'			
Wet Well Coating	Yes, satisfactory			
Discharge Pipe Size (in)	6"			
Discharge Pipe Material	Ductile Iron			
EYS Seal-offs Installed?	N/A			
Check Valve?	Operational			
Guide Rail System	N/A			
Level Controls	Varimac 3300 w/bubbler			
Emergency Back Up Generator?	Yes			
Bypass	No			
Controller/SCADA	Mission Ctrl w/ Sensaphone			
Overall Station Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor		Describe in notes 	
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure				

Lift Station:	Vista Nueva	Facility ID:	
Lift Station Type	Submersible		
Number of Pumps	2		
Pump 1 Information			
Manufacturer	ITT Flygt	Hours: 4617.7 Influent flow: 17.5 GPM Measured flow: 219.7 GPM	
Serial/Model #	9640005		
Motor Controller/VFD	Across the line contactor		
Horse Power	3		
Phase/Voltage	3 Phase/240V		
Megohm	265 / 254 / 252 @ 1130 Volts		
Amperage	15.4 / 15.9 / 14.4		
Speed	1740 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated: 175 GPM @ 54' TDH		
Pump 1 Condition	☒ Good ☐ Satisfactory ☐ Operational ☐ Poor	Describe in notes 	
Pump 2 Information			
Manufacturer	ITT Flygt	Hours: 6384.7 Influent flow: 17.5 GPM Measured flow: 79 GPM Volute is worn out causing low flow and lower amps when compared to Pump 1.	
Serial/Model #	9640095		
Motor Controller/VFD	Across the line contactor		
Horse Power	3		
Phase/Voltage	3 Phase/240V		
Megohm	246 / 245 / 244 @ 1129 Volts		
Amperage	11.5 / 12.4 / 11.2		
Speed	1740 RPM		
Pump Level Settings			
Impeller/Bowl			
Flow	Rated: 175 GPM @ 54' TDH		
Pump 2 Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor	Describe in notes 	
Wet Well Information			
Wet Well Diameter (ft)	6'	1) Signs of corrosion and exposed aggregate in well, recommend coating. 2) Recommend installing a back-up generator and auto transfer switch. 3) There is water in the conduit inside the electrical cabinet, recommend investigating how water is getting into conduit and sealing off/repairing. 4) The volute on Pump 2 is damaged and discharge flow is drastically reduced, recommend setting Pump 1 as the permanent lead until replacement pump arrives. The controller lights for the 10, 20 and 30% well level indicators are not working, recommend upgrading controller. 5) The check valve vault lid is very difficult to remove, recommend changing to a hinged lid. 6) City staff has concerns regarding the bends in the discharge pipe work downstream of the check valve, recommend evaluating the current pipe layout to see if this caused the failure of Pump 2. 7) Recommend finding a source of water for wash down purposes. 8) Recommend having one complete pump/motor on hand.	
Wet Well Depth (ft)	16'		
Wet Well Coating	No, signs of corrosion		
Discharge Pipe Size (in)	6"		
Discharge Pipe Material	Ductile Iron		
EYS Seal-offs Installed?	No		
Check Valve?	Operational		
Guide Rail System	Yes, Good Condition		
Level Controls	Multitrode MT2PC w/probe		
Emergency Back Up Generator?	No, manual transfer switch and connection for portable generator		
Bypass	Yes, 4"		
Controller/SCADA	Mission Ctrl		
Overall Station Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor		
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure			

Lift Station:	Harris Rd.	Facility ID:	
Lift Station Type	Submersible, Meyers Control Panel		
Number of Pumps	2		
Pump 1 Information			
Manufacturer	Unknown		
Serial/Model #	Unknown		
Motor Controller/VFD	Across the line contactor		
Horse Power	Unknown		
Phase/Voltage	Single Phase/230V		
Megohm	City declined testing		
Amperage	17.4 / 17.1		
Speed	Unknown		
Pump Level Settings	Float Controlled		
Impeller/Bowl	Unknown		
Flow	Unknown, Measured 101 GPM		
Pump 1 Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor Describe in notes 		
Pump 2 Information			
Manufacturer	Unknown		
Serial/Model #	Unknown		
Motor Controller/VFD	Across the line contactor		
Horse Power	Unknown		
Phase/Voltage	Single Phase/230V		
Megohm	City declined testing		
Amperage	15 / 14.7		
Speed	Unknown		
Pump Level Settings	Float Controlled		
Impeller/Bowl	Unknown		
Flow	Unknown, Measured 136 GPM		
Pump 2 Condition	☐ Good ☐ Satisfactory ☒ Operational ☐ Poor Describe in notes 		
Wet Well Information			
Wet Well Diameter (ft)	6'		
Wet Well Depth (ft)	16.5'		
Wet Well Coating	No, signs of corrosion		
Discharge Pipe Size (in)	4"		
Discharge Pipe Material	Ductile Iron/PVC		
EYS Seal-offs Installed?	No		
Check Valve?	Back flowing after shut down		
Guide Rail System	Yes		
Level Controls	Float Controlled		
Emergency Back Up Generator?	No		
Bypass	No		
Controller/SCADA	Altronix		
Overall Station Condition	☐ Good ☐ Satisfactory ☐ Operational ☒ Poor Describe in notes 		
Good: Equipment is installed and working correctly and does not exhibit a need for replacement Satisfactory: Equipment is installed and working correctly but is slightly worn; no repairs needed Operational: Equipment is working, but unable to determine if it is working as engineered Poor: Equipment appears to be failing and/or near failure			

Evidence of welling at the base of the pump, start/run capacitor unhooked indicating pump has been replaced at some point.

Start/run capacitor unhooked indicating pump was replaced at some point.

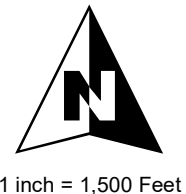
1) Panel lists pumps as 2 horsepower, unknown if this is accurate. 2) Control panel backboard is made of wood and rotting, recommend replacing with uni strut. 3) Heavy corrosion on guide rails/lifting chains, recommend replacing. 4) Recommend pulling both pumps for repair and inspection, Pump 1 is showing evidence of welling 5) No EYS connectors on conduit, recommend installing 6) The discharge pipe work is corroded, the check valves are leaking by and the gate valves are corroded, recommend replacing all discharge piping/valves up to the PVC force main and providing proper supports 7) The wet well hatch is damaged and the check valve lid is not hinged, recommend replacing both lids. 8) Recommend removing all electrical splices in the wet well and replacing all four floats 9) Recommend cutting off rebar lifting eyes around wet well, trip hazard 10) Recommend coating the wet well. 11) Recommend having one complete motor/pump assembly on hand.

APPENDIX F: EXHIBIT 1 Existing and Future CIPs



LEGEND

- City Lift Stations
- Sewer Mains
- Sewer Repairs
- Sewer Master Plan CIPs
- Existing Sewer Upgrades
- Future Sewer Upgrades
- Manhole Repairs



APPENDIX G: Sewer Model Results

City of Salinas
Existing Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
0	30	30	0.59	0.57	0.81	0.61	
1	30	30	0.66	0.64	0.67	0.63	
2	30	30	0.74	0.73	0.76	0.67	
6	24	24	0.54	0.56	0.56	0.59	
7	24	24	0.58	0.61	0.61	0.64	
10	54	54	0.56	0.61	0.59	0.62	
12	42	42	0.43	0.44	0.45	0.46	
13	42	42	0.31	0.31	0.31	0.32	
14	42	42	0.29	0.29	0.29	0.30	
15	42	42	0.40	0.40	0.41	0.41	
16	42	42	0.38	0.37	0.38	0.39	
17	42	42	0.36	0.35	0.36	0.37	
18	42	42	0.36	0.35	0.36	0.37	
19	42	42	0.35	0.35	0.36	0.37	
20	42	42	0.35	0.35	0.36	0.37	
21	42	42	0.35	0.35	0.36	0.37	
22	42	42	0.35	0.35	0.36	0.36	
23	42	42	0.35	0.34	0.36	0.36	
24	42	42	0.35	0.34	0.36	0.36	
25	42	42	0.35	0.34	0.35	0.36	
26	42	42	0.28	0.28	0.29	0.29	
27	42	42	0.21	0.21	0.22	0.22	
28	42	42	0.29	0.29	0.30	0.31	
29	42	42	0.30	0.29	0.31	0.31	
30	42	42	0.54	0.59	0.59	0.61	
31	42	42	0.38	0.41	0.41	0.43	
33	18	18	0.78	0.50	0.86	0.69	
34	18	18	0.17	0.17	0.19	0.19	
35	18	18	0.21	0.21	0.25	0.25	
36	18	18	0.19	0.19	0.22	0.22	
37	18	18	0.18	0.18	0.21	0.21	
38	18	18	0.16	0.16	0.19	0.19	
41	10	10	0.63	0.63	0.67	0.67	
42	10	10	0.21	0.21	0.29	0.29	
43	18	18	0.86	0.55	0.97	0.76	
46	18	18	0.77	0.49	0.84	0.68	
47	10	10	0.19	0.19	0.23	0.23	
48	18	18	0.74	0.48	0.81	0.66	
49	18	18	0.66	0.43	0.71	0.59	
50	18	18	0.70	0.46	0.76	0.62	
51	18	18	0.72	0.47	0.78	0.64	
53	10	10	0.28	0.28	0.34	0.34	
54	10	10	0.30	0.30	0.36	0.36	
55	18	18	0.65	0.42	0.69	0.57	
56	18	18	0.64	0.41	0.69	0.56	
59	21	21	0.15	0.15	0.18	0.18	
62	21	21	0.15	0.15	0.19	0.19	
63	21	21	0.12	0.12	0.14	0.14	
66	21	21	0.11	0.11	0.13	0.13	
70	21	21	0.10	0.10	0.12	0.12	
71	21	21	0.12	0.12	0.13	0.13	
73	21	21	0.12	0.12	0.12	0.12	
74	21	21	0.14	0.14	0.15	0.15	
77	21	21	0.08	0.08	0.08	0.08	
78	21	21	0.09	0.09	0.09	0.09	
80	18	18	0.13	0.13	0.14	0.14	
81	18	18	0.12	0.12	0.14	0.14	
82	18	18	0.79	0.50	0.88	0.69	
83	18	18	0.80	0.50	0.90	0.70	
84	21	21	0.15	0.15	0.16	0.16	
87	21	21	0.09	0.09	0.10	0.10	
90	21	21	0.07	0.07	0.06	0.06	
91	21	21	0.06	0.06	0.05	0.05	
92	18	18	0.66	0.43	0.70	0.58	
93	18	18	0.53	0.36	0.56	0.47	
94	18	18	0.68	0.45	0.72	0.60	
95	24	24	0.41	0.48	0.52	0.51	
96	12	12	0.11	0.14	0.23	0.21	
98	21	21	0.27	0.32	0.36	0.36	
99	24	24	0.41	0.48	0.52	0.52	
100	21	21	0.44	0.51	0.55	0.55	
101	10	10	0.28	0.40	0.48	0.46	
102	10	10	0.02	0.04	0.06	0.06	
103	21	21	0.34	0.40	0.43	0.42	
105	18	18	0.34	0.39	0.39	0.39	
106	33	33	0.31	0.33	0.31	0.34	
107	33	33	0.41	0.44	0.42	0.46	
108	33	33	0.38	0.41	0.38	0.42	
109	33	33	0.38	0.41	0.38	0.43	
110	33	33	0.43	0.46	0.44	0.49	
111	33	33	0.38	0.42	0.39	0.43	
113	27	27	0.51	0.56	0.52	0.58	
114	27	27	0.48	0.53	0.49	0.55	
115	18	18	0.44	0.51	0.49	0.59	
116	18	18	0.36	0.43	0.41	0.48	
118	18	18	0.38	0.38	0.31	0.31	
119	18	18	0.39	0.39	0.32	0.32	
123	21	21	0.44	0.51	0.46	0.54	
124	21	21	0.39	0.40	0.38	0.42	
125	21	21	0.27	0.27	0.23	0.23	
127	12	12	0.38	0.38	0.31	0.31	

City of Salinas
Existing Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
130	10	10	0.40	0.40	0.32	0.32	
131	10	10	0.39	0.39	0.31	0.31	
134	15	15	0.34	0.34	0.30	0.30	
135	18	18	0.34	0.34	0.29	0.29	
136	18	18	0.33	0.33	0.29	0.29	
138	18	18	0.34	0.34	0.29	0.29	
139	15	15	0.38	0.38	0.35	0.35	
146	10	10	0.24	0.24	0.19	0.19	
147	10	10	0.09	0.09	0.07	0.07	
148	12	12	0.27	0.27	0.32	0.32	
149	10	10	0.35	0.35	0.29	0.29	
150	10	10	0.43	0.43	0.37	0.37	
154	10	10	0.27	0.27	0.22	0.22	
156	12	12	0.33	0.33	0.27	0.27	
157	12	12	0.33	0.33	0.27	0.27	
158	12	12	0.27	0.27	0.29	0.29	
159	12	12	0.32	0.32	0.30	0.30	
162	12	12	0.47	0.47	0.42	0.42	
164	24	24	0.48	0.53	0.49	0.55	
165	24	24	0.53	0.60	0.54	0.60	
166	24	24	0.58	0.66	0.59	0.67	
167	21	21	0.42	0.50	0.43	0.52	
168	21	21	0.66	0.74	0.66	0.75	
170	12	12	0.04	0.09	0.03	0.09	
172	21	21	0.51	0.60	0.56	0.66	
175	21	21	0.46	0.54	0.50	0.60	
176	18	18	0.59	0.67	0.64	0.71	
177	21	21	0.37	0.42	0.40	0.50	
178	18	18	0.61	0.66	0.65	0.71	
179	15	15	0.31	0.38	0.36	0.44	
180	18	18	0.61	0.67	0.66	0.73	
181	18	18	0.59	0.65	0.64	0.71	
183	18	18	0.66	0.75	0.73	0.81	
185	18	18	0.57	0.72	0.63	0.77	
186	18	18	0.48	0.53	0.52	0.56	
190	15	15	0.11	0.11	0.14	0.14	
191	15	15	0.16	0.16	0.21	0.21	
192	15	15	0.29	0.32	0.33	0.36	
194	18	18	0.42	0.47	0.45	0.49	
195	18	18	0.37	0.41	0.38	0.42	
196	18	18	0.46	0.52	0.46	0.53	
198	18	18	0.53	0.60	0.54	0.61	
199	18	18	0.73	0.75	0.73	0.76	
201	18	18	0.84	0.83	0.85	0.83	
205	18	18	0.63	0.62	0.63	0.61	
206	18	18	0.43	0.43	0.42	0.42	
210	15	15	0.21	0.21	0.19	0.19	
211	15	15	0.27	0.30	0.29	0.37	
215	15	15	0.16	0.15	0.16	0.15	
218	15	15	0.17	0.17	0.17	0.17	
221	12	12	0.21	0.20	0.19	0.18	
223	12	12	0.19	0.18	0.16	0.16	
227	12	12	0.08	0.08	0.10	0.10	
230	15	15	0.64	0.64	0.60	0.60	
233	15	15	0.62	0.62	0.60	0.60	
234	15	15	0.60	0.60	0.58	0.58	
235	15	15	0.52	0.52	0.49	0.49	
236	15	15	0.59	0.59	0.55	0.55	
237	15	15	0.66	0.66	0.63	0.63	
241	6	6	0.00	0.00	0.00	0.00	
521	8	8	0.00	0.00	0.00	0.00	
644	6	6	0.00	0.00	0.00	0.00	
932	6	6	0.00	0.00	0.00	0.00	
244	15	15	0.58	0.58	0.55	0.55	
245	15	15	0.63	0.63	0.59	0.59	
1364	6	6	0.00	0.00	0.00	0.00	
247	15	15	0.66	0.66	0.62	0.62	
1367	8	8	0.00	0.00	0.00	0.00	
249	15	15	0.63	0.63	0.58	0.58	
1288	8	8	0.05	0.05	0.05	0.05	
254	15	15	0.65	0.65	0.60	0.60	
255	15	15	0.60	0.60	0.56	0.56	
257	15	15	0.61	0.61	0.56	0.56	
258	15	15	0.64	0.64	0.60	0.60	
262	15	15	0.52	0.52	0.48	0.48	
263	12	12	0.19	0.19	0.17	0.16	
264	12	12	0.00	0.00	0.00	0.00	
265	21	21	0.46	0.51	0.57	0.57	
266	21	21	0.46	0.50	0.56	0.56	
267	18	18	0.53	0.53	0.62	0.62	
269	18	18	0.49	0.49	0.57	0.57	
270	18	18	0.42	0.49	0.47	0.47	
271	18	18	0.41	0.50	0.46	0.46	
272	18	18	0.30	0.38	0.33	0.33	
273	15	15	0.34	0.34	0.29	0.29	
274	15	15	0.31	0.31	0.27	0.26	
477	8	8	0.06	0.06	0.05	0.05	
276	15	15	0.42	0.43	0.36	0.36	
277	12	12	0.33	0.33	0.38	0.38	
278	12	12	0.35	0.35	0.42	0.42	
280	12	12	0.36	0.36	0.42	0.42	

