



**Yuma County, Arizona
DEPARTMENT OF ENGINEERING**

2351 W. 26th Street, Yuma, Arizona 85364

Phone: (928) 817-5155

Fax: (928) 817-5109

Chris Young, P.E.
Director/County Engineer

**YUMA COUNTY FLOOD CONTROL ADVISORY BOARD MEETING
PUBLIC NOTICE AND AGENDA**

DATE: March 5, 2020
TIME: 9:00 a.m.
PLACE: Yuma County Department of Development Services, Gold Conference Room
2351 W. 26th Street, Yuma, Arizona

MEMBERS: Elston K. Grubaugh, Chairman Tom Davis, Vice Chairman
Craig Colvin Kevin Dahl
Courtney Arviso Jeffrey Kramer
Kenneth Baughman

STAFF: Chris Young, P.E. Flood Control Manager Ed Feheley, FCD Attorney
Frank Sanchez, P.E. Deputy County Engineer Cynthia Baisi, Administrative Assistant
David Ruvalcaba, Civil Engineer Katherine Hall-Guerra, OS III

CALL TO ORDER AND ROLL CALL

CALL TO PUBLIC

1. **Approval of Minutes- Regular Meeting of December 5, 2019**.....Action
2. **2019 Assessment Report (Draft)**.....Action
3. **Capital Improvement Plan and Budget FY21(Draft)**.....Action
4. **2019 Board of Directors Actions**.....Information
5. **2020 Meeting Schedule**.....Information

ADJOURN

Note: The Advisory Board may vote to hold an Executive Session for the purpose of obtaining legal advice from the Advisory Board's attorney on any matter listed on the agenda, pursuant to A.R.S. §38-431(A)(3).

For further information about this public hearing/meeting, please contact
Cynthia Baisi, phone number 928.817.5103.
Persons with disabilities may request reasonable accommodations by contacting
Shannon Gunderman, ADA Coordinator at 928.373.1137.
Requests should be made as early as possible to allow time to arrange the accommodation.

AGENDA ITEM 1



Yuma County, Arizona
DEPARTMENT OF ENGINEERING
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Chris Young, P.E.
Director/County Engineer

**FLOOD CONTROL ADVISORY BOARD
REGULAR SESSION
GOLD ROOM/ FIELD TOUR
THURSDAY, DECEMBER 5, 2019
MEETING MINUTES**

Members in attendance:

- Elston Grubaugh
- Tom Davis
- Kenneth Baughman
- Jeffrey Kramer

Members absent: Courtney Arviso, Craig Colvin, Kevin Dahl

Others in attendance:

- Chris Young, Flood Control Manager
- Frank Sanchez, Deputy County Engineer
- Craig Sellers, DDS Director
- David Ruvalcaba, Civil Engineer- Flood Control
- Katherine Hall, Office Specialist III

Call to Order and Roll Call

Chairman Elston Grubaugh called the meeting to order at 9:05 AM and a quorum was verified.

Call to Public

No public present.

1. Approval of Minutes – Regular Meeting of September 5, 2019

Elston Grubaugh, on behalf of Kenneth Baughman, indicated in paragraph two under Call to Public the following corrections must be made. *Mr. Grubaugh mentioned that starting September 5, 2019, the Reclamation would be diverting reverting the main outlet drain flow into the ~~Lemontrove~~ Limotroph.*

Kenneth Baughman made a motion to approve the minutes with corrections.

Tom Davis seconded the motion.

The motion carried 4-0.

2. Field Tour of Flood Control Facilities (County wide)

The following locations were visited during the field tour: Mr. Kramer excused himself from the field tour.

A. **Ave C Outfall System**- Craig stated it was a joint project between Bureau of Reclamation and Yuma County Flood Control District.

B. **8th Street, Ave C to Ave D Project**- Frank provided details on the HURF project; reconstruction of 8th St from Ave C up to Ave D. Completion date set for February 2020.

- C. **5th Street and Ave C**- Frank mentioned that Yuma County recently had completed a project which replaced the operating control panel for the pump station.
- D. **East Main Canal**- Tom pointed out a crack in one of the basins above the water line.
- E. **Hillside and Sunset Basin**- Craig described the basin, along with recent improvements and that a pump station could potentially be installed to avoid overflow from seeping into the canal.
- F. **Ridgeview Basin**- One of the gates in the basin was left opened and would be followed-up on.
 - a. *Tom Davis left the tour around 10:35 a.m.*
- G. **Smucker Park System**- The project was reported to be underway.

3. Meeting Schedule 2020

Frank presented the meeting schedule for 2020.

Adjourn

The meeting adjourned at 11:00 a.m.

These minutes were approved and accepted on this 5th day of March 2020.

Elston Grubaugh, Chairman

AGENDA ITEM 2

D R A F T

YUMA COUNTY FLOOD CONTROL DISTRICT

YEAR 2019

ASSESSMENT REPORT



Yuma County Flood Control District

2351 W. 26th Street
Yuma, Arizona 85364

D R A F T

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1.0 Introduction

1.1 Purpose

This annual assessment report identifies flooding, drainage and groundwater needs and makes recommendations to address them in Yuma County. An attempt has been made to identify the major flooding problems that cause damage and loss of multiple properties or threaten the health, safety and welfare of people and communities. Local flooding and drainage needs are also identified when multiple structures or people are at risk. This assessment also presents administrative and facility operation and maintenance highlights that affect Yuma County. The assessment is for the 2019 calendar year.

1.2 Scope

The 2019 assessment reviewed Yuma County Flood Control District’s goals and objectives, its flood control problems/needs inventory for Yuma County, and proposed courses of action to improve flood control in Yuma County. The problems/needs inventory and recommendations have been updated to reflect new needs and progress that has been made on previously identified needs.

1.3 Statutory Requirements

This report has been prepared as required by A.R.S. §48-3616D.

1.4 Acronym Reference Chart

ACOE	Army Corps of Engineers
ADOT	Arizona Department of Transportation
ADWR	Arizona Department of Water Resources
ARS	Arizona Revised Statutes
AZPDES	Arizona Pollutant Discharge Elimination System
CAV	Community Assistance Visit
DFIRM	Digital Flood Insurance Rate Maps
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
IGA	Intergovernmental Agreement
LOMR	Letter of Map Revision
MCAS	Marine Corps Air Station
MS4	Municipal Separate Storm Sewer System
NFIP	National Flood Insurance Program
NPDES	National Pollutant Discharge Elimination System
SFHA	Special Flood Hazard Area
USBR	United States Bureau of Reclamation
WMID	Wellton Mohawk Irrigation District
YCFCD	Yuma County Flood Control District
YCWUA	Yuma County Water Users’ Association
YUHSD	Yuma Union High School District

2.0 Mission Statement, Objectives, and Goals

2.1 Mission Statement

To minimize the impact and to protect life and property from flooding.

2.2 Objectives and Goals

The District objectives and goals are given below.

Project Management Goals:

- A. Objectively identify needs, evaluate recommended solutions, and prioritize projects using standardized criteria.
- B. Estimate project costs and compare to project benefits.
- C. Work with Yuma County, municipalities, state, and federal governments and the public to improve flood control and drainage in Yuma County.
- D. Reduce adverse effects to people, structures, property, and public infrastructure from flooding and drainage problems through regulation, development guidance, and the construction and operation of flood control and drainage facilities and groundwater wells.
- E. Acquire available land within floodways and land needed for basins and other facilities identified by District master plans.
- F. Seek cost sharing opportunities for project development.

Facility Operation Goals:

- A. Operate and maintain flood control facilities as needed to reduce the impacts of flooding.
- B. Maintain compliance with current AZPDES General Permit allowing stormwater to discharge to waters of the United States from existing MS4s by continuing to enforce the Stormwater Management Program.
- C. Operate, maintain, replace, or allow others to do so at their expense, up to six of the eighteen Yuma Valley groundwater wells.
- D. Allow joint and multi-purpose use of facilities, by agreement, of facilities for the benefit of the public.

Administrative Goals:

- A. Maintain flood control and drainage problems/needs inventory and annually prepare a Flood Control Assessment Report.
- B. Maintain compliance with the NFIP by adopting and enforcing floodplain regulations that meet or exceed NFIP criteria and reflect current civil engineering practices.
- C. Administer floodplain development in accordance with NFIP, Arizona Revised Statutes, and Floodplain Regulations for Yuma County.
- D. Review grading plans and floodplain use permit applications and, when compliant, issue permits on new developments/construction.

3.0 Needs Assessment & Recommendations

Assessments are conducted on flooding and drainage needs affecting residential, commercial and industrial development throughout Yuma County. Assessments are done to determine the need for master drainage plans, major storm drainage outfall, and discharge and disposal systems in urbanizing areas of the County. Although the primary emphasis is drainage and flood control, some groundwater issues are addressed. As needs are identified, a preliminary assessment is conducted to recommend a course of action to address the need. The comprehensive list of identified needs, locations, risk, recommended actions, estimated costs, and benefit/cost is given in Appendix A and location maps are in Appendix B. The type of need is indicated by the project number. Needs with project numbers beginning with 11 are river, channel, or wash needs. Needs with project numbers beginning with 12 are drainage needs.

4.0 Operations & Maintenance

YCFCD has an on-going maintenance program to identify needs and repair flood control facilities. This year, system discharges are being evaluated for compliance with USBR requested standards. In addition, an inventory of needs/repairs to YCFCD facilities will be conducted to prioritize maintenance. Repairs were also made to groundwater well and pump station control panels, and basin fencing.

5.0 National Flood Insurance Program and Floodplain Regulations

5.1 Floodplain Regulations

The latest Yuma County Floodplain Regulations were effective December 31, 2012. No modifications were made in 2019.

5.2 Flood Insurance Rate Maps

The latest FIRM revisions were effective January 16, 2014. No modifications were made in 2019.

5.3 Community NFIP Participation

At this time, Yuma County, City of Yuma, City of Somerton and Town of Wellton are National Flood Insurance Program participating communities. San Luis does not participate. City of Yuma manages its floodplains. City of Somerton and the Town of Wellton depend upon the District for floodplain management. City of Somerton does not contain any SFHA. The District performs all floodplain permitting, inspection, and approval for dependent communities.

6.0 Flood Control District Funding

The Flood Control District is funded by a secondary property tax. The current tax levy (FY 20) dropped from 0.2522 percent to .2419 percent of assessed property value. This drop in the tax levy was approved by the Board of Directors in May 2019. This new tax levy is expected to generate a revenue of \$2.48 million a drop of about \$90K from the previous year. The estimated revenues for fiscal year 2020, including carryover from previous years, is \$21.15 million and funds are carried over to fund large projects that exceed annual revenues. Figure 6.1 Flood Control Revenues shows tax levy rates and inflation adjusted annual revenue since 1996.

