



GAIL FARBER, Director

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
<http://dpw.lacounty.gov>

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

November 28, 2011

IN REPLY PLEASE
REFER TO FILE: **SM-1**

Mr. Kwok Tam
Director of Public Works
City of Irwindale
5050 North Irwindale Avenue
Irwindale, CA 91706-2192

Attention Ms. Loretta Corpis

Dear Mr. Tam:

CONSOLIDATED SEWER MAINTENANCE DISTRICT CONDITION ASSESSMENT PROGRAM REPORT PROJECT NO. Y0TV1011A

The City of Irwindale requested the County of Los Angeles Department of Public Works Consolidated Sewer Maintenance District (District) to inspect their sanitary sewer system utilizing closed-circuit television (CCTV) technology to assess the maintenance and structural condition of their lines. The District has completed the CCTV inspection of 56,957 feet or 100 percent of the City of Irwindale's sewer system.

The enclosed report outlines the structural and maintenance ratings of your system based on the Pipeline Assessment and Certification Program's (PACP Version 6.0.1) rating methodology. Included in the report are the following:

- Condition Assessment Report
- Project Overview Map (Enclosure 1)
- Quick Maintenance Rating Report Priority List and Quick Maintenance Rating Map (Enclosure 2)
- High Water Levels List and Map (Enclosure 2)
- Quick Structural Rating Report Priority List and Quick Structural Rating Map (Enclosure 3)
- Infrastructure Inspection Reports for Grades 4 and 5 (Enclosure 4)

Mr. Kwok Tam
November 28, 2011
Page 2

The Condition Assessment Report provides details regarding the maintenance and structural condition of your City's sewer mainlines. This information can be included in your agency's Sewer System Management Plan as a reference in Chapter 8.0 System Evaluation and Capacity Assurance Plan. The segments with critical maintenance issues have been cleaned and, in some instances, incorporated into our routine cleaning schedule for continued monitoring. In addition, the segments with severe structural defects have been summarized with a recommended course of action and estimated cost of repair.

If you have any questions regarding this report or the Condition Assessment Program, please contact Mr. Robert Swartz, Sewer Maintenance Division, at (626) 300-3367, Monday through Friday, 8 a.m. to 4 p.m., or rswartz@dpw.lacounty.gov.

Very truly yours,

GAIL FARBER
Director of Public Works



KEITH E. LEHTO
Assistant Deputy Director
Sewer Maintenance Division



EL:gy
H:\SM\HOME\IGYoung\Memos.Letters\2307.doc

Enc.

bc: Programs Development (Huang)
KL, MM, RS, FV, File (Project Y0TV1011A), SPINDLE

**CONDITION ASSESSMENT REPORT
COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS
CONSOLIDATED SEWER MAINTENANCE DISTRICT**

PROJECT NAME:	Y0TV1011A	PROJECT MGR:	Eric Liu
PROJECT DATE:	08/31/2011	CONTACT NO:	(626) 300-3369
SUP. DISTRICT(s):	1	MAP PAGE(S):	2167~68, 2213~14,2255~57
Report By:	Eric Liu	Report Date:	10/04/2011

INTRODUCTION

The City of Irwindale (City) has requested the County of Los Angeles Department of Public Works Consolidated Sewer Maintenance District (District) to inspect their sanitary sewer system utilizing closed-circuit television (CCTV) technology to assess the maintenance and structural condition of their lines. The District has completed the CCTV inspection of 56,957 feet or 100 percent of the City's sewer system.

The Sewer Condition Assessment Program utilizes the Pipeline Assessment and Certification Program (PACP Version 6.0.1) Quick Rating methodology to rank the structural and maintenance condition of your system based on industry standards.

PROJECT AREA AND DESCRIPTION

Project No. Y0TV1011A included sewer lines located in the unincorporated County of Los Angeles area and in the Cities of Commerce, Diamond Bar, Glendora, Irwindale, and La Habra Heights. Enclosed for your reference is an overview map of the project area within your City (Enclosure 1).

DEFECT GRADE DESCRIPTION

The Quick Rating indicates the number of occurrences for the highest severity grade for each pipe segment for either maintenance or structural defects. A grade of 1 indicates that a pipe segment is in excellent condition with minor defects while a grade of 5 indicates that a pipe segment has deficiencies with the most significant defect grades. A detailed breakdown of the five possible defect grades is as follows:

Grade	Defect Grade Description
1:	MINOR
2:	MINOR TO MODERATE
3:	MODERATE
4:	SIGNIFICANT
5:	MOST SIGNIFICANT

MAINTENANCE REPORT

Our inspection revealed that approximately 86 percent of the system televised was free of blockages or restrictions that would impede sewer flows. However, the remaining 14 percent of the inspected pipe segments within the City had a PACP maintenance grade of 3, 4, or 5 as indicated in the Quick Maintenance Rating Table shown below. These segments have been incorporated into our routine cleaning schedule with corrective action taken as noted on the Quick Maintenance Rating Report Priority List (Enclosure 2).

In addition, a color-coded map showing the quick maintenance rating for each pipe segment is provided in Enclosure 2

QUICK MAINTENANCE RATING TABLE

DEFECT GRADE	PIPE LENGTH (FT)	PERCENT TOTAL INSPECTED PIPE LENGTH	NO. SEGMENTS
1: Minor	317	0.6	2
2: Minor to Moderate	48,651	85.4	185
3: Moderate	2,151	3.8	8
4: Significant	5,838	10.2	19
5: Most Significant	0	0.0	0
TOTAL	56,957	100.0	214

Lateral Notices

Also included on the Quick Maintenance Rating Report Priority List are deficiencies discovered inside lateral connections to the mainline. The District does not maintain lateral lines. It is the responsibility of the property owner to maintain their respective lateral lines to facilitate the flow of wastewater from their property to the mainline. A letter will be sent to the lateral owner notifying them of the maintenance issues discovered in their lateral. A sample lateral notice letter is provided in Enclosure 2 for your reference.

High Water Levels

Our inspection revealed that approximately 98.1 percent of the system televised has adequate capacity. However, the remaining 1.9 percent of the inspected segments included deficiencies associated with high-water levels. Capacity of the sewer pipe can be determined by analyzing several PACP codes including Water Level, Water Mark, and miscellaneous remarks of camera underwater or sags in the line. A sewer pipe can be considered at capacity when 50 percent of the diameter of sewer pipe is full of water. However, there are particular conditions in which the water level or water mark has reached 50 percent or greater due to heavy flows in adjoining pipes, a temporary stoppage due to debris in the sewer lines, or a sag in the line. Therefore, additional

review of all pipe segments with such high-water level concerns was conducted to determine capacity issues, if any. All sewer pipes where Water Level, Water Mark, and miscellaneous remarks of camera underwater or sags in the line are at or above 50 percent capacity, have been outlined and analyzed on the High-Water Level table in Enclosure 2. The nature of these high-water level conditions is also summarized on this table.

A map showing the sewer lines with high-water levels is provided in Enclosure 2.

Infiltration

Our inspection revealed that infiltration was not detected in any pipe segment in your City's system.

STRUCTURAL REPORT

Our inspection revealed that approximately 95.5 percent of the inspected pipe segments within the City of Irwindale were free of severe structural defects. However, the remaining 4.5 percent of the inspected pipe segments had a PACP structural grade of 4 or 5 as indicated in the Quick Structural Rating Table. These segments have been placed on a priority list based on the severity and the need for action. For Items 1 through 9 in the Quick Structural Rating Report Priority List (Enclosure 3), we recommend the corrective action as proposed in the enclosure. Also provided is an estimated cost for such repairs (\$10,000 to \$25,000/incident). The estimated cost to rehabilitate the critical structural defects assessed in this inspection project by the installation of plastic liner totals \$19,740. In addition, we have determined that five defects may require reconstruction by means of a point repair. The total estimated cost for these point repairs will range from \$50,000 to \$125,000 depending on the depth of the line, the utilities surrounding the line, the nature of soil, presence of groundwater, and/or traffic conditions in the vicinity of the repair.

A color-coded map showing the Quick Structural Rating for each pipe segment is located in Enclosure 3. Copies of the actual inspection report for these nine segments are included in Enclosure 4.

The District will also provide your City with a portable hard drive containing the data, videos, and photographs of the information gathered during the inspection of your City's sewer system as part of this project.