City of Salinas
Existing Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
281	10	10	0.17	0.17	0.27	0.27	
282	10	10	0.16	0.16	0.24	0.24	
284	15	15	0.27	0.26	0.39	0.36	
285	15	15	0.23	0.22	0.33	0.31	
286	30	30	0.32	0.55	0.39	0.52	
287	30	30	0.34	0.34	0.41	0.38	
288	30	30	0.32	0.47	0.38	0.46	
289	30	30	0.34	0.40	0.41	0.42	
290	30	30	0.34	0.34	0.42	0.39	
291	30	30	0.34	0.34	0.42	0.39	
292	30	30	0.34	0.34	0.41	0.39	
293	30	30	0.36	0.36	0.44	0.41	
294	30	30	0.36	0.36	0.44	0.41	
295	30	30	0.35	0.35	0.43	0.40	
296	30	30	0.32	0.32	0.40	0.37	
301	24	24	0.28	0.28	0.33	0.33	
302	24	24	0.33	0.33	0.38	0.38	
303	24	24	0.31	0.31	0.37	0.37	
305	10	10	0.20	0.20	0.16	0.16	
308	24	24	0.61	0.63	0.64	0.67	
309	18	18	0.64	0.67	0.68	0.71	
311	10	10	0.16	0.15	0.21	0.18	
312	10	10	0.01	0.01	0.01	0.01	
502	8	8	0.08	0.07	1.00	0.09	
315	10	10	0.00	0.00	0.00	0.00	
925	6	6	0.07	0.07	0.06	0.06	
653	15	18	0.69	0.46	0.57	0.39	CESAR CHAVEZ PARK
645	15	18	0.68	0.58	0.56	0.52	CESAR CHAVEZ PARK
652	15	18	0.71	0.47	0.59	0.40	CESAR CHAVEZ PARK
651	15	18	0.74	0.48	0.61	0.41	CESAR CHAVEZ PARK
656	15	18	0.83	0.52	0.65	0.44	CESAR CHAVEZ PARK
649	15	18	0.80	0.51	0.64	0.43	CESAR CHAVEZ PARK
650	15	18	0.81	0.52	0.65	0.44	CESAR CHAVEZ PARK
890	15	18	1.00	0.56	0.70	0.47	CESAR CHAVEZ PARK
319	21	24	0.39	0.29	0.34	0.25	CESAR CHAVEZ PARK
320	21	24	0.68	0.43	0.50	0.37	CESAR CHAVEZ PARK
317	21	24	1.00	0.59	0.70	0.50	CESAR CHAVEZ PARK
318	21	24	1.00	0.59	0.70	0.50	CESAR CHAVEZ PARK
321	21	24	1.00	0.59	0.71	0.50	CESAR CHAVEZ PARK
322	21	24	1.00	0.60	0.72	0.51	CESAR CHAVEZ PARK
323	21	24	1.00	0.61	0.73	0.51	CESAR CHAVEZ PARK
332	30	30	0.36	0.61	0.43	0.58	
333	30	30	0.35	0.59	0.43	0.56	
334	30	30	0.32	0.54	0.38	0.51	
335	30	30	0.40	0.67	0.48	0.64	
324	21	24	1.00	0.61	0.74	0.51	CESAR CHAVEZ PARK
340	21	21	0.33	0.31	0.41	0.36	
341	21	21	0.42	0.38	0.56	0.49	
342	15	18	0.84	0.54	0.99	0.73	NATIVIDAD RD OR ALTERNATIVE
343	15	18	0.79	0.46	1.00	0.63	NATIVIDAD RD OR ALTERNATIVE
344	15	18	0.65	0.39	1.00	0.52	NATIVIDAD RD OR ALTERNATIVE
345	15	18	0.65	0.38	1.00	0.52	NATIVIDAD RD OR ALTERNATIVE
346	15	18	0.65	0.38	1.00	0.52	NATIVIDAD RD OR ALTERNATIVE
673	8	8	0.08	0.08	0.07	0.07	
349	15	15	0.17	0.16	0.22	0.20	
350	10	10	0.24	0.22	0.32	0.27	
351	15	15	0.19	0.17	0.24	0.21	
352	15	15	0.00	0.00	0.00	0.00	
353	15	15	0.00	0.00	0.00	0.00	
354	36	36	0.42	0.41	0.51	0.51	
355	21	21	0.81	0.80	0.86	0.85	
356	24	24	0.77	0.76	0.81	0.81	
357	12	12	1.00	1.00	1.00	1.00	
758	8	8	0.10	0.10	0.16	0.16	
360	48	48	0.44	0.46	0.48	0.52	
361	54	54	0.59	0.61	0.63	0.66	
362	54	54	0.51	0.57	0.56	0.60	
363	24	24	1.00	1.00	1.00	1.00	
364	27	27	0.96	1.00	1.00	1.00	
365	36	36	0.78	0.89	0.85	0.92	
366	54	54	0.65	0.72	0.70	0.74	
367	54	54	0.61	0.69	0.66	0.70	
368	54	54	0.64	0.71	0.69	0.72	
369	54	54	0.61	0.68	0.66	0.70	
370	54	54	0.60	0.66	0.64	0.68	
371	54	54	0.60	0.66	0.64	0.68	
372	54	54	0.60	0.66	0.64	0.68	
373	54	54	0.60	0.66	0.64	0.68	
374	54	54	0.59	0.66	0.64	0.67	
375	54	54	0.59	0.66	0.64	0.67	
376	54	54	0.59	0.65	0.63	0.67	
377	54	54	0.58	0.64	0.62	0.66	
378	54	54	0.57	0.63	0.61	0.64	
379	54	54	0.56	0.62	0.60	0.63	
380	54	54	0.56	0.61	0.60	0.63	
381	54	54	0.58	0.63	0.62	0.65	
382	54	54	0.56	0.62	0.60	0.63	
250	6	6	0.11	0.11	0.12	0.12	
384	30	30	0.39	0.40	0.41	0.45	
385	30	30	0.52	0.54	0.53	0.56	
559	8	8	0.12	0.12	0.09	0.09	

City of Salinas
Existing Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
392	12	12	0.15	0.15	0.18	0.18	
399	21	21	0.45	0.50	0.56	0.56	
400	21	21	0.49	0.53	0.59	0.60	
401	21	21	0.46	0.49	0.55	0.55	
402	21	21	0.44	0.47	0.54	0.54	
403	24	24	0.31	0.31	0.39	0.39	
404	24	24	0.31	0.31	0.37	0.37	
405	21	21	0.43	0.46	0.51	0.52	
406	21	21	0.47	0.49	0.51	0.51	
407	24	24	0.35	0.36	0.44	0.44	
408	24	24	0.31	0.31	0.41	0.41	
409	24	24	0.02	0.05	0.07	0.07	
325	21	24	1.00	0.62	0.75	0.51	CESAR CHAVEZ PARK
326	21	24	0.99	0.66	0.78	0.55	CESAR CHAVEZ PARK
412	24	27	0.60	0.49	0.53	0.43	CESAR CHAVEZ PARK
419	10	10	0.23	0.23	0.29	0.29	
421	15	15	0.62	0.60	0.81	0.82	
423	21	21	0.51	0.53	0.69	0.72	
424	36	36	0.25	0.24	0.31	0.32	
425	36	36	0.39	0.38	0.48	0.49	
426	36	36	0.38	0.37	0.45	0.46	
430	12	12	0.33	0.33	0.35	0.35	
432	12	12	0.31	0.31	0.44	0.44	
434	12	12	0.32	0.32	0.45	0.45	
435	12	12	0.29	0.29	0.40	0.40	
437	12	12	0.29	0.29	0.40	0.40	
442	12	12	0.29	0.29	0.41	0.41	
447	14	14	0.25	0.38	0.38	0.44	
448	12	12	0.26	0.26	0.36	0.36	
449	12	12	0.21	0.21	0.17	0.17	
453	12	12	0.38	0.38	0.45	0.45	
456	12	12	0.37	0.37	0.40	0.40	
459	12	12	0.38	0.38	0.38	0.38	
461	12	12	0.19	0.19	0.21	0.21	
463	30	30	0.35	0.59	0.43	0.56	
466	30	30	0.34	0.53	0.40	0.50	
467	30	30	0.50	0.60	0.53	0.59	
469	14	14	0.37	0.38	0.39	0.31	
470	24	24	0.20	0.05	0.18	0.06	
471	30	30	0.16	0.26	0.20	0.25	
960	8	8	0.23	0.13	0.30	0.19	
1265	8	8	0.12	0.12	0.16	0.16	
478	10	10	0.10	0.10	0.12	0.12	
480	18	18	0.28	0.25	0.44	0.45	
482	48	48	0.61	0.60	0.67	0.68	
483	48	48	0.69	0.68	0.77	0.78	
485	12	12	0.48	0.52	0.73	0.78	
486	12	12	0.39	0.43	0.60	0.64	
487	18	18	0.27	0.29	0.38	0.40	
977	12	15	0.37	0.23	1.00	0.31	NATIVIDAD RD OR ALTERNATIVE
489	18	18	0.40	0.46	0.54	0.61	
490	12	12	0.62	0.51	1.00	0.74	
491	18	18	0.42	0.47	0.57	0.64	
492	18	18	0.41	0.46	0.55	0.62	
494	12	12	0.63	0.52	1.00	0.75	
495	18	18	0.41	0.47	0.55	0.62	
496	18	18	0.41	0.46	0.55	0.62	
497	12	12	0.51	0.44	1.00	0.61	
498	12	12	0.57	0.48	1.00	0.68	
500	12	15	0.90	0.48	1.00	0.66	NATIVIDAD RD OR ALTERNATIVE
501	12	15	0.72	0.32	1.00	0.47	NATIVIDAD RD OR ALTERNATIVE
242	8	8	0.12	0.12	0.13	0.13	
504	12	12	0.53	0.46	1.00	0.63	
505	18	18	0.42	0.48	0.57	0.63	
506	18	18	0.48	0.54	0.65	0.74	
474	8	8	0.12	0.12	0.16	0.16	
510	21	21	0.44	0.50	0.60	0.68	
511	21	21	0.46	0.52	0.63	0.71	
512	21	21	0.47	0.53	0.66	0.74	
513	21	21	0.48	0.54	0.70	0.80	
514	10	10	0.03	0.03	0.03	0.03	
516	21	21	0.60	0.64	0.83	0.89	
517	21	21	0.54	0.55	0.74	0.78	
518	10	10	0.00	0.50	0.07	0.50	
759	8	8	0.13	0.13	0.20	0.20	
522	30	30	0.35	0.58	0.42	0.56	
523	30	30	0.35	0.59	0.43	0.56	
525	30	30	0.34	0.60	0.42	0.57	
531	18	18	0.29	0.37	0.32	0.32	
532	18	18	0.22	0.28	0.24	0.24	
535	10	10	0.36	0.13	0.38	0.17	
536	10	10	0.44	0.16	0.46	0.21	
538	10	10	0.47	0.17	0.50	0.22	
544	10	10	0.42	0.15	0.44	0.20	
248	6	6	0.14	0.14	0.15	0.15	
546	54	54	0.52	0.57	0.56	0.59	
547	24	24	0.14	0.14	0.15	0.15	
548	48	48	0.46	0.50	0.50	0.51	
549	24	24	0.17	0.18	0.22	0.22	
552	48	48	0.40	0.44	0.44	0.45	
553	54	54	0.50	0.54	0.53	0.56	

