

**Ruthrauff Basin
Management Plan
Existing Conditions Analyses
Final Report**

Appendix A to the DRAFT TSDN



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Control District

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A.1 Data Collection Summary

Existing conditions drainage data for the study area was collected from the Pima County Regional Flood Control District (RFCD), the City of Tucson (COT), Arizona Department of Transportation (ADOT), the Union Pacific Railroad (UPRR) and other sources. Pertinent data is utilized to identify problem areas, complete hydrologic and hydraulic modeling and facilitate alternatives analyses.

A.1.1 Plans and As-Built Drawings

A list of digital plans collected for the Ruthrauff BMP is contained in Table A.1 and are included in the Data Collection Summary CD.

Table A.1 Plans and As-Builts

Plan No.	Description	Date
010-D(013)N	I-10 Mainline Ruthrauff Rd to Prince Rd.	3/2011
40SCHL	Homer Davis School Improvements (R-811)	8/10/1979
4BRAUF	La Cholla Boulevard & Sullinger Ave. Storm Drains (4BRAUF)	9/1987
4BRAUF	Ruthrauff Rd I-10 to La Cholla Blvd (4BRAUF)	2/1986
4BRCFR	Roger RD-Romero Road Intersection Improvements	4/4/1983
4FRIVR	Rillito River Bank Protection	6/1995
4FSULL	Sullinger Ave. Storm Drain Outfall Channel Repairs	11/06/2007
4LCITR	La Cholla Blvd - Ruthrauff Road to River Rd	12/2011
4LEMSI	Laguna Elementary School Pedestrian Enhancement Project	4/30/2012
4TOLAY	Wetmore Road Overlay - LA Cholla Blvd to Romero Rd	5/23/1996
4TWETM	Ruthrauff Rd/Wetmore Rd - La Cholla Blvd to Fairview Ave. (WO 4TWETM)	6/05/2003
5FVLII	Fairview Ave. Box Culvert Extension (5FVLII)	11/15/2002
A0001	Rillito Street, Camino Aire Fresco Paving Improvements	2/14/1978
D-2003-003 (5FVLII)	Fairview Ave Box Culvert Extension	11/15/2002

Table A.1 Plans and As-Builts

Plan No.	Description	Date
D-2003-007	Calle Arizona at 14 th Avenue Drainage Improvements	12/11/2007
D-2006-001	Storm Drain Modification Plans for Tucson Mall Oil Stop	6/2007
D66-006	Grading Plan for Flowing Wells Rd & Romero Road North of Prince	1/1961
D-76-001	Mountain Ave Storm Drain, Hedrick Drive to Rillito River	5/11/1977
D-81-003	On-Site Storm Sewer for Stonybrook Apts.	2/16/1982
D-83-006	Flowing Wells Wash at Fairview Ave. Sheet 6, Alt. C	3/11/1985
D-88-001	First Ave. Storm Sewer at Wetmore Road	10/12/1989
D-90-05	Tucson Mall Storm Drain Alterations	12/12/1990
D-90-07	Tucson Mall Utility/Storm Drain Plans	12/1981
D-95-02	Misc. Drainage Spot Improvements - Wetmore Rd - Stone Ave. to Limberlost	6/23/2000
D-98-05	Northwest Industrial Park, Drainage Improvements	9/1998
E-64-014	Flowing Wells Drainage Channel, Romero Rd to Santa Cruz River	3/2/1967
E-68-008	Flowing Wells Drainage Channel, Box Culvert at Romero Rd.	3/24/1969
E-69-09	Flowing Wells HS Drainage Ditch	12/24/1970
E-69-9A	Flowing Wells HS Storm Sewer Extension	1/12/1976
E-85-009	Flowing Wells Wash Stabilization La Cholla Blvd to Fairview Ave. Phase I	11/12/1987
E-85-009	Flowing Wells Wash Stabilization La Cholla Blvd to Fairview Ave. Phase II	9/19/1989
EMP-SU-479-01	Flowing Wells Rd & La Canada Dr, Roger Rd Roller Coaster Rd Phase I	7/22/1975
H-2002-075	Record of Survey Prince to La Cholla	1/10/2003
HYX135	Highway Drive Improvements Rillito River to Emerald Ave.	11/07/2007
I-2003-030	Paving & Sewer Plans for Pueblo de las Catalinas	6/28/1978
I-2005-009 (4TWETM)	Ruthrauff Rd/Wetmore Rd - La Cholla Blvd to Fairview Ave. (WO 4TWETM) (as bid, w/ addendums, Sht 1-3)	6/2003
I-62-007	Westwook Village Apt Paving Improvements	10/2/1962
I-62-025	La Mesa District Paving Improvement (Pastime Rd east of Stone Ave.)	6/1965
I-67-008	Roger Rd Romero to Flowing Wells Paving Improvements	12/12/1967
I-67-009	Mohave, Yavapai Stone Avenue Paving Improvement	10/30/1969
I-67-012	Calle Del Arizona Improvement District Storm Drain System	3/29/1966
I-67-013	Oracle Rd Roger to Chula Vista (ADOT)	5/31/1972
I-68-045	Sioux Ave. Ft Lowell Rd to Delano Drive District Paving Improvement	5/19/1970

Table A.1 Plans and As-Builts

Plan No.	Description	Date
I-69-004	Flowing Wells Rd, Prince Rd to Roger Rd Paving Improvement	10/14/1970
I-70-010	Fairview Ave. Miracle Mile to Prince Rd. Paving Improvement	8/2/1971
I-70-047	Plan and Profile Flowing Wells Rd and La Canada Drive	7/22/1975
I-72-038	Oracle Rd Roger Road Intersection	3/1972
I-75-19	Romero Road, Prince Rd to Gardner Lane	10/20/1976
I-76-023	Prince Rd Oracle Rd to First Ave. Paving Improvement	1/1977
I-76-024	Oracle Road, Roger Rd to Glenn St	10/23/1979
I-79-023	Prince Rd, N. First Ave to Campbell Ave Paving Improvement	4/1/1987
I-81-047	Street Improvement Plan for Limberlost Rd	1/1982
I-81-068	Oracle Rd Improvements Wetmore Rd to Rillito Lane	11/23/1981
I-813	N. First Ave Navajo to Roger Paving Improvement	4/1964
I-814	N Campbell Ave Drainage and Paving Improvement	5/1965
I-82-014	Wetmore Rd Improvements Oracle Rd to 1st Avenue	5/1982
I-82-055	Wetmore Rd Oracle Rd to First Ave. Paving Project Phase II	6/13/1984
I-82-058	Stone Ave. to Maddux Transition (Prince Rd to Wetmore Rd.)	5/1984
I-821	Prince Rd - Southern Pacific RR to Oracle Rd District Paving Improvement	6/4/1969
I-828	North First Ave Improvement District (Paving, Sewers, Drainage & Structures)	1960
I-83-024 (4BRCFR)	Roger Rd, Romero Rd, Flowing Wells Rd, Campbell Ave Intersection Improvements	11/1985
I-83-038	Romero Rd Prince Rd to Miracle Mile - District Paving and Lighting Improvement	9/28/1987
I-84-043	Limberlost Drive Improvements (Oracle Rd to First Ave.)	8/21/1987
I-85-041	Roger Rd, Oracle to First Paving Improvements	8/12/1988
I-87-012	Tucson Auto Mall Roadway Plans	1/16/1987
I-87-035	Stone Avenue - River Rd to Wetmore Rd, Bridge and Paving Project	9/19/1991
I-92-014	Stone Ave. Wetmore Rd to Limberlost Dr. Paving Improvement	6/26/2000
I-94-001	Wetmore Rd Fairview Avenue to Oracle Road Paving Improvement	8/01/2005
I-98-050	Limberlost Drive Drainage Relief Project	3/03/2003
I-98-080	Ruthrauff Rd - Miracle Mile TI	11/1997
N-64-2	Prince Rd –SPRR Paving and Crossing Improvement	8/1966
R-204	Flowing Wells Rd.	7/1956
R-276	Ownership West Wetmore and Highway Drive	5/1957
R-297	Ownership La Cholla Blvd	12/1960
R-315	Curtis Road	12/1962
R-414	Kain Road	1/1966
R-502	Proposed Deeds South of Wetmore	8/1965

Table A.1 Plans and As-Builts

Plan No.	Description	Date
R-560	Fairview Ave.	7/1970
R-817	Wetmore Road-Fairview Ave Intersection Improvements	11/1990
R-87-008	Flowing Wells Wash Stabilization La Cholla Blvd to Fairview Ave. (Right-of-Way)	4/1987
S-84-031	Romero Rd Prince RD to Miracle Mile - R/W Acquisition	7/1984
S-86-45	Drainage Access Easements for Flowing Wells Wash Stabilization	5/1986

A.1.2 Existing Reports/Data

A list of existing reports collected for the Ruthrauff BMP is contained in Table A.2 and is included in the Data Collection Summary CD.