QUICK STRUCTURAL RATING TABLE

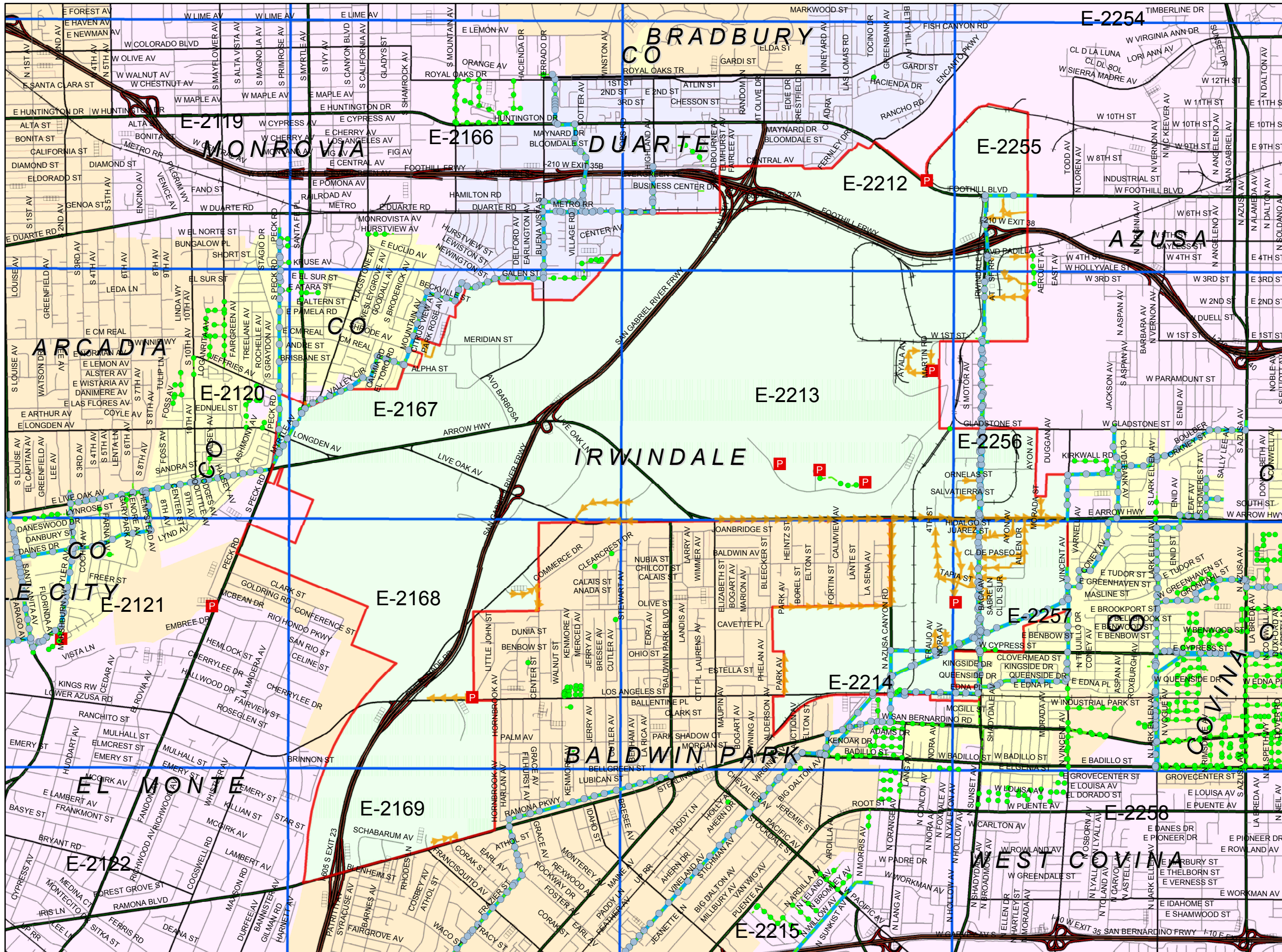
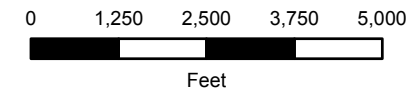
DEFECT GRADE	PIPE LENGTH (FT)	PERCENT TOTAL INSPECTED PIPE LENGTH	NO. SEGMENTS
1: Minor	45,446	79.8	174
2: Minor to Moderate	3,240	5.7	12
3: Moderate	5,674	10.0	19
4: Significant	1,329	2.3	5
5: Most Significant	1,268	2.2	4
TOTAL	56,957	100.0	214

ENCLOSURE 1:

Project Overview Map

OVERVIEW MAP IRWINDALE CCTV PROJECT Y0TV1011A

Cities of
Commerce, Diamond Bar,
Glendora, Irwindale,
La Habra Heights &
County Unincorporated



Legend

SMD Sanitary Sewers

→ SMD Sanitary Sewers

SMD Manholes

⊗ Other

Manhole Type

● Standard

▲ DROP

■ Shallow

◇ Trap

⊗ Siphon

Ⓜ SMD Pump Stations

Ⓜ SMD Treatment Plants

Maintained by Others:

— Trunk Sewerlines

--- Non SMD Sanitary Sewers

● Non SMD Maintained MH

□ SMD Operations Maps

□ CCTV PROJECT AREA

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SEPTEMBER 2011

ENCLOSURE 2:

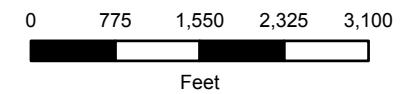
- Quick Maintenance Rating Report
Priority List
- Quick Maintenance Rating Map
- High Water Levels
- High Water Levels Map
- Sample Lateral Notice Letter

ENCLOSURE 2
QUICK MAINTENANCE RATING REPORT PRIORITY LIST
CITY OF IRWINDALE (Y0TV1011A)
as of 08/31/11

ITEM NO.	QMR	START MH	END MH	STREET	OBSERVATION	CORRECTIVE ACTION TAKEN (DATE COMPLETED)
1	4331	2214-0397	2214-0398	PARK AV	Roots; root lateral	Rodder (09/27/11) Hydrojet (09/27/11)
2	4331	2214-0625	2214-0624	AZUSA CANYON RD	Roots	Rodder (09/27/11) Hydrojet (09/27/11)
3	4232	2213-0014	2213-0013	ARROW HWY	Roots; root lateral	Rodder (09/27/11) Hydrojet (09/27/11)
4	4222	2214-0344	2214-0343	OLIVE ST	Camera under water; sag; root lateral	Rodder (09/28/11) Hydrojet (09/28/11)
5	4221	2257-0023	2257-0020	ALLEN DR	Roots; root lateral	Rodder (09/27/11) Hydrojet (09/27/11)
6	4221	2214-0542	2214-0541	OLIVE ST	Roots; root lateral	Rodder (09/27/11) Hydrojet (09/27/11)
7	4131	2257-0002	2257-TRNK	HIDALGO ST	Root lateral	Letter will be sent to homeowner.
8	4131	2257-0024	2257-0023	ALLEN DR	Camera underwater; sag	Hydrojet (09/28/11)
9	4131	2214-0523	2214-0344	OLIVE ST	Root lateral	Letter will be sent to homeowner.
10	4121	2257-0025	2257-0024	ALLEN DR	Root lateral	Letter will be sent to homeowner.
11	4121	2257-0013	2257-TRNK	CENTRAL ST	Root lateral	Letter will be sent to homeowner.
12	4121	2214-0605	2214-0606	AZUSA CANYON RD	Root lateral	Letter will be sent to homeowner.
13	4121	2214-0608	2214-0609	AZUSA CANYON RD	Root lateral	Letter will be sent to homeowner.
14	4121	2214-0609	2214-0610	AZUSA CANYON RD	Root lateral	Letter will be sent to homeowner.
15	4121	2214-0528	2214-0523	OLIVE ST	Root lateral	Letter will be sent to homeowner.
16	4121	2214-0536	2214-0531	OLIVE ST	Root lateral	Letter will be sent to homeowner.
17	4121	2214-0547	2214-0542	OLIVE ST	Root lateral	Letter will be sent to homeowner.
18	4121	2214-0620	2214-0619	OLIVE ST	Root lateral	Letter will be sent to homeowner.
19	4121	2214-0620	2214-0621	OLIVE ST	Roots; root lateral	Rodder (09/27/11) Hydro (09/27/11)
20	3222	2213-0012	2213-0013	ARROW HWY	Roots; obstacle intruding pole: 247'	Yard investigated grounding rod.
21	3122	2256-0006	2256-0005	Parking lot (end of SANTOS DIAZ ST)	Camera under water; sag	Hydrojet (09/28/11)
22	3121	2214-0399	2214-0400	PARK AV	Root lateral	Letter will be sent to homeowner.
23	3121	2214-0627	2214-0626	AZUSA CANYON RD	Root lateral	Letter will be sent to homeowner.
24	3121	2213-0028	2213-0027	ARROW HWY	Sag	Hydrojet (09/29/11)
25	3121	2214-0633	2214-TRNK	NORA AV	Root lateral	Letter will be sent to homeowner.
26	3121	2257-0015	2257-0016	CENTRAL ST	Root lateral	Letter will be sent to homeowner.
27	3121	2256-0021	2256-0019	ARROW HY	Root lateral	Letter will be sent to homeowner.