City of Salinas
Existing Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
554	48	48	0.49	0.54	0.53	0.55	
555	18	18	0.26	0.18	0.27	0.23	
556	18	18	0.38	0.35	0.39	0.39	
557	27	27	0.07	0.07	0.08	0.08	
1338	8	8	0.14	0.14	0.12	0.12	
560	21	21	0.36	0.36	0.41	0.41	
561	21	21	0.29	0.29	0.34	0.34	
563	21	21	0.26	0.26	0.29	0.29	
564	21	21	0.30	0.30	0.34	0.34	
565	21	21	0.30	0.30	0.35	0.35	
566	21	21	0.30	0.30	0.34	0.34	
567	21	21	0.34	0.34	0.39	0.39	
569	21	21	0.32	0.32	0.37	0.37	
570	21	21	0.27	0.27	0.31	0.31	
571	21	21	0.30	0.30	0.35	0.35	
572	21	21	0.30	0.30	0.34	0.34	
411	24	27	0.74	0.57	0.64	0.48	CESAR CHAVEZ PARK
575	30	30	0.35	0.59	0.43	0.57	
577	30	30	0.29	0.29	0.34	0.32	
578	30	30	0.26	0.26	0.31	0.29	
579	30	30	0.31	0.31	0.38	0.35	
580	30	30	0.34	0.34	0.41	0.38	
581	27	27	0.34	0.34	0.42	0.39	
582	21	21	0.35	0.35	0.39	0.39	
583	27	27	0.31	0.31	0.38	0.35	
584	27	27	0.24	0.24	0.30	0.27	
586	27	27	0.22	0.22	0.27	0.25	
587	27	27	0.29	0.29	0.35	0.32	
588	24	24	0.31	0.31	0.38	0.35	
589	24	24	0.33	0.33	0.41	0.37	
591	24	24	0.31	0.31	0.39	0.35	
592	24	24	0.32	0.32	0.39	0.36	
594	10	10	0.66	0.68	0.73	0.82	
595	10	10	0.14	0.14	0.22	0.22	
596	30	30	0.61	0.63	0.62	0.66	
601	30	30	0.63	0.65	0.65	0.69	
606	30	30	0.62	0.64	0.64	0.68	
607	30	30	0.67	0.69	0.69	0.73	
609	30	30	0.71	0.73	0.73	0.77	
612	30	30	0.68	0.70	0.70	0.74	
615	30	30	0.70	0.72	0.72	0.77	
619	24	24	0.57	0.59	0.60	0.63	
623	27	27	0.12	0.12	0.15	0.15	
626	27	27	0.12	0.12	0.15	0.15	
627	27	27	0.11	0.11	0.15	0.15	
629	27	27	0.13	0.13	0.17	0.17	
631	27	27	0.15	0.15	0.19	0.19	
633	27	27	0.14	0.14	0.18	0.18	
636	27	27	0.14	0.14	0.17	0.17	
639	15	15	0.40	0.40	0.50	0.50	
923	6	6	0.14	0.14	0.13	0.13	
331	24	27	0.78	0.59	0.67	0.50	CESAR CHAVEZ PARK
330	24	27	0.80	0.59	0.68	0.50	CESAR CHAVEZ PARK
329	24	27	0.81	0.59	0.68	0.50	CESAR CHAVEZ PARK
410	24	27	0.84	0.60	0.69	0.51	CESAR CHAVEZ PARK
338	24	27	0.83	0.48	0.69	0.41	CESAR CHAVEZ PARK
328	24	27	0.83	0.60	0.69	0.51	CESAR CHAVEZ PARK
658	24	24	0.34	0.34	0.42	0.38	
659	24	24	0.30	0.30	0.38	0.36	
660	24	24	0.26	0.26	0.33	0.33	
662	24	24	0.26	0.26	0.33	0.33	
665	18	18	0.36	0.36	0.45	0.45	
666	48	48	0.56	0.55	0.62	0.62	
667	48	48	0.55	0.54	0.58	0.57	
669	15	15	0.21	0.20	0.29	0.27	
671	15	15	0.26	0.25	0.37	0.35	
246	6	6	0.15	0.15	0.16	0.16	
675	48	48	0.66	0.65	0.70	0.70	
677	48	48	0.59	0.58	0.64	0.63	
682	15	15	0.27	0.26	0.38	0.36	
686	12	12	0.34	0.39	0.43	0.49	
687	15	15	0.31	0.41	0.51	0.68	
688	15	15	0.24	0.32	0.39	0.52	
240	8	8	0.18	0.18	0.19	0.19	
1186	8	8	0.20	0.20	0.16	0.16	
723	8	8	0.21	0.21	0.24	0.24	
864	8	8	0.23	0.23	0.20	0.20	
726	8	8	0.23	0.23	0.28	0.28	
917	8	8	0.23	0.23	0.20	0.20	
760	8	8	0.24	0.24	0.33	0.33	
705	12	12	0.11	0.39	0.17	0.55	
707	12	12	0.12	0.45	0.18	0.64	
709	12	12	0.11	0.44	0.15	0.63	
711	12	12	0.14	0.52	0.18	0.71	
712	12	12	0.03	0.41	0.04	0.58	
713	12	12	0.08	0.47	0.12	0.66	
1456	8	8	0.01	0.01	0.01	0.01	
545	8	8	0.63	0.24	0.67	0.30	
856	8	8	0.24	0.24	0.21	0.21	
275	8	8	0.26	0.26	0.23	0.23	
727	12	12	0.31	0.31	0.36	0.36	

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Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
729	12	12	0.15	0.15	0.12	0.12	
732	12	12	0.29	0.29	0.25	0.25	
734	14	14	0.21	0.21	0.17	0.17	
735	12	12	0.35	0.35	0.28	0.28	
738	12	12	0.37	0.37	0.30	0.30	
743	12	12	0.32	0.32	0.26	0.26	
744	15	15	0.29	0.29	0.24	0.24	
749	15	15	0.33	0.33	0.29	0.29	
751	15	15	0.35	0.35	0.32	0.32	
753	18	18	0.21	0.21	0.22	0.22	
756	18	18	0.38	0.38	0.42	0.42	
757	15	15	0.26	0.25	0.37	0.35	
387	8	8	0.07	0.07	0.08	0.08	
1363	8	8	0.33	0.32	0.29	0.27	
778	6	6	0.28	0.28	0.34	0.34	
761	15	15	0.25	0.24	0.37	0.34	
762	48	48	0.59	0.58	0.64	0.63	
763	24	24	0.17	0.15	0.27	0.25	
764	48	48	0.60	0.59	0.65	0.64	
766	48	48	0.50	0.49	0.55	0.54	
855	8	8	0.28	0.28	0.24	0.24	
1358	8	8	1.00	0.29	1.00	0.38	
769	24	24	0.15	0.14	0.21	0.20	
770	12	12	0.09	0.09	0.16	0.15	
771	24	24	0.22	0.21	0.28	0.27	
772	15	15	0.00	0.00	0.00	0.00	
1354	8	8	0.86	0.29	0.88	0.38	
1453	8	8	0.18	0.18	0.23	0.23	
CDT 33	8	8	0.24	0.30	0.20	0.24	
239	8	8	0.30	0.30	0.28	0.28	
CDT 19	8	8	0.30	0.30	0.49	0.49	
1428	8	8	0.41	0.41	0.52	0.52	
779	12	12	0.28	0.28	0.40	0.40	
783	14	14	0.23	0.23	0.27	0.27	
785	14	14	0.23	0.23	0.28	0.28	
787	12	12	0.25	0.25	0.30	0.30	
788	12	12	0.26	0.26	0.31	0.31	
789	18	18	0.43	0.43	0.47	0.47	
792	14	14	0.13	0.13	0.16	0.16	
795	18	18	0.38	0.38	0.43	0.43	
796	18	18	0.37	0.37	0.42	0.42	
800	18	18	0.40	0.40	0.46	0.46	
801	18	18	0.48	0.48	0.54	0.54	
802	18	18	0.44	0.44	0.49	0.49	
804	18	18	0.40	0.40	0.45	0.45	
805	18	18	0.39	0.39	0.44	0.44	
807	18	18	0.27	0.27	0.31	0.31	
808	18	18	0.34	0.34	0.40	0.40	
809	12	12	0.70	0.70	0.84	0.84	
810	18	18	0.53	0.53	0.61	0.61	
811	15	15	0.30	0.30	0.37	0.37	
814	18	18	0.44	0.44	0.51	0.51	
815	21	21	0.38	0.38	0.44	0.44	
818	18	18	0.49	0.49	0.58	0.58	
819	18	18	0.45	0.45	0.53	0.53	
821	15	15	0.38	0.38	0.61	0.61	
824	15	15	0.73	0.73	0.87	0.87	
825	15	15	0.56	0.56	0.66	0.66	
828	21	21	0.34	0.34	0.39	0.39	
831	21	21	0.42	0.42	0.49	0.49	
834	21	21	0.54	0.54	0.62	0.62	
835	24	24	0.34	0.34	0.39	0.39	
838	24	24	0.34	0.34	0.39	0.39	
843	21	21	0.52	0.57	0.64	0.64	
846	21	21	0.46	0.53	0.56	0.56	
847	12	12	0.17	0.17	0.21	0.21	
848	21	21	0.40	0.45	0.48	0.48	
850	21	21	0.45	0.50	0.55	0.55	
851	21	21	0.36	0.40	0.44	0.44	
852	15	15	0.44	0.44	0.38	0.37	
853	15	15	0.32	0.32	0.27	0.27	
1402	8	8	0.38	0.38	0.49	0.49	
1454	8	8	0.14	0.14	0.18	0.18	
1369	8	12	0.86	0.32	1.00	0.43	LAUREL DR/N MAIN ST
863	15	15	0.32	0.32	0.28	0.28	
1327	8	12	1.00	0.32	1.00	0.44	LAUREL DR/N MAIN ST
867	10	10	0.11	0.11	0.10	0.10	
869	10	10	0.17	0.17	0.15	0.15	
872	12	12	0.33	0.33	0.41	0.41	
874	12	12	0.32	0.32	0.41	0.41	
875	12	12	0.32	0.32	0.40	0.40	
878	12	12	0.20	0.20	0.25	0.25	
880	18	18	0.15	0.15	0.19	0.19	
881	18	18	0.21	0.21	0.26	0.26	
882	15	15	0.35	0.35	0.30	0.30	
886	15	15	0.24	0.24	0.21	0.20	
888	12	12	0.40	0.40	0.34	0.34	
889	15	15	0.17	0.17	0.15	0.15	
327	24	27	0.85	0.62	0.71	0.52	CESAR CHAVEZ PARK
891	14	15	0.67	0.47	0.55	0.40	
892	15	15	0.19	0.19	0.17	0.16	

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Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
893	10	10	0.50	0.50	0.43	0.43	
894	10	10	0.17	0.17	0.14	0.14	
896	12	12	0.05	0.05	0.05	0.05	
897	15	15	0.75	0.49	0.51	0.42	
899	12	12	0.15	0.15	0.14	0.14	
903	15	15	0.49	0.49	0.42	0.42	
316	8	8	0.36	0.34	0.82	0.42	
1401	8	8	0.42	0.42	0.54	0.54	
908	15	15	0.38	0.38	0.33	0.33	
911	15	15	0.52	0.52	0.46	0.46	
912	15	15	0.50	0.50	0.44	0.44	
777	8	8	0.38	0.34	1.00	0.44	
1356	8	8	0.36	0.34	1.00	0.48	
920	12	12	0.04	0.04	0.03	0.03	
921	15	15	0.45	0.45	0.38	0.38	
922	15	15	0.36	0.36	0.31	0.31	
1372	8	12	0.69	0.34	1.00	0.46	LAUREL DR/N MAIN ST
924	15	15	0.30	0.30	0.26	0.26	
776	8	8	0.37	0.34	1.00	0.44	
928	15	15	0.21	0.21	0.18	0.18	
929	15	15	0.25	0.25	0.22	0.22	
931	15	15	0.34	0.34	0.30	0.30	
1452	8	8	0.26	0.26	0.32	0.32	
933	15	15	0.15	0.15	0.13	0.13	
935	18	18	0.45	0.30	0.45	0.30	
936	18	18	0.44	0.33	0.45	0.34	
940	18	18	0.52	0.41	0.55	0.44	
945	18	18	0.48	0.37	0.52	0.41	
946	18	18	0.58	0.46	0.62	0.51	
948	18	18	0.57	0.45	0.62	0.50	
949	10	12	0.46	0.31	0.51	0.36	0.00
950	18	12	0.14	0.14	0.16	0.18	
951	18	18	0.15	0.09	0.17	0.12	
953	18	18	0.46	0.37	0.50	0.41	
955	18	18	0.61	0.49	0.67	0.55	
956	18	18	0.42	0.33	0.46	0.37	
957	18	18	0.54	0.43	0.60	0.49	
1403	8	8	0.44	0.44	0.56	0.56	
963	10	12	0.35	0.28	0.46	0.37	0.00
1425	8	8	0.45	0.45	0.58	0.58	
967	10	10	0.73	0.61	0.81	0.70	
968	10	10	0.43	0.37	0.47	0.42	
969	18	18	0.89	0.56	1.00	0.78	
970	18	18	0.90	0.56	1.00	0.79	
971	18	18	0.87	0.51	1.00	0.75	
973	18	18	0.79	0.44	1.00	0.67	
974	18	18	0.81	0.48	1.00	0.70	
978	12	15	0.49	0.33	1.00	0.42	NATIVIDAD RD OR ALTERNATIVE
979	12	15	0.42	0.28	1.00	0.36	NATIVIDAD RD OR ALTERNATIVE
984	12	15	0.43	0.29	1.00	0.37	NATIVIDAD RD OR ALTERNATIVE
1012	12	15	0.58	0.37	1.00	0.49	NATIVIDAD RD OR ALTERNATIVE
1013	12	15	0.67	0.42	1.00	0.57	NATIVIDAD RD OR ALTERNATIVE
1386	12	15	0.81	0.46	1.00	0.63	NATIVIDAD RD OR ALTERNATIVE
1389	12	15	0.82	0.49	1.00	0.68	NATIVIDAD RD OR ALTERNATIVE
488	15	18	0.78	0.44	0.85	0.59	NATIVIDAD RD OR ALTERNATIVE
985	15	18	0.65	0.49	1.00	0.64	NATIVIDAD RD OR ALTERNATIVE
986	15	18	0.66	0.48	1.00	0.66	NATIVIDAD RD OR ALTERNATIVE
988	15	18	0.73	0.53	1.00	0.72	NATIVIDAD RD OR ALTERNATIVE
989	15	18	0.72	0.52	1.00	0.71	NATIVIDAD RD OR ALTERNATIVE
995	18	18	0.28	0.28	0.35	0.35	
996	18	18	0.38	0.38	0.48	0.48	
998	18	18	0.22	0.22	0.29	0.29	
1000	18	18	0.13	0.13	0.18	0.18	
990	15	18	0.69	0.52	1.00	0.70	NATIVIDAD RD OR ALTERNATIVE
1003	12	12	0.58	0.41	1.00	0.57	
1004	12	12	0.64	0.47	1.00	0.67	
992	15	18	0.77	0.56	1.00	0.75	NATIVIDAD RD OR ALTERNATIVE
993	15	18	0.74	0.53	1.00	0.73	NATIVIDAD RD OR ALTERNATIVE
1009	12	12	0.42	0.19	1.00	0.31	
994	15	18	0.69	0.50	1.00	0.68	NATIVIDAD RD OR ALTERNATIVE
1002	15	18	0.61	0.47	1.00	0.63	NATIVIDAD RD OR ALTERNATIVE
1005	15	18	0.48	0.36	1.00	0.48	NATIVIDAD RD OR ALTERNATIVE
1014	15	15	0.57	0.57	0.49	0.49	
1017	12	12	0.27	0.27	0.22	0.22	
1021	18	18	0.29	0.29	0.34	0.34	
1023	18	18	0.25	0.25	0.29	0.29	
1024	12	12	0.29	0.29	0.33	0.33	
1025	12	12	0.29	0.29	0.33	0.33	
1027	12	12	0.30	0.30	0.35	0.35	
1029	12	12	0.29	0.29	0.33	0.33	
1031	12	12	0.29	0.29	0.33	0.33	
1033	12	12	0.29	0.29	0.33	0.33	
1035	12	12	0.27	0.27	0.31	0.31	
1037	12	12	0.27	0.27	0.30	0.30	
1040	12	12	0.26	0.26	0.30	0.30	
1042	12	12	0.16	0.16	0.17	0.17	
1044	12	12	0.11	0.11	0.09	0.09	
1046	12	12	0.11	0.11	0.09	0.09	
1049	12	12	0.11	0.11	0.09	0.09	
1052	12	12	0.24	0.26	0.36	0.40	
1053	12	12	0.31	0.34	0.46	0.49	