Table A.2 Existing Reports

Date	Name	Author
March 23, 1981	<i>Preliminary Drainage Study Report, Ruthrauff Road I-10 to La Cholla Blvd.</i>	Cella Barr Associates
June 3, 1981	<i>Hydrologic Investigation for Gardner Lane Area,</i>	Cella Barr Associates
July 16, 1981	<i>Alternative Design Schemes for the Gardner Lane Area</i>	Cella Barr Associates
November 10, 1981	<i>Report on Existing 100-year Flooding Conditions within The Gardner Lane Area</i>	Cella Barr Associates
August 15, 1983	<i>Critical Watershed Management Plan, Ruthrauff Road Area</i>	Cella Barr Associates
August 15, 1983	<i>Main Report, Critical Watershed Management Plan, Ruthrauff Road Area</i>	Cella Barr Associates
December 17, 1993 (Revised November, 1995)	<i>Existing-Conditions Hydrologic Modeling for the Tucson Stormwater Management Study, Phase II, Stormwater Master Plan</i>	Simons, Li & Associates, Inc.
December 15, 1995	<i>Final Report, Tucson Stormwater Management Study, Phase II, Stormwater Master Plan</i>	Simons, Li & Associates, Inc.
April 2011	<i>I-10 Mainline Reconstruction, Casa Grande-Tucson Highway (I-10) Ruthrauff Road to Prince Road, Final Drainage Report</i>	AECOM
June 16, 2011	<i>Flood Insurance Study, Pima County, Arizona and Incorporated Areas</i>	Federal Emergency Management Agency

A.1.2.1 Interstate 10 and Union Pacific Railroad Improvements

The capacity of drainage structures at the Union Pacific Railroad (UPRR) and Interstate (I)-10, and conveyance to the Santa Cruz River are the limiting boundary condition for the majority of runoff in the Ruthrauff Basin Management area. The Arizona Department of Transportation (ADOT) and UPRR have recently completed drainage improvements in the Ruthrauff Basin Management area to convey 100-year peak discharges concentrating at existing drainage structure locations. Additional drainage structure improvements are proposed in the study area by the UPRR. A summary of existing and proposed drainage structures at I-10 and UPRR in the study area is contained in Table A.3. Storm drains will be identified for the Hydrologic Analyses and Floodplain Delineation task.

ADOT is also in the processing of preparing construction plans for the Ruthrauff Traffic Interchange which will include drainage structure changes in the Ruthrauff Rd. and I-10 area.

Table A.3 Drainage Structures at I-10 and UPRR

Location	Size_Type		Comments
	Existing	Proposed	
I-10, north of Ruthrauff Rd.	2-8'x6' CBC (one plugged)	60" RCP	Proposed under design for Traffic Interchange
UPRR, north of Ruthrauff Rd.	4-72" SSP (2 plugged)	Augment with 3-96" SSPs	Proposed preliminary design
I-10 and Frontage Rd. approximately 1500 ft. south of Ruthrauff Rd.	4-10'x4' CBC (2 plugged)	N/A	Two cells are currently plugged until downstream ROMP channel is complete
UPRR, approximately 1500 ft. south of Ruthrauff Rd.	4-60" SSP	TBD	Under preliminary design
UPRR, approximately 1700 ft. north of Gardner Lane	2-48" SSP	N/A	No corresponding I-10 structure
UPRR, approximately 400 ft. north of Gardner Lane	2-36" SSP	N/A	No corresponding I-10 structure
I-10 at Gardner Lane	4-10'x6' CBC	N/A	
UPRR at Gardner Lane	none	7 or 8 72" SSPs	Proposed under preliminary design
I-10 at Flowing Wells Wash eastern frontage inlet	5-10'x7' CBC	N/A	Junction structure east of East Bound Frontage
I-10 at Flowing Wells Wash western outlet	4-12'X10' CBC	N/A	Junction structure east of East Bound Frontage
UPRR at Flowing Wells Wash	2-143-inch X 100-inch SPA	2-96-inch Steel Pipe	Existing to Remain

A.1.2.2 Rillito River Outfalls

Conveyance to the Rillito on the north edge of the basin also limits drainage. Outfalls from the study area to the Rillito River include storm drains, open channels and culverts. The open channels include the North Mountain Ave. Wash, west of Campbell Ave. and the Sullinger Wash, west of La Cholla

Blvd. Storm drains and culverts will be identified for the Hydrologic Analyses and Floodplain Delineation task.

A.1.3 Land Use Analyses

A.1.3.1 Pima County Comprehensive Plan

Pima Prospers is the name of Pima County's Comprehensive Plan update effort. The Ruthrauff Basin Management Plan project area lies within Planning Area 8, Central. An Infill Incentive District lies within the study area (see Section A.1.3.3 Economic Development Zone, below). In addition, a Community Development Target Area (Flowing Wells) lies within the study area. Targeted areas are designated to receive priority for available US Housing and Urban Development (HUD) entitlement grant funding for community revitalization and economic development activities, including infrastructure improvement. The draft land use map for the study area is available at the Pima Prospers website: [Pima Prospers Maps Central](#). The Flood Control and Drainage Element is Section 4.9 of [Chapter 4: Physical Infrastructure Connectivity Goals and Policies](#).

A.1.3.2 City of Tucson General & Sustainability Plan

The City of Tucson's current General Plan was ratified by voters on November 5, 2013 and declared for adoption on November 13, 2013 by Mayor and Council. The Existing Land Uses, 2013 Exhibit LT-3 from the Plan is available in Chapter 3, The Built Environment on the City's website: [Chapter 3 The Built Environment](#). The Future Growth Scenario Map is available on the website at: [Future Growth Scenario Map](#). Similar to existing conditions, building blocks in the area include industrial, mixed-use corridors and existing neighborhoods. The Plan includes a Green Infrastructure component directed at infiltrating stormwater as a resource to grow vegetation.

A.1.3.3 Economic Development Zone

Much of the area adjacent to the railroad on the I-10 alignment in unincorporated Pima County has been amended in the comprehensive plan as an infill incentive district (Co7-08-01 Flowing Wells Neighborhood Association and Community Coalition – N. Highway Drive Area Plan Amendment). This

includes 449 acres and specifies rezoning. As a requirement for this rezoning, the District asked that a comprehensive drainage plan for the area be developed, which is one of the reasons this most-recent version of the Ruthrauff Basin Management Plan is being implemented.

A.1.4 RFCD and City of Tucson Records

A.1.4.1 Drainage Complaints

Drainage complaint records were obtained from the RFCD and COT Planning and Development Services and the Department of Transportation. Exhibit A.1 shows the locations of all the documented drainage complaints. The complaints go back to 1990 in the County and 2008 in the City. Approximately 340 complaints are in the County and approximately 70 complaints are in the City within the study area. Approximately 80% of all the complaints are related to private, lot to lot drainage problems and are not applicable to the scope of the current study. Exhibit A.1 shows the locations of all the documented drainage complaints. ArcGIS shape files with spatially referenced drainage complaint descriptions is provided in the Data Collection Summary CD.