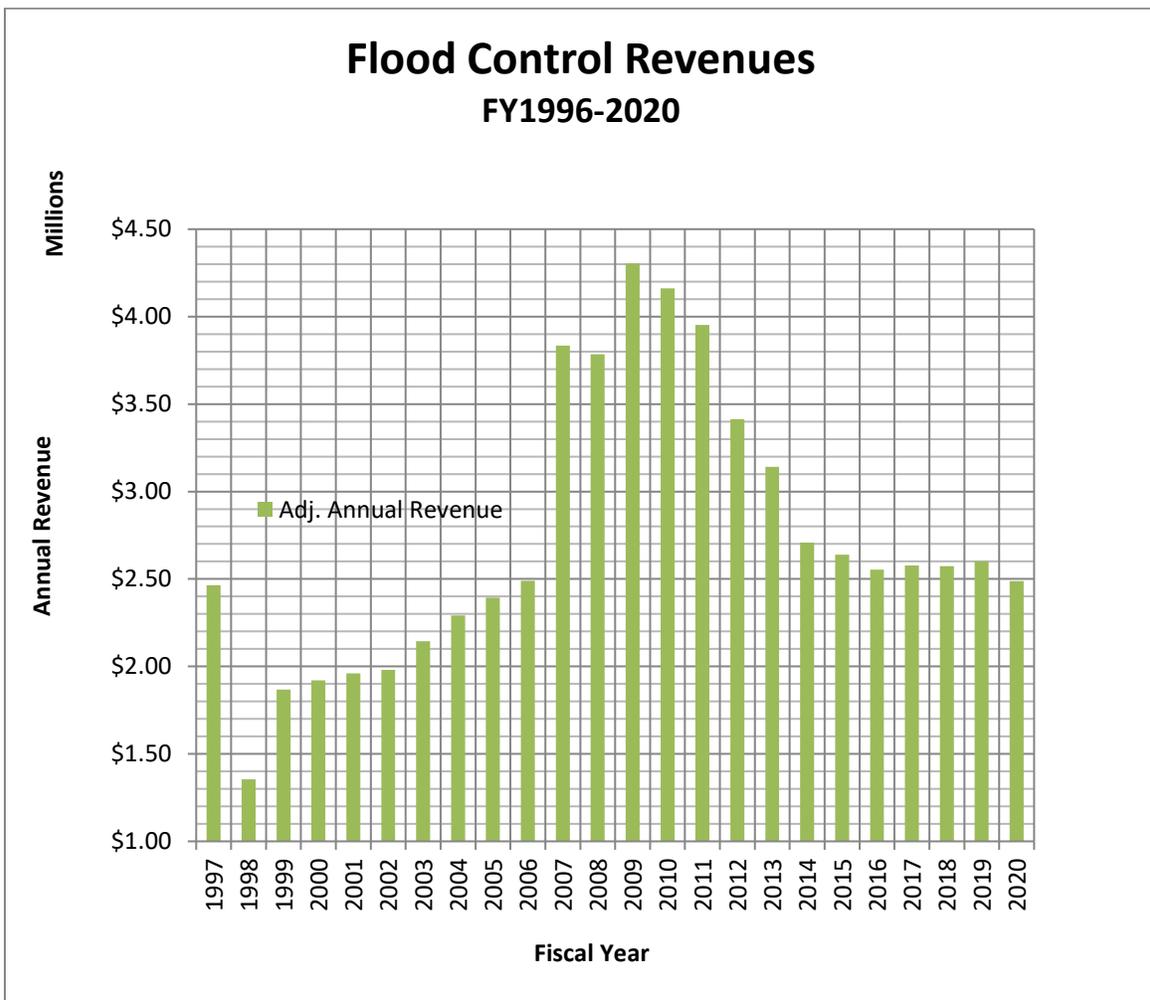


Figure 6.1 Flood Control Revenues

Table 6.1 gives a summary of projected costs to address the known flood control and drainage needs. The projected cost of all known needs exceeds \$72 million and \$200,000 of annual recurring costs. The Yuma County, Arizona Five-Year Capital Improvement Plan gives specific information regarding project funding for the next five years.

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Table 6.1 Projected Costs of Known Needs

Project No.	Project	Estimated Total Project Cost
11-22P	Gila River Obstruction Removal	\$10,000,000
11-23P	Groundwater Drainage Well Maintenance (Reoccurring)	\$200,000
11-25P	East Main Canal Floodplain Delineation	\$350,000
11-32P	Fortuna Wash and Tributaries Bank Stabilization	\$5,000,000
12-01P	Tierra Kino & Del Oro Drainage Improvements	\$600,000
12-09P	28 th Avenue – La Jolla Subdivision Drainage	\$650,000
2-15P	28 th Street & Westridge Drive Trunk lines	\$13,000,000
12-16P	Kofa High School Retention	\$5,000,000
12-20P	1 st Avenue/24 th Street Area Drainage Improvements	\$1,500,000
12-22P	Engler Avenue Retention Basin	\$400,000
12-45P	Giss Parkway Street Flooding	\$2,000,000
12-48P	Flood Control Mapping (Reoccurring)	\$500,000
12-49P	Master Drainage Plans (Reoccurring)	\$750,000
12-51P	12 th Avenue & Arena Drive Stormdrain	\$650,000
12-63P	Smucker Park Basin	\$11,300,000
12-66P	County 14th Street Sheet Flow - Wellton	\$400,000
12-70P	Business 8 Flooding	\$2,000,000
12-72P	South Frontage Road Retention Basin	\$450,000
12-73P	South Gila Canal Underdrains	\$1,000,000
12-75P	Avenue 10E & Co. 10½ Street (Avenida Compadres Area)	\$500,000
12-76P	Avenue 7E Drainage Improvements	\$150,000
12-77P	Araby Road Drainage Improvements	\$150,000
12-78P	Gila Ridge Road Drainage Improvements	\$150,000
12-79P	Arizona Western College Drainage Improvements	\$200,000
12-80P	San Luis Area Drainage Improvements	\$1,250,000
12-81P	Yuma Mesa Conduit Vaults	\$150,000
12-82P	Mitigation Fund (Reoccurring)	\$500,000
12-84P	Basin Lands and Improvements (Reoccurring)	\$350,000
12-86P	Gadsden Area Drainage Improvements & Outfall	\$7,000,000
12-88P	Yuma Valley Master Plan Update	\$450,000
12-90P	Atlantic Avenue Area Drainage	\$5,000,000
12-91P	Yuma East Flooding	\$750,000
12-92P	Desert Air Estates, Unit 1 & 2 and Country Life Mobile Estates Flooding	\$1,000,000
12-94P	South Somerton Drainage Improvements	\$3,000,000
12-95P	Farwest Storm Drain	\$3,500,000
12-98P	County 14th St. Mesa Dunes	\$350,000
12-99P	Hettima Street Ponding	\$150,000
12-100P	San Luis Basin Discharge	\$250,000
12-101P	Yuma 44th Drive Basin Discharge	\$150,000
12-102P	Coyote Wash Channelization	\$1,500,000
12-103P	Wellton Drainage Improvements	\$5,000,000
12-104P	San Luis Mesa Erosion	\$1,500,000
12-105P	Tacna-Citrus Park Unit 4 Drainage Improvements	\$1,500,000
12-106P	West Yuma Mesa Outfall	\$2,500,000
12-107P	Airport Loop Road Drainage Improvements	\$600,000
12-108P	Somerton Avenue F Pump Station	\$250,000
	Total Projected Costs	\$93,600,000

7.0 Summary

This assessment of flood control problems and needs in Yuma County shows progress in safety and living conditions in the County. The assessment summarizes the identified flood control problems and recommended solutions for each. The Capital Improvement Plan is used to prioritize and fund these programs over a number of years. Funding is not available to resolve all needs immediately. The estimated cost to address all of the known needs is approximately \$91 million with annual revenues of approximately less than \$2.5 million.

The assessment identified problems ranging from small local issues that involve few people and limited property to large and extensive problems that affect large areas and many people. Identified needs include the acquisition of land for future flood control and drainage facilities, continued aerial mapping and area drainage plan updates throughout the County.

The assessments also identified the need for continued maintenance of existing facilities to improve performance.

Long-term steady progress has been made and continues to be made on addressing the area’s flooding and drainage problems. Substantial progress was made on several projects in 2019 as shown in Table 7.1. The status of all projects is provided in Appendix A. Project Location Maps are provided in Appendix B.

Table 7.1 Projects with Significant Progress

Project No.	Project	Progress
11-23P	Groundwater Drainage Well Maintenance	Design (100%) Constr. (FY21)
12-56P	W. Yuma Mesa Storm Drain, 4th-32 th Street	Construction – 100% Complete
12-63P	Smucker Park Detention Basin	Preliminary stages of construction
12-75P	Los Amigos & Southern Sands Subdivisions (Avenida Compadres)	Design (10%), Constr. (FY21)
12-80P	San Luis Drainage Improvements	Construction - 100% Complete
12-86P	Gadsden Area Drainage Improvements & Outfall	Study – Approx. 90% Complete
12-93P	Calle Maria Ponding	Construction – 100% Complete
12-94P	South Somerton Drainage Improvements	Design: 90%, Const. (FY21)
12-95P	Farwest Storm Drain	Construction – 100% Complete
12-97P	North Frontage Road Retention Basins	Construction – 100% Complete
12-102P	Coyote Wash Channelization	Design (90%), Constr. (FY21)
12-103P	Wellton Drainage Improvements	Design (90%), Constr. (FY22)

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LIST OF REFERENCES

NO. NAME OF REPORT OR INFORMATION

1. Master Plan Drainage System Study for Yuma Valley—August 1989
2. East Yuma Storm Drainage System Plan—October 1988
3. East Mesa Storm Sewer Outfall System Study—August 1987
4. Yuma Regional Storm Water Management Plan—February 1980
5. Master Drainage Report—Metropolitan Yuma—February 1975
6. Foothills Master Storm Drainage Plan Study—October 1988
7. Colorado River Flood of 1983—Findings and Emergency Solutions Report—September 1983
8. Reconnaissance Report—Lower Gila River Flood Control Project—June 1980
9. Gila River Flood Channel Restoration Project—Design Memorandum—September 1994
10. North Central Yuma Storm Drainage System Report—November 1991
11. Mountain Shadow Estate, Phase III—Drainage Report
12. Hydrologic and Drainage Design Report—Avenue B—April 1990
13. Yuma B-8 Drainage Study—August 1992
14. Drainage Improvements Feasibility Study—Interstate-8 and Giss Parkway—March 1993
15. Drainage Report for Proposed Flagship Corridor Industrial Park—July 1992
16. Flood Insurance Study—Yuma County 1985, 2008
17. Hydrogeology, Numerical Model and Scenario Simulations of the Yuma Area Ground Water Flow Model, Arizona, California and Mexico and Addendum, October 1993
18. 10th Street Drainage Area—Design Report—June 1995
19. Elks Area Drainage Study—April 1995
20. West Yuma Mesa Storm Drainage Discharge System Report—July 1996
21. Foothills Drainage Survey Report—September 1996
22. Flood Damage Survey Report—Somerton—October 1997
23. Design Concept Report, Bank Stabilization on Gila River—January 1997
24. LOMR for areas East of Fortuna Wash—FIRM Map No. 885D—June 2000
25. 23rd Street Detention Basin and Pump Station—Design Concept Report—March 2000
26. East Mesa Area Drainage Study – October 2004

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LIST OF REFERENCES (CONT.)