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Existing Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
1055	12	12	0.38	0.41	0.57	0.61	
1056	12	12	0.36	0.39	0.53	0.57	
1060	12	12	0.29	0.32	0.40	0.44	
1061	12	12	0.35	0.39	0.48	0.53	
1063	12	12	0.40	0.45	0.55	0.61	
1065	12	12	0.41	0.46	0.56	0.63	
1068	12	12	0.31	0.36	0.43	0.50	
1071	14	14	0.86	0.97	1.00	1.00	
1078	15	15	0.29	0.39	0.48	0.62	
1079	15	15	0.26	0.34	0.43	0.55	
1081	15	15	0.23	0.30	0.38	0.48	
1093	48	48	0.59	0.60	0.67	0.70	
1096	10	10	0.54	0.54	0.56	0.56	
1097	10	10	0.29	0.29	0.41	0.41	
1101	15	15	0.31	0.40	0.52	0.67	
1108	27	27	0.24	0.33	0.26	0.35	
1109	12	12	0.23	0.23	0.30	0.30	
1110	27	27	0.11	0.11	0.14	0.14	
1114	24	24	0.58	0.60	0.60	0.63	
1115	24	24	0.63	0.65	0.66	0.69	
1116	24	24	0.51	0.53	0.53	0.56	
1131	12	12	0.38	0.38	0.48	0.48	
1132	12	12	0.43	0.41	0.55	0.52	
1134	12	12	0.37	0.34	0.47	0.43	
1139	27	27	0.24	0.36	0.26	0.38	
1140	27	27	0.20	0.35	0.23	0.39	
1141	27	27	0.23	0.37	0.26	0.40	
1146	15	18	0.64	0.43	0.70	0.47	NORTHRIDGE MALL
1152	15	18	0.64	0.43	0.70	0.46	NORTHRIDGE MALL
1154	15	18	0.67	0.46	0.73	0.49	NORTHRIDGE MALL
1155	15	18	0.65	0.44	0.71	0.47	NORTHRIDGE MALL
1159	15	18	0.68	0.44	0.73	0.47	NORTHRIDGE MALL
1162	15	18	0.68	0.49	0.90	0.52	NORTHRIDGE MALL
1164	18	18	0.61	0.58	0.95	0.61	
1167	18	18	0.72	0.63	1.00	0.66	
1172	27	27	0.17	0.25	0.21	0.29	
1175	15	18	0.63	0.43	0.68	0.46	NORTHRIDGE MALL
1177	15	15	0.54	0.55	0.57	0.57	
1182	27	27	0.25	0.32	0.26	0.35	
1183	27	27	0.24	0.33	0.26	0.35	
CDT 47	8	8	0.17	0.17	0.15	0.15	
1206	15	15	0.27	0.36	0.45	0.58	
1207	15	15	0.31	0.41	0.52	0.68	
1208	15	15	0.34	0.45	0.57	0.74	
1209	15	15	0.33	0.44	0.56	0.74	
1210	15	15	0.33	0.43	0.56	0.73	
1211	15	15	0.32	0.42	0.55	0.76	
1212	15	15	0.33	0.44	0.58	0.83	
1213	15	15	0.36	0.47	0.62	0.83	
1214	48	48	0.70	0.72	0.76	0.79	
1215	48	48	0.71	0.73	0.79	0.80	
1216	48	48	0.71	0.73	0.80	0.81	
1217	48	48	0.73	0.75	0.82	0.84	
1218	48	48	0.74	0.76	0.83	0.86	
1219	48	48	0.69	0.70	0.78	0.81	
1220	48	48	0.63	0.64	0.71	0.75	
1221	10	10	0.61	0.61	0.58	0.58	
1222	10	10	0.23	0.23	0.19	0.19	
1223	10	10	0.27	0.27	0.22	0.22	
1224	10	10	0.27	0.27	0.22	0.22	
1225	10	10	0.28	0.28	0.23	0.23	
1226	10	10	0.28	0.28	0.22	0.22	
1227	10	10	0.26	0.26	0.21	0.21	
1228	12	12	0.22	0.22	0.18	0.18	
1229	10	10	0.27	0.27	0.22	0.22	
1230	24	24	0.10	0.10	0.13	0.13	
1231	24	24	0.07	0.07	0.08	0.08	
1232	24	24	0.05	0.05	0.06	0.06	
1233	24	24	0.03	0.03	0.03	0.03	
1234	24	24	0.02	0.02	0.02	0.02	
1235	18	24	0.79	0.50	0.86	0.53	CHEROKEE DR
1236	18	24	0.87	0.46	1.00	0.50	CHEROKEE DR
1237	18	24	0.77	0.43	1.00	0.46	CHEROKEE DR
1238	18	24	0.67	0.40	0.85	0.42	CHEROKEE DR
1239	18	24	0.82	0.46	0.85	0.49	CHEROKEE DR
1240	18	24	1.00	0.48	1.00	0.52	CHEROKEE DR
1241	12	12	0.77	0.23	0.81	0.24	
1242	12	12	0.71	0.22	0.74	0.23	
1243	12	12	0.70	0.25	0.72	0.26	
1244	18	24	1.00	0.49	1.00	0.52	CHEROKEE DR
1245	18	24	1.00	0.50	1.00	0.53	CHEROKEE DR
1248	18	24	0.80	0.41	1.00	0.44	CHEROKEE DR
1252	12	12	0.53	0.21	0.54	0.24	
1253	18	24	0.60	0.36	0.82	0.39	CHEROKEE DR
1254	18	24	0.59	0.36	0.64	0.38	CHEROKEE DR
1255	15	15	0.57	0.57	0.61	0.61	
1257	27	27	0.28	0.36	0.30	0.38	
1259	27	27	0.27	0.34	0.29	0.36	
1426	8	8	0.48	0.48	0.62	0.62	
1267	12	12	0.31	0.31	0.39	0.39	
1269	12	12	0.38	0.38	0.48	0.48	

City of Salinas
Existing Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
1272	15	15	0.39	0.39	0.49	0.49	
1273	12	12	0.32	0.32	0.40	0.40	
1275	10	10	0.29	0.29	0.37	0.37	
1279	10	10	0.27	0.27	0.34	0.34	
1280	10	10	0.40	0.40	0.51	0.51	
1281	10	10	0.37	0.37	0.47	0.47	
1283	36	36	0.59	0.57	0.67	0.66	
775	8	8	0.39	0.36	1.00	0.45	
1286	36	36	0.78	0.76	0.84	0.82	
1287	14	14	0.02	0.02	0.01	0.01	
774	8	8	0.39	0.36	1.00	0.45	
1289	30	30	0.66	0.64	0.67	0.62	
1427	8	8	0.48	0.48	0.62	0.62	
1431	8	8	0.33	0.33	0.43	0.42	
1292	30	30	0.73	0.73	0.76	0.68	
1293	48	48	0.68	0.67	0.72	0.71	
1294	48	48	0.59	0.58	0.63	0.62	
1305	24	24	0.12	0.12	0.16	0.17	
1306	48	48	0.66	0.66	0.74	0.75	
1307	48	48	0.67	0.67	0.75	0.77	
1308	48	48	0.56	0.56	0.63	0.66	
1309	48	48	0.56	0.56	0.62	0.65	
1313	12	12	1.00	1.00	1.00	1.00	
1320	12	12	0.26	0.26	0.31	0.31	
1321	12	12	0.24	0.24	0.28	0.28	
1324	12	12	0.19	0.19	0.23	0.23	
1325	12	12	0.25	0.25	0.30	0.30	
CDT 11	10	10	0.73	0.58	0.74	0.61	
1329	18	18	0.11	0.11	0.13	0.13	
1332	12	12	0.06	0.06	0.06	0.06	
1333	12	12	0.30	0.30	0.35	0.35	
1335	18	18	0.23	0.23	0.27	0.27	
1432	8	8	0.44	0.44	0.56	0.56	
1341	18	18	0.22	0.24	0.25	0.25	
1342	10	10	0.10	0.10	0.08	0.08	
1344	12	12	0.27	0.38	0.25	0.25	
1349	10	10	0.34	0.49	0.32	0.32	
1350	10	10	0.34	0.51	0.28	0.28	
1351	10	10	0.33	0.52	0.27	0.27	
1352	10	10	0.29	0.45	0.24	0.24	
773	8	8	0.41	0.38	1.00	0.47	
1362	8	12	1.00	0.38	1.00	0.51	LAUREL DR/N MAIN ST
914	8	8	0.39	0.39	0.34	0.34	
1361	8	12	1.00	0.39	1.00	0.53	LAUREL DR/N MAIN ST
904	8	8	0.40	0.40	0.34	0.34	
1359	12	12	0.53	0.25	0.77	0.34	
358	12	15	0.41	0.40	0.85	0.60	LAUREL DR/N MAIN ST
1404	8	8	0.53	0.53	0.69	0.69	
1405	8	8	0.53	0.53	0.69	0.69	
860	8	8	0.43	0.43	0.39	0.39	
1368	12	12	0.00	0.00	0.00	0.00	
690	12	15	0.46	0.42	1.00	0.65	LAUREL DR/N MAIN ST
692	12	15	0.48	0.46	1.00	0.70	LAUREL DR/N MAIN ST
693	12	15	0.42	0.42	1.00	0.64	LAUREL DR/N MAIN ST
694	12	15	0.39	0.40	1.00	0.61	LAUREL DR/N MAIN ST
696	12	15	0.38	0.40	1.00	0.62	LAUREL DR/N MAIN ST
702	12	15	0.29	0.34	1.00	0.51	LAUREL DR/N MAIN ST
703	10	15	0.24	0.31	1.00	0.43	LAUREL DR/N MAIN ST
717	12	15	0.37	0.39	1.00	0.57	LAUREL DR/N MAIN ST
767	12	15	0.40	0.42	1.00	0.63	LAUREL DR/N MAIN ST
1006	15	18	0.90	0.52	1.00	0.72	NATIVIDAD RD OR ALTERNATIVE
1010	15	18	1.00	0.58	1.00	0.80	NATIVIDAD RD OR ALTERNATIVE
1390	15	18	0.48	0.36	1.00	0.49	NATIVIDAD RD OR ALTERNATIVE
1380	8	8	0.44	0.44	1.00	0.59	
965	10	10	0.53	0.42	0.62	0.50	
1450	8	8	0.32	0.32	0.39	0.39	
507	8	8	0.52	0.45	0.61	0.52	
1375	8	8	0.45	0.45	1.00	0.62	
1406	10	10	0.54	0.54	0.53	0.53	
1408	10	10	0.04	0.04	0.03	0.03	
1413	27	27	0.23	0.33	0.25	0.36	
1416	12	12	0.93	0.25	0.94	0.26	
1417	12	12	1.00	0.23	1.00	0.24	
1418	12	12	1.00	0.12	1.00	0.13	
1419	12	12	1.00	0.00	1.00	0.00	
1385	8	8	0.45	0.45	0.98	0.62	
907	8	8	0.47	0.47	0.41	0.41	
1263	8	8	0.64	0.62	0.82	0.79	
1357	8	8	0.10	0.48	1.00	0.67	
1429	10	10	0.27	0.27	0.34	0.34	
1383	8	8	0.49	0.49	1.00	0.67	
716	8	8	0.36	0.50	0.53	0.70	
1433	10	10	0.23	0.23	0.29	0.29	
1437	10	10	0.28	0.28	0.35	0.35	
1438	10	10	0.31	0.31	0.38	0.38	
1440	10	10	0.31	0.31	0.38	0.38	
1443	10	10	0.31	0.31	0.39	0.39	
1444	10	10	0.16	0.16	0.19	0.19	
1449	10	10	0.28	0.28	0.35	0.35	
1374	8	8	0.49	0.50	1.00	0.71	
CDT 39	6	6	0.50	0.50	0.50	0.50	