A.1.4.2 Tucson Stormwater Management Study (TSMS) Data

TSMS watersheds in the study area include the Ruthrauff Wash Watershed (EG), the Flowing Wells Wash Watershed (FW), the Wetmore Wash Watershed (HR), the Stone Avenue Wash Watershed (HG), the First Avenue Wash Watershed (GR), North Mountain Ave. Watershed (GQ) and the Tucson General Watershed (GM). A summary of 100-year peak discharges for TSMS nodes in the study area is provided in Table A.3.5

A.1.5 Geotechnical Data

Hydrologic soil group data was provided by RFCD and is provided in the Data Collection Summary CD. The Natural Resources Conservation Service Web Soil Survey (<http://websoilsurvey.nrcs.usda.gov/app/>) provides soil data and information produced by the National Cooperative

Soil Survey which can be utilized for planning purposes. This data will be utilized as applicable during alternatives analyses. In addition, two USGS reports authored in December 1999 contain data regarding the surficial geology and geologic hazards of the study area. "Surficial Geology and Geologic Hazards of the Tucson Mountains, Pima County, Arizona, Avra, Brown Mountain, Cat Mountain, and Jaynes Quadrangles (Open-File Report 99-22) and Surficial Geology and Geologic Hazards of the Northern Tucson Basins, Pima County, Arizona, Tucson North and Sabino Canyon Quadrangles (Open-File Report 99-21). Surficial deposits in the study area include Holocene floodplain and terrace deposits, and late and middle Pleistocene river terrace deposits.

A.1.6 Spatial Data

Spatial data, in the form of ESRI shape files and image files are provided in the Data Collection Summary CD. Land use classes, hydrologic soil groups, building outlines and streets were provided by the RFCD to facilitate curve number generation for the FLO-2D modeling. In addition, 2008 Pima Association of Governments (PAG) aerials and the associated LiDAR dataset were provided by the RFCD. Current parcel data for the study area was obtained from the Pima County GIS FTP site.

Table A.3.5 TSMS Data

NODE	WATERSHED	TSMS_CODE	LOCATION	Q100__CFS_	STATUS
DG-N0430	FLOWING WELLS	DG	Flowing Wells Wash at Santa Cruz River	3523	verified 06/05
DG-N0420	FLOWING WELLS	DG	Flowing Wells Wash at Upstream Union Pacific Railroad	3353	verified 06/05
DG-N0400	FLOWING WELLS	DG	Flowing Wells Wash at Kilburn	3210	verified 6/05
DG-N0236	FLOWING WELLS	DG	Prince Rd. at Stone Ave.	227	verified 6/05
DG-N0235	FLOWING WELLS	DG	Prince Rd. at 1st Ave.	241	verified 6/05
EG-N0080	RUTHRAUFF	EG	I-10 North of Ruthrauff Rd.	1440	verified 6/05
EG-N0060	RUTHRAUFF	EG	North of Gardner Lane	1513	verified 6/05
EG-N0050	RUTHRAUFF	EG	I-10 and Gardner Lane	1680	verified 6/05
EG-N0030	RUTHRAUFF	EG	Flowing Wells and Prince	639	verified 6/05
EG-N0040	RUTHRAUFF	EG	I-10 and Prince	942	verified 6/05
GM-N0030	TUCSON GENERAL	GM	Rillito River	281	Draft
GM-N0020	TUCSON GENERAL	GM	Limberlost	not compiled	Draft
GQ-N0050	NORTH MOUNTAIN AVE	GQ	Rillito River	897	verified 6/01
GQ-N0040	NORTH MOUNTAIN AVE	GQ	North of Roger Rd.	786	verified 6/01
GQ-N0030	NORTH MOUNTAIN AVE	GQ	Roger Rd.	531	verified 6/01
GQ-N0020	NORTH MOUNTAIN AVE	GQ	Roger Rd.	328	verified 6/01
GQ-N0010	NORTH MOUNTAIN AVE	GQ	Prince Rd.	345	verified 6/01
GR-N0020	1ST AVE	GR	Limberlost	343	verified 10/05
GR-N0025	1ST AVE	GR	Wetmore	313	Do not use
GR-N0030	1ST AVE	GR	Rillito River	632	Draft
GR-N0010	1ST AVE	GR	Roger Rd.	227	verified 10/05
HG-N0050	STONE AVE	HG	Rillito River	1069	Draft
HG-N0010	STONE AVE	HG	Roger Rd.	389	Draft
HG-N0040	STONE AVE	HG	Wetmore	1073	Draft
HR-N0030	WETMORE	HR	Rillito River	445	Draft
HR-N0020	WETMORE	HR	La Canada	911	Draft
HR-N0010	WETMORE	HR	Limberlost	667	Draft

A.1.7 Site Visit

A site visit was conducted on July 10, 2014. The project team, including representatives from the RFCD, COT, Stantec, JE Fuller and Wheat Design Group were in attendance. This initial team site visit provided the opportunity for Team Members to become more familiar with the project area problems and existing conditions. This was accomplished by visiting 14 problem locations as identified by reviewing drainage complaints, interviewing Regional Flood Control District Maintenance and Floodplain Personnel as well as input from the City of Tucson. The site visit allowed the team to more fully understand drainage problem, identified additional data needs, and initiated discussions relative to potential alternative approaches for future considerations. Exhibit A.2 indicates the site visit locations; the drainage complaints are summarized on Table A.3. Table A.4 summarizes the Teams' observations during the site visit.

A.1.8 Utilities

Utilities of note include fiber optic lines and Tucson Water reclaimed water lines along I-10 and the UPRR, a fuel line (Southern Pacific Pipeline/ Sante Fe Pacific Pipeline) along UPRR, and a large sewer line along Prince Rd. Utility companies will be contacted during the Alternatives Analyses and Remediation Recommendations Task to obtain pertinent utility locations in the study area.

A.1.9 Identify Data Gaps

No data gaps have been identified, but data needs will continue to be assessed as the project progresses.

A.1.10 Survey

Field survey needs will be identified as the project progresses.

A.1.11 Rights-Of-Entry

Rights-of-Entry needs will be identified as the project progresses.

A.2 List of Flooding and Drainage Problems

Thirteen key problem areas are summarized below based upon drainage complaints and the field visit. Members of the public verified observed drainage problems in two separate meetings; a Stakeholders meeting on October 23, 2014 and an Open House on December 4, 2014. An ESRI shape file spatially referencing the completed meetings' comment forms is provided in the Data Collection Summary CD. In addition, following a request for drainage complaints in the study area, ADOT staff indicated that the existing concrete barricades at the Ruthrauff underpass, do not allow runoff to exit Ruthrauff Rd. Additional openings are needed in the barricades.

Freeway (Gardner Lane) Industrial Park

The Gardner Lane Industrial Park is located south of Gardner Lane and north of Prince Rd, between Romero Rd. and Interstate 10. The majority of this area is mapped as an AO Zone (1 ft. depth) on the currently effectively Flood Insurance Rate Map for Pima County and Incorporated Areas (Panel 04019C1669L, June 16, 2011), see Figure A.3. This area is primarily drained by an under-capacity channel along Gardner Lane which outlets to the west and the Union Pacific Railroad (UPRR) tracks. Currently flow is impeded by the railroad tracks and railroad spurs to the north, because no drainage structures exist. A future drainage structure is proposed at the UPRR at this location. This structure is expected to accommodate all 100-year flow concentrating at Gardner Lane and convey it to an existing, new structure under I-10. Photos were taken of the area during a significant rain event on September 8, 2014. Estimated 24-hour rainfall in the area was in excess of 1 inch. Photos are provided as Exhibit A.4.

Wetmore Rd and Highway Dr.

Several businesses have experienced flooding in the area. Ponding along Wetmore Rd. and Highway Dr. is prevalent.

Root Lane

Root Lane is located west of Romero Rd. and south of Wetmore Rd. Due to inadequate conveyance to the west, runoff ponds at Root Lane and. Paseo Reforma. Homeowners have reported ponding depths above the street curbs. Photos from the September 8, 2014 event of this area are contained in Exhibit A.4. In addition, homes adjacent to Romero Rd. have low finished flows and portions of an old irrigation ditch have been filled in. One homeowner in this area has reported flooding.

Simmons/Tuttle Area

This area is located north of Prince Rd. and West of Fairview Ave. Runoff in this area drains to an alley, south of Pelaar St. and to a stormdrain at the corner of Pastime and Flowing Wells Road. Ponding occurs upstream to Tuttle Ave. and Simmons St. Ponding depths above the curbs and into driveways have been reported. Pictures of the area have been provided by the City for two storm events, August 12, 2014 and September 8, 2014 (see Exhibit A.4).