NO. NAME OF REPORT OR INFORMATION

27. Fortuna Wash Bank Stabilization Design Concept Report—May 2004
28. Fortuna Wash Bank Stabilization Concept Hydraulic Report—May 2004
29. East Mesa Area Drainage Study Alternative Analysis Report – December 2004
30. Avenue 64E/Gila River Bank Stabilization Project Final Design Report – October 2009
31. Northwest Somerton Area Drainage Study – February 2009
32. San Luis Area Drainage Study – September 2009
33. Gadsden Area Drainage Study – August 2010
34. Yuma East Area Drainage Study – 2011
35. Del Oro Estates Area Drainage Study – 2011
36. Draft Yuma Valley Master Drainage Plan Update – 2012
37. Foothills Master Plan Update – 2015
38. South Somerton Area Drainage Study – 2017
39. Wellton Area Drainage Study – 2017
40. Pump Station Discharge Improvement Project - 2018

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APPENDIX A Needs, Recommendations, and Status

List of Projects

Group 11 – River, Wash, & Channel Needs, Recommendations, & Status

11-22P	Gila River Obstruction Removal	A-1
11-23P	Groundwater Drainage Well Maintenance	A-2
11-25P	East Main Canal Floodplain Delineation	A-3
11-32P	Fortuna Wash and Tributaries Bank Stabilization	A-4

Group 12 – Drainage & Facility Needs, Recommendations, & Status

12-01P	Tierra Kino and Del Oro Drainage Improvements	A-5
12-09P	28 th Avenue Ponding.....	A-6
12-15P	28 th Street Drainage System Trunkline	A-7
12-16P	Kofa High School Retention.....	A-8
12-20P	1 st Avenue/24 th Street Area Drainage Improvements	A-9
12-22P	Engler Avenue Retention Basin.....	A-10
12-45P	Giss Parkway Street Flooding.....	A-11
12-48P	Flood Control Mapping.....	A-12
12-49P	Master Drainage Plans	A-13
12-51P	12 th Avenue and Arena Drive Stormdrain	A-14
12-63P	Smucker Park Area Drainage.....	A-15
12-66P	Wellton - County 14th Street Flooding.....	A-16
12-70P	Business 8 Flooding.....	A-17
12-72P	South Frontage Road Retention Basin.....	A-18
12-73P	South Gila Canal Underdrains	A-19
12-75P	Avenue 10E & Co. 10½ Street (Avenida Compadres Area)	A-20
12-76P	Avenue 7E Drainage Improvements.....	A-21
12-77P	Araby Road Drainage Improvements	A-21
12-78P	Gila Ridge Road Drainage Improvements	A-22
12-79P	Arizona Western College Drainage Improvements	A-23
12-80P	San Luis Area Drainage	A-24
12-81P	Yuma Mesa Conduit Vaults.....	A-25
12-82P	Mitigation Fund	A-26
12-84P	Basin Lands.....	A-27

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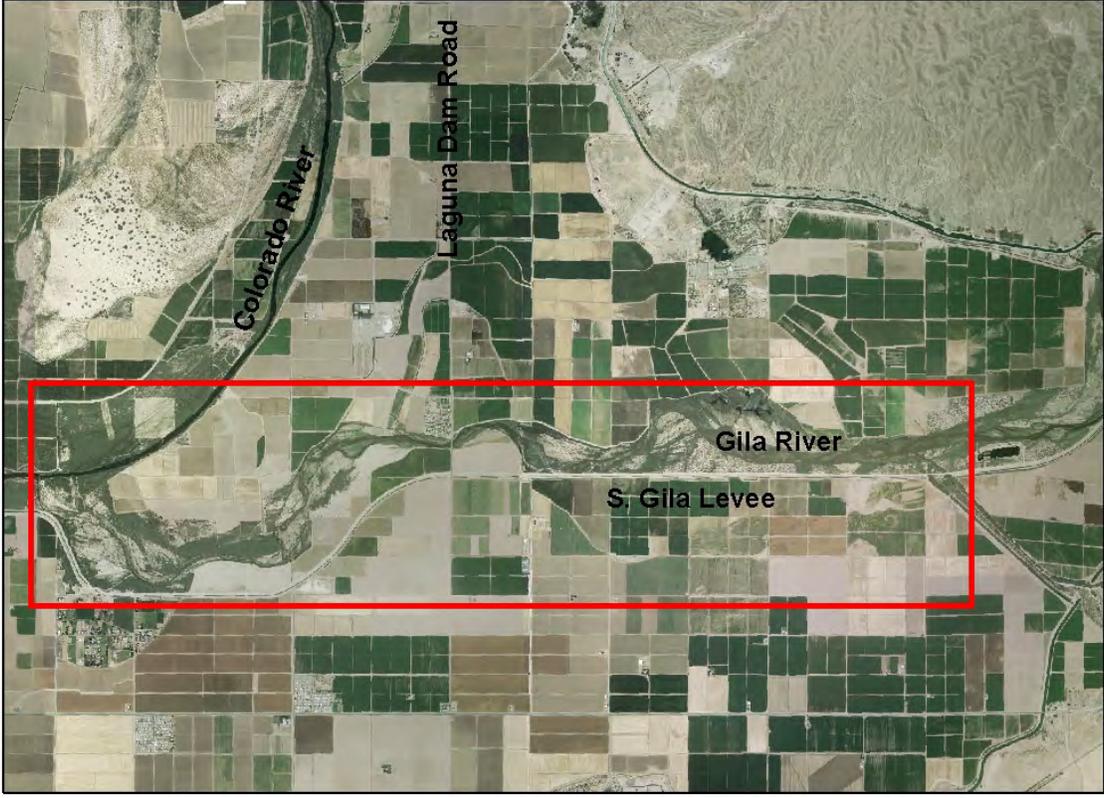
List of Projects (Cont.)

Group 12 – Drainage and Facility Needs, Recommendations, & Status (Cont.)

12-86P	Gadsden Area Drainage	A-28
12-88P	Yuma Valley Master Drainage Plan Update.....	A-29
12-90P	Atlantic Avenue Area Drainage Study	A-30
12-91P	Yuma East Flooding	A-31
12-92P	Desert Air Estates, Unit 1 & 2 and Country Life Mobile Estates Flooding	A-32
12-94P	South Somerton Drainage Evaluation.....	A-33
12-95P	Farwest Storm Drain	A-34
12-98P	County 14th Street - Mesa Dunes Flooding.....	A-35
12-99P	Hettima Street Ponding	A-36
12-100P	San Luis Basin Discharge	A-37
12-101P	Yuma 44th Drive Basin Discharge	A-38
12-102P	Coyote Wash Channelization.....	A-39
12-103P	Wellton Drainage Improvements	A-40
12-104P	San Luis Mesa Erosion	A-41
12-105P	Tacna - Citrus Park Unit 4 Sheet Flow	A-42
12-106P	West Yuma Mesa Outfall.....	A-43
12-107P	Airport Loop Road Drainage Improvements	A-44
12-108P	Somerton Avenue F Pump Station.....	A-45

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Group 11 - River, Wash, & Channel Needs, Recommendations, & Status

No.	Project
11-22P	<p data-bbox="311 310 1047 352">Gila River Obstruction Removal – ON HOLD</p> <p data-bbox="311 352 852 388">Gila River—Between Avenues 6½E and 11E</p> <p data-bbox="311 388 1461 462">Need: Obstructions need to be removed from the Gila River and the Avenue 7E bridge to increase channel capacity for 100-year flood.</p> <p data-bbox="311 462 1485 567">Risk: Uprooted trees and other debris can plug the bridge openings resulting in partial damming of the river. Risk is moderate with potential flood area primarily agricultural and few structures. Risk is short-term due to high probability with high floods.</p> <p data-bbox="311 567 1510 682">Recommended Solution: Establish a clear low-flow channel with overflow channels by removing thick salt cedars and other vegetation enabling routine channel maintenance. Work with other agencies to develop a project with wide support.</p> <p data-bbox="311 682 1128 718">Estimated Cost: \$10 million (\$2 million provided by YCFCD)</p> <p data-bbox="311 718 544 751">Benefit/Cost: 1.6</p> <p data-bbox="311 751 1461 829">Status: Clearing under Avenue 7E bridge performed by others. No planned activity until agencies provide funding mechanism.</p> <p data-bbox="311 829 1136 865">Agencies: USBR, ACOE, YID, YCFCD, Arizona Fish & Game</p> <div data-bbox="360 955 1464 1753">An aerial photograph of a river valley. The Colorado River is on the left, flowing towards the bottom. Laguna Dam Road runs vertically through the center. The Gila River flows from the top right towards the bottom right. A levee labeled 'S. Gila Levee' runs horizontally across the bottom of the Gila River. A red rectangular box highlights a section of the Gila River between Avenues 6½E and 11E, which is the project area for obstruction removal.</div>

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No.	Project
11-23P	<p data-bbox="311 220 990 262">Groundwater Drainage Well Maintenance</p> <p data-bbox="311 262 592 294">Yuma and Gila Valleys</p> <p data-bbox="311 294 1461 367">Need: High groundwater at various times of the year causes considerable problems in the Yuma and Gila Valley areas to residences and utilities.</p> <p data-bbox="311 367 1485 441">Risk: Due to the prolonged drought, the groundwater table is dropping. Extremely high groundwater occurs with Colorado River flooding and irrigation. High but predictable risk.</p> <p data-bbox="311 441 1315 514">Recommended Solution: Annual maintenance based on USBR and YCWUA recommendations and independent analysis.</p> <p data-bbox="311 514 885 556">Estimated Cost: \$50,000-200,000 Annually</p> <p data-bbox="311 556 560 588">Benefit/Cost: >1.0</p> <p data-bbox="311 588 1502 766">Status: YCWUA continues to perform site cleanup and electrical improvements at groundwater well sites. Site cleanup, control rewiring, repainting systems, and pump maintenance. Design plans for DW-1, DW-2, DW-7 and DW-9 are complete. Construction is tentatively schedule for FY 21. USBR has placed SCADA systems at a number of locations to measure future flow rates.</p> <p data-bbox="311 766 755 808">Agencies: YCFCD, USBR, YCWUA</p>
	

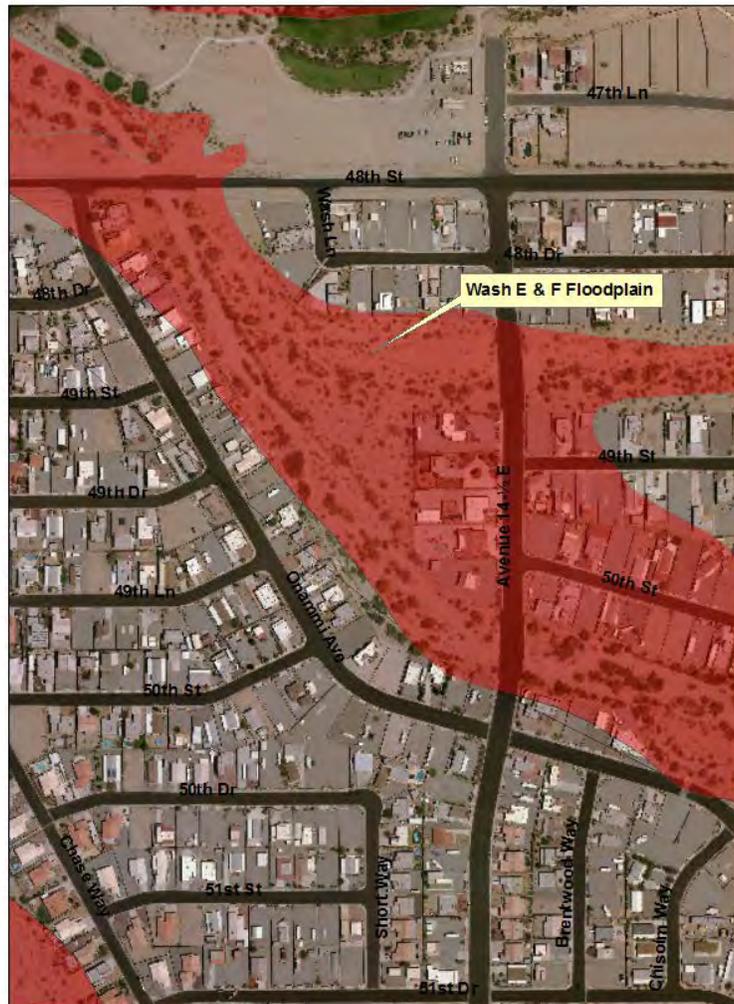
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No.	Project
11-25P	<p data-bbox="316 220 1541 304">East Main Canal Floodplain Delineation Yuma—West Side of East Main Canal between 1st and County 14th Streets</p> <p data-bbox="316 304 1541 451">Need: As a result of numerous flood control improvements, the East Main Canal floodplain has been reduced in size. Once the Smucker Park Basin and West Yuma Mesa storm drain improvements are complete, the floodplain will be reevaluated. The Padre Ranchitos area can be evaluated at this time.</p> <p data-bbox="316 451 1541 525">Risk: Accurate mapping is needed for stakeholders to make informed decisions. Accurate mapping is needed to reflect true flood risk.</p> <p data-bbox="316 525 1541 672">Recommended Solution: Evaluate the Padre Ranchitos area. The East Drain may have adequate capacity to contain the mesa runoff to reduce the size of floodplain in this area. The floodplain north of 32nd Street does not have adequate freeboard to reduce the floodplain without the recommended retention. Budgeted for FY22.</p> <p data-bbox="316 672 1541 703">Estimated Cost: \$350,000</p> <p data-bbox="316 703 1541 745">Benefit/Cost: >1.0 (Letter of Map Revision only)</p> <p data-bbox="316 745 1541 850">Status: Magnolia Basin, Sunset Mesa Basin and Vista del Valle Basin have been expanded. Smucker Park Basin plans have been approved by ADWR. Construction complete for 6 1/2 Street and 12th Avenue Basins.</p> <p data-bbox="316 850 1541 892">Agencies: YCFCD, Yuma, YCWUA</p>