City of Salinas
Existing Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
1373	8	8	0.59	0.50	1.00	0.70	
383	8	8	0.28	0.48	0.48	0.51	
1384	8	8	0.53	0.53	1.00	0.72	
1457	24	24	0.34	0.34	0.42	0.38	
1458	27	27	0.31	0.31	0.39	0.35	
1459	27	27	0.31	0.31	0.39	0.35	
1460	27	27	0.31	0.31	0.39	0.35	
1461	27	27	0.31	0.31	0.39	0.35	
1462	27	27	0.29	0.29	0.36	0.33	
1463	27	27	0.32	0.32	0.40	0.37	
1464	30	30	0.36	0.36	0.43	0.40	
1465	21	21	0.53	0.54	0.72	0.76	
1466	21	21	0.53	0.54	0.74	0.78	
1467	21	21	0.57	0.58	0.79	0.84	
1468	10	10	0.37	0.43	0.47	0.55	
1469	18	18	0.83	0.56	1.00	0.72	
1470	18	18	0.77	0.53	1.00	0.66	
1471	27	27	0.49	0.55	0.50	0.57	
1472	27	27	0.52	0.59	0.53	0.61	
1473	27	27	0.50	0.56	0.51	0.58	
1474	12	12	0.35	0.28	0.40	0.32	
1478	10	10	0.90	0.90	0.92	0.92	
314	8	8	0.56	0.53	0.82	0.62	
347	8	8	0.61	0.58	0.76	0.68	
CDT_101	30	30	0.58	0.60	0.60	0.63	
768	12	15	0.32	0.36	1.00	0.54	LAUREL DR/N MAIN ST
CDT_111	18	18	0.44	0.30	0.58	0.37	
CDT_113	42	42	0.66	0.71	0.70	0.72	
CDT_117	36	36	0.78	0.89	0.85	0.92	
CDT_119	27	27	0.96	1.00	1.00	1.00	
CDT_123	14	14	1.00	1.00	1.00	1.00	
CDT_125	12	12	1.00	1.00	1.00	1.00	
CDT_131	15	18	0.47	0.37	0.65	0.47	
CDT_133	15	18	0.49	0.42	0.68	0.56	
CDT_153	12	15	0.48	0.36	1.00	0.44	
CDT_155	12	15	0.51	0.37	1.00	0.47	
CDT_157	18	18	0.07	0.07	0.09	0.09	
CDT_159	18	18	0.00	0.00	0.00	0.00	
CDT_161	18	18	0.00	0.00	0.00	0.00	
CDT_163	18	18	0.00	0.00	0.00	0.00	
CDT_165	18	18	0.00	0.00	0.00	0.00	
1291	8	8	0.55	0.57	0.60	0.46	
1290	8	8	0.59	0.59	0.63	0.62	
1482	8	8	0.67	0.66	0.65	0.64	
1483	8	8	0.67	0.67	0.67	0.67	
CDT_51	8	8	0.63	0.63	0.63	0.60	
CDT_45	4	4	0.79	0.79	0.81	0.78	
CDT_35	10	10	0.36	0.57	0.29	0.29	
CDT_37	6	6	0.90	0.90	0.85	0.85	
CDT_21	6	6	0.86	0.91	0.94	1.00	
CDT_23	2	2	1.00	1.00	1.00	1.00	
CDT_29	6	6	1.00	1.00	1.00	1.00	
CDT_31	6	6	0.84	1.00	0.78	0.78	
CDT_53	12	12	1.00	1.00	1.00	1.00	
CDT_55	12	12	1.00	1.00	1.00	1.00	
CDT_57	12	12	0.05	0.05	0.04	0.04	
CDT_59	10	10	0.00	0.00	0.00	0.00	
CDT_63	12	12	0.30	0.35	0.39	0.45	
CDT_69	12	12	0.00	0.16	0.14	0.13	
CDT_71	12	12	0.00	0.12	0.11	0.11	
CDT_75	18	18	0.00	0.56	1.00	0.77	
CDT_83	54	54	0.00	0.63	0.61	0.64	
CDT_85	54	54	0.00	0.63	0.62	0.65	
CDT_87	12	12	0.00	0.30	0.24	0.24	
CDT_89	12	12	0.00	0.17	0.49	0.21	
CDT_93	18	18	0.00	0.51	0.60	0.60	

City of Salinas
Future Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
0	30	30	0.81	0.81	0.77	0.84	
1	30	30	0.70	0.70	0.68	0.73	
2	30	30	0.83	0.83	0.74	0.74	
6	24	30	0.92	0.92	1.00	0.51	NORTH DAVIS RD.
7	24	30	0.90	0.90	1.00	0.53	NORTH DAVIS RD.
10	54	54	0.62	0.62	0.67	0.68	
12	42	42	0.54	0.54	0.55	0.57	
13	42	42	0.38	0.38	0.39	0.40	
14	42	42	0.36	0.36	0.36	0.37	
15	42	42	0.51	0.51	0.50	0.52	
16	42	42	0.49	0.49	0.47	0.50	
17	42	42	0.47	0.47	0.46	0.48	
18	42	42	0.46	0.46	0.45	0.48	
19	42	42	0.46	0.46	0.45	0.48	
20	42	42	0.46	0.46	0.45	0.48	
21	42	42	0.46	0.46	0.45	0.48	
22	42	42	0.46	0.46	0.45	0.47	
23	42	42	0.46	0.46	0.45	0.47	
24	42	42	0.46	0.46	0.45	0.47	
25	42	42	0.45	0.45	0.45	0.47	
26	42	42	0.36	0.36	0.36	0.38	
27	42	42	0.28	0.28	0.27	0.28	
28	42	42	0.37	0.37	0.37	0.38	
29	42	42	0.39	0.39	0.38	0.40	
30	42	42	0.63	0.63	0.68	0.69	
31	42	42	0.48	0.48	0.51	0.52	
33	18	18	0.94	0.94	0.94	0.63	
34	18	18	0.17	0.17	0.20	0.19	
35	18	18	0.21	0.21	0.26	0.25	
36	18	18	0.19	0.19	0.23	0.22	
37	18	18	0.18	0.18	0.21	0.21	
38	18	18	0.16	0.16	0.20	0.19	
41	10	10	0.63	0.63	0.67	0.67	
42	10	10	0.21	0.21	0.29	0.29	
43	18	18	1.00	1.00	1.00	0.69	
46	18	18	0.91	0.91	0.90	0.62	
47	10	10	0.19	0.19	0.23	0.23	
48	18	18	0.87	0.87	0.86	0.60	
49	18	18	0.77	0.77	0.75	0.54	
50	18	18	0.81	0.81	0.80	0.57	
51	18	18	0.84	0.84	0.83	0.59	
53	10	10	0.28	0.28	0.34	0.34	
54	10	10	0.30	0.30	0.36	0.36	
55	18	18	0.75	0.75	0.73	0.52	
56	18	18	0.74	0.74	0.73	0.52	
59	21	21	0.15	0.15	0.19	0.18	
62	21	21	0.15	0.15	0.19	0.19	
63	21	21	0.12	0.12	0.14	0.14	
66	21	21	0.11	0.11	0.13	0.13	
70	21	21	0.10	0.10	0.12	0.12	
71	21	21	0.12	0.12	0.13	0.13	
73	21	21	0.12	0.12	0.12	0.12	
74	21	21	0.14	0.14	0.15	0.15	
77	21	21	0.08	0.08	0.08	0.08	
78	21	21	0.09	0.09	0.09	0.09	
80	18	18	0.13	0.13	0.14	0.14	
81	18	18	0.12	0.12	0.14	0.14	
82	18	18	0.98	0.98	0.97	0.63	
83	18	18	0.98	0.98	0.98	0.64	
84	21	21	0.15	0.15	0.16	0.16	
87	21	21	0.09	0.09	0.10	0.10	
90	21	21	0.07	0.07	0.06	0.06	
91	21	21	0.06	0.06	0.05	0.05	
92	18	18	0.76	0.76	0.74	0.53	
93	18	18	0.59	0.59	0.58	0.44	
94	18	18	0.78	0.78	0.76	0.55	
95	24	24	0.66	0.66	0.69	0.67	
96	12	12	0.65	0.65	0.79	0.72	
98	21	21	0.42	0.42	0.50	0.47	
99	24	24	0.67	0.67	0.71	0.69	
100	21	21	0.66	0.66	0.74	0.71	
101	10	10	0.62	0.62	0.71	0.69	
102	10	10	0.18	0.18	0.22	0.21	
103	21	21	0.46	0.46	0.52	0.51	
105	18	18	0.39	0.39	0.43	0.43	
106	33	33	0.42	0.42	0.42	0.51	
107	33	33	0.57	0.57	0.56	0.62	
108	33	33	0.54	0.54	0.54	0.60	
109	33	33	0.54	0.54	0.54	0.60	
110	33	33	0.60	0.60	0.60	0.61	
111	33	33	0.55	0.55	0.54	0.61	
113	27	27	0.76	0.76	0.75	0.85	
114	27	27	0.70	0.70	0.69	0.78	
115	18	18	0.69	0.69	0.68	0.75	
116	18	18	0.56	0.56	0.56	0.61	
118	18	18	0.76	0.76	0.69	0.65	
119	18	18	0.79	0.79	0.68	0.68	
123	21	21	0.85	0.85	0.84	0.70	
124	21	21	0.78	0.78	0.76	0.65	
125	21	21	0.61	0.61	0.58	0.50	
127	12	12	0.68	0.68	0.62	0.62	

City of Salinas
Future Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
130	10	10	0.77	0.77	0.68	0.68	
131	10	10	0.78	0.78	0.69	0.69	
134	15	18	0.86	0.86	0.74	0.57	ABBOTT ST.
135	18	18	0.74	0.74	0.64	0.64	
136	18	18	0.75	0.75	0.65	0.65	
138	18	18	0.73	0.73	0.64	0.64	
139	15	18	0.96	0.96	0.84	0.56	ABBOTT ST.
146	10	10	0.55	0.55	0.54	0.44	
147	10	10	0.09	0.09	0.07	0.07	
148	12	15	1.00	1.00	0.80	0.49	ABBOTT ST.
149	10	10	0.75	0.75	0.67	0.67	
150	10	10	0.71	0.71	0.65	0.65	
154	10	10	0.80	0.80	0.73	0.73	
156	12	12	0.58	0.58	0.52	0.52	
157	12	12	0.86	0.86	0.77	0.54	
158	12	15	1.00	1.00	0.84	0.43	ABBOTT ST.
159	12	18	1.00	1.00	1.00	0.38	ABBOTT ST.
162	12	18	1.00	1.00	1.00	0.54	ABBOTT ST.
164	24	27	0.75	0.75	0.74	0.69	SOUTH SANBORN RD.
165	24	27	0.82	0.82	0.81	0.65	SOUTH SANBORN RD.
166	24	27	0.91	0.91	0.91	0.73	SOUTH SANBORN RD.
167	21	21	0.82	0.82	0.81	0.66	
168	21	24	0.97	0.97	0.96	0.79	SOUTH SANBORN RD.
170	12	12	0.35	0.35	0.34	0.22	
172	21	21	0.85	0.85	0.84	0.74	
175	21	21	0.76	0.76	0.76	0.70	
176	18	21	0.87	0.87	0.87	0.66	SOUTH SANBORN RD.
177	21	21	0.63	0.63	0.62	0.63	
178	18	21	0.81	0.81	0.81	0.68	SOUTH SANBORN RD.
179	15	18	0.54	0.54	0.54	0.49	
180	18	21	0.81	0.81	0.81	0.72	SOUTH SANBORN RD.
181	18	21	0.80	0.80	0.80	0.71	SOUTH SANBORN RD.
183	18	21	0.90	0.90	0.90	0.77	SOUTH SANBORN RD.
185	18	21	0.86	0.86	0.85	0.71	SOUTH SANBORN RD.
186	18	21	0.65	0.65	0.63	0.52	SOUTH SANBORN RD.
190	15	15	0.11	0.11	0.14	0.14	
191	15	15	0.18	0.18	0.21	0.21	
192	15	15	0.40	0.40	0.39	0.39	
194	18	21	0.57	0.57	0.56	0.47	SOUTH SANBORN RD.
195	18	21	0.50	0.50	0.48	0.41	SOUTH SANBORN RD.
196	18	21	0.66	0.66	0.61	0.51	SOUTH SANBORN RD.
198	18	21	0.77	0.77	0.71	0.59	SOUTH SANBORN RD.
199	18	21	0.82	0.82	0.80	0.66	EAST ALISAL ST.
201	18	21	1.00	1.00	1.00	0.70	EAST ALISAL ST.
205	18	21	1.00	1.00	1.00	0.56	EAST ALISAL ST.
206	18	18	0.67	0.67	0.58	0.54	EAST ALISAL ST.
210	15	15	0.21	0.21	0.19	0.19	
211	15	15	0.42	0.42	0.42	0.47	
215	15	15	0.15	0.15	0.16	0.15	
218	15	15	0.17	0.17	0.17	0.17	
221	12	12	0.20	0.20	0.19	0.18	
223	12	12	0.18	0.18	0.16	0.15	
227	12	12	0.08	0.08	0.10	0.10	
230	15	18	1.00	1.00	1.00	0.58	EAST ALISAL ST.
233	15	18	0.86	0.86	0.83	0.63	EAST ALISAL ST.
234	15	18	1.00	1.00	0.84	0.60	EAST ALISAL ST.
235	15	18	1.00	1.00	0.80	0.51	EAST ALISAL ST.
236	15	18	1.00	1.00	0.99	0.56	EAST ALISAL ST.
237	15	18	1.00	1.00	1.00	0.56	EAST ALISAL ST.
239	8	8	1.00	1.00	1.00	0.40	
240	8	8	1.00	1.00	1.00	0.19	
241	6	6	1.00	1.00	0.73	0.00	
242	8	8	1.00	1.00	0.76	0.13	
244	15	18	1.00	1.00	1.00	0.59	EAST ALISAL ST.
245	15	18	1.00	1.00	1.00	0.59	EAST ALISAL ST.
246	6	6	1.00	1.00	0.43	0.16	
247	15	18	1.00	1.00	1.00	0.61	EAST ALISAL ST.
248	6	6	0.56	0.56	0.15	0.15	
249	15	18	1.00	1.00	1.00	0.62	EAST ALISAL ST.
250	6	6	0.11	0.11	0.12	0.12	
254	15	18	1.00	1.00	1.00	0.62	EAST ALISAL ST.
255	15	18	1.00	1.00	1.00	0.58	EAST ALISAL ST.
257	15	18	1.00	1.00	1.00	0.58	EAST ALISAL ST.
258	15	18	1.00	1.00	1.00	0.62	EAST ALISAL ST.
262	15	18	1.00	1.00	1.00	0.50	EAST ALISAL ST.
263	12	12	0.19	0.19	0.16	0.16	
264	12	12	0.00	0.00	0.00	0.00	
265	21	21	0.60	0.60	0.68	0.67	
266	21	21	0.60	0.60	0.68	0.67	
267	18	18	0.53	0.53	0.62	0.62	
269	18	18	0.49	0.49	0.57	0.57	
270	18	18	0.50	0.50	0.53	0.53	
271	18	18	0.55	0.55	0.54	0.54	
272	18	18	0.42	0.42	0.41	0.41	
273	15	15	0.34	0.34	0.29	0.29	
274	15	15	0.32	0.32	0.28	0.28	
275	8	8	0.26	0.26	0.23	0.23	
276	15	15	0.43	0.43	0.38	0.38	
277	12	12	0.33	0.33	0.38	0.38	
278	12	12	0.35	0.35	0.42	0.42	
280	12	12	0.36	0.36	0.42	0.42	