Wetmore/Plum

Plum Avenue is located south of Wetmore Rd., west of La Cholla Blvd. Homes have low finished floors and homeowners have reported flooding in the past.

Sullinger Channel

The Sullinger Channel is located north of Curtis Rd. and West of La Cholla Blvd. adjacent to Curtis Park. Riprap erosion control has failed for tributary drainage. Sediment has accumulated at the outlet of the channel, the Rillito River.

Curtis/Kain

Numerous complaints in this area, located west of La Cholla Blvd. and north of Ruthrauff Rd. Ponding occurs in intersection because existing channel does not convey runoff to Rillito River due to insufficient grade. A single 36-inch pipe exists at the Rillito River.

Curtis/Shannon

Roadway ponding is prevalent north and east of the intersection of Curtis Rd. and Shannon Rd. and within the neighborhood northeast of the intersection.

Pomona

Pomona Rd. is located north of Roger Rd. and west of Flowing Wells Rd. Swale adjacent to westside of Pomona Rd. may be inadequate to convey flow away from adjacent mobile home park and upstream homes.

14th St. Channel

Channel outlet (storm drain inlet) clogs with debris.

Prosepect/Nidito

Ponding observed at intersection during the 12-08-2014 storm event.

Limberlost/1st Ave. Detention Basin

City has had reports of flooding from the detention basin located on the eastern side of the commercial complex.

Mountain Ave. and Prospect Lane in the vicinity of Limberlost

Ponding runoff for extended periods of time.