ENCLOSURE 2
CCTV PROJECT
YOTV1011A
IRWINDALE

QUICK
MAINTENANCE
RATING
(QMR)



Legend

SMD Sanitary Sewers
QMR DEFECT GRADES

- 1: MINOR
- 2: MINOR TO MODERATE
- 3: MODERATE
- 4: SIGNIFICANT

SMD Manholes

- Other
- Standard
- DROP
- Shallow
- Trap
- Siphon
- SMD Pump Stations
- SMD Treatment Plants

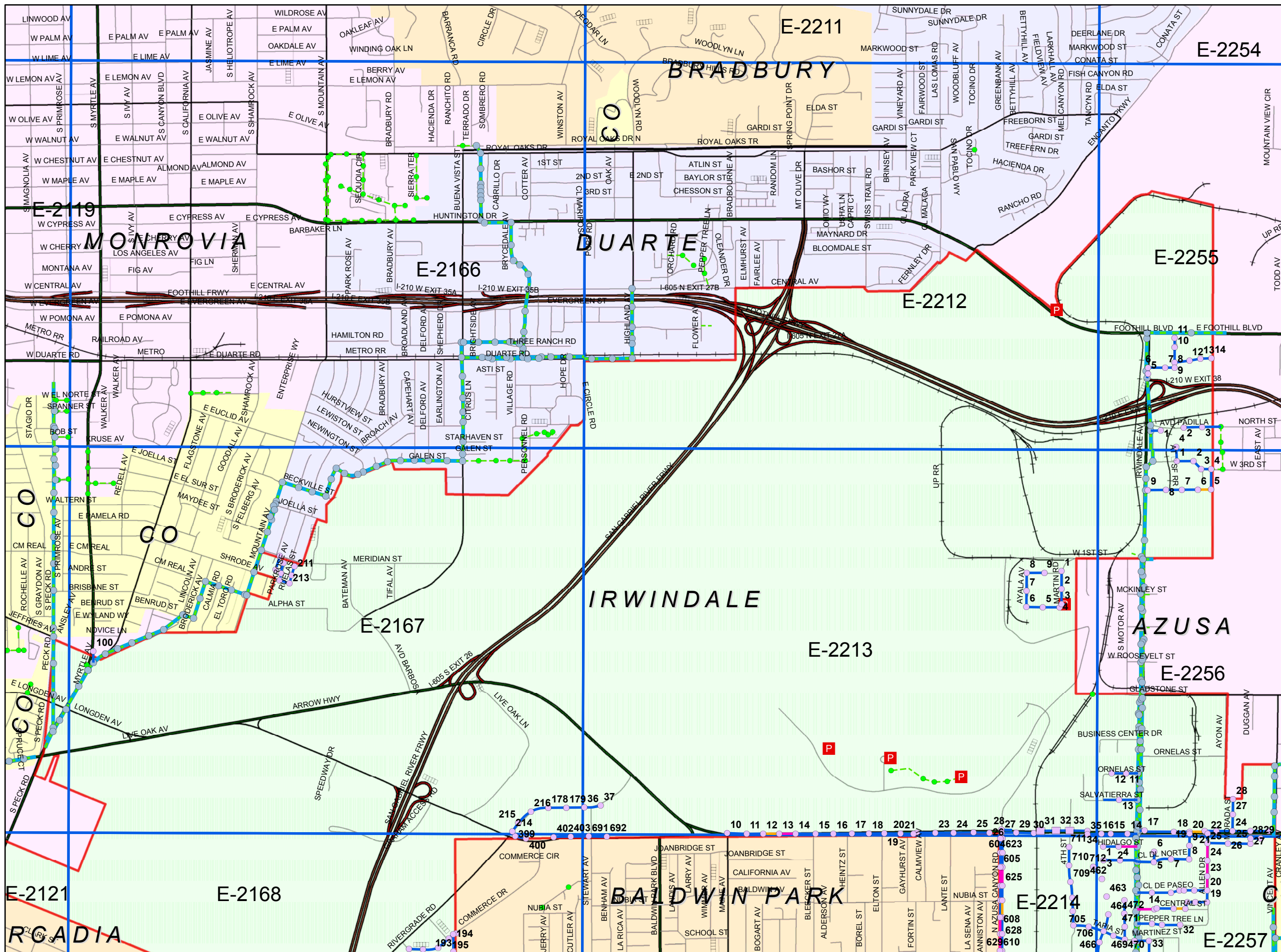
Maintained by Others:

- Trunk Sewerlines
- Non SMD Sanitary Sewers
- Non SMD Maintained MH

- SMD Operations Maps
- CCTV PROJECT AREA

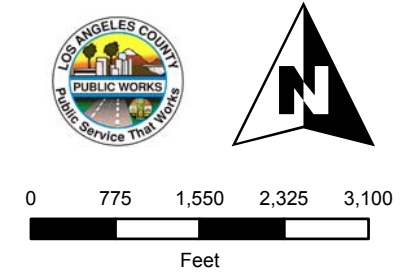
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SEPTEMBER 2011



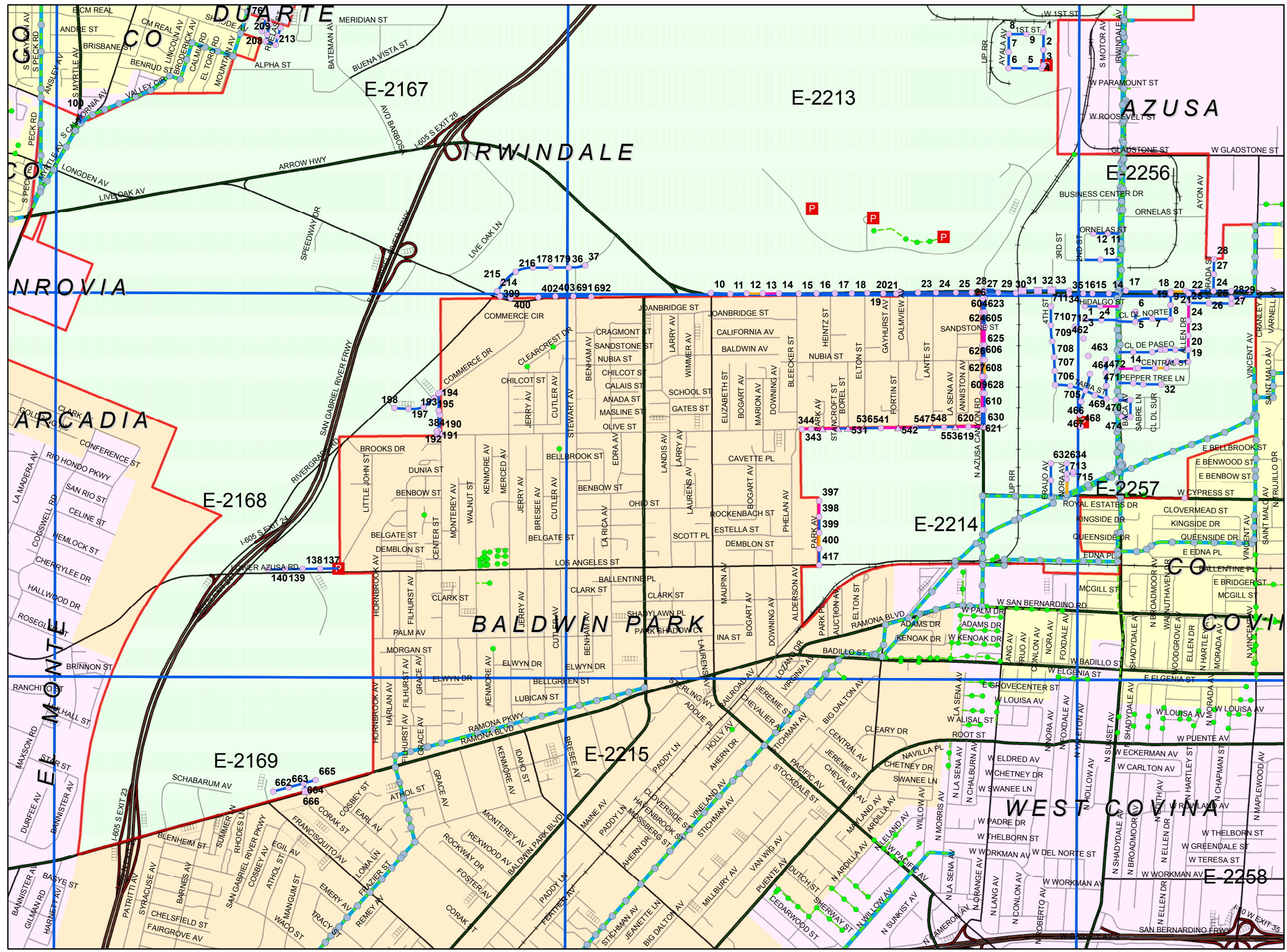
ENCLOSURE 2
CCTV PROJECT
YOTV1011A
IRWINDALE