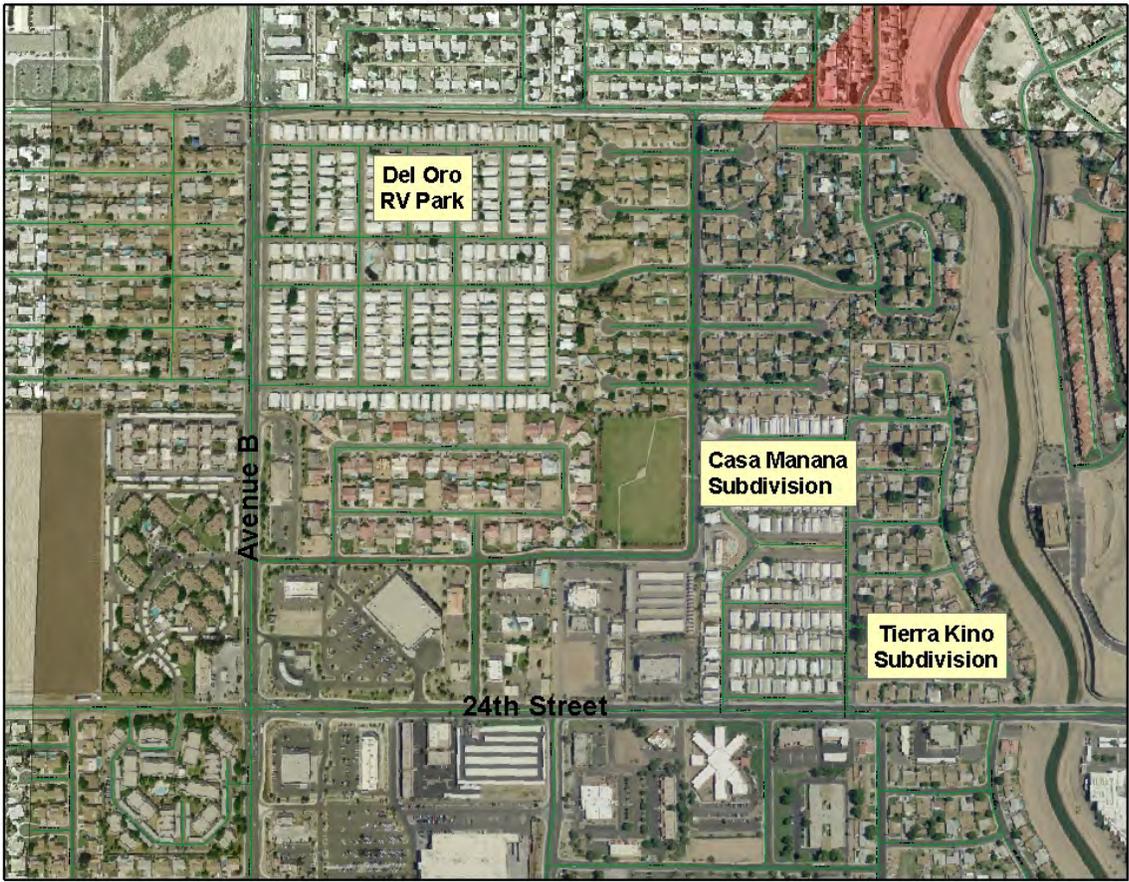
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No.	Project
11-32P	<p>Fortuna Wash and Tributaries Bank Stabilization Foothills—Wash E Banks</p> <p>Need: The floodplain is 1,150 feet wide in the vicinity of Wash E before the confluence with Fortuna Wash. The Froude number is approaching 1 in the majority of the reach, indicating a severe potential for erosion. Residential subdivisions were developed in 2003 along the steep bank that was brought in as fill by the developer. Portions of the bank have been undercutting and several residential structures could be threatened by continued erosion.</p> <p>Risk: If significant erosion occurs homeowners could lose parts of their yards and some structures could also be lost.</p> <p>Recommended Solution: Prepare an erosion potential study.</p> <p>Estimated Cost: \$5,000,000</p> <p>Benefit/Cost: >1.0</p> <p>Status: The project is in the preliminary planning phase.</p> <p>Agencies: YCFCD</p>



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Group 12 – Drainage and Facility Needs, Recommendations, & Status

No.	Project
12-01P	<p>Tierra Kino and Del Oro Drainage Improvements - ON HOLD Yuma—Camino Tierra, Quail Avenue, Sidewinder Avenue</p> <p>Need: Streets and improvements have experienced repeated ponding and flooding.</p> <p>Risk: Greater than 50 homes. High, imminent risk due to the multiple homes receiving moderate damage from ponding.</p> <p>Recommended Solution: A storm sewer system is recommended to convey stormwater to the existing 23rd Street Retention Basin.</p> <p>Estimated Cost: \$600,000 for flood control facilities</p> <p>Benefit/Cost: 1.0</p> <p>Status: Del Oro Estates concept design complete and submitted to City of Yuma for use. Casa Manana is complete.</p> <p>Agencies: YCFCD, Yuma</p>
	

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No.	Project
12-09P	<p>28th Avenue Ponding – ON HOLD Yuma—La Jolla Subdivision 14th St., 14th Place and 15th St. at 28th Ave.</p> <p>Need: Ponding and shallow flooding of streets and residential yards. Curb is present providing protection from low intensity rain but water does not drain off streets.</p> <p>Risk: Greater than 50 homes. High, imminent risk due to homes built at street grade and no street drainage.</p> <p>Recommended Solution: Regrade road and/or construct storm drain system to connect to Avenue B storm drain or US Marine Corps basin to the west. The Avenue B solution would add flows to the 12th Street/Avenue B Basin.</p> <p>Estimated Cost: \$650,000</p> <p>Benefit/Cost: >1.0</p> <p>Status: Survey completed and design concepts is complete. Project on hold until property owners propose funding mechanism.</p> <p>Agencies: YCFCD, Yuma</p>