Ruthrauff Basin Management Plan Drainage Complaints

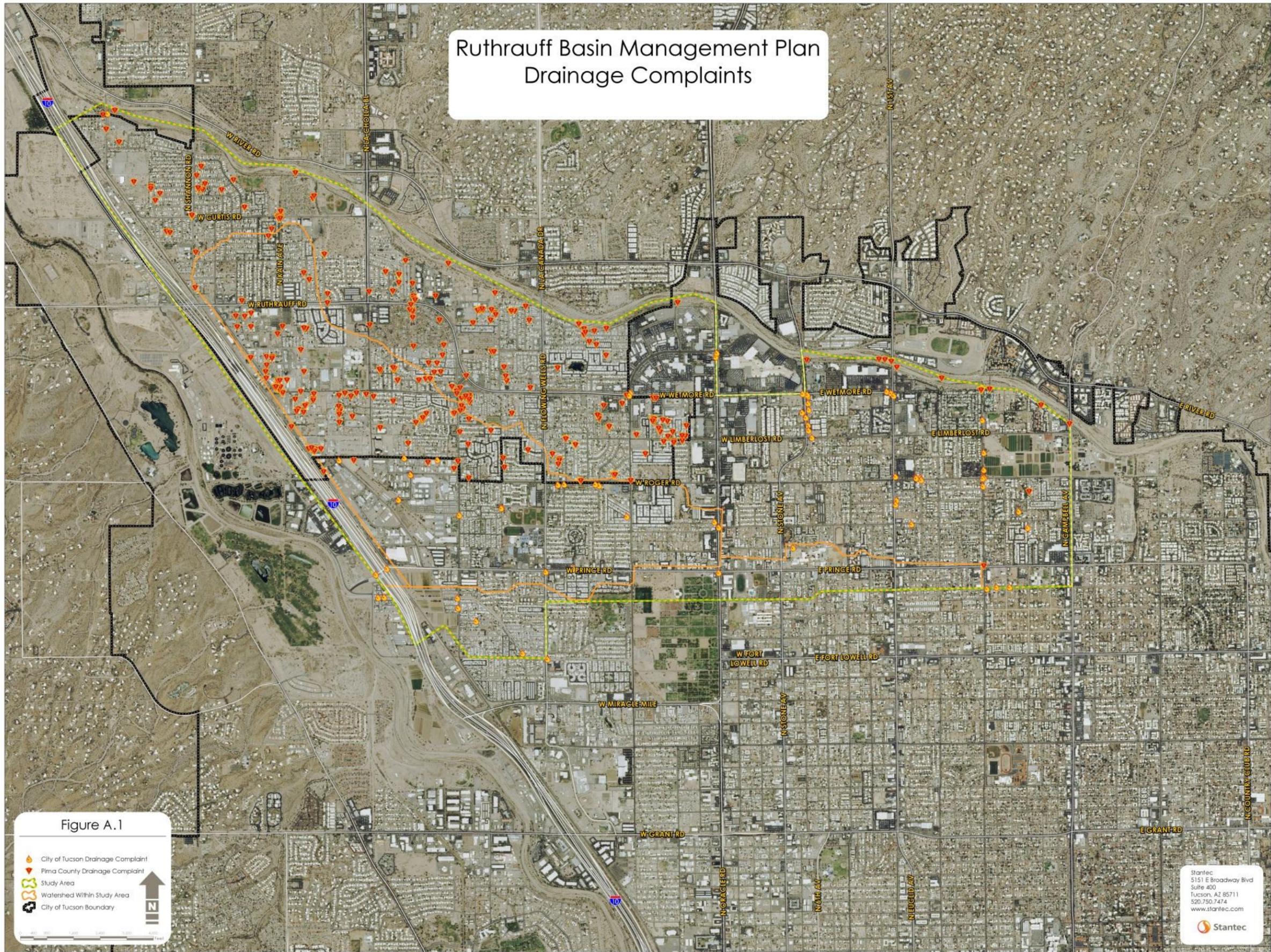


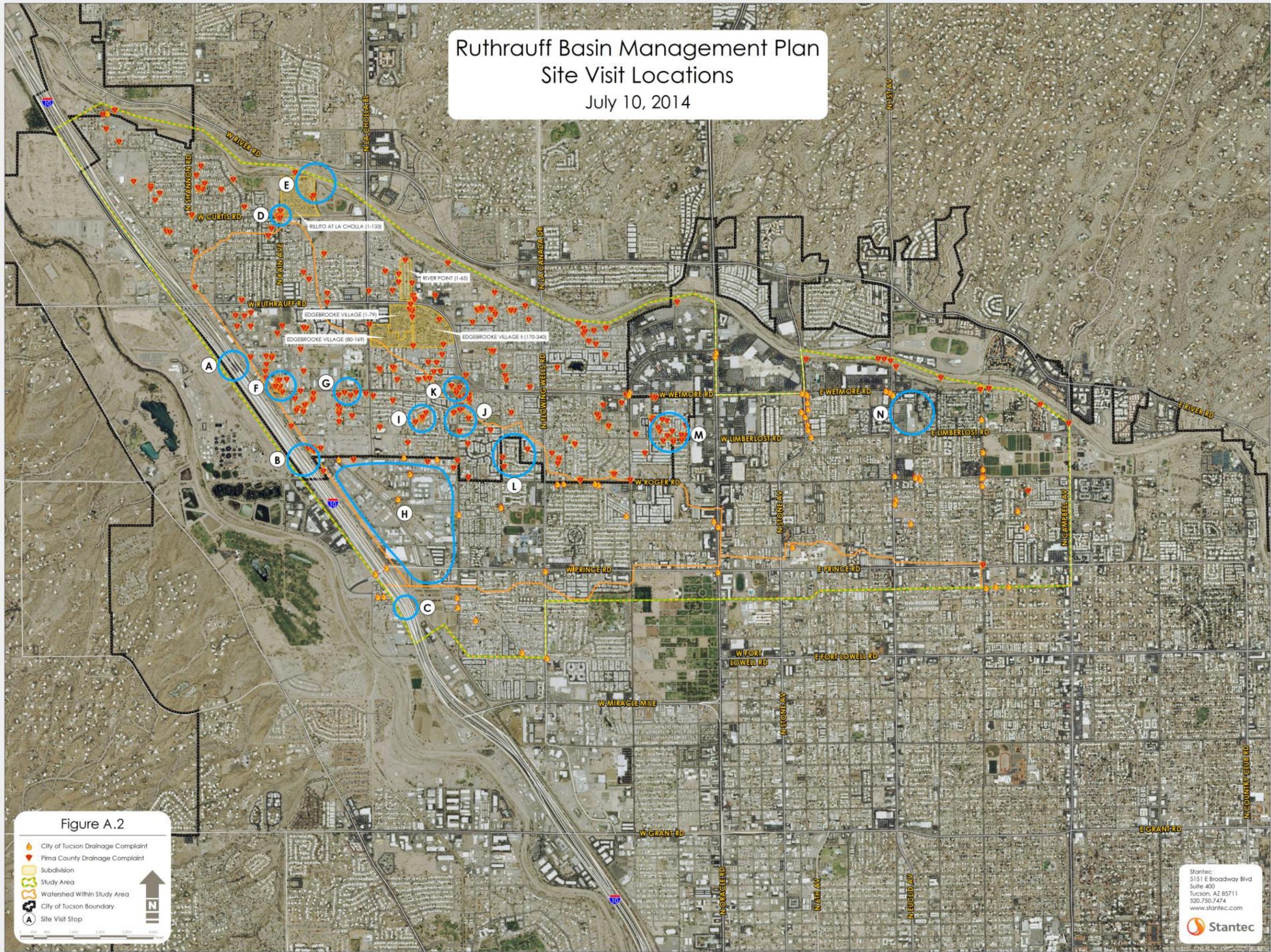
Figure A.1

- ▲ City of Tucson Drainage Complaint
- ▲ Pima County Drainage Complaint
- Study Area
- Watershed Within Study Area
- City of Tucson Boundary

Stantec
 5151 E Broadway Blvd
 Suite 400
 Tucson, AZ 85711
 520.750.7474
 www.stantec.com

Stantec

Ruthrauff Basin Management Plan Site Visit Locations July 10, 2014



Stantec
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Table A.4 Summary of Drainage Complaints		
SITE LETTER	CASE NUMBER	DRAINAGE COMPLAINT
B	1130	Ponding, driveway damaged, road/shoulder washed out. Gave to Steve Dolan on 8/13/01. No action taken.
B	6538	To the west of the railroad track there is a drainageway that needs to be cleaned. LOGO: Referred to Operations, within ROW that needs to be cleaned out.
B	90246	Wash in front of business overtops every time it rains. Lake in driveway and yard. No ingress/access for staff or customers - They have to close down. Met with Mr. Clayton Kiewel, owner of Desert Building Materials.
B	95195	Was COT work done. 1-1/2 inches of water in office. Logo:COT to fix mess.
B	96281	Neighbor has diverted flow, may be a civil matter. (ED MOORE'S OFFICE) LOGO: See complaint #96-350.
B	99159	Entire lot was flooded and water went inside the building. LOGO: VR spoke to TDM, LRS,SD. Consultant analysis done; recommends expensive culverts under tracks (RR) will not solve problem. CIP funds needed. Cost benefit not good. VR explained problems to Mr. Knevenston, and provided background materials & flood protection materials
D	90048	Arizona Underground has been filling property t 2520 W. Curtis. Property w as 2 feet lower that the above complainant's property, it is now 2 feet hig her. Water flow is now diverted onto his property. See memo to file Section 16, TI3S, RI3E, dated May
D	90103	Lives in Cul-de-Sac. Shannon Road is higher, drainage from Shannon is ponding 150 into cul-de-sac, approximately 2' deep. His car had to be pulled out thi morning. it stalled in the water. Sez a bulldozer could channel the drainage to the Rillito. At 11: 15 am . Met with Mr.Root. It appears that the channel along the eastside of Shannon Road is in need of regrading and clearing of heavy vegetation growth. Also 24 C.M.P.'s should be cleaned out in order to eliminate the problem.
D	90159	Drainage ditch does not channel to wash, lives in 2nd property from road (m ost other's are m.h.s.) every time trucks pass thru water comes to door. N eighbor (m.h.) has patio washed out. Ponding stays 5-6 days. Is represent ing 6-8 families in street.
D	90188	Developers curbs lower than flood level. No way for water to flush out. Sam Gutierrez met with Mr. Dickerman at site on 9/18/90. Mr. Dickerman sta ted that he was not aware of the problem, but he would talk with Mr. James Rice (his tenant)
D	90273	No drainage - Water 2' deep in front of home. Water ponds for days. Sam Gutierrez met with Mrs. Cox on 9/18/90 to discuss flooding problem. Mrs. Cox stated that she was tired of the street flooding, regardless of the amount of rainfall in the area
D	91249	2602 W. Golda sits across from Diamond Grove Mobile Home Park. Flow from p ark drains west to Plane and ponds so badly it is a traffic hazard during r ain (later it becomes a health problem) Mr. Montgomery feels the County cha nged flow at a low spot
D	92166	Neighbor has half a garage built - he has placed slump block 4 feet high 4 from her fence. this is diverting flow from M.H. awning - now flow is going to Mrs. Spears property & into swimming pool. Referred to Dale Diffie in Zoning Enforcement. They will handle. Logout : No Action. Area does not lie in a Floodplain. Referred to Zoning Enforcement. Permits were obtained.
D	93048	Most rains: Intersection of Palmetto and Shannon ponds curb to curb and is difficult to get into residences on cul de sac. See photo. Drainage ditc h runs north and south along Shannon. Met with owner. Gave Flood Preparation and Repair Manual.
D	93215	Debris dumped between 2pm Mon 6/14 & 8am Tues in Rillito River. Consultant (Sanjay Sangani) was on site at these times. Curtis La Cholla Ltd Partnership. Contact Janet prior to issuing violations as County is currently in an unrelated lawsuit. Logout.
D	93310	E/W streets directly in front of peroperty is full of debris causing the water to become stagnant in the wash. This needs to be cleaned out. N/W near Shannon & Curtis Drainage ditch runs off Shannon. Logout: Referred to Operations 9/7/93
D	93337	La Cholla/River Rd. Wash that runs behind Ed Moore's house is not flowing properly. It is being diverted & going onto her property, into her stables & buildings. Water has gone inside her building. Logout:
D	93453	W. OF SHANNON RD. See memo attached.
D	94062	Flooding problems, that there has been no attempt to adres her concerns in the area. See memo from Mary Lou attached. Logout: I recommended a storm sewer be installed. RTH
D	94321	W/of home the drainage ditch needs to be maintained. Water is ponding on Sahara causing the curbs to erode. He feels this is caused by poor engineering. Logo: Referred to D. Ballesteros 12/6/94.
D	95214	Weeds blocking the Rillito & a tree blew down next to his property which is owned by the County. LOGO: Service request to clear weeds 9/6/95.
D	95244	The outlet grate located at the storm sewer outlet for the Sullinger drain is half plugged. Grate needs to be cleaned. Logo: Service request sent to Operations 8/23/95.
D	95308	Drainage full of debris & tires & smells bad. LOGO: No action non County non-regulatory told Ms. Molis to contact DEQ.
D	96337	They have a lot of standing water on their street, & have grown mosquitos. T. Morrison faxed to Randy Baird already. LOGO: No action letter sent
D	96344	Flood problems on Palmetto, Saguaro & Carnuba. She is requesting storm drains. This area is located just south of the Rillito, east of the freeway & north of Curtis rd. LOGO: Sent letter stating improvements haven't been approved.