QUICK
MAINTENANCE
RATING
(QMR)



- Legend**
- SMD Sanitary Sewers**
QMR DEFECT GRADES
- 1: MINOR
 - 2: MINOR TO MODERATE
 - 3: MODERATE
 - 4: SIGNIFICANT
- SMD Manholes**
- Other
 - Standard
 - DROP
 - Shallow
 - Trap
 - Siphon
 - SMD Pump Stations
 - SMD Treatment Plants
- Maintained by Others:**
- Trunk Sewerlines
 - Non SMD Sanitary Sewers
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 - CCTV PROJECT AREA

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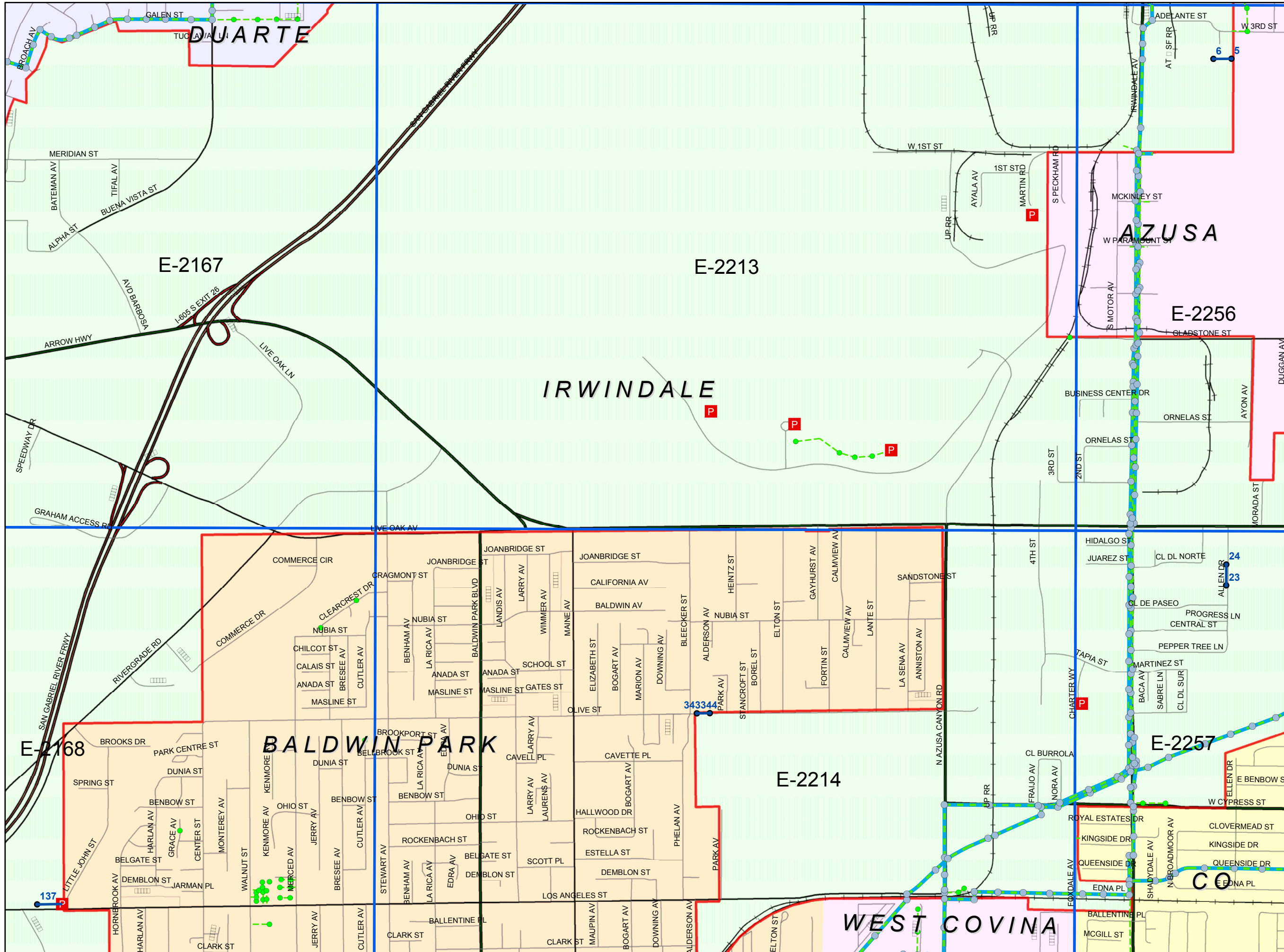
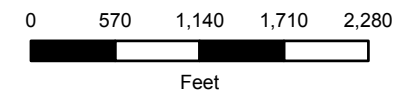
ENCLOSURE 2
HIGH WATER LEVELS
CITY OF IRWINDALE (Y0TV1011A)
as of 08/31/2011

Item No.	QMR	START MH	END MH	STREET	OBSERVATION	SAG (ft)
1	4222	2214-0344	2214-0343	OLIVE ST	Sag (High water level)	(30% - 50%): 140' - 220' 80
2	4131	2257-0024	2257-0023	ALLEN DR	Sag	(30% - 60%): 240' - 247' 7
3	3122	2256-0006	2256-0005	PARKING LOT (South of SANTOS DIAZ ST)	Sag (High water level)	(30% - 80%): 90' - 230' 140
4	2100	2168-0137	2168-PUMP	PARKING LOT (LOS ANGELES ST & LITTLE JOHN ST)	Sag (due to pump station)	(50%): 277' - Pump Station

ENCLOSURE 2

CCTV PROJECT YOTV1011A IRWINDALE

HIGH WATER LEVELS



Legend

— High Water Level

SMD Manholes

- Other
- Standard
- DROP
- Shallow
- Trap
- Siphon
- MH: High Water Levels
- SMD Pump Stations
- SMD Treatment Plants

Maintained by Others:

- Trunk Sewerlines
- Non SMD Sanitary Sewers
- Non SMD Maintained MH
- SMD Operations Maps
- CCTV PROJECT AREA

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SEPTEMBER 2011



GAIL FARBER, Director

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

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ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

May 26, 2011

IN REPLY PLEASE
REFER TO FILE: SM-1

Dear:

SEWER LATERAL ROOT INTRUSION

As the agency responsible for the maintenance of the sanitary sewer system in your area, the County of Los Angeles Consolidated Sewer Maintenance District (District) is providing you with this letter informing you that the sewer lateral serving the property located at XXXX, requires maintenance and is in violation of County Code 20.24.080 Maintenance of Sewer Laterals, which states:

"All house laterals, industrial connection sewers, septic tank outlet connections to STEP system, and appurtenances were existing as of January 23, 1953, or thereafter constructed, shall be maintained by the owner of the property served in a safe and sanitary condition, and all devices or safeguards which are required by this Division 2 for the operation thereof shall be maintained in good working order."

Using closed-circuit television (CCTV) camera technology, the District recently televised the sanitary sewer mainline and discovered the presence of roots in your sewer lateral connection. The intrusion of the roots from your lateral may block the flow of sewage in the mainline sewer causing sanitary sewer overflow upstream of your property.

Since the CCTV inspection, the sewer mainline has been cleaned and blockages from root growth have been removed; however, the root blockage in your sewer lateral is still present. As the property owner, you are responsible for the entire length of the sewer lateral, which includes the portion that extends beyond the property line into the public right of way. We request that you contact a qualified plumbing contractor to service

May 26, 2011
Page 2

your sewer lateral within 90 days to remove roots and any other obstructions that may cause a sewage backup.

Prior to your plumbing contractor servicing your lateral, please notify the District's sewer maintenance yard in your area at XXXX to arrange for authorization to access the downstream manhole.

During your lateral service, your plumbing contractor must protect the District's sewer mainlines from dislodged roots and other debris by utilizing catcher baskets at the manhole downstream from your lateral connection.

After your lateral has been serviced, please notify the District office, XXXX, Sewer Maintenance Division, at XXXX.

For your reference, we have enclosed photos of your lateral connection showing the presence of the root blockage. Also enclosed are some literature on ways of minimizing sewer overflows and damage to your home.

Thank you for helping the Department of Public Works keep the public's sewers clean and in good working order.