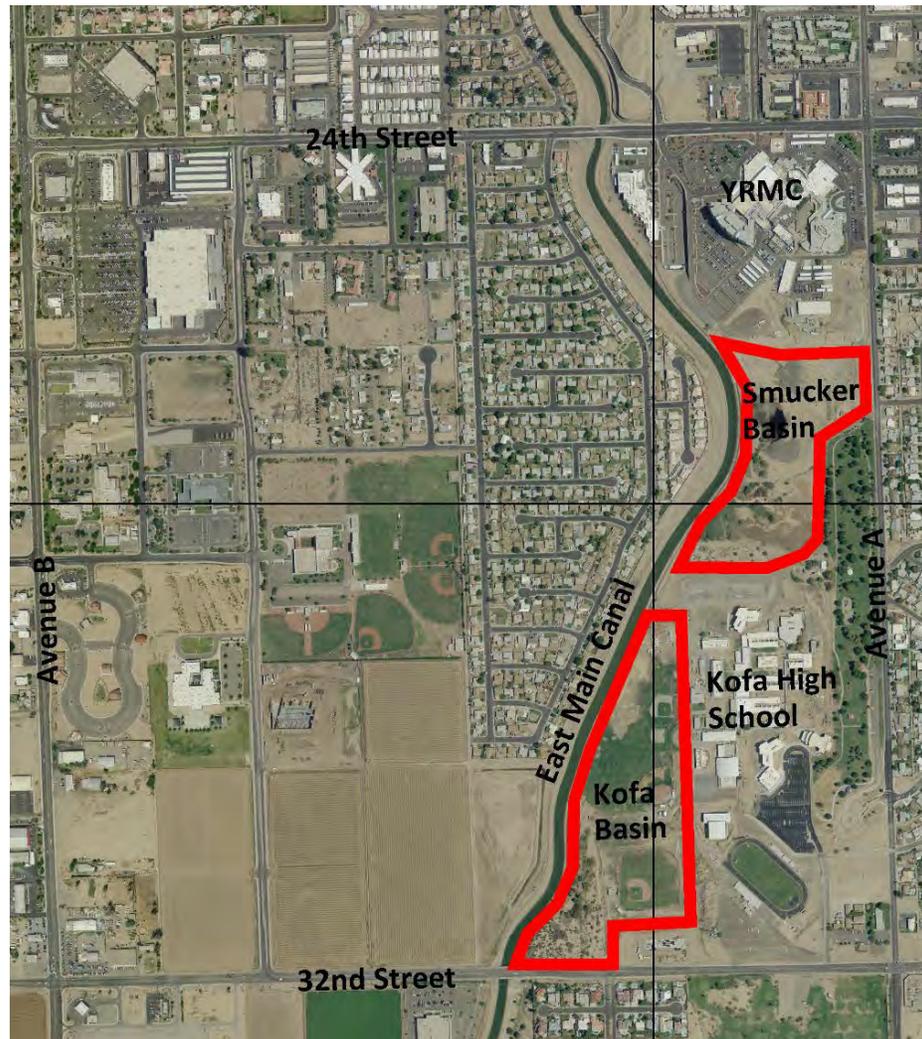


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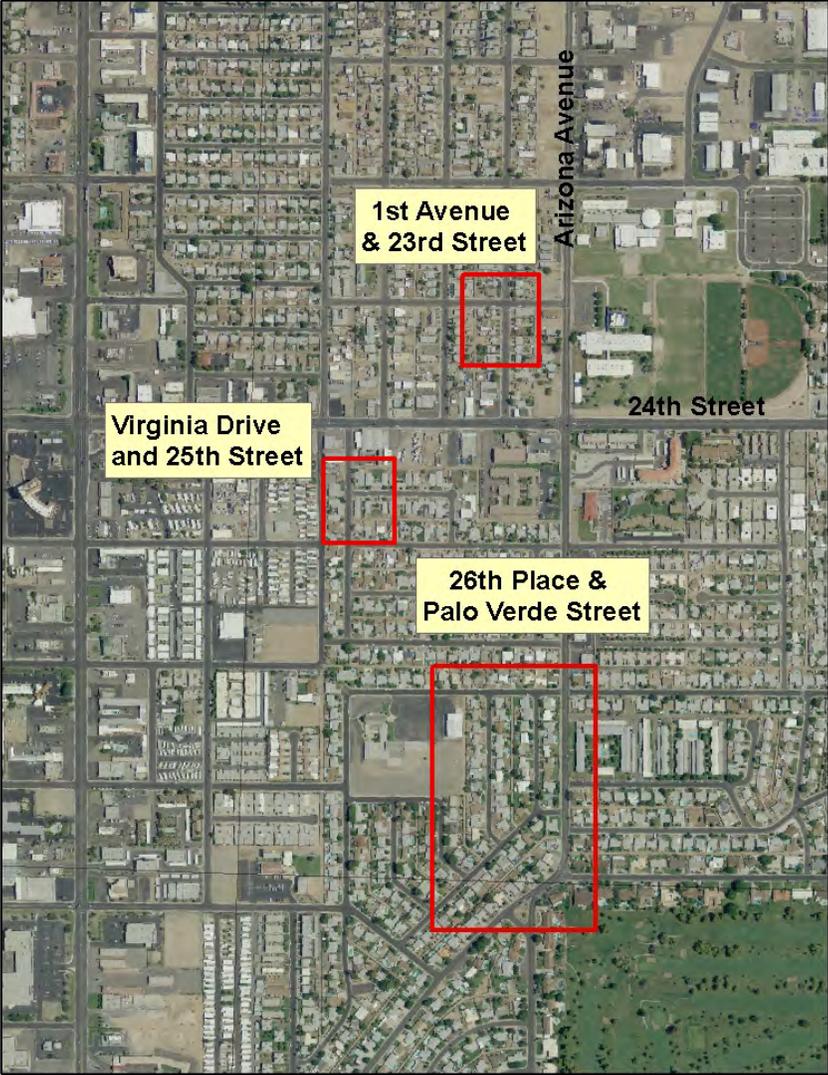
No.	Project
12-15P	<p>28th Street Drainage System Trunkline – ON HOLD Yuma—5th Ave. between 19th and 22nd St., 24th St. between 5th and 6th Ave., 28th St. between Fern Dr. and Las Palmas Vista</p> <p>Need: Ponding and flooding of streets, improvements, and residential yards. Catch basins exist in problem areas. Trunkline is needed on 28th St. for discharge into Smucker Park Basin.</p> <p>Risk: Greater than 50 homes at imminent risk for moderate damage due to ponding</p> <p>Recommended Solution: This project will provide a trunkline storm sewer that will discharge into the proposed Smucker Park Basin and include approximately 7,200 feet of storm sewer pipe, catch basins, manholes and appurtenances.</p> <p>Estimated Cost: \$13 million</p> <p>Benefit/Cost: >1.0</p> <p>Status: Design for Smucker Park to 8th Avenue section complete. The balance of the project is on hold until Smucker Park Basin is completed and required property acquired. City of Yuma has requested restudy of watershed to evaluate retention basin alternatives.</p> <p>Agencies: YCFCD, Yuma</p>



No.	Project
12-16P	<p>Kofa High School Retention Yuma—Kofa High School</p> <p>Need: Inadequate retention facilities allow uncontrolled stormwater from the area east of Kofa High School to discharge to East Main Canal. These basins supplement the capacity of the proposed Smucker Park Basin.</p> <p>Risk: Moderate, mid-term risk associated with potential for damage to East Main Canal which could then fail and compound the amount of flooding.</p> <p>Recommended Solution: Construct a retention basin, discharge force main and spillways to control discharge to canal. Additional land to be purchased or capacity offset by Smucker Park Basin.</p> <p>Cost Estimate: >\$5 million</p> <p>Benefit/Cost: >1.0</p> <p>Status: Due to development in the area, retention is limited to Kofa High School area. Kofa High School is considering drainage improvements to campus.</p> <p>Agencies: YCFCD, Yuma, YCWUA, YUHSD</p>



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No.	Project
12-20P	<p data-bbox="311 254 1523 296">1st Avenue/24th Street Area Drain Improvements - ON HOLD</p> <p data-bbox="311 296 1523 331">Yuma—1st Ave. and 23rd St., Virginia Dr. and 25th St., and 26th Pl. and Palo Verde St.</p> <p data-bbox="311 331 1523 405">Need: Localized ponding and flooding is damaging residential and commercial improvements.</p> <p data-bbox="311 405 1523 441">Risk: Right-of-way ponding in localized areas. Low to moderate risk.</p> <p data-bbox="311 441 1523 548">Recommended Solution: A storm sewer is needed to improve drainage in the Virginia Drive and 25th Street area and the 26th Place and Palo Verde Street area. The 1st Avenue and 23rd Street catch basins may need a conveyance line.</p> <p data-bbox="311 548 1523 583">Cost Estimate: \$1,500,000</p> <p data-bbox="311 583 1523 619">Benefit/Cost: >1.0</p> <p data-bbox="311 619 1523 693">Status: Catch basins are in place at 1st Ave. and 23rd Street. Smucker Park and 28th Street trunkline are needed to drain this area.</p> <p data-bbox="311 693 1523 728">Agencies: YCFCD, Yuma</p> 

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No.	Project
12-22P	<p>Engler Avenue Retention Basin - ON HOLD Yuma—Engler Ave. and Calle Chapalla</p> <p>Need: Retention basin does not percolate and has no outfall. Neighboring field irrigation adds to problem. Stagnant water results.</p> <p>Risk: Health risk from water-borne illness. Negligible flood risk except west of Pacific where flooding in right-of-way is moderate.</p> <p>Recommended Solution: A pump station and force main to the existing Pacific Avenue retention basin on the East Mesa Storm Drain system is recommended. Drainage improvements to the open channel on the west side of Pacific Avenue to prevent erosion are also recommended.</p> <p>Cost Estimate: \$400,000</p> <p>Benefit/Cost: 0.4</p> <p>Status: Improvement plan design is complete. Survey has been completed to incorporate drainage improvements along Pacific Avenue. Portion of force main in easement has been constructed.</p> <p>Agencies: YCFCD</p>
	

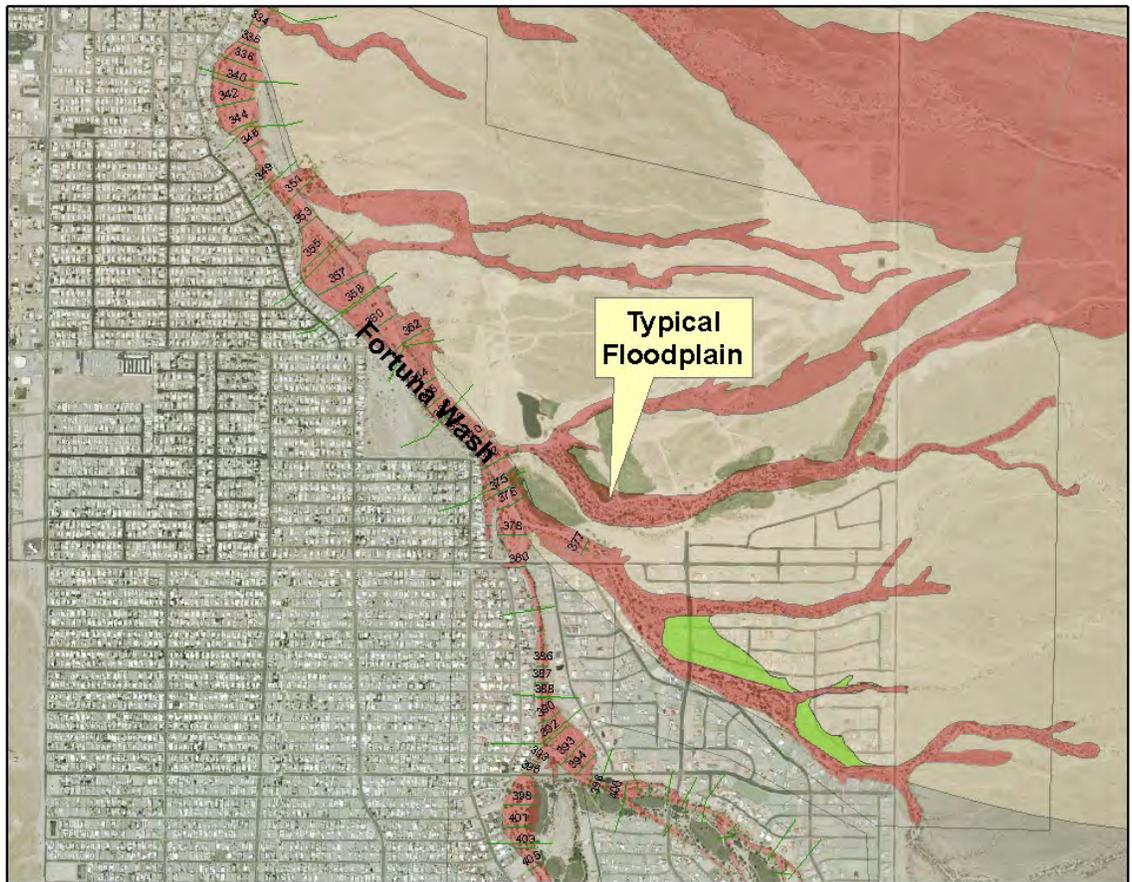
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No.	Project
12-45P	<p>Giss Parkway Street Flooding Yuma—Giss Parkway between railroad and I-8.</p> <p>Need: Giss Parkway underpass is depressed resulting in several-foot deep flooding of road and adjacent improvements during prolonged Colorado River flooding. Planned revitalization may require additional drainage improvements.</p> <p>Risk: Risks from 1) groundwater rise from Colorado River Flooding or 2) severe rain flooding underpass. Risk to buildings negligible.</p> <p>Recommended Solution: A design concept report is recommended to evaluate pumping and discharge alternatives.</p> <p>Estimated Cost: \$100,000 for study (\$2,000,000 project)</p> <p>Benefit/Cost: To be determined by design concept report.</p> <p>Status: Not Addressed</p> <p>Agencies: YCFCD, Yuma, ADOT</p>