Table A.4 Summary of Drainage Complaints		
SITE LETTER	CASE NUMBER	DRAINAGE COMPLAINT
D	96518	Came from Peggy in the Director's office , please give Peggy a update. Significant flooding in alley flooding back yard. Wants someone to take a look. LOGO: Sent service request to grade alley #103077. Service request completed 12/16/96
D	96531	Curtis/gardner school, property adjacent to west(higher) drainage coming off and draining through degulis property-concerned with future rains/drainage impacting her mobile home park. LOGO: No action X-Ref 96-511(DC)
D	96551	When it rains, street floods water doesn't drain for at least a week. Large puddles in front of his house. Might be a Trans issue. LOGO: Maintenance request #102736.
D	97011	Ponding/drainage problem on Plain Ave(westside of mobile home park). LOGO: Service request sent to Operations #102738
D	97160	Mr. Powell was referred to MLJ via Supervisor Bronson's office. His complaint is historic ponding in front of his house. Recent chip-sealing of street may have compounded issue. I informed him no flood control improvements are scheduled in area for next 5yrs. Someone needs to set up a meeting, wants pictures taken of area, and is aware no action might result of this situation.
D	97293	Box culvert needs to be cleared out on Curtis about 1/4 - 1/2 mile west of La Cholla. LOGO: Service request # 103114 sent to have culvert cleaned and drainage regraded/repai red.
D	97330	Would like to know if his property has flooded in the last 15 years, he has lived there 4 years. LOGO: There is no record of any flooding on the proeprty, or in the complaint files.
D	97523	Shannon/Curtis area, streets flood out approx 1 1/2 - 2' in deepest part, still has rain puddles from last rain, no drainage at all for rain - close to school - worried kids will get hit. LOGO: Area is a historic problem, no funding available to fix at this time.
D	97527	Shannon/Curtis, street flooded, no drainage, just ponds. LOGO: Area is a historic problem, no funding to fix at this time, see other complaints for area.
D	97542	Mr. Powell called this complaint into Diana Durazo of Supervisor Bronson's office. The road ponds very badly. Please meet in the field and follow up with Ms. Durazo. LOGO: Service request sent to Operations # 103171 12/29/97.
D	98100	WANTS TO MEET WITH HYDROLOGIST. West of his property, their is a vacant lot that has water ponding. It looks like a big lake, potential for mosquitoes. Can anything be done. Please respond back to Diane X8051 & Mary Lou Johnson. LOGO: Memo to Mary Lou Johnson with copy of letter.
D	98220	Kain Ave & Ruthrauff, a portion of the street is currently under water & will remain that way for months to come. BOS/DIR. LOGO: No action taken
D	98270	Carapan at Curtis is submerged underwater. Diane from Supervisor Bronson's office has pictures to show. LOGO: Operations graded north of R.O.W. of Curtis from Davis to Shannon to drain west to church at NW corner of Shannon/Curtis. Church wall has holes for drainage.
D	98424	Adjacent property owner(Garden of Tucson?, Pima Co.?) has graded lot & backed up flows onto Lucy's M.H. Park. LOGO: Service request sent to Operations.
D	99157	Every since new development went up south of his property and was built higher, water is diverting through his alley and washing out his yard, water went under his mobile home and ponding on his property. LOGO: No action, too late to respond due to work load.
D	99371	The street in front of his house floods, water goes up half up his driveway. Water ponds for weeks, looks like a lake full of Mosquitoes. UPDATE 9/14/99: From Randy Baird (Consumer Health) This area has been addressed on three previous complaints, all with negative mosquito larvae findings. LOGO
D	99378	Water ponds. No action taken.
D	99379	At Caranauba & Shannon water ponds, mosquitoes breed. Road needs to be looked at. Referred to Randy. Update from Randy 9/21/99 nothing can be done, County aware of problem and is working on trying to fix the situation, Steve Dolan from floodplain Mgt., working on this. LOGO: Referred to Randy Baird
D	99382	Rds pond, mosquitoes breed. referred to Randy Baird, Floodplain working on a solution. LOGO: No action.
D	99395	Refer to Randy, mosquitoes ponding in water
E	7215	Suzette Howe states that the sediment build up in the Rillito Creek between La Cholla and Shannon, only has three feet between the top of the bank protection and the channel. LOGO: No action taken.
E	12191	Complainant states there is too much sediment and vegetation, is concerned about flooding. Please let Debbie or Deanna know if point needs to be moved. LOGO: It is not within the scope of the Infrastructure Management Division of the District to evaluate flow capacity within a major watercourse. Therefore, this complaint has been forward to the District? Engineering Division to respond to your concern. Update: forwarded to Engineering (Larry Robison 5/23/12) . Assigned to Russ Wise. UPDATE - 1/31/14 per Russ Wise he has not received it yet? 5/1/14 - PER MCO, logout, forwarded to IMD (Russ Wise).
F	278	Water went inside. LOGO: Service request sent to Operations # 106832
F	385	Ponding in the roadway. Road shoulder washed out. Check list attached. LOGO: No action
F	1064	ponding along Wetmore. No action taken

Table A.4 Summary of Drainage Complaints		
SITE LETTER	CASE NUMBER	DRAINAGE COMPLAINT
F	2131	Given to Steve Dolan. Commercial building flooded. Drainage way needs to be repaired. Ponding in roadway. Pima County blocked the flow. LOGO: No action taken. (dr)
F	3034	Flooding/Ponding in roadway and drainageway needs cleaning. LOGO: spoke to Mr. Richard Rhodes, husband of Monica, about the status. He has been concerned that future La Cholla widening will increase his flooding problem. It was determined ealier that the La Cholla road project will not increase his problem, that will be solved by Floodplain Management hiring an as-needed consultant to determine drainage alternatives. A preferred alternate and cost will be determined for potential construction during the La Cholla widening. Henry Goglin and I just talked to Maggie Shaw about rezoning conditions for a future project at the Northwest corner of La Cholla and River. The future project may limit alternatives to solve the Trisha Lane flood problem. I asked for a drainage easement to potentially help solve the problem affecting the Rhodes on Trisha Lane. If you need more information, please call me at 740-6428. Steve D.
F	6549	States that she has been complaining for at least five years about her neighbors regarding their property causing water to flow into her property. No one here at the district has taken any action even though they tell her they will correct the problem. Update: 10/6/06 - Rick H., has this in his office. 1/8/10 - Logo, no action taken to date.
F	7242	
F	9232	Mrs. Lopez states she is having street flooding issues. Needs to be investigated. Given to FPM 3/2/10. LOGO: Per MCO discussed with Mrs. Lopez advised that per Conrad with DOT regrading would be done to Lily Ave. No field visit required.
F	10052	Mr King stating the Lopez's have put in a retention basin on their property (2509, 2510 W Wetmore), Now they are pumping out the water onto the road creating a muddy road. His vehicles are getting stuck, and cannot drive through the roads. The sheriff's dept told them to call DOT, and Conrad forwarded it to us for enforcement if there are any violations. Conrad is going to go out and take a look. LOGO: No action will occur, no ordinance violations found. 3/8/10 - letter sent to Kyle King returned, resent to PO Box 50272, Tuc, AZ 85703.
F	10226	Complainant states neighbor has diverted flow and is causing ponding, flooding, erosion and mud. Drainageway needs to be repaired. See attached drainage complaint form. LOGO: No action will occur, no ordinance violations found. Will refer to DOT for review.
F	12301	Complainant states water is being diverted onto property. See attached fax. LOGO: No action will occur, complainant was advised per MCO.
F	90239	This man had dug a drainage so that when flooding the water would drain out to Wetmore. A sewer line was put right over it and in front of his house. He wants someone to come out and put his drain back up. c
F	91011	Pima County cleaned out drainage ditches in the area recently. Now flow fr om our drainage ditches is blocked by two Southern pacific drainage ditches . These are approximately 1000 feet apart and are extremely overgrown/ Flow is being diverted
F	91015	She would like to speak to someone about a drainage problem she is having w ith water coming into her property. Flow is coming from adjacent building (recreation hall of Victory of Assembly of God Church) on the east side of her property.
F	93024	
F	93481	Parking lot was paved all the way to the street. It was paved flat instead of having a dip, causing all the water to divert onto Richins property. Logout: Not a FP issue forwarded to Trans. Eng 1/14/94.
F	94141	Fill material & earthwork happened 5 months ago & a couple of weeks ago. Does owner have permits (as stated in mass mailed ltr. dtd: 5/27/94 from KSA re: location within rauthrauff basin 100-yr floodplain. Logo: Turned into violation #94-05
F	95148	City recently reclaimed waterline in wash to east of Gardner Lane(between highway & I-10) In the repair they dumped dirt in wash. Complaints to City unsuccessful Make field visit to dtermine extent of fill in wash. Work w/ city on solution Existing problem
F	97105	On the eastside of her property, suspect is developing the land and raising it. Do they have permits. logo: Sent request to Operations # 103152.
F	97310	School built block wall which impounded water. They then knocked holes in wall to allow to drain which is causing problems to a business to the west. He has requested a field meeting with the hopes that we may be able to recommend an acceptable solution . LOGO: Letter sent to Dr. Pedicone regarding findings.
F	98054	There is ponding & shallow flooding to businesses on east Lily near Highway Dr. LOGO: New business at 4420 Hwy. Dr. has filled in R-O-W blocking flow. Owner removing fill by 2/19/98.
F	99156	Water went inside her business It is worse than before. Water from I-10 crosses over Wetmore and land into her property. Needs help. LOGO: Business lowest floors at grade in Ruthrauff basin. Suggestion letter sent to angel & Gilbert Lopez for flood proofing measures they can do.
F	99300	Experiencing lots of runoff. Wants to meet with a Hydrologist. Will fax back a drainage complaint check soon with details,
G	277	Water went inside his house. LOGO: Referred to Steve Dolan.
G	1060	Property to west (Groundskeeper) has just put up a 20' X 20' berm in front of their property which floods Duanes property even more (berm in our R-O-W?). No action taken