Very truly yours,

GAIL FARBER
Director of Public Works

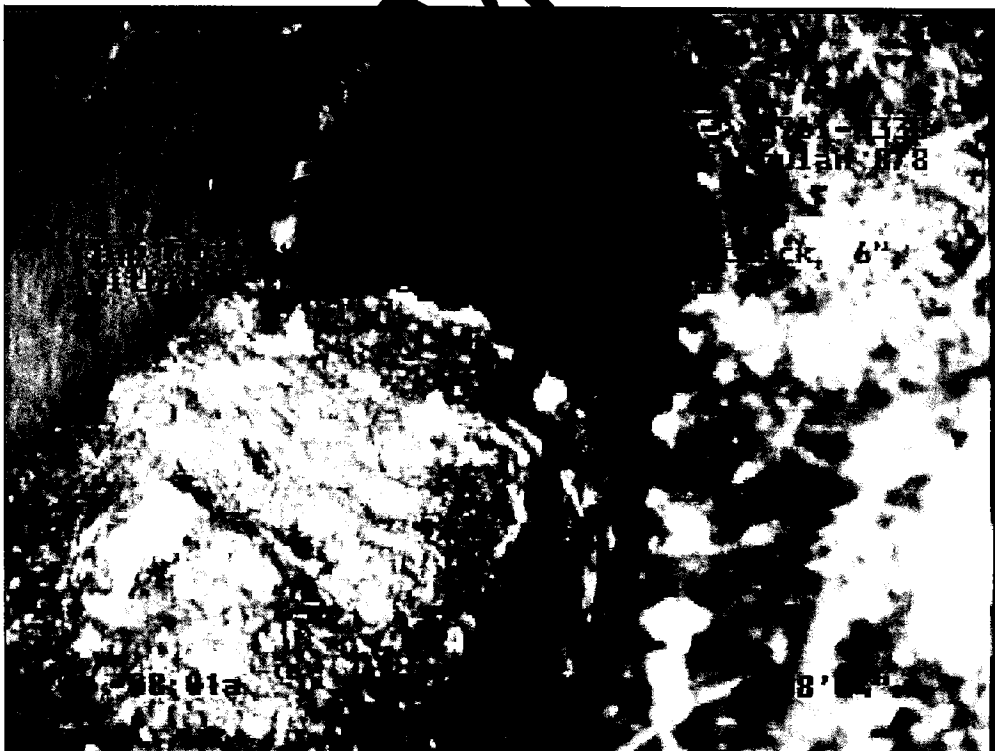
KEITH LEHTO
Assistant Deputy Director
Sewer Maintenance Division

EL:

Enc.

bc: KL, MM, RS, FV, RH, File (Lateral Notice), SPINDLE

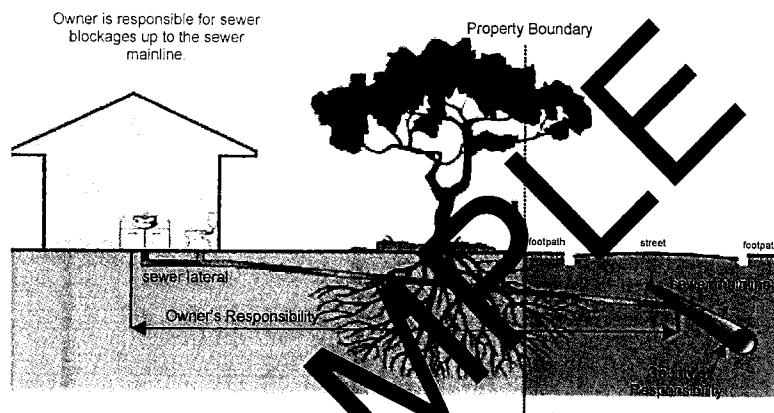
XXXX
Roots at Lateral Connection



Minimizing Sewer Overflows and Damage to Your Home

The sewer system within the County of Los Angeles Consolidated Sewer Maintenance District (District) is comprised of a series of underground pipes. Many are publicly owned; however, the sewer laterals are entirely owned by the private property owner they serve. The laterals extend from the building to the mainline within the street (or within an easement at the rear of your home). The laterals are typically four inches in diameter while the District's mainline is typically at least eight inches in diameter. The private property owner is responsible for the entire length of the lateral, which includes that portion that may be located within the public right of way (under the asphalt and street landscaping).

SEWER LATERALS – AREAS OF RESPONSIBILITY



Sewer backups can cause tremendous damage to the interior of a home. In order to minimize these, the District provides continual maintenance services for the public sewer mainlines.

Unfortunately, sewer laterals are often not maintained by private property owners until a disaster strikes. "Out of sight, out of mind" is a typical approach to sewer lateral maintenance and operation by many. It is our hope that we can provide you various means of addressing these issues and thus minimize your risk of an overflow entering your home.

The three methods we suggest are:

1. Maintain your lateral through proper cleaning, repair, and replacement
2. Do not place improper items into the sewer or make improper connections to the sewer
 - a. Keep rainwater out of the sewer lines as it overwhelms the capacity of the sewer lines and may cause sewer spills.
 - b. Do not pour fats, oils, and grease in your drains as these products harden and stick to the inside of the sewer pipes, which build up and may eventually cause a blockage in the sewer pipe.
3. Install a backflow preventer and cleanout in your sewer lateral.

ENCLOSURE 3:

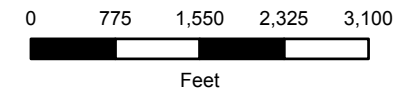
- Quick Structural Rating Report
Priority List
- Quick Structural Rating Map

ENCLOSURE 3
QUICK STRUCTURAL RATING REPORT PRIORITY LIST
IRWINDALE (Y0TV1011A)
as of 08/31/2011

ITEM NO.	QSR	START MH	END MH	STREET	OBSERVATION: LOCATION	PROPOSED CORRECTIVE ACTION	LENGTH OF REPAIR (FT)	COST ESTIMATE
1	5141	2213-0020	2213-0019	ARROW HWY	Hole: 219'; fractures: 157', 167', 201', 256', 321', 325'	Lining: MH to MH	346	\$10,380
2	5121	2256-0006	2256-0005	PARKING LOT (South of SANTOS DIAZ ST)	Fracture: 2'; collapsed & broken with fractures: 68'; large offset: 134'	Point Repair: 68'		\$10,000 - \$25,000
3	5111	2213-0033	2213-0034	ARROW HWY	Large offset: 271'; broken: 321'; illegal 6" liner: 331' - MH 34	Point repairs: 271', 321' to 331' (MH 34)		\$20,000 - \$50,000
4	5100	2213-0012	2213-0013	ARROW HWY	Grounding rod penetration: 246'	Yard will contact the appropriate utility agency.		
5	4231	2214-0629	2214-0630	AZUSA CANYON RD	Fractures: 252' - 255'	Lining: MH to MH	312	\$9,360
6	4200	2213-0031	2213-0032	ARROW HWY	Fractures: 233' - 237'	Point Repair		\$10,000 - \$25,000
7	4100	2213-0032	2213-0033	ARROW HWY	Fractures: 18'	Point Repair		\$10,000 - \$25,000
8	4100	2214-0627	2214-0626	AZUSA CANYON RD	Fractures: 296'	Structural integrity in tact. No action needed.		
9	4100	2168-0192	2168-0191	PARKING LOT (at OLIVE & CENTER)	Fractures: 2'	Structural integrity in tact. No action needed.		

ENCLOSURE 3
CCTV PROJECT
YOTV1011A

IRWINDALE
QUICK
STRUCTURAL
RATING
(QSR)