City of Salinas
Future Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
281	10	10	0.17	0.17	0.27	0.27	
282	10	10	0.16	0.16	0.24	0.24	
284	15	15	0.43	0.43	0.47	0.47	
285	15	15	0.37	0.37	0.40	0.40	
286	30	30	0.69	0.69	0.66	0.69	
287	30	30	0.70	0.70	0.70	0.76	
288	30	30	0.63	0.63	0.61	0.64	
289	30	30	0.67	0.67	0.67	0.70	
290	30	30	0.70	0.70	0.70	0.75	
291	30	30	0.70	0.70	0.71	0.76	
292	30	30	0.71	0.71	0.72	0.78	
293	30	30	0.75	0.75	0.75	0.80	
294	30	30	0.75	0.75	0.75	0.81	
295	30	30	0.74	0.74	0.74	0.80	
296	30	30	0.69	0.69	0.69	0.75	
301	24	24	0.28	0.28	0.33	0.33	
302	24	24	0.33	0.33	0.38	0.38	
303	24	24	0.31	0.31	0.37	0.37	
305	10	10	0.20	0.20	0.16	0.16	
308	24	30	0.87	0.87	0.94	0.56	NORTH DAVIS RD. NORTH DAVIS RD.
309	18	24	0.90	0.90	0.94	0.54	
311	10	10	0.20	0.20	0.21	0.21	
312	10	10	0.01	0.01	0.01	0.01	
314	8	8	0.67	0.67	0.69	0.69	
315	10	10	0.00	0.00	0.00	0.00	
316	8	8	0.46	0.46	0.49	0.49	
317	21	24	0.58	0.58	0.50	0.50	
318	21	24	0.58	0.58	0.50	0.50	
319	21	24	0.29	0.29	0.25	0.25	
320	21	24	0.42	0.42	0.37	0.36	
321	21	24	0.59	0.59	0.50	0.50	
322	21	24	0.60	0.60	0.51	0.51	
323	21	24	0.60	0.60	0.52	0.51	
324	21	24	0.61	0.61	0.52	0.52	
325	21	24	0.61	0.61	0.52	0.51	
326	21	24	0.65	0.65	0.55	0.55	
327	24	27	0.61	0.61	0.52	0.52	
328	24	27	0.60	0.60	0.51	0.51	
329	24	27	0.59	0.59	0.50	0.50	
330	24	27	0.59	0.59	0.50	0.50	
331	24	27	0.59	0.59	0.50	0.50	
332	30	30	0.77	0.77	0.74	0.77	
333	30	30	0.73	0.73	0.71	0.74	
334	30	30	0.69	0.69	0.66	0.69	
335	30	30	0.84	0.84	0.81	0.84	
336	24	24	0.59	0.59	0.56	0.59	
337	24	24	0.57	0.57	0.54	0.57	
338	24	27	0.55	0.55	0.50	0.51	
339	24	24	0.57	0.57	0.54	0.57	
340	21	21	0.31	0.31	0.37	0.37	
341	21	21	0.38	0.38	0.49	0.49	
342	15	18	0.54	0.54	0.73	0.73	
343	15	18	0.46	0.46	0.63	0.63	
344	15	18	0.39	0.39	0.52	0.52	
345	15	18	0.38	0.38	0.52	0.52	
346	15	18	0.38	0.38	0.52	0.52	
347	8	8	0.73	0.73	0.75	0.75	
349	15	15	0.21	0.21	0.22	0.22	
350	10	10	0.30	0.30	0.31	0.31	
351	15	15	0.23	0.23	0.24	0.24	
352	15	15	0.00	0.00	0.00	0.00	
353	15	15	0.00	0.00	0.00	0.00	
354	36	36	0.42	0.42	0.52	0.53	
355	21	21	0.82	0.82	0.90	0.95	
356	24	24	0.78	0.78	0.85	0.89	
357	12	12	1.00	1.00	1.00	1.00	
358	12	15	0.49	0.49	0.66	0.66	
360	48	48	0.52	0.52	0.60	0.61	
361	54	54	0.66	0.66	0.73	0.74	
362	54	54	0.60	0.60	0.67	0.69	
363	24	24	1.00	1.00	1.00	1.00	
364	27	27	1.00	1.00	1.00	1.00	
365	36	36	0.92	0.92	0.98	0.99	
366	54	54	0.74	0.74	0.81	0.83	
367	54	54	0.71	0.71	0.78	0.79	
368	54	54	0.72	0.72	0.80	0.81	
369	54	54	0.70	0.70	0.77	0.78	
370	54	54	0.68	0.68	0.75	0.76	
371	54	54	0.68	0.68	0.75	0.76	
372	54	54	0.68	0.68	0.75	0.76	
373	54	54	0.68	0.68	0.75	0.76	
374	54	54	0.68	0.68	0.74	0.75	
375	54	54	0.67	0.67	0.74	0.75	
376	54	54	0.67	0.67	0.73	0.74	
377	54	54	0.66	0.66	0.72	0.73	
378	54	54	0.65	0.65	0.71	0.71	
379	54	54	0.64	0.64	0.70	0.70	
380	54	54	0.63	0.63	0.68	0.69	
381	54	54	0.65	0.65	0.71	0.72	
382	54	54	0.64	0.64	0.69	0.70	
383	8	8	0.53	0.53	0.72	0.74	

City of Salinas
Future Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
384	30	32	0.50	0.50	0.57	0.51	NORTH DAVIS RD.
385	30	32	0.68	0.68	0.68	0.59	NORTH DAVIS RD.
387	8	8	0.27	0.27	0.32	0.32	
392	12	12	0.15	0.15	0.18	0.18	
399	21	21	0.60	0.60	0.68	0.67	
400	21	21	0.64	0.64	0.73	0.71	
401	21	21	0.58	0.58	0.66	0.65	
402	21	21	0.57	0.57	0.66	0.65	
403	24	24	0.33	0.33	0.42	0.42	
404	24	24	0.31	0.31	0.36	0.36	
405	21	21	0.54	0.54	0.60	0.60	
406	21	21	0.52	0.52	0.54	0.54	
407	24	24	0.40	0.40	0.49	0.49	
408	24	24	0.36	0.36	0.48	0.48	
409	24	24	0.08	0.08	0.10	0.10	
410	24	27	0.60	0.60	0.51	0.51	
411	24	27	0.56	0.56	0.49	0.49	
412	24	27	0.49	0.49	0.43	0.43	
419	10	12	0.41	0.41	0.67	0.38	SAN JUAN GRADE
421	15	15	0.62	0.62	0.82	0.82	
423	21	21	0.53	0.53	0.72	0.72	
424	36	36	0.24	0.24	0.32	0.32	
425	36	36	0.38	0.38	0.49	0.49	
426	36	36	0.37	0.37	0.46	0.46	
430	12	12	0.33	0.33	0.35	0.35	
432	12	12	0.31	0.31	0.44	0.44	
434	12	12	0.32	0.32	0.45	0.45	
435	12	12	0.29	0.29	0.40	0.40	
437	12	12	0.29	0.29	0.40	0.40	
442	12	12	0.29	0.29	0.41	0.41	
447	14	14	0.41	0.41	0.58	0.60	
448	12	12	0.26	0.26	0.36	0.36	
449	12	12	0.21	0.21	0.17	0.17	
453	12	12	0.38	0.38	0.45	0.45	
456	12	12	0.37	0.37	0.40	0.40	
459	12	12	0.38	0.38	0.38	0.38	
461	12	12	0.19	0.19	0.21	0.21	
462	24	24	0.47	0.47	0.45	0.47	
463	30	30	0.74	0.74	0.71	0.74	
464	24	24	0.50	0.50	0.48	0.50	
465	24	24	0.32	0.32	0.31	0.33	
466	30	30	0.64	0.64	0.62	0.64	
467	30	30	0.66	0.66	0.65	0.66	
469	14	14	0.56	0.56	0.47	0.43	
470	24	24	0.16	0.16	0.16	0.16	
471	30	30	0.30	0.30	0.30	0.30	
474	8	8	0.12	0.12	0.16	0.16	
477	8	8	0.06	0.06	0.05	0.05	
478	10	10	0.10	0.10	0.12	0.12	
480	18	18	0.33	0.33	0.52	0.57	
482	48	48	0.63	0.63	0.70	0.73	
483	48	48	0.72	0.72	0.83	0.86	
485	12	12	0.56	0.56	0.81	0.81	
486	12	12	0.45	0.45	0.66	0.66	
487	18	18	0.31	0.31	0.41	0.41	
488	15	18	0.44	0.44	0.59	0.59	
489	18	18	0.46	0.46	0.61	0.61	
490	12	12	0.51	0.51	0.74	0.74	
491	18	18	0.47	0.47	0.64	0.64	
492	18	18	0.46	0.46	0.62	0.62	
494	12	12	0.52	0.52	0.75	0.75	
495	18	18	0.47	0.47	0.62	0.62	
496	18	18	0.46	0.46	0.62	0.62	
497	12	12	0.44	0.44	0.61	0.61	
498	12	12	0.48	0.48	0.68	0.68	
500	12	15	0.48	0.48	0.66	0.66	
501	12	15	0.32	0.32	0.47	0.47	
502	8	8	0.07	0.07	0.09	0.09	
504	12	12	0.46	0.46	0.63	0.63	
505	18	18	0.48	0.48	0.63	0.63	
506	18	18	0.54	0.54	0.74	0.74	
507	8	8	0.45	0.45	0.52	0.52	
510	21	21	0.50	0.50	0.68	0.68	
511	21	21	0.52	0.52	0.71	0.71	
512	21	21	0.53	0.53	0.74	0.74	
513	21	21	0.54	0.54	0.80	0.80	
514	10	10	0.03	0.03	0.03	0.03	
516	21	21	0.65	0.65	0.90	0.90	
517	21	21	0.56	0.56	0.78	0.78	
518	10	10	0.50	0.50	0.50	0.50	
521	8	8	0.00	0.00	0.00	0.00	
522	30	30	0.73	0.73	0.70	0.73	
523	30	30	0.74	0.74	0.71	0.74	
524	24	24	0.52	0.52	0.50	0.52	
525	30	30	0.77	0.77	0.74	0.77	
526	24	24	0.57	0.57	0.54	0.57	
527	24	24	0.46	0.46	0.44	0.46	
531	18	18	0.42	0.42	0.39	0.39	
532	18	18	0.32	0.32	0.30	0.30	
535	10	10	0.16	0.16	0.19	0.19	
536	10	10	0.20	0.20	0.23	0.23	

City of Salinas
Future Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
538	10	10	0.21	0.21	0.24	0.24	
544	10	10	0.19	0.19	0.22	0.22	
545	8	8	0.29	0.29	0.33	0.33	
546	54	54	0.59	0.59	0.64	0.65	
547	24	24	0.15	0.15	0.15	0.15	
548	48	48	0.52	0.52	0.55	0.56	
549	24	24	0.20	0.20	0.24	0.24	
552	48	48	0.45	0.45	0.49	0.49	
553	54	54	0.56	0.56	0.60	0.60	
554	48	48	0.55	0.55	0.60	0.60	
555	18	18	0.29	0.29	0.28	0.22	
556	18	18	0.50	0.50	0.49	0.48	
557	27	27	0.11	0.11	0.11	0.12	
559	8	8	0.12	0.12	0.09	0.09	
560	21	21	0.59	0.59	0.59	0.63	
561	21	21	0.45	0.45	0.45	0.45	
563	21	21	0.40	0.40	0.40	0.40	
564	21	21	0.45	0.45	0.46	0.46	
565	21	21	0.47	0.47	0.47	0.47	
566	21	21	0.46	0.46	0.46	0.46	
567	21	21	0.51	0.51	0.52	0.52	
569	21	21	0.48	0.48	0.48	0.48	
570	21	21	0.41	0.41	0.41	0.41	
571	21	21	0.46	0.46	0.47	0.47	
572	21	21	0.45	0.45	0.46	0.46	
574	24	24	0.60	0.60	0.58	0.60	
575	30	30	0.76	0.76	0.73	0.76	
576	24	24	0.48	0.48	0.46	0.48	
577	30	30	0.62	0.62	0.62	0.69	
578	30	30	0.56	0.56	0.56	0.63	
579	30	30	0.60	0.60	0.60	0.64	
580	30	30	0.66	0.66	0.66	0.70	
581	27	27	0.74	0.74	0.74	0.81	
582	21	21	0.68	0.68	0.69	0.76	
583	27	27	0.66	0.66	0.66	0.71	
584	27	27	0.49	0.49	0.49	0.52	
586	27	27	0.46	0.46	0.46	0.50	
587	27	27	0.62	0.62	0.62	0.68	
588	24	27	0.68	0.68	0.74	0.57	NATIVIDAD CREEK PARK
589	24	27	0.74	0.74	0.82	0.57	NATIVIDAD CREEK PARK
591	24	27	0.70	0.70	0.76	0.54	NATIVIDAD CREEK PARK
592	24	27	0.70	0.70	0.76	0.55	NATIVIDAD CREEK PARK
594	10	10	0.81	0.81	1.00	1.00	
595	10	10	0.14	0.14	0.22	0.22	
596	30	32	0.80	0.80	0.81	0.70	NORTH DAVIS RD.
601	30	32	0.86	0.86	0.89	0.73	NORTH DAVIS RD.
606	30	32	0.87	0.87	0.91	0.72	NORTH DAVIS RD.
607	30	32	0.93	0.93	0.94	0.77	NORTH DAVIS RD.
609	30	32	1.00	1.00	1.00	0.81	NORTH DAVIS RD.
612	30	32	1.00	1.00	1.00	0.78	NORTH DAVIS RD.
615	30	32	1.00	1.00	1.00	0.80	NORTH DAVIS RD.
619	24	30	0.92	0.92	1.00	0.50	NORTH DAVIS RD.
623	27	27	0.36	0.36	0.34	0.34	
626	27	27	0.38	0.38	0.36	0.36	
627	27	27	0.39	0.39	0.36	0.36	
629	27	27	0.38	0.38	0.36	0.36	
631	27	27	0.40	0.40	0.39	0.39	
633	27	27	0.36	0.36	0.35	0.35	
636	27	27	0.35	0.35	0.34	0.34	
639	15	15	0.52	0.52	0.61	0.63	
644	6	6	0.00	0.00	0.00	0.00	
645	15	18	0.58	0.58	0.52	0.52	
649	15	18	0.50	0.50	0.43	0.43	
650	15	18	0.52	0.52	0.44	0.44	
651	15	18	0.48	0.48	0.41	0.41	
652	15	18	0.47	0.47	0.41	0.41	
653	15	18	0.46	0.46	0.39	0.39	
656	15	18	0.52	0.52	0.44	0.44	
658	24	27	0.79	0.79	0.89	0.60	NATIVIDAD CREEK PARK
659	24	27	0.79	0.79	0.89	0.59	NATIVIDAD CREEK PARK
660	24	27	0.72	0.72	0.80	0.55	NATIVIDAD CREEK PARK
662	24	27	0.72	0.72	0.77	0.56	NATIVIDAD CREEK PARK
665	18	21	0.98	0.98	1.00	0.75	NATIVIDAD CREEK PARK
666	48	48	0.58	0.58	0.64	0.66	
667	48	48	0.55	0.55	0.58	0.59	
669	15	15	0.24	0.24	0.29	0.29	
671	15	15	0.35	0.35	0.41	0.41	
673	8	8	0.08	0.08	0.07	0.07	
675	48	48	0.67	0.67	0.71	0.72	
677	48	48	0.60	0.60	0.64	0.66	
682	15	15	0.43	0.43	0.46	0.46	
686	12	12	0.43	0.43	0.51	0.51	
687	15	15	0.50	0.50	0.75	0.75	
688	15	15	0.39	0.39	0.58	0.58	
690	12	15	0.53	0.53	0.73	0.73	
692	12	15	0.57	0.57	0.79	0.79	
693	12	15	0.53	0.53	0.73	0.73	
694	12	15	0.51	0.51	0.69	0.69	
696	12	15	0.52	0.52	0.71	0.71	
702	12	15	0.45	0.45	0.59	0.59	
703	10	15	0.41	0.41	0.49	0.49	