Table A.4 Summary of Drainage Complaints		
SITE LETTER	CASE NUMBER	DRAINAGE COMPLAINT
G	2283	All water runoff from Wetmore Rd., makes a huge ditch on property. Mrs. Nickles feels road needs grading. Customers cannot come in due to all the water in front of business. Water has almost entered building with today's rains. LOGO: No action taken (dr
G	2449	Neighbors across from him are putting up a berm. Feels this berm will divert the natural flow of water. Mr. Fike says that the flooding has improved and now with this berm being put in it will go back to flooding there properties once again. He mentioned he will be taking photos of the process of the neighbors putting in this berm. He would like to meet with Hydrologist so he can give the photos then. LOGO: 2/24/03 Non regulatory wash. No FEMA nothing on the subdivision plat lot to lot, no action.
G	3207	Needs berm around corner so water does not flood properties. LOGO: No action, non-regulatory.
G	90037	New sewer line construction has severely altered drainage onto his property (its pouring onto his property as we speak). Violation could not be found - log out. (HAG 03/30/90) Shoulder invert has been repaired. Drainage along road. No further action
G	95232	In the past the County graded the front of his property at a slant in the low spots, not they are grading flat. This has caused 6 of water to go into his warehouse. It happened 2 weeks ago, & again last night. LOGO: Referred to D. Ballesteros for future problems.
G	95251	Water went in his garage. It is not from the normal runoff, but from runoff that comes from the street. County went out & covered ditch causing problems. Wants to meet with someone in field. LOGO: Operations will try to grade shoulder. Referrd complainant to Transportation for future problems.
G	98062	Suspects directly across from her are filling in washes & berming up the water to divert onto Ms. Plum's. She cannot get to her mailbox because of ponding problems. LOGO: Called Mr. Ball again about his concerns on the Water's property. Told him I did not see a further ponding problem.
G	98114	Getting additional runoff easement now blocked off with 6 feet block wall. The company on La Cholla has built up their property. 12 to 18 so now there is more runoff. LOGO: Permitted & built correctly, no action
G	99238	Sahuaro trucking has diverted the flow to directly run straight into Ms. Birkholz's property, needs advice. LOGO: No action, letter sent.
G	99358	Water went inside home, he says he is getting all the runoff from main roads La Osa & Plum. Water needs to be diverted. LOGO: Letter sent.
H	90147	Drainage ditch south side of overtopping water drained thru yard into shop approx. 2 inches deep. In City of Tucson. Owner called City of Tucson log out 7-27-90
I	331	Melody Lane alleyway. At the west end of Root Lane, drainage ditch has mosquitoes breeding. Forwarded to Randy Baird. LOGO: Randy went out 9/11/00, ditch dry. Steve Dolan will talk to Ms. Ferry
I	1037	Neighbor to south bull-dozed a new road which crosses at least 2 regulatory washes. Check for in-fill washes cross washes north portions of 214-53-0100 & -0140. LOGO: All washes are free of debris. Bank stabilization added to one slope as per grading permit. Alerted Mike H.
I	1102	Drainage way at the end of Root Lane needs to be cleaned. Service request sent to Operations, waiting to hear back from Director's office. LOGO: 6/4/01 - Alicia from the director's office informed us drainage way was cleaned out last Wednesday 5/30/01. Ms. Ferry was pleased.
I	2357	Melody Lane alleyway. Mosquitoes in a drainage on Root Lane West of Romero Rd, on the other side of barricade where water is standing. Randy Baird (PCHD) went out to investigate. Respond back to Alicia in community relations. LOGO: 9/23/02 - Area in question is dry, negative for mosquitoes. No further action. Notified Community Relations.
I	6561	At the end of Root Lane there is a drainage way that needs to be cleaned out. 9/28/06 - Given to Mike C. LOGO: No action by IMD no regulatory wash or public channel. DOT alley easement was clean.
I	7395	Complainant states there is a drainageway that needs to be maintained. It is at the end of Root Lane. See attached blue drainage complaint form. LOGO: No action will occur by RFCD, referred to DOT for review.
I	95062	Southside of property there is a drainage ditch clogged. Water is ponding on on Pso Reforma North. He has water all the way up to his sidewalk. Logo: County maintained drainageway, request for mowing.
I	95370	Southside of his property someone graded the Rd, & dumped all the dirt in the wash. Wants dirt taken out. LOGO: Jerry H. will remove
I	96411	On the eastside of property neighbor has a pipe that is draining out ponding water creating mosquitoes. LOGO: Non-regulatory flow
I	99241	Director's office. At the west end of Root Lane, drainage ditch that has mosquitoes breeding. She says that the ditch has been cleaned in the past. Forward to Randy Baird at Consumer Health. LOGO: Mark from Consumer health went out to inspect. No standing water remains in ditch.
J	187	Filled in drainage way diverting the flow to pond in the Kingdom Hall parking lot. Needs advice. LOGO: No action, County trenched V-ditch.
J	250	County workers filled in drainage ditch of property west of ours & church on corner. LOGO: No action, letter sent County trenched V-ditch
J	4048	Neighbor to the east is blocking the flow and this floods the Saitas property. Needs advise on what can be done. LOGO: No blockage of flow found. Gave advise.
J	7381	Mr. Broner (principle of Homer Davis Elem) states that there is a drainage pipe on Romero Eastside of the street that needs to be cleaned out. Due to the drain being clogged, kids might get hurt. Needs to be inspected. Update: 8/9/07 - Rick went out to inspect, and has file. LOGO: No action taken by RFCD, referred to DOT Ops and Community Relations for their review.