Legend

SMD Sanitary Sewers

QSR DEFECT GRADES

- 1: MINOR
- 2: MINOR TO MODERATE
- 3: MODERATE
- 4: SIGNIFICANT
- 5: MOST SIGNIFICANT

SMD Manholes

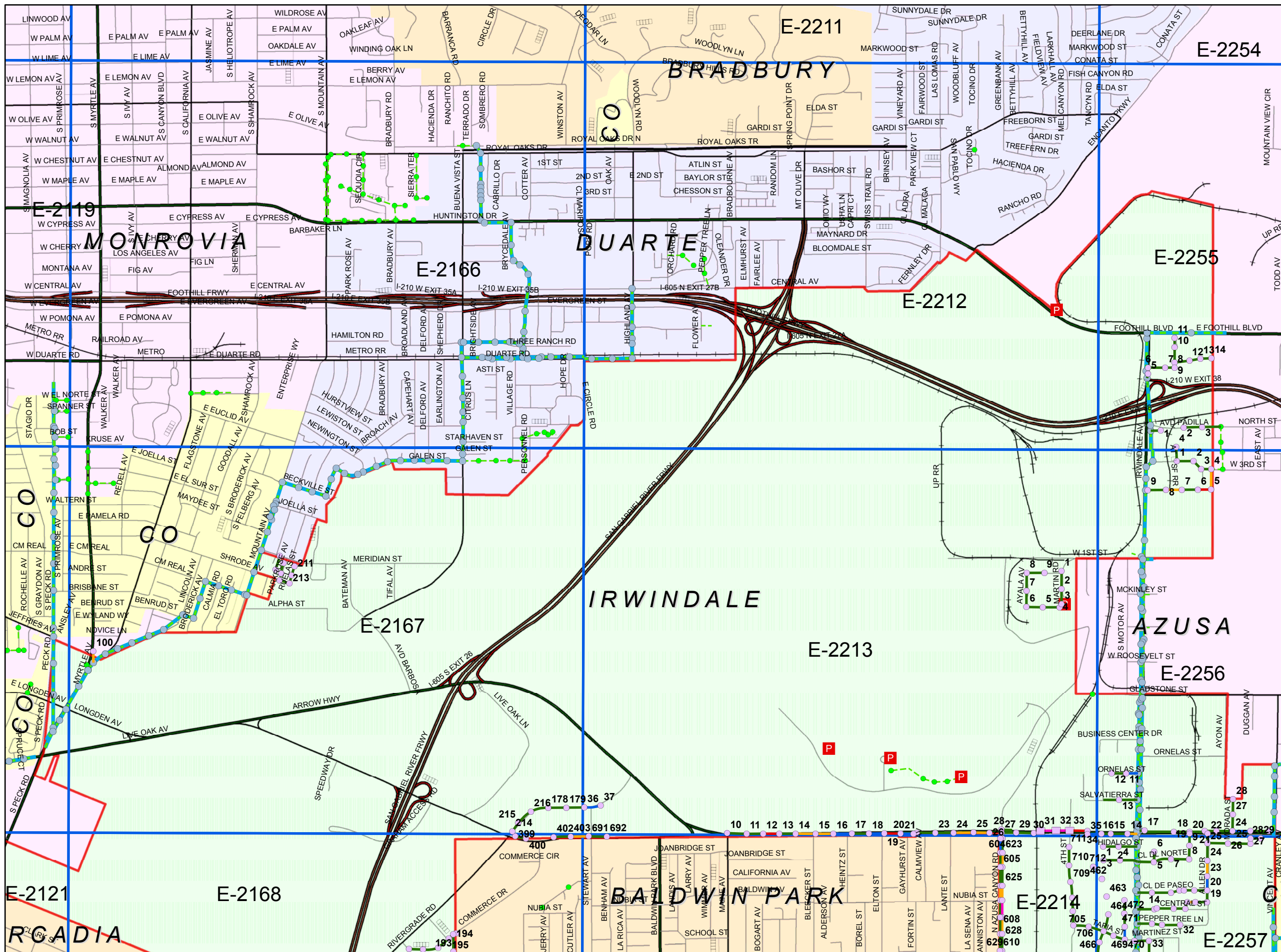
- Other
- Standard
- DROP
- Shallow
- Trap
- Siphon
- SMD Pump Stations
- SMD Treatment Plants

Maintained by Others:

- Trunk Sewerlines
- Non SMD Sanitary Sewers
- Non SMD Maintained MH
- SMD Operations Maps
- CCTV PROJECT AREA

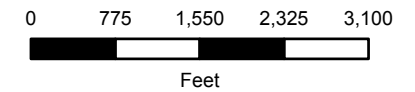
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SEPTEMBER 2011



ENCLOSURE 3
CCTV PROJECT
YOTV1011A
IRWINDALE

QUICK
STRUCTURAL
RATING
(QSR)



Legend

SMD Sanitary Sewers

QSR DEFECT GRADES

- 1: MINOR
- 2: MINOR TO MODERATE
- 3: MODERATE
- 4: SIGNIFICANT
- 5: MOST SIGNIFICANT

SMD Manholes

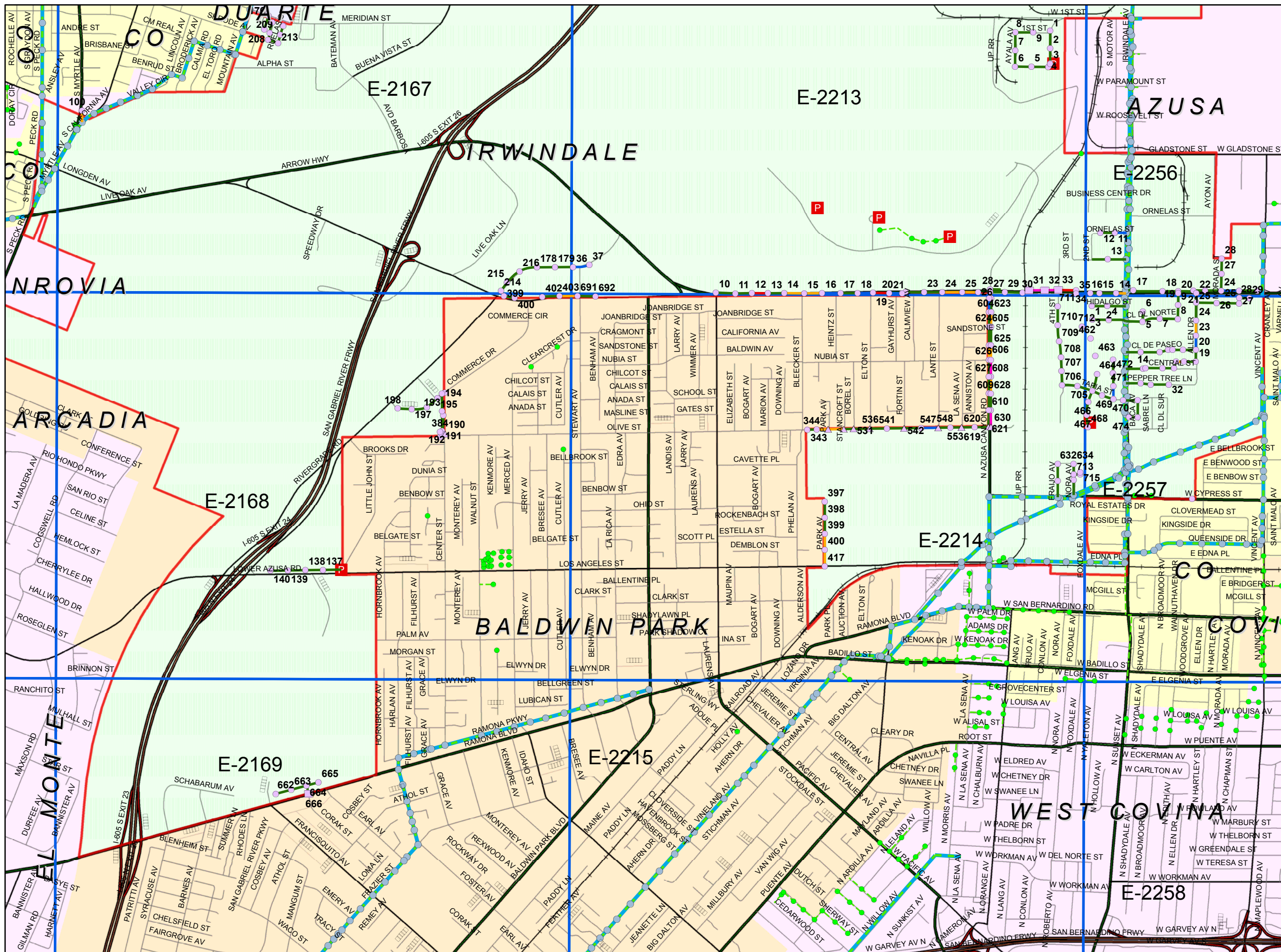
- Other
- Standard
- DROP
- Shallow
- Trap
- Siphon
- SMD Pump Stations
- SMD Treatment Plants

Maintained by Others:

- Trunk Sewerlines
- Non SMD Sanitary Sewers
- Non SMD Maintained MH
- SMD Operations Maps
- CCTV PROJECT AREA

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SEPTEMBER 2011



ENCLOSURE 4:

Infrastructure Inspection Reports
for Grades 4 and 5



Inspection report

Date: 20110812	P.O.☐ Y0TV1011A	Weather: 1 Dry	Surveyed By: B.FUGATE	section number: 45	PSR: 106396
Total Pipe Length: 315	Survey Customer: LACDPW	System Owner: IRW	Clean Date: 08.12.2011	Pre-Cleaned: J Jetting	Map Grid ☐ 0

Street: ARROW HWY	Flow Control: N Not Controlled	Start MH: 2213-0020
City: IRW Y0TV1011A	Year Renewed	End MH: 2213-0019
Location Code: F Sidewalk	Tape/Media ☐ 081211	pipe length: 346.86 ft