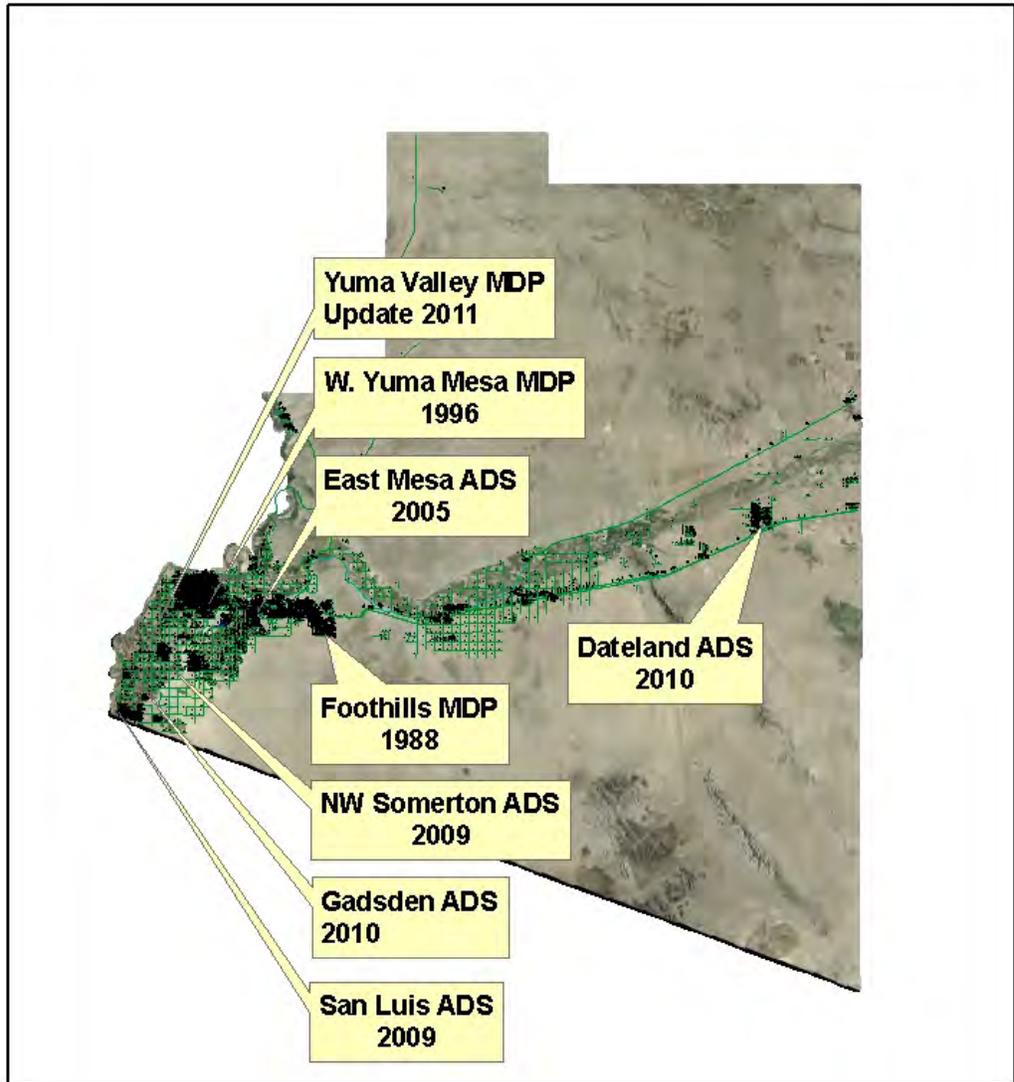
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No.	Project
12-48P	<p>Flood Control Mapping Countywide</p> <p>Need: Ongoing effort to update Countywide topographic mapping necessary to evaluate drainage problems and prepare design plans.</p> <p>Risk: Mapping is needed to assess risk for current and future development.</p> <p>Recommended Solution: Incorporate mapping into studies and projects as needed.</p> <p>Estimated Cost: Reoccurring biannual expense of \$500,000</p> <p>Status: Martinez Lake contour mapping has been received from USBR. Foothills study has updated mapping and hydrology in Foothills area. The Gila River and Coyote Wash Flood Insurance Rate Maps became effective on January 16, 2014.</p> <p>Agencies: YCFCD</p>

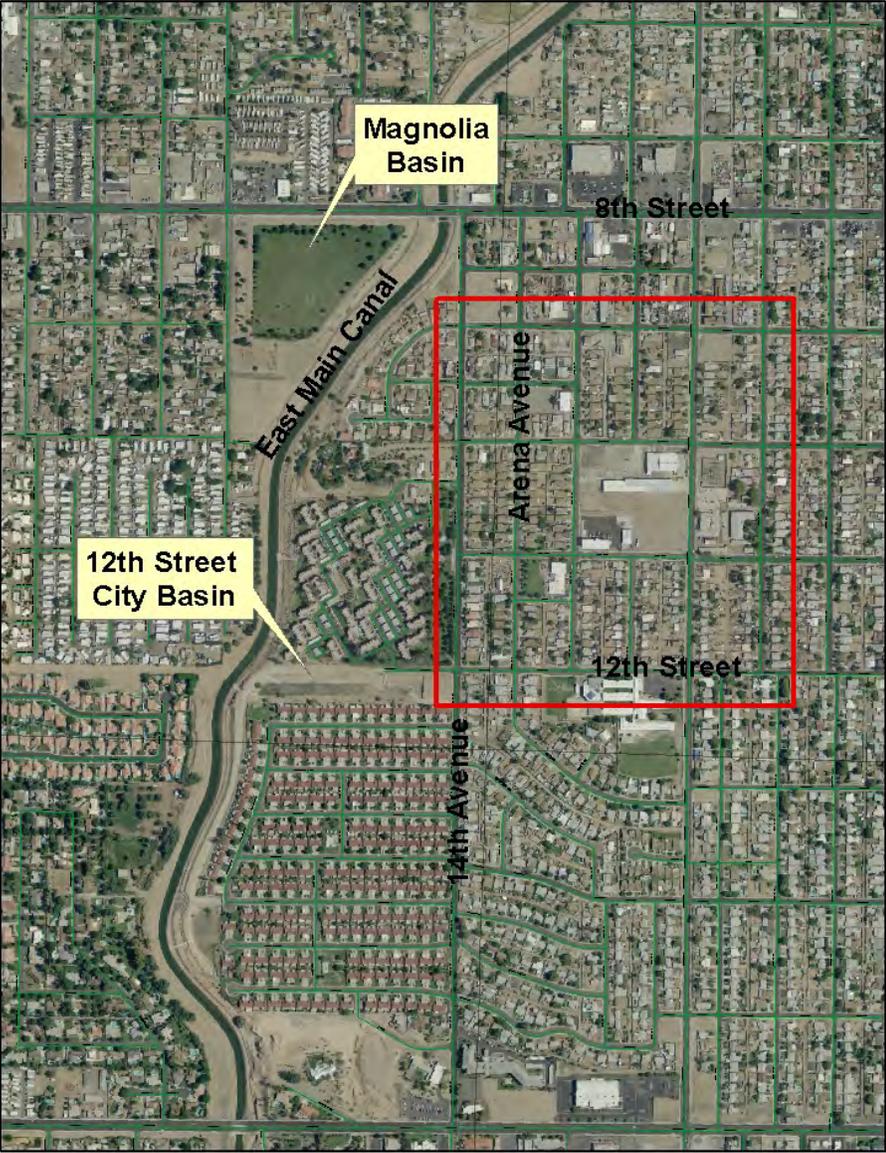


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No.	Project
12-49P	<p>Master Drainage Plans Countywide</p> <p>Need: Up-to-date master drainage plans are needed to plan for future drainage development.</p> <p>Risk: Drainage plans are a risk management activity that helps reduce overall risk in an area by planning drainage development.</p> <p>Recommended Solution: Identify areas that need planning and prepare/update plans.</p> <p>Estimated Cost: \$150,000-750,000 per plan</p> <p>Status: Dateland and Foothills Update master plans complete. Yuma Valley on hold for USBR. Small plans underway for South Somerton and Wellton under separate numbers.</p> <p>Agencies: YCFCD, USBR, Communities, Irrigation Districts</p>

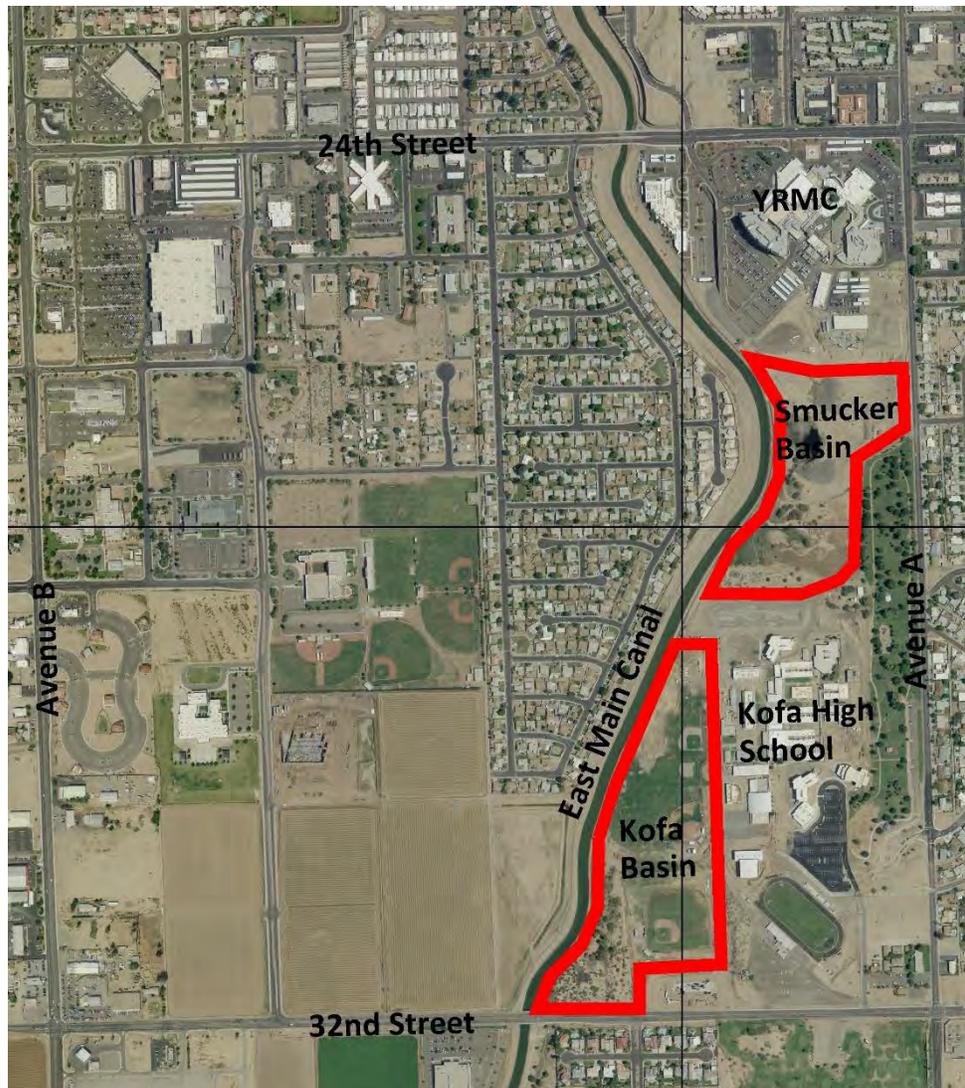


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No.	Project
12-51P	<p>12th Avenue and Arena Drive Stormdrain Yuma—12th Avenue to Arena Drive to 9th Place to 12th Street</p> <p>Need: Stormwater on steep slopes overtop curbs causing erosion on private property. Risk: Not determined Recommended Solution: Storm sewers are needed north of 12th Street to intercept runoff before it erodes private property along steep street sections. Estimated Cost: \$650,000 Status: City of Yuma is designing improvements for Arena Avenue. Agencies: YCFCD, Yuma</p>
	