Table A.4 Summary of Drainage Complaints		
SITE LETTER	CASE NUMBER	DRAINAGE COMPLAINT
J	12255	"WATER IN HOME" Mrs. Davila states culvert close to home over flows onto property and went inside home. See attached blue drainage complaint form. 7/23/12 LOGO: No action will occur regarding this issue. 8/1/12 - letter sent to Root Lane returned, resent to 6605 N Pomona Rd
J	92278	Right of way along the east side of Romero .north of school to Wetmore is to be paved. Should Operations remove culvert or can it remain? it was privately installed at 4302 N. Romero Road. Spoke with Ted Ramirez. He paved grader ditch up to 12 CMP and left CMP in place. I recommend paving around opening inlet and outlet CMP to prevent run off from eroding driveway around CMP. he agreed.
J	95248	Had flooding inside front porch & in addition. Tried to divert w/towels. Neighbor on the northside covered up irrigation ditch, which they said County told them they could do this. Since the ditch has been covered lots of flooding has diverted onto Warskow's property. LOGO: Sent letter suggesting amicable agreement.
J	95276	Ditch filling up on east side of Romero, flooding mobile village park several inches deep. LOGO: No action, referred to Damon.
J	95337	Flooding from the parking lot looks like a lake everytime it rains, can anything be done. LOGO: No action, non-regulatory operations can't do anything.
J	95429	Flow west of wetmore is being dammed possibly on Pima County ROW, by suspect to the west & is causing shallow flooding on TC: 104-07-0480 property. COMPLAINANT WANTS TO REMAIN ANNONYMOUS. LOGO: Sent to Transportation 12/13/95.
J	98197	Water went inside home. LOGO: Letter sent.
J	99160	Ditch that runs between Wetmore and mobile home park keeps clogging and diverting the flow. County went out and dug a septic tank at the church. Corner and the church put in a beam which all diverts back to the mobile home park. Because of all the water flooding under his mobile home, he has had to have his mobile home leveled 3 times at \$70-100 each time. LOGO: No action, non-regulatory
K	3123	Was told that the paving of the neighbor's property would cause draining into the retention basin. Would like for Hydrologist to check to see if this is the case. LOGO: Private detention basin HAG dr
K	90161	Flooding entire backyard and storage shed. Please call her back going. She has to unlock gate to area. (Complex is on 1901 W. Wetmore). Site visit by Fran Dostillio. Very small localized ponding. Roof runoff which has been brought offsite with gutter
K	91009	Alanon building across Romero Road built up their property and diverted flow across the street to Mobile Home Park. Neighbor to the south built a building on their property last year and diverted more flow. In last rains his park was like a quagmire
K	93027	One foot standing water on property. Flows slightly from lot in front of her to her property. Feels drainage insufficient for area. Has problems with any rainfall event. Private property. Non-regulatory. Within private mobile home park.
K	94063	After Curtis Rd. was resurfaced, the roadway slants toward the fire station and the bays are flooded each time it rains. See Attached. Logo: This complaint was referred to D. Ballesteros as a road drainage problem.
K	95434	Neighbors filled in small swail with fill dirt & now property gets throughly flooded. LOGO: Non-regulatory, but looks County owned
K	95439	Ruthrauff and Romero by Shamrock foods motorcycles are a nuisance. They are driving on flat land County drainageway and Rillito River. LOGO: Pima County permits YMCA to use land as motorcycle/off road vehicle training site. Sent notice to Mr. Watson.
K	96483	Wants to know who owns the basin. This is a mosquito problem, Randy knows aware of. LOGO: Called Randy, basin dedicated to Pima County
K	97134	Swale dug out in front of building eroding again. Eric Shepp has details. LOGO: Sent service request to Operations 103154.
K	98170	Wall blocking flow. LOGO: No action on request of complainant.
K	98237	Severe ponding in the shoulder area on the northeast corner of property. Jerry H. looked at this & thinks the recent landscaping in front has blocked the drainage creating the ponding. LOGO: Jerry H. to take care of problem.
K	99181	Ever since the County went in and paved street making it higher, water has diverted onto their lot, church has put in berm and mobile village keeps taking it out. Needs advice. LOGO: Non-regulatory, no action.
K	99260	Suspect north of McPhalen's property has piles of asphalt (chip seal) in front of his property. He is going to dam up the washes and divert the flow. LOGO: Service request sent to Operations # 106770.
L	2230	Person flooded in city limits. Development shown on attachment is in the county. House is flooded. LOGO: 8/14/02 referred immediately to zoning 9/15/02 memo from zoning saying there are no violations 10/28/02 site visit to lot indicated that it is vacant and naturally vegetated. LOGO: No further action (dr)
L	6193	Runoff came to this intersection at City side and should go westerly through Carefree Village MHP (at Pima County side) as the aerial photo with contour indicates. However, the MHP built a berm and blocked the flow. A huge lake formed over City side. City needs your coordination to let the owner of the MHP to drain the standing water and not damaging the MHP residents. This is an urgent situation especially West Nile issue. LOGO: No action taken by RFCDC
L	7410	CCC would like FPM to do research, please see attached. CCC would like this done within 2 weeks. LOGO: Was in COT it was a legal non-conforming use.

Table A.4 Summary of Drainage Complaints		
SITE LETTER	CASE NUMBER	DRAINAGE COMPLAINT
M	140	Water from Limberlost flows down 16th pl. & floods property, complainant says the county paved alley correctly 20 years ago, long history, spoke to D. Janders 18 months ago who said he would get back to her?????
M	7364	Complainant states drainageway to the north of property is not draining properly. Needs to be maintained. See attached blue drainage complaint form. LOGO: No action will occur, referred to DOT for review.
M	10048	Complainant states there is flood water run-off onto his property. See attached letter. LOGO: No action will occur, no ordinance violations found
M	10231	Mr Vogel states that when it rains the lot East of his property has excessive runoff that diverts through the alley onto his property flooding the bottom of his Mobile Home. They have had to add fill along the fence to keep the water out. Wants to know if something can be done to divert the water away from his property. LOGO: No action will occur, no ordinance violations found.
M	13086	When out on drainageway inspections an area resident told Suzie and Mare that ever since the suspect property was developed, including the detention basin at the south end of the property, flowing now goes south in alley rather than continue west like they use to. See attached blue drainage complaint form. 4/20/13 LOGO: No violation, no letter will be sent per MCO.
M	94327	Water flowing across park since May 1994 this has never happened before. Logout : Drainage from Sports Authority parking lot to the east, referred to the City.
M	96271	While protesting a rezoning case, someone told her alley behind her house and alley leading to that alley from main road, might have a drain to drain flood waters. Also alley might need to be regraded since there are hugh pot holes. MISC. LOGO: No action taken
M	97130	Wants To Meet W/Hydrologist. There is a wall on the eastside near Limberlost creating improper runoff and ruining the rds. Wants to know who is responsible for the wall, and how do they take care of the problem. LOGO: No action.
M	98044	Wants To Meet W/Hydrologist. Northwest corner of her property needs to be cleaned out. Water is not draining properly & is diverting onto the front yard. LOGO: Sent service request to Operations 3/6/98 #104412.
M	98198	Wash was cleaned improperly, flooding his yard. LOGO: No action taken
M	98203	D Janders sent Ops to clean drainage 2 months ago, neighbor's & self flooded out in back yard 7-8 deep- water coming off Limberlost. LOGO: No action taken
M	99413	There is an alley north of 755 W. Limberlost TH when it rains the water runs off into N 16th and it floods and it floods her property & neighbors too. LOGO: private property.

Table A.5 July 10, 2014 Field Visit Summary

Site Id	Location	Discussion
A	I-10 and ROMP Culvert (outlet)	ROMP channel completion planned in future, ROW acquisition in process. Ponding water observed at I-10 culvert outlet and within channel. Erosion observed at top of riprap bank protection. I-10 culverts constructed (two closed interim), railroad culverts constructed.
B	I-10 and Gardner Lane Culvert (outlet)	I-10 culvert complete. Upstream railroad culverts will be constructed in the future.
C	I-10 and Flowing Wells Wash Culvert	I-10 culvert complete. Upstream additional railroad culverts to be constructed in the future.
D	Curtis Rd., Kane (alignment) Channel, outlet at Rillito	Ponding in streets and properties. Channel outlet is single pipe at Rillito.
E	Sullinger (alignment) Channel adjacent to Curtis Park, north of Curtis	Failed erosion control for tributary drainage. Sediment accumulation in the Rillito River at the outlet.
F	Wetmore/Highway Dr.	Flows from the east floods businesses/ponding along Wetmore and Highway Dr. No outlets at railroad. New development west and south of curve.
G	Wetmore/Plum	Low finished floors, ponding, small berms.
H	Gardner Industrial Park	Sheet flow throughout, existing AO Zone.
I	Root/Paseo Reforma	Ponding at intersection, no outlet.
J	Romero/Root Lane	Low finished floors adjacent to Romero, existing irrigation ditch.
K	Ruthrauff/Wetmore intersection	Intersection has been re-constructed, drainage issues may remain.
L	Pomona/Gardner	Irrigation ditch west side of Pomona, adjacent to mobile homes, No outlet at alley at Gardner.
M	Limberlost/14th Av.	14th Ave channel outlets at Limberlost stormdrain inlet. Grate inlet gets clogged.
N	NE Corner Limberlost/First Ave.	Existing commercial development detention basin outlet is inadequate. Ponding occurs on upstream properties Storm drain inlet is fabricated out of wood.

Freeway (Gardner Lane) Industrial Park 9/8/2014



Figure A.4
Sheet 1 of 4

Wetmore Rd. and Highway Dr. 9/8/2014



Figure A.4
Sheet 2 of 4

Root Lane at Paseo Reforma 9/8/2014



Figure A.4
Sheet 3 of 4

Simmons/Tuttle Area 8/12/2014



Simmons/Tuttle Area 9/8/2014



Figure A.4
Sheet 4 of 4