City of Salinas
Future Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
705	12	15	0.55	0.55	0.66	0.43	WEST LAUREL DR.
707	12	15	0.66	0.66	0.80	0.47	WEST LAUREL DR.
709	12	15	0.66	0.66	0.79	0.48	WEST LAUREL DR.
711	12	15	0.75	0.75	0.88	0.55	WEST LAUREL DR.
712	12	15	0.62	0.62	0.73	0.44	WEST LAUREL DR.
713	12	15	0.69	0.69	0.82	0.51	WEST LAUREL DR.
716	8	8	0.60	0.60	0.71	0.71	
717	12	15	0.50	0.50	0.64	0.64	
723	8	8	0.21	0.21	0.24	0.24	
726	8	8	0.23	0.23	0.28	0.28	
727	12	12	0.31	0.31	0.36	0.36	
729	12	12	0.15	0.15	0.12	0.12	
732	12	12	0.29	0.29	0.25	0.25	
734	14	14	0.21	0.21	0.17	0.17	
735	12	12	0.35	0.35	0.28	0.28	
738	12	12	0.37	0.37	0.30	0.30	
743	12	12	0.32	0.32	0.26	0.26	
744	15	15	0.29	0.29	0.24	0.24	
749	15	15	0.33	0.33	0.29	0.29	
751	15	15	0.35	0.35	0.32	0.32	
753	18	18	0.21	0.21	0.22	0.22	
756	18	18	0.38	0.38	0.42	0.42	
757	15	15	0.42	0.42	0.45	0.45	
758	8	8	0.10	0.10	0.16	0.16	
759	8	8	0.13	0.13	0.20	0.20	
760	8	8	0.24	0.24	0.33	0.33	
761	15	15	0.41	0.41	0.45	0.45	
762	48	48	0.60	0.60	0.64	0.66	
763	24	24	0.20	0.20	0.27	0.30	
764	48	48	0.61	0.61	0.65	0.67	
766	48	48	0.50	0.50	0.54	0.56	
767	12	15	0.53	0.53	0.71	0.71	
768	12	15	0.46	0.46	0.61	0.61	
769	24	24	0.21	0.21	0.24	0.24	
770	12	12	0.18	0.18	0.21	0.21	
771	24	24	0.29	0.29	0.32	0.32	
772	15	15	0.00	0.00	0.00	0.00	
773	8	8	0.53	0.53	0.56	0.56	
774	8	8	0.50	0.50	0.53	0.53	
775	8	8	0.50	0.50	0.53	0.53	
776	8	8	0.48	0.48	0.51	0.51	
777	8	8	0.47	0.47	0.52	0.52	
778	6	6	0.28	0.28	0.34	0.34	
779	12	12	0.28	0.28	0.40	0.40	
783	14	14	0.23	0.23	0.27	0.27	
785	14	14	0.23	0.23	0.28	0.28	
787	12	12	0.25	0.25	0.30	0.30	
788	12	12	0.26	0.26	0.31	0.31	
789	18	18	0.43	0.43	0.47	0.47	
792	14	14	0.13	0.13	0.16	0.16	
795	18	18	0.38	0.38	0.43	0.43	
796	18	18	0.37	0.37	0.42	0.42	
800	18	18	0.40	0.40	0.46	0.46	
801	18	18	0.48	0.48	0.54	0.54	
802	18	18	0.44	0.44	0.49	0.49	
804	18	18	0.40	0.40	0.45	0.45	
805	18	18	0.39	0.39	0.44	0.44	
807	18	18	0.27	0.27	0.31	0.31	
808	18	18	0.34	0.34	0.40	0.40	
809	12	12	0.70	0.70	0.84	0.84	
810	18	18	0.53	0.53	0.61	0.61	
811	15	15	0.30	0.30	0.37	0.37	
814	18	18	0.44	0.44	0.51	0.51	
815	21	21	0.38	0.38	0.44	0.44	
818	18	18	0.49	0.49	0.58	0.58	
819	18	18	0.45	0.45	0.53	0.53	
821	15	15	0.38	0.38	0.61	0.60	
824	15	15	0.73	0.73	0.87	0.87	
825	15	15	0.56	0.56	0.66	0.66	
828	21	21	0.34	0.34	0.39	0.39	
831	21	21	0.42	0.42	0.49	0.49	
834	21	21	0.54	0.54	0.62	0.62	
835	24	24	0.34	0.34	0.39	0.39	
838	24	24	0.34	0.34	0.39	0.39	
843	21	21	0.69	0.69	0.78	0.77	
846	21	21	0.66	0.66	0.71	0.69	
847	12	12	0.17	0.17	0.21	0.21	
848	21	21	0.54	0.54	0.59	0.57	
850	21	21	0.60	0.60	0.67	0.66	
851	21	21	0.48	0.48	0.53	0.52	
852	15	15	0.45	0.45	0.39	0.39	
853	15	15	0.32	0.32	0.28	0.28	
855	8	8	0.28	0.28	0.24	0.24	
856	8	8	0.24	0.24	0.21	0.21	
860	8	8	0.43	0.43	0.39	0.39	
863	15	15	0.33	0.33	0.29	0.29	
864	8	8	0.23	0.23	0.20	0.20	
867	10	10	0.11	0.11	0.10	0.10	
869	10	10	0.17	0.17	0.15	0.15	
872	12	18	1.00	1.00	1.00	0.63	FREEDOM PKWY
874	12	18	1.00	1.00	1.00	0.60	FREEDOM PKWY

City of Salinas
Future Sewer Model Results
Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
875	12	18	0.90	0.90	0.90	0.51	FREEDOM PKWY
878	12	18	0.51	0.51	0.52	0.31	FREEDOM PKWY
880	18	18	0.29	0.29	0.30	0.34	
881	18	18	0.41	0.41	0.43	0.49	
882	15	15	0.36	0.36	0.31	0.31	
886	15	15	0.25	0.25	0.22	0.22	
888	12	12	0.40	0.40	0.34	0.34	
889	15	15	0.18	0.18	0.16	0.16	
890	15	18	0.56	0.56	0.47	0.47	
891	14	15	0.47	0.47	0.41	0.41	
892	15	15	0.20	0.20	0.17	0.17	
893	10	10	0.50	0.50	0.43	0.43	
894	10	10	0.17	0.17	0.14	0.14	
896	12	12	0.05	0.05	0.05	0.05	
897	15	15	0.49	0.49	0.42	0.42	
899	12	12	0.15	0.15	0.14	0.14	
903	15	15	0.49	0.49	0.42	0.42	
904	8	8	0.40	0.40	0.34	0.34	
907	8	8	0.47	0.47	0.41	0.41	
908	15	15	0.38	0.38	0.33	0.33	
911	15	15	0.52	0.52	0.46	0.46	
912	15	15	0.50	0.50	0.44	0.44	
914	8	8	0.39	0.39	0.34	0.34	
917	8	8	0.23	0.23	0.20	0.20	
920	12	12	0.04	0.04	0.03	0.03	
921	15	15	0.45	0.45	0.38	0.38	
922	15	15	0.36	0.36	0.31	0.31	
923	6	6	0.14	0.14	0.13	0.13	
924	15	15	0.30	0.30	0.26	0.26	
925	6	6	0.07	0.07	0.06	0.06	
928	15	15	0.21	0.21	0.18	0.18	
929	15	15	0.25	0.25	0.22	0.22	
931	15	15	0.34	0.34	0.30	0.30	
932	6	6	0.00	0.00	0.00	0.00	
933	15	15	0.15	0.15	0.13	0.13	
935	18	18	0.43	0.43	0.38	0.02	
936	18	18	0.47	0.47	0.43	0.13	
940	18	18	0.56	0.56	0.54	0.31	
945	18	18	0.52	0.52	0.51	0.30	
946	18	18	0.62	0.62	0.62	0.38	
948	18	18	0.62	0.62	0.60	0.37	
949	10	12	0.40	0.40	0.41	0.32	
950	18	12	0.23	0.23	0.23	0.20	
951	18	18	0.15	0.15	0.15	0.06	
953	18	18	0.49	0.49	0.49	0.32	
955	18	18	0.66	0.66	0.66	0.42	
956	18	18	0.45	0.45	0.45	0.27	
957	18	18	0.59	0.59	0.59	0.37	
960	8	8	0.28	0.28	0.29	0.14	
963	10	15	1.00	1.00	1.00	0.68	FREEDOM PKWY
965	10	10	0.61	0.61	0.63	0.47	
967	10	10	0.82	0.82	0.84	0.56	
968	10	10	0.47	0.47	0.48	0.35	
969	18	18	1.00	1.00	1.00	0.72	
970	18	18	1.00	1.00	1.00	0.72	
971	18	18	1.00	1.00	1.00	0.65	
973	18	18	1.00	1.00	1.00	0.53	
974	18	18	1.00	1.00	1.00	0.54	
977	12	15	0.23	0.23	0.31	0.31	
978	12	15	0.33	0.33	0.42	0.42	
979	12	15	0.28	0.28	0.36	0.36	
984	12	15	0.29	0.29	0.37	0.37	
985	15	18	0.49	0.49	0.64	0.64	
986	15	18	0.48	0.48	0.66	0.66	
988	15	18	0.53	0.53	0.72	0.72	
989	15	18	0.52	0.52	0.71	0.71	
990	15	18	0.52	0.52	0.70	0.70	
992	15	18	0.56	0.56	0.75	0.75	
993	15	18	0.53	0.53	0.73	0.73	
994	15	18	0.50	0.50	0.68	0.68	
995	18	21	0.87	0.87	1.00	0.59	NATIVIDAD CREEK PARK
996	18	21	1.00	1.00	1.00	0.76	NATIVIDAD CREEK PARK
998	18	18	0.59	0.59	0.60	0.54	
1000	18	18	0.70	0.70	0.64	0.59	
1002	15	18	0.47	0.47	0.63	0.63	
1003	12	12	0.41	0.41	0.57	0.57	
1004	12	12	0.47	0.47	0.67	0.67	
1005	15	18	0.36	0.36	0.48	0.48	
1006	15	18	0.52	0.52	0.72	0.72	
1009	12	12	0.19	0.19	0.31	0.31	
1010	15	18	0.58	0.58	0.80	0.80	
1012	12	15	0.37	0.37	0.49	0.49	
1013	12	15	0.42	0.42	0.57	0.57	
1014	15	15	0.57	0.57	0.49	0.49	
1017	12	12	0.27	0.27	0.22	0.22	
1021	18	18	0.49	0.49	0.48	0.48	
1023	18	18	0.42	0.42	0.42	0.42	
1024	12	12	0.62	0.62	0.58	0.58	
1025	12	12	0.61	0.61	0.58	0.58	
1027	12	12	0.64	0.64	0.61	0.61	
1029	12	12	0.61	0.61	0.58	0.58	

City of Salinas
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Peak Hydraulic Capacity, Pipe Upgrades, and CIPs

Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
1031	12	12	0.62	0.62	0.59	0.59	
1033	12	12	0.63	0.63	0.60	0.60	
1035	12	12	0.64	0.64	0.59	0.59	
1037	12	12	0.63	0.63	0.59	0.59	
1040	12	12	0.63	0.63	0.58	0.58	
1042	12	12	0.58	0.58	0.52	0.52	
1044	12	12	0.55	0.55	0.47	0.47	
1046	12	12	0.55	0.55	0.47	0.47	
1049	12	12	0.55	0.55	0.48	0.48	
1052	12	12	0.27	0.27	0.42	0.42	
1053	12	12	0.36	0.36	0.50	0.50	
1055	12	12	0.44	0.44	0.63	0.63	
1056	12	12	0.42	0.42	0.58	0.58	
1060	12	12	0.35	0.35	0.45	0.45	
1061	12	12	0.42	0.42	0.54	0.54	
1063	12	12	0.48	0.48	0.63	0.63	
1065	12	12	0.51	0.51	0.65	0.65	
1068	12	12	0.40	0.40	0.52	0.52	
1071	14	14	1.00	1.00	1.00	1.00	
1078	15	15	0.47	0.47	0.68	0.68	
1079	15	15	0.42	0.42	0.60	0.60	
1081	15	15	0.36	0.36	0.52	0.52	
1093	48	48	0.65	0.65	0.73	0.76	
1096	10	10	0.58	0.58	0.58	0.58	
1097	10	10	0.59	0.59	0.61	0.61	
1101	15	18	0.48	0.48	0.73	0.49	VICTOR ST.
1108	27	27	0.46	0.46	0.47	0.47	
1109	12	12	0.23	0.23	0.30	0.30	
1110	27	27	0.38	0.38	0.36	0.36	
1114	24	30	0.79	0.79	0.86	0.55	NORTH DAVIS RD.
1115	24	30	0.97	0.97	1.00	0.56	NORTH DAVIS RD.
1116	24	30	0.77	0.77	1.00	0.45	NORTH DAVIS RD.
1131	12	12	0.50	0.50	0.62	0.65	
1132	12	12	0.54	0.54	0.68	0.71	
1134	12	12	0.45	0.45	0.55	0.58	
1139	27	27	0.52	0.52	0.54	0.54	
1140	27	27	0.55	0.55	0.57	0.58	
1141	27	27	0.56	0.56	0.58	0.59	
1146	15	18	0.48	0.48	0.56	0.58	
1152	15	18	0.47	0.47	0.56	0.57	
1154	15	18	0.50	0.50	0.59	0.60	
1155	15	18	0.49	0.49	0.57	0.58	
1159	15	18	0.48	0.48	0.56	0.57	
1162	15	18	0.54	0.54	0.64	0.65	
1164	18	18	0.63	0.63	0.75	0.77	
1167	18	18	0.68	0.68	0.79	0.81	
1172	27	27	0.47	0.47	0.47	0.47	
1175	15	18	0.47	0.47	0.55	0.56	
1177	15	15	0.59	0.59	0.71	0.73	
1182	27	27	0.44	0.44	0.45	0.46	
1183	27	27	0.46	0.46	0.47	0.48	
1186	8	8	0.20	0.20	0.16	0.16	
1206	15	15	0.43	0.43	0.64	0.65	
1207	15	15	0.49	0.49	0.75	0.68	
1208	15	18	0.54	0.54	0.84	0.53	VICTOR ST.
1209	15	18	0.53	0.53	0.87	0.52	VICTOR ST.
1210	15	18	0.52	0.52	0.89	0.51	VICTOR ST.
1211	15	18	0.51	0.51	0.95	0.51	VICTOR ST.
1212	15	18	0.53	0.53	0.98	0.52	VICTOR ST.
1213	15	18	0.57	0.57	0.92	0.55	VICTOR ST.
1214	48	48	0.78	0.78	0.86	0.87	
1215	48	48	0.79	0.79	0.87	0.89	
1216	48	48	0.80	0.80	0.88	0.89	
1217	48	48	0.81	0.81	0.90	0.92	
1218	48	48	0.82	0.82	0.92	0.94	
1219	48	48	0.76	0.76	0.87	0.89	
1220	48	48	0.70	0.70	0.80	0.82	
1221	10	10	0.65	0.65	0.62	0.61	
1222	10	10	0.30	0.30	0.24	0.24	
1223	10	10	0.35	0.35	0.28	0.28	
1224	10	10	0.35	0.35	0.29	0.29	
1225	10	10	0.36	0.36	0.29	0.29	
1226	10	10	0.36	0.36	0.29	0.29	
1227	10	10	0.35	0.35	0.28	0.28	
1228	12	12	0.30	0.30	0.25	0.25	
1229	10	10	0.38	0.38	0.31	0.31	
1230	24	24	0.42	0.42	0.39	0.39	
1231	24	24	0.39	0.39	0.35	0.35	
1232	24	24	0.40	0.40	0.36	0.36	
1233	24	24	0.39	0.39	0.35	0.35	
1234	24	24	0.36	0.36	0.32	0.32	
1235	18	24	0.66	0.66	0.70	0.62	
1236	18	24	0.62	0.62	0.64	0.66	
1237	18	24	0.57	0.57	0.59	0.59	
1238	18	24	0.52	0.52	0.53	0.54	
1239	18	24	0.61	0.61	0.63	0.64	
1240	18	24	0.64	0.64	0.67	0.67	
1241	12	12	0.23	0.23	0.24	0.24	
1242	12	12	0.22	0.22	0.23	0.23	
1243	12	12	0.25	0.25	0.26	0.26	
1244	18	24	0.65	0.65	0.68	0.68	