Reason for inspection: F Routine Assessment	Dia/Height: C Circular 8 8
Use of Sewer: SS Sanitary	Material: VCP Pipe Length: 315
Drain. Area: 0019 2213-0020 2213	Lining Method:
	Category:

Remark.: **NONE**

1:850	position	observation	MPEG	photo	grade
	0.00	Upstream Manhole, Survey Begins 2213-0020		34	
	0.00	Water Level, 5 ☐ of cross sectional area			M 2
	0.00	Water Mark, 5 ☐ of cross sectional area			M 2
	113.65	Crack Multiple, from 12 to 12 o'clock, within 8 inch: YES	00:03:08	41, b	S 3
	157.72	Crack Multiple, from 11 to 08 o'clock, within 8 inch: YES	00:04:34	43, b	S 3
	167.36	Crack Multiple, from 08 to 03 o'clock, within 8 inch: YES	00:04:56	45, b	S 3
	179.81	Tap Factory Made Active, at 10 o'clock, 6", within 8 inch: YES	00:05:21	47	
	189.84	Tap Factory Made Active, at 09 o'clock, 6", within 8 inch: YES	00:05:42	48	
	200.29	Fracture Circumferential, from 02 to 06 o'clock, within 8 inch: YES	00:06:01	49, b	S 2
	217.85	Fracture Multiple, from 06 to 03 o'clock, within 8 inch: YES	00:06:38	51, b	S 4
	219.36	Hole Void Visible, at 11 o'clock, within 8 inch: YES	00:06:50	53, b	S 5
	256.51	Fracture Longitudinal, at 01 o'clock, within 8 inch: YES	00:08:09	55, b	S 3
	258.41	Tap Factory Made Active, at 09 o'clock, 6", within 8 inch: YES	00:08:20	57	
	258.61	Crack Multiple, from 12 to 02 o'clock, within 8 inch: YES	00:08:28	58, b	S 3
	320.86	Fracture Circumferential, from 03 to 10 o'clock, within 8 inch: YES	00:10:19	60, b	S 2
	325.07	Crack Circumferential, from 07 to 09 o'clock, within 8 inch: YES	00:10:34	62, b	S 1
	346.86	Downstream Manhole, Survey Ends 2213-0019	00:11:39	64	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
5141	2200	29	4	33	2.9	2	2.75



WinCan America, Inc.
 1730 Montano Road NE, Suite E
 Albuquerque, NM 87107
 Tel: (505) 341.0109, Fax: (505) 341.0133

Inspection report

Date: 20110816	P.O. #: Y0TV1011A	Weather: 1 Dry	Surveyed By: B FUGATE	section number: 54	PSR: 101798
Total Pipe Length: 294	Survey Customer: LACDPW	System Owner: IRW	Clean Date: 08.16.2011	Pre-Cleaned: J Jetting	Map Grid #: 0

Street:	Flow Control: N Not Controlled	Start MH: 2256-0006
City: IRW	Year Renewed:	End MH: 2256-0005
Location Code: D Easement/Right of Way	Tape/Media # 081611	pipe length: 285.12 ft

Reason for inspection: F Routine Assessment	Dia/Height: C Circular 8 8
Use of Sewer: SS Sanitary	Material: VCP Pipe Length: 294
Drain. Area: 0005 2256-0006 2256	Lining Method:
	Category:

Remark: **PIPE BROKEN SAGS IN PIPE**

1:700	position	observation	MPEG	photo	grade
	0.00	Downstream Manhole, Survey Begins 2256-0006		10	
	0.00	Water Level, 5' of cross sectional area			M 2
	0.00	Water Mark, 5' of cross sectional area			M 2
	2.62	Fracture Circumferential, from 07 to 09 o'clock, within 8 inch: YES	00:00:45	11, b	S 2
	68.51	Broken, from 12 to 11 o'clock, within 8 inch: YES, end	00:02:54	13, b	S 5
	68.51	Roots Fine Barrell, from 09 to 02 o'clock, within 8 inch: YES	00:03:15	15, b	M 2
	133.52	Water Level, Sag in pipe, 50' of cross sectional area	00:06:23	17	M 3
	134.11	Joint Offset Medium	00:06:29	18, b	S 1
	285.12	Upstream Manhole, Survey Ends 2256-0005	00:16:06	20	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
5121	3123	8	9	17	2.67	2.25	2.43



Inspection report

Date: 20110816	P.O. #: Y0TV1011A	Weather: 1 Dry	Surveyed By: B FUGATE	section number: 54	PSR: 101798
Total Pipe Length: 294	Survey Customer: LACDPW	System Owner: IRW	Clean Date: 08.16.2011	Pre-Cleaned: J Jetting	Map Grid #: 0

Street: IRW-YOTV1011A	Flow Control: N Not Controlled	Start MH: 2256-0006
City: IRW-YOTV1011A	Year Renewed:	End MH: 2256-0005
Location Code: D Easement/Right of Way	Tape/Media #: 081611	pipe length: 285.12 ft

Reason for inspection: F Routine Assessment	Dia/Height: C Circular 8 8
Use of Sewer: SS Sanitary	Material: VCP Pipe Length: 294
Drain. Area: 0005 2256-0006 2256	Lining Method: Category:

Remark:: **PIPE BROKEN SAGS IN PIPE**

1:700	position	observation	MPEG	photo	grade
	0.00	Downstream Manhole, Survey Begins 2256-0006		10	
	0.00	Water Level, 5' of cross sectional area			M 2
	0.00	Water Mark, 5' of cross sectional area			M 2
	2.62	Fracture Circumferential, from 07 to 09 o'clock, within 8 inch: YES	00:00:45	11, b	S 2
	68.51	Broken, from 12 to 12 o'clock, within 8 inch: YES	00:02:54	13, b	S 4
	68.51	Roots Fine Barrell, from 09 to 02 o'clock, within 8 inch: YES	00:03:15	15, b	M 2
	133.52	Water Level, Sag in pipe, 50' of cross sectional area	00:06:23	17	M 3
	134.11	Joint Offset Medium	00:06:29	18, b	S 1
	285.12	Upstream Manhole, Survey Ends 2256-0005	00:16:06	20	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
4121	3123	7	9	16	2.33	2.25	2.29



Inspection report

Date: 20110823	P.O. #: Y0TV1011A	Weather: 1 Dry	Surveyed By: B.FUGATE	section number: 5	PSR: 106410
Total Pipe Length: 346	Survey Customer: LACDPW	System Owner: IRW	Clean Date: 08 23 2011	Pre-Cleaned: J Jetting	Map Grid #: 0

Street: ARROW HWY	Flow Control: N Not Controlled	Start MH: 2213-0033
City: IRW YOTV1011A	Year Renewed:	End MH: 2213-0034
Location Code: A Main Highway - Urban	Tape/Media # 082311	pipe length: 330.9 ft

Reason for inspection: F Routine Assessment	Dia/Height: C Circular 8 8
Use of Sewer: SS Sanitary	Material: VCP Pipe Length: 346
Drain. Area: 0033 2213-0034 2213	Lining Method:
	Category:

Remark: **MSA CHANGE IN PIPE SIZE**

1:825	position	observation	MPEG	photo	grade
	0.00	Upstream Manhole, Survey Begins 2213-0033		29	
	0.00	Water Level, 5' of cross sectional area			M 2
	0.00	Water Mark, 5' of cross sectional area	00:01:01		M 2
	271.46	Joint Offset Medium	00:08:31	35, b	S 1
	321.66	Broken Void Visible, from 08 to 02 o'clock, within 8 inch: YES	00:10:11	37, b	S 5
	330.90	Material Change, PVC Polyvinyl Chloride	00:10:49	39, b	
	330.90	Shape or Size Change, 6", 6"	00:10:56	41, b	
	330.90	Survey Abandoned, Remark: CAM BLKD CHANGE IN PIPE SIZE	00:11:13	43, b	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
5111	2200	6	4	10	3	2	2.5



Inspection report

Date: 20110823	P.O. □: Y0TV1011A	Weather: 1 Dry	Surveyed By: B.FUGATE	section number: 8	PSR: 106410
Total Pipe Length: 346	Survey Customer: LACDPW	System Owner: IRW	Clean Date: 08 23 2011	Pre-Cleaned: J Jetting	Map Grid □: 2213

Street: ARROW HWY	Flow Control: N Not Controlled	Start MH: 2213-0034
City: IRW Y0TV1011A	Year Renewed	End MH: 2213-0033
Location Code: A Main Highway - Urban	Tape/Media □: 082311	pipe length: 46.98 ft

Reason for inspection: F Routine Assessment	Dia/Height: C Circular 8".8"
Use of Sewer: SS Sanitary	Material: VCP Pipe Length: 346
Drain. Area: 0033 2213-0034	Lining Method:
	Category:

Remark:: **msa cam blkd by pipe size change**

1:125	position	observation	MPEG	photo	grade
		0.00 Downstream Manhole, Survey Begins 2213-0034 0.00 Water Level, 5 of cross sectional area 0.00 Water Mark, 5 □ of cross sectional area		30	
	46.68	Material Change, PVC Polyvinyl Chloride	00:01:51	45, b	
	46.98	Shape or Size Change, 6", 6"	00:01:55	47, b	
	46.98	Survey Abandoned, Remark: msa cam blkd by pipe size chan	00:02:04	49, b	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
0000	2200	0	4	4	0	2	2



Inspection report

Date: 20110811	P.O.☐ Y0TV1011A	Weather: 1 Dry	Surveyed By: B FUGATE	section number: 204	PSR: 105747
Total Pipe Length: 326	Survey Customer: LACDPW	System Owner: IRW	Clean Date: 08 11 2011	Pre-Cleaned: J Jetting	Map Grid ☐: 0

Street: AZUSA CANYON RD	Flow Control: N Not Controlled	Start MH: 2214-0629
City: IRW-YOTV1011A	Year Renewed	End MH: 2214-0630
Location Code: C Light Highway	Tape/Media ☐: 081111	pipe length: 312.04 ft

Reason for inspection: F Routine Assessment	Dia/Height: C Circular 8 8
Use of Sewer: SS Sanitary	Material: VCP Pipe Length: 326
Drain. Area: 0629 2214-0630 2214	Lining Method:
	Category:

Remark:: **NONE**

1:775	position	observation	MPEG	photo	grade
	0.00	Upstream Manhole, Survey Begins 2214-0629			174
	0.00	Water Level, 5 ☐ of cross sectional area			M 2
	0.00	Water Mark, 5 ☐ of cross sectional area			M 2
	1.85	Crack Multiple, from 10 to 02 o'clock, within 8 inch: NO	00:00:37	175, b	S 3
	6.03	Tap Factory Made Capped, at 09 o'clock, 6", within 8 inch: YES	00:00:54	177	
	64.92	Tap Factory Made Active, at 09 o'clock, 6", within 8 inch: YES	00:02:51	178	
	69.19	Tap Factory Made Active, at 09 o'clock, 6", within 8 inch: YES	00:03:04	179	
	252.47 S1	Fracture Multiple, from 12 to 09 o'clock, within 8 inch: YES, start	00:07:43	180, b	S 4
	255.68 F1	Fracture Multiple, from 12 to 09 o'clock, within 8 inch: YES, end	00:08:03	182, b	S 4
	312.04	Drop Connection, Survey Ends 2214-0630	00:12:31	184, b	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
4231	2200	11	4	15	3.67	2	3



Inspection report

Date: 20110823	P.O. #: Y0TV1011A	Weather: 1 Dry	Surveyed By: B.FUGATE	section number: 120	PSR: 106408
Total Pipe Length: 303	Survey Customer: LACDPW	System Owner: IRW	Clean Date: 08 22 2011	Pre-Cleaned: J Jetting	Map Grid #: 0

Street: ARROW HWY	Flow Control: N Not Controlled	Start MH: 2213-0031
City: IRW YOTV1011A	Year Renewed:	End MH: 2213-0032
Location Code: C Light Highway	Tape/Media # 082411	pipe length: 369.35 ft

Reason for inspection: F Routine Assessment	Dia/Height: C Circular 8 8
Use of Sewer: SS Sanitary	Material: VCP Pipe Length: 303
Drain. Area: 0031 2213-0032 2213	Lining Method:
	Category:

Remark.: **NONE**

1:925	position	observation	MPEG	photo	grade
	0.00	Upstream Manhole, Survey Begins 2213-0031		2	
	0.00	Water Level, 5 of cross sectional area			M 2
	0.00	Water Mark, 5 of cross sectional area			M 2
	76.90	Tap Factory Made Active, at 09 o'clock, 6", within 8 inch: YES	00:03:55	11	
	183.92	Material Change, VCP Vitrified Clay Pipe	00:07:54	12, b	
	233.62	Fracture Multiple, from 06 to 02 o'clock, within 8 inch: YES	00:09:56	14, b	S 4
	235.42	Tap Factory Made Active, at 09 o'clock, 6", within 8 inch: YES	00:10:14	16	
	237.03	Fracture Multiple, from 03 to 01 o'clock, within 8 inch: YES	00:10:27	17, b	S 4
	298.97	Tap Factory Made Active, at 09 o'clock, 6", within 8 inch: YES	00:12:52	19	
	369.35	Downstream Manhole, Survey Ends 2213-0032	00:16:00	20	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
4200	2200	8	4	12	4	2	3



WinCan America, Inc.
 1730 Montano Road NE, Suite E
 Albuquerque, NM 87107
 Tel: (505) 341.0109, Fax: (505) 341.0133

Inspection report

Date: 20110823	P.O. #: Y0TV1011A	Weather: 1 Dry	Surveyed By: B.FUGATE	section number: 4	PSR: 106409
Total Pipe Length: 263	Survey Customer: LACDPW	System Owner: IRW	Clean Date: 08 22 2011	Pre-Cleaned: J Jetting	Map Grid #: 0

Street: ARROW HWY	Flow Control: N Not Controlled	Start MH: 2213-0032
City: IRW Y0TV1011A	Year Renewed:	End MH: 2213-0033
Location Code: C Light Highway	Tape/Media # 082311	pipe length: 128.4 ft

Reason for inspection: F Routine Assessment	Dia/Height: C Circular 8 8
Use of Sewer: SS Sanitary	Material: VCP Pipe Length: 263
Drain. Area: 0032 2213-0033 2213	Lining Method:
	Category:

Remark: **NONE**

1:325	position	observation	MPEG	photo	grade
	0.00	Upstream Manhole, Survey Begins 2213-0032		23	
	0.00	Water Level, 5' of cross sectional area			M 2
	0.00	Water Mark, 5' of cross sectional area			M 2
	18.97	Fracture Multiple, from 12 to 12 o'clock, within 8 inch: YES	00:02:49	24, b	S 4
	42.97	Tap Factory Made Active, at 09 o'clock, 6", within 8 inch: YES	00:03:32	26	
	53.01	Tap Factory Made Active, at 09 o'clock, 6", within 8 inch: YES	00:03:57	27	
	128.40	Downstream Manhole, Survey Ends 2213-0033	00:06:14	28	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
4100	2200	4	4	8	4	2	2.67



Inspection report

Date: 20110810	P.O. #: Y0TV1011A	Weather: 1 Dry	Surveyed By: B FUGATE	section number: 31	PSR: 105744
Total Pipe Length: 326	Survey Customer: LACDPW	System Owner: IRW	Clean Date: 08 10 2011	Pre-Cleaned: J Jetting	Map Grid #: 0

Street: AZUSA CANYON RD	Flow Control: N Not Controlled	Start MH: 2214-0627
City: IRW-Y0TV1011A	Year Renewed:	End MH: 2214-0626
Location Code: C Light Highway	Tape/Media # 081011	pipe length: 304.27 ft

Reason for inspection: F Routine Assessment	Dia/Height: C Circular 8 8
Use of Sewer: SS Sanitary	Material: VCP Pipe Length: 326
Drain. Area: 0626 2214-0627 2214	Lining Method:
	Category:

Remark: **AGAINST FLOW**

1:750	position	observation	MPEG	photo	grade
	0.00	Downstream Manhole, Survey Begins 2214-0627		143	
	0.00	Water Level, 5' of cross sectional area			M 2
	0.00	Water Mark, 5' of cross sectional area			M 2
	53.55	Tap Factory Made Active, at 03 o'clock, 6", within 8 inch: YES	00:02:32	144	
	158.11	Tap Break-In Active, at 02 o'clock, 6", within 8 inch: YES	00:05:17	145	
	212.24	Tap Factory Made Active, at 03 o'clock, 6", within 8 inch: YES	00:07:01	146	
	255.39	Tap Break-In Active, at 03 o'clock, 6", within 8 inch: YES	00:08:30	147	
	296.98	Fracture Multiple, from 12 to 12 o'clock, within 8 inch: YES	00:10:00	148, b	S 4
	297.56	Tap Factory Made Active, at 03 o'clock, 6", within 8 inch: YES	00:10:11	150	
	297.56	Roots Medium Lateral, from 03 to 11 o'clock, 25' , within 8 inch: YES	00:10:13	151, b	M 3
	304.27	Upstream Manhole, Survey Ends 2214-0626	00:10:47	153	

QSR	QMR	SPR	MPR	OPR	SPRI	MPRI	OPRI
4100	3122	4	7	11	4	2.33	2.75