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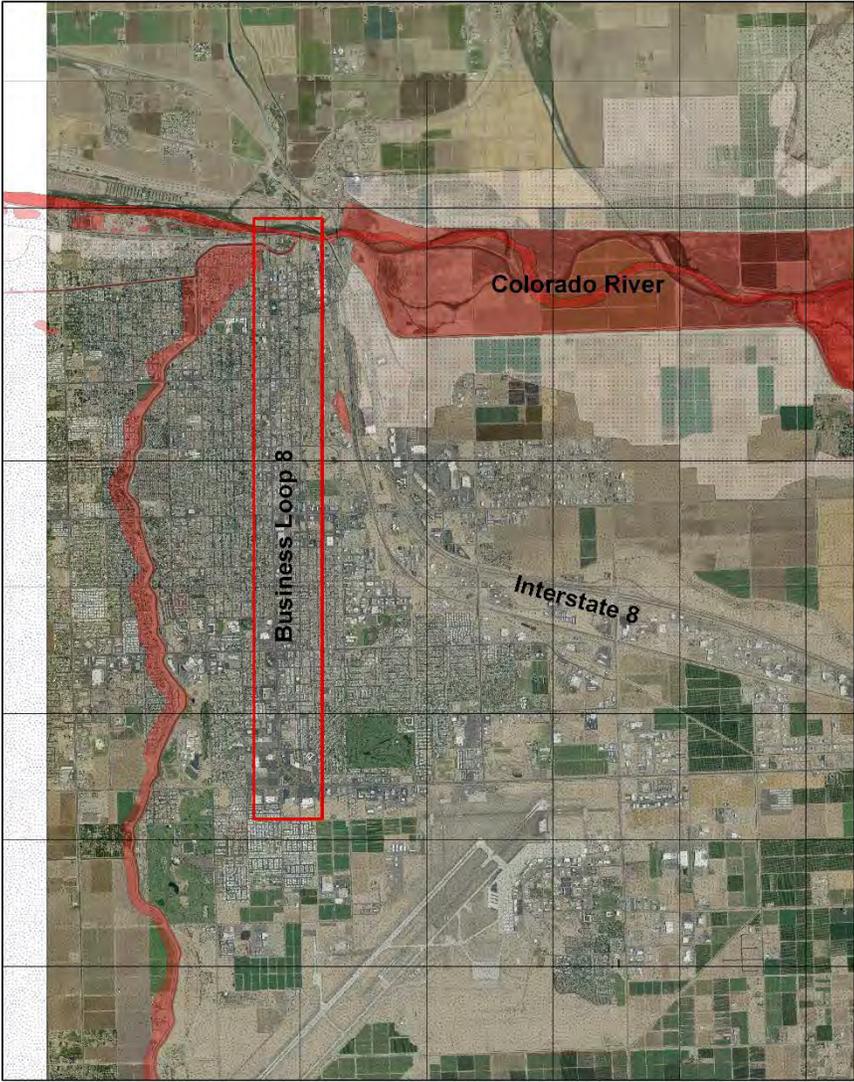
No.	Project
12-63P	<p>Smucker Park Area Drainage Yuma—East Main Canal between 24th St. and 28th St.</p> <p>Need: Limited detention available for development above the canal resulting in uncontrolled discharge to East Main Canal.</p> <p>Risk: A large number of moderate and high-risk needs. Hundreds of homes affected by this project.</p> <p>Recommended Solution: A regional retention basin is needed to control discharges.</p> <p>Estimated Cost: \$8,700,000</p> <p>Status: Smucker Park has been designed and plan approval has been received from ADWR. City has acquired needed land and easements. The completion of this project affects Projects 12-15 and 12-20. City has been providing requested documents needed to bid the project. Project construction is scheduled to go out to bid tentatively by March 30th, 2018</p> <p>Agencies: YCFCD, YCWUA, Yuma, YUHSD</p>



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No.	Project
12-66P	<p data-bbox="313 222 959 262">Wellton - County 14th Street Sheet Flow</p> <p data-bbox="313 264 1005 296">Wellton - County 14th Street between Avenue 25 and 28 E</p> <p data-bbox="313 300 1463 369">Need: Shallow sheet flows from the bombing range cause damage to landscaping and the surface between Avenue 25 and 28 E.</p> <p data-bbox="313 373 1271 405">Risk: Low risk from moderate hazard to <10 residences and infrastructure.</p> <p data-bbox="313 409 1528 478">Recommended Solution: Continue discussions with MCAS to permit Improvement District to make drainage improvements.</p> <p data-bbox="313 483 662 514">Estimated Cost: \$400,000</p> <p data-bbox="313 518 1528 588">Status: MCAS and District have met on site to review conditions. District requested a meeting with MCAS. JDA doing an initial study to review site conditions.</p> <p data-bbox="313 592 862 623">Agencies: YCFCD, Yuma County, MCAS</p> 

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No.	Project
12-70P	<p data-bbox="313 222 630 262">Business 8 Flooding</p> <p data-bbox="313 262 544 294">Yuma—4th Avenue</p> <p data-bbox="313 300 1528 441">Need: The B-8 improvements, completed in 1999, ended at Chiquita Drive. Retention basins or extension of the B-8 line is needed. Surface drainage improvements have occurred with new commercial development but older businesses are still threatened by flooding. Evaluation of 4th Avenue needed.</p> <p data-bbox="313 447 521 478">Risk: Uncertain</p> <p data-bbox="313 485 951 516">Recommended Solution: Design concept report.</p> <p data-bbox="313 522 1081 554">Estimated Cost: \$75,000 for study (\$2,000,000 for project)</p> <p data-bbox="313 560 610 592">Status: Not Addressed</p> <p data-bbox="313 598 656 630">Agencies: YCFCD, Yuma</p> 

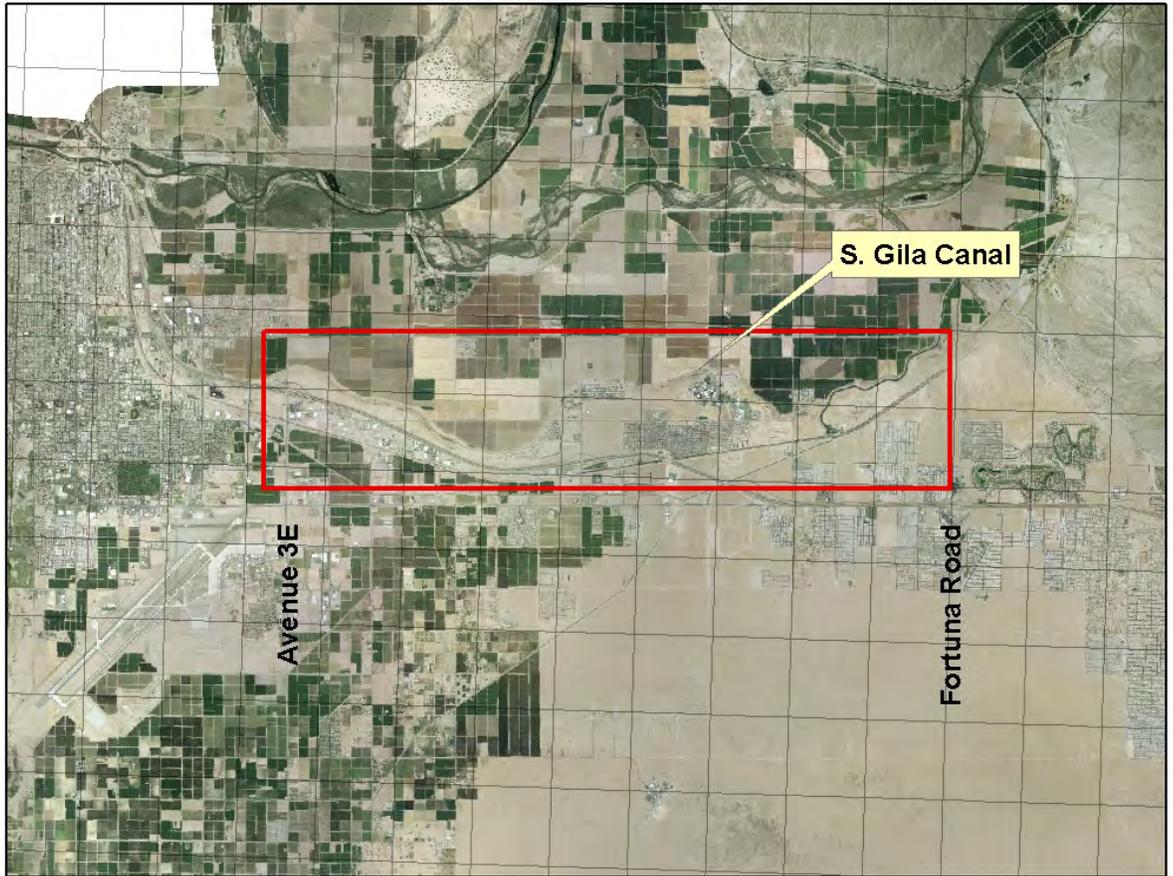
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No.	Project
12-72P	<p>South Frontage Road Retention Basin Foothills—South Frontage Road</p> <p>Need: The East Mesa Area Drainage Study and Foothills Master Drainage Plan Update identify the need for additional retention along South Frontage Road.</p> <p>Risk: Drainage improvements in the Foothills require an outfall. This basin provides some of the drainage for South Frontage Road and regional drainage.</p> <p>Recommended Solution: Purchase available land suitable for retention, expand existing basins and construct with South Frontage Road Improvements.</p> <p>Estimated Cost: \$450,000</p> <p>Status: Land has been purchased and cleared for a retention basin on South Frontage Road. Basin will be constructed with roadway improvements.</p> <p>Agencies: YCFCD, Yuma County</p>



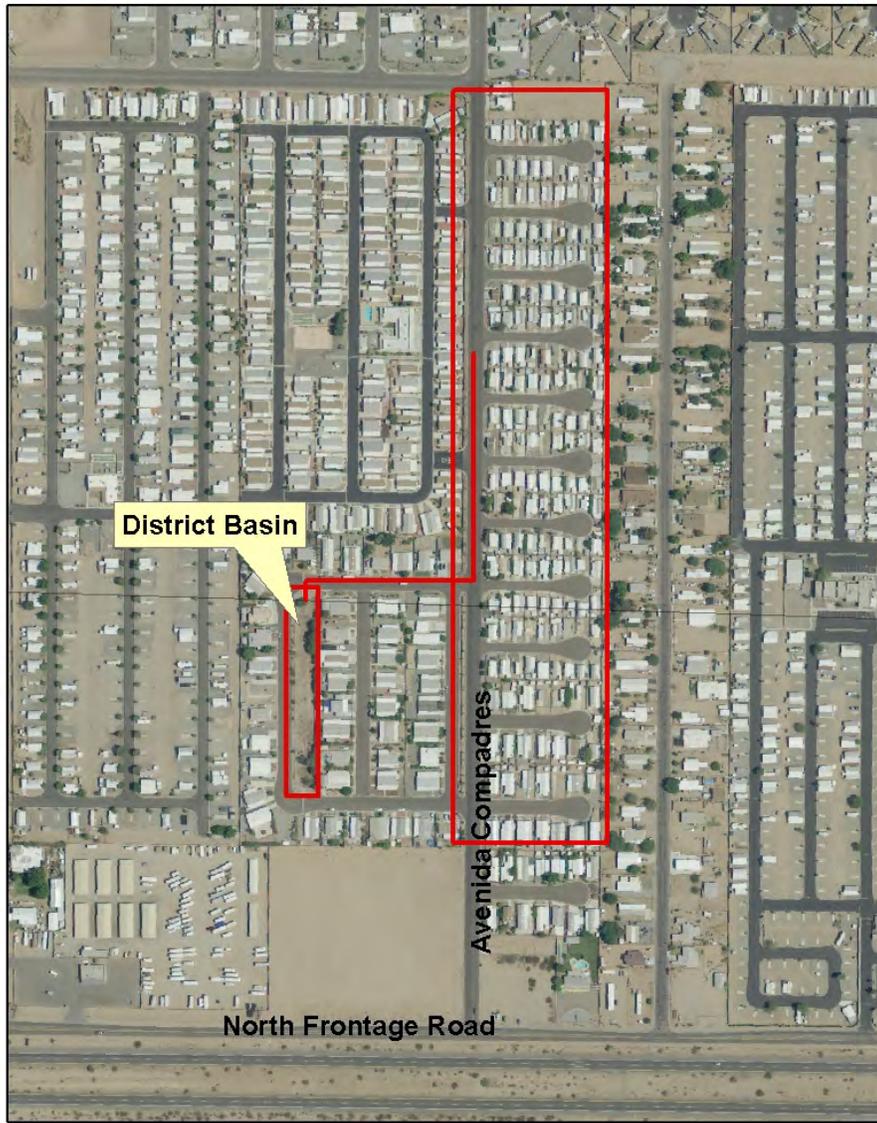
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No.	Project
12-73P	<p>South Gila Canal Underdrains South Gila Canal east of Ave. 3E</p> <p>Need: The underdrains are clogged and the extent of the resulting problem needs to be determined. Maintenance needed.</p> <p>Risk: Low risk of water backing up against canal and causing failure.</p> <p>Recommended Solution: Observe the extent of the resulting flooding. If necessary, prepare design concept.</p> <p>Estimated Cost: \$100,000</p> <p>Status: Not Addressed</p> <p>Agencies: Yuma Irrigation District</p>