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Pipe ID	Existing Diameter [inches]	Proposed Diameter [inches]	Existing MDF d/D (exist pipe dia)	Existing MDF d/D (proposed pipe dia)	Existing PHWWF d/D (exist pipe dia)	Existing PHWWF d/D (proposed pipe dia)	CIP Name
1245	18	24	0.67	0.67	0.70	0.70	
1248	18	24	0.54	0.54	0.56	0.56	
1252	12	12	0.32	0.32	0.34	0.34	
1253	18	24	0.47	0.47	0.49	0.49	
1254	18	24	0.47	0.47	0.49	0.49	
1255	15	15	0.87	0.87	0.88	0.89	
1257	27	27	0.53	0.53	0.55	0.55	
1259	27	27	0.45	0.45	0.46	0.47	
1263	8	12	0.84	0.84	0.90	0.60	SAN JUAN GRADE
1267	12	12	0.40	0.40	0.52	0.54	
1269	12	12	0.50	0.50	0.61	0.64	
1272	15	15	0.53	0.53	0.63	0.64	
1273	12	12	0.41	0.41	0.50	0.52	
1275	10	10	0.45	0.45	0.48	0.48	
1279	10	10	0.42	0.42	0.44	0.44	
1280	10	10	0.64	0.64	0.70	0.70	
1281	10	10	0.60	0.60	0.65	0.65	
1283	36	36	0.59	0.59	0.67	0.68	
1285	8	8	0.12	0.12	0.16	0.16	
1286	36	36	0.78	0.78	0.83	0.85	
1287	14	14	0.02	0.02	0.01	0.01	
1288	8	8	0.05	0.05	0.05	0.05	
1289	30	30	0.71	0.71	0.68	0.68	
1290	8	8	0.59	0.59	0.63	0.63	
1291	8	8	0.59	0.59	0.62	0.62	
1292	30	30	0.81	0.81	0.78	0.76	
1293	48	48	0.68	0.68	0.71	0.73	
1294	48	48	0.59	0.59	0.63	0.64	
1305	24	24	0.13	0.13	0.17	0.17	
1306	48	48	0.70	0.70	0.80	0.83	
1307	48	48	0.71	0.71	0.82	0.84	
1308	48	48	0.60	0.60	0.68	0.71	
1309	48	48	0.61	0.61	0.67	0.70	
1313	12	12	1.00	1.00	1.00	1.00	
1320	12	12	0.26	0.26	0.31	0.31	
1321	12	12	0.24	0.24	0.28	0.28	
1324	12	12	0.19	0.19	0.23	0.23	
1325	12	12	0.25	0.25	0.30	0.30	
1327	8	12	0.32	0.32	0.44	0.44	
1329	18	18	0.11	0.11	0.13	0.13	
1332	12	12	0.06	0.06	0.06	0.06	
1333	12	12	0.30	0.30	0.35	0.35	
1335	18	18	0.23	0.23	0.27	0.27	
1338	8	8	0.14	0.14	0.12	0.12	
1341	18	18	0.25	0.25	0.27	0.27	
1342	10	10	0.10	0.10	0.08	0.08	
1344	12	12	0.45	0.45	0.38	0.38	
1349	10	10	0.60	0.60	0.49	0.49	
1350	10	10	0.64	0.64	0.50	0.50	
1351	10	10	0.65	0.65	0.51	0.51	
1352	10	10	0.56	0.56	0.44	0.44	
1354	8	8	0.36	0.36	0.42	0.42	
1356	8	8	0.41	0.41	0.52	0.52	
1357	8	8	0.62	0.62	0.80	0.80	
1358	8	8	0.35	0.35	0.42	0.42	
1359	12	12	0.32	0.32	0.40	0.40	
1361	8	12	0.44	0.44	0.57	0.57	
1362	8	12	0.48	0.48	0.58	0.58	
1363	8	8	0.31	0.31	0.27	0.27	
1364	6	6	0.00	0.00	0.00	0.00	
1367	8	8	0.00	0.00	0.00	0.00	
1368	12	12	0.00	0.00	0.00	0.00	
1369	8	12	0.32	0.32	0.43	0.43	
1372	8	12	0.34	0.34	0.46	0.46	
1373	8	8	0.50	0.50	0.70	0.70	
1374	8	8	0.50	0.50	0.71	0.71	
1375	8	8	0.45	0.45	0.62	0.62	
1380	8	8	0.44	0.44	0.59	0.59	
1383	8	8	0.49	0.49	0.67	0.67	
1384	8	8	0.53	0.53	0.72	0.72	
1385	8	8	0.45	0.45	0.62	0.62	
1386	12	15	0.46	0.46	0.63	0.63	
1389	12	15	0.49	0.49	0.68	0.68	
1390	15	18	0.36	0.36	0.49	0.49	
1401	8	12	0.77	0.77	1.00	0.42	SAN JUAN GRADE
1402	8	12	0.63	0.63	1.00	0.38	SAN JUAN GRADE
1403	8	12	0.75	0.75	1.00	0.44	SAN JUAN GRADE
1404	8	12	0.89	0.89	1.00	0.51	SAN JUAN GRADE
1405	8	12	0.87	0.87	1.00	0.52	SAN JUAN GRADE
1406	10	10	0.54	0.54	0.53	0.53	
1408	10	10	0.04	0.04	0.03	0.03	
1413	27	27	0.47	0.47	0.49	0.49	
1416	12	12	0.25	0.25	0.26	0.26	
1417	12	12	0.23	0.23	0.24	0.24	
1418	12	12	0.12	0.12	0.13	0.13	
1419	12	12	0.00	0.00	0.00	0.00	
1425	8	12	0.74	0.74	1.00	0.43	SAN JUAN GRADE
1426	8	12	0.82	0.82	1.00	0.45	SAN JUAN GRADE
1427	8	12	0.77	0.77	0.89	0.46	SAN JUAN GRADE
1428	8	12	0.62	0.62	0.80	0.38	SAN JUAN GRADE
1429	10	12	0.47	0.47	1.00	0.45	SAN JUAN GRADE

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1431	8	8	0.54	0.54	1.00	0.46	
1432	8	12	0.76	0.76	1.00	0.46	SAN JUAN GRADE
1433	10	12	0.39	0.39	1.00	0.38	SAN JUAN GRADE
1437	10	10	0.42	0.42	0.54	0.54	
1438	10	10	0.49	0.49	0.63	0.63	
1440	10	10	0.52	0.52	0.67	0.67	
1443	10	10	0.55	0.55	0.73	0.73	
1444	10	10	0.27	0.27	0.33	0.31	
1449	10	10	0.49	0.49	0.63	0.63	
1450	8	8	0.45	0.45	0.56	0.56	
1452	8	8	0.34	0.34	0.43	0.43	
1453	8	8	0.30	0.30	0.36	0.36	
1454	8	8	0.31	0.31	0.38	0.38	
1456	8	8	0.24	0.24	0.29	0.29	
1457	24	27	0.77	0.77	0.85	0.60	NATIVIDAD CREEK PARK
1458	27	27	0.70	0.70	0.70	0.77	
1459	27	27	0.70	0.70	0.70	0.76	
1460	27	27	0.70	0.70	0.70	0.76	
1461	27	27	0.70	0.70	0.70	0.76	
1462	27	27	0.64	0.64	0.64	0.70	
1463	27	27	0.72	0.72	0.72	0.79	
1464	30	30	0.71	0.71	0.72	0.76	
1465	21	21	0.55	0.55	0.77	0.77	
1466	21	21	0.55	0.55	0.79	0.79	
1467	21	21	0.59	0.59	0.84	0.84	
1468	10	10	0.48	0.48	0.58	0.58	
1469	18	18	1.00	1.00	1.00	0.54	
1470	18	18	1.00	1.00	1.00	0.47	
1471	27	27	0.81	0.81	0.79	0.86	
1472	27	27	0.84	0.84	0.83	0.89	
1473	27	27	0.77	0.77	0.76	0.88	
1474	12	12	0.31	0.31	0.39	0.40	
1478	10	10	0.94	0.94	1.00	1.00	
1482	8	8	0.66	0.66	0.64	0.64	
1483	8	8	0.68	0.68	0.69	0.69	
CDT_101	30	32	0.79	0.79	0.81	0.67	NORTH DAVIS RD.
CDT_11	10	10	0.60	0.60	0.62	0.62	
CDT_111	18	18	0.57	0.57	0.57	0.33	
CDT_113	42	42	0.75	0.75	0.79	0.80	
CDT_117	36	36	0.92	0.92	0.98	0.99	
CDT_119	27	27	1.00	1.00	1.00	1.00	
CDT_123	14	14	1.00	1.00	1.00	1.00	
CDT_125	12	12	1.00	1.00	1.00	1.00	
CDT_131	15	18	0.37	0.37	0.47	0.47	
CDT_133	15	18	0.42	0.42	0.56	0.56	
CDT_141	24	27	0.59	0.59	0.57	0.59	
CDT_153	12	15	0.36	0.36	0.44	0.44	
CDT_155	12	15	0.37	0.37	0.47	0.47	
CDT_157	18	18	0.72	0.72	0.61	0.61	
CDT_159	18	18	0.68	0.68	0.57	0.57	
CDT_161	18	18	0.60	0.60	0.51	0.51	
CDT_163	18	18	0.63	0.63	0.53	0.53	
CDT_165	18	18	0.62	0.62	0.53	0.53	
CDT_181	15	15	1.00	1.00	0.66	0.56	
CDT_183	15	15	1.00	1.00	0.56	0.56	
CDT_185	15	15	1.00	1.00	0.56	0.56	
CDT_187	15	15	1.00	1.00	0.56	0.56	
CDT_189	15	15	0.98	0.98	0.56	0.56	
CDT_19	8	8	0.30	0.30	0.49	0.49	
CDT_191	15	15	0.88	0.88	0.56	0.56	
CDT_193	15	15	0.73	0.73	0.52	0.56	
CDT_195	12	15	0.90	0.90	0.74	0.53	ABBOTT ST.
CDT_197	12	15	1.00	1.00	0.89	0.50	ABBOTT ST.
CDT_199	12	15	1.00	1.00	0.91	0.50	ABBOTT ST.
CDT_201	12	18	1.00	1.00	1.00	0.64	FREEDOM PKWY
CDT_203	10	15	1.00	1.00	1.00	0.51	FREEDOM PKWY
CDT_205	10	15	1.00	1.00	1.00	0.47	FREEDOM PKWY
CDT_207	10	15	1.00	1.00	1.00	0.50	FREEDOM PKWY
CDT_21	6	6	0.95	0.95	1.00	1.00	
CDT_23	2	2	1.00	1.00	1.00	1.00	
CDT_29	6	6	1.00	1.00	1.00	1.00	
CDT_31	6	6	1.00	1.00	1.00	1.00	
CDT_33	8	8	0.30	0.30	0.24	0.24	
CDT_35	10	10	0.76	0.76	0.58	0.58	
CDT_37	6	6	1.00	1.00	1.00	1.00	
CDT_39	6	6	0.50	0.50	0.50	0.50	
CDT_45	4	4	0.76	0.76	0.81	0.79	
CDT_47	8	8	0.17	0.17	0.15	0.15	
CDT_51	8	8	0.62	0.62	0.60	0.60	
CDT_53	12	12	1.00	1.00	1.00	1.00	
CDT_55	12	12	1.00	1.00	1.00	1.00	
CDT_57	12	12	0.37	0.37	0.30	0.30	
CDT_59	10	10	0.72	0.72	0.61	0.61	
CDT_63	12	12	0.39	0.39	0.47	0.47	
CDT_69	12	12	0.16	0.16	0.13	0.13	
CDT_71	12	12	0.12	0.12	0.11	0.11	
CDT_75	18	18	1.00	1.00	1.00	0.59	
CDT_83	54	54	0.65	0.65	0.70	0.71	
CDT_85	54	54	0.65	0.65	0.70	0.71	
CDT_87	12	12	0.57	0.57	0.51	0.51	
CDT_89	12	12	0.20	0.20	0.23	0.23	

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CDT_93	18	18	0.51	0.51	0.60	0.60	