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No.	Project
12-75P	<p>Avenue 10 E & Co. 10 ½ Street (Avenida Compadres Area)</p> <p>Need: Flows from failed on-site retention in the area causes flooding in Tuscany Manufactured Home Park and along Avenida Compadres.</p> <p>Risk: Less than 20 homes at risk from moderate damage.</p> <p>Recommended Solution: Increase the size of the Southern Sands Basin and construct a drainage system to intercept additional runoff.</p> <p>Estimated Cost: \$700,000</p> <p>Benefit/Cost: <1.0</p> <p>Status: Basin was purchased for back taxes. Consultant working on initial design plans. Construction FY21, joint project with Engineering to repave streets in Los Amigos and Southern Sands.</p> <p>Agencies: YCFCD</p>



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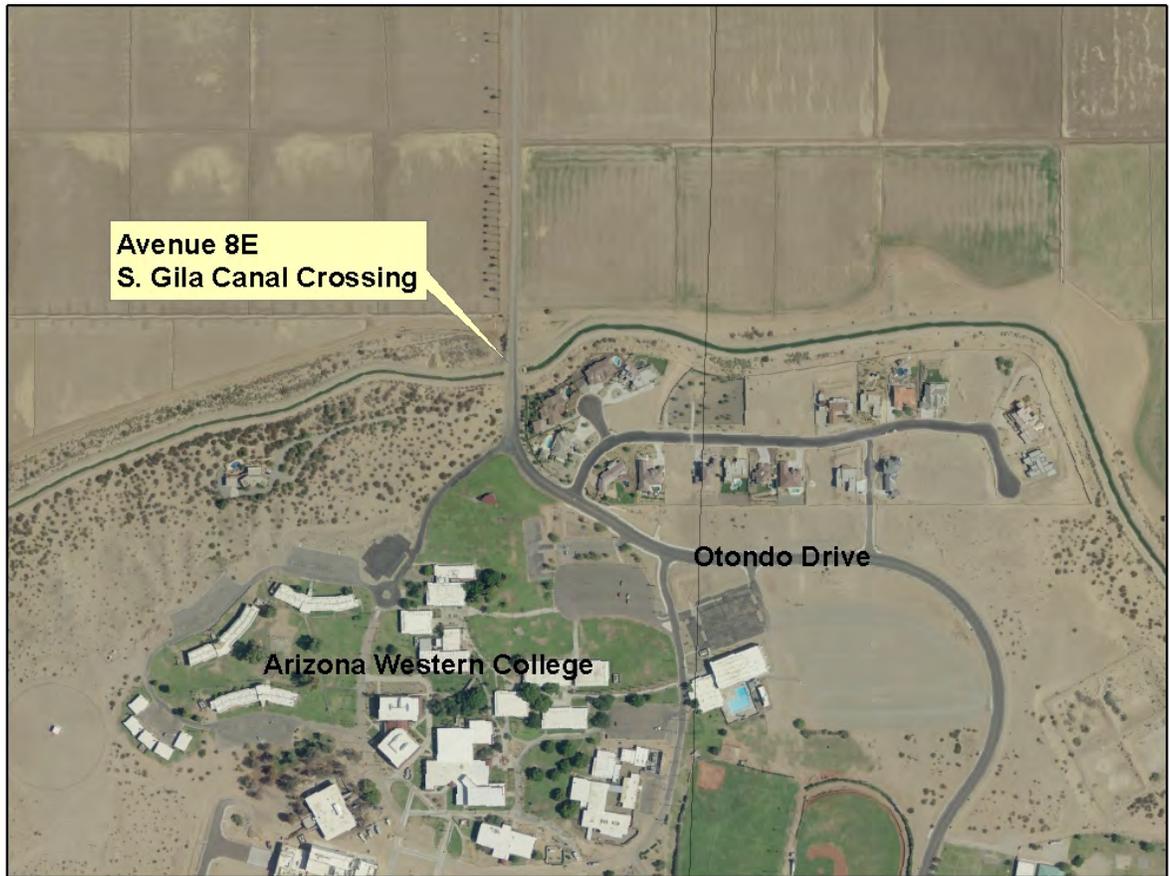
No.	Project
12-76P 12-77P	<p data-bbox="310 222 1159 262">Avenue 7E and Araby Road Drainage Improvements</p> <p data-bbox="310 262 683 296">Avenue 7E & South Gila Canal</p> <p data-bbox="310 296 1461 365">Need: Runoff from Avenue 7E and Araby Road are flowing uncontrolled into South Gila Canal.</p> <p data-bbox="310 365 1516 443">Risk: Low to moderate risk of damage to canal or roads. Canal damage could result in severe damage to a few homes below canal.</p> <p data-bbox="310 443 1495 512">Recommended Solution: Construct drainage channel or drain to direct runoff from Avenue 7E and Araby Road away from South Gila Canal to retention areas.</p> <p data-bbox="310 512 662 548">Estimated Cost: \$300,000</p> <p data-bbox="310 548 610 583">Status: Not Addressed</p> <p data-bbox="310 583 656 619">Agencies: YCFCD, Yuma</p>
	

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No.	Project
12-78P	<p>Gila Ridge Road Drainage Improvements Gila Ridge Road & Avenue 5½ E Alignment</p> <p>Need: Improvements to existing drainage structures are required due to localized ponding. Risk: Low risk of flooding primarily in right-of-way Recommended Solution: The existing storm drain needs to be extended across Gila Ridge Road to allow drainage of the ponding area. Estimated Cost: \$150,000 Status: Not Addressed Agencies: YCFCD, Yuma County</p>
 <p>The image is an aerial photograph of a rural area with a grid of roads. A yellow callout box with a pointer identifies 'Gila Ridge Road' in the center. To the left, a road is labeled 'Avenue 3E' and to the right, another is labeled 'Araby Road'. The landscape consists of various colored agricultural fields and some residential or commercial buildings.</p>	

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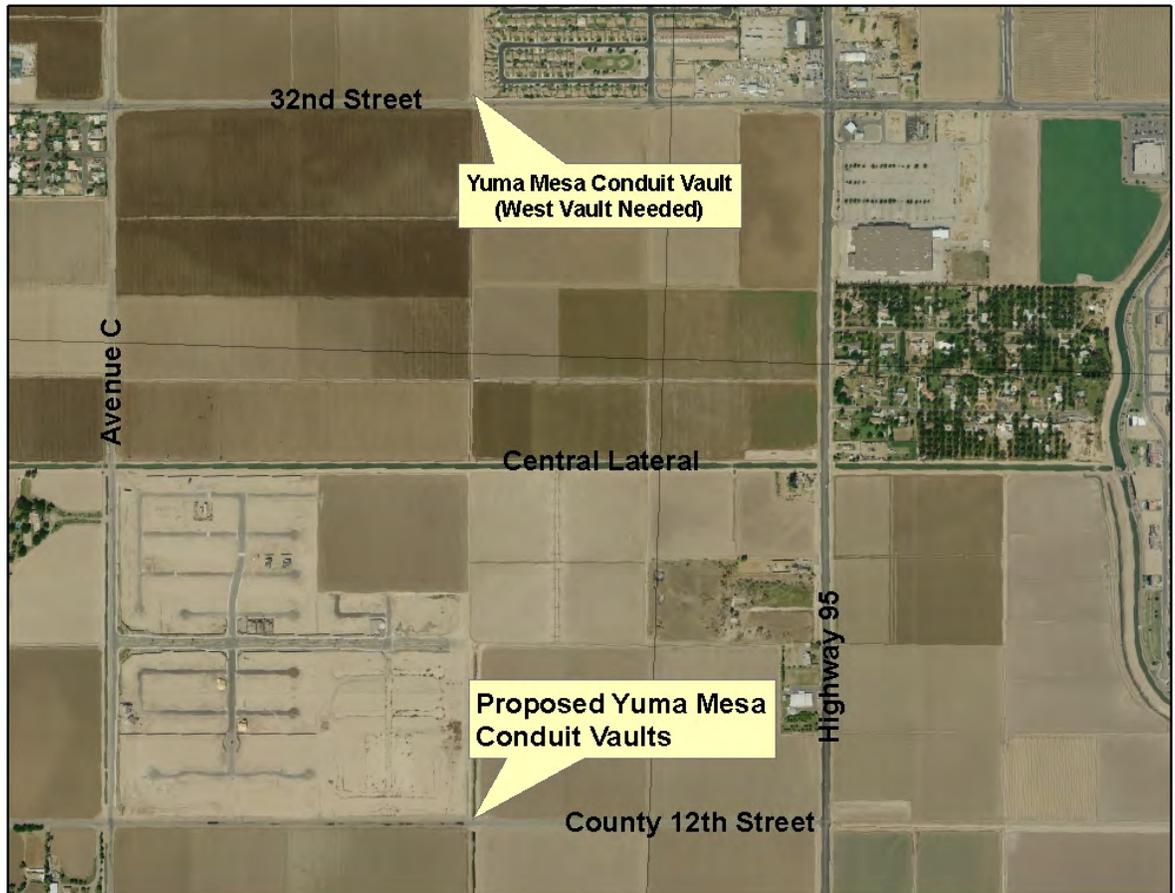
No.	Project
12-79P	<p>Arizona Western College Drainage Improvements Arizona Western College & South Gila Canal</p> <p>Need: Erosion control and drainage improvements are needed to control runoff from the mesa.</p> <p>Risk: Low to moderate risk of damage to canal or roads. Canal damage could result in damages to agricultural land below canal.</p> <p>Recommended Solution: Improved shoulder and drainage along Avenue 8E would decrease erosion.</p> <p>Estimated Cost: \$200,000</p> <p>Status: Not Addressed</p> <p>Agencies: YCFCD, Yuma, AWC</p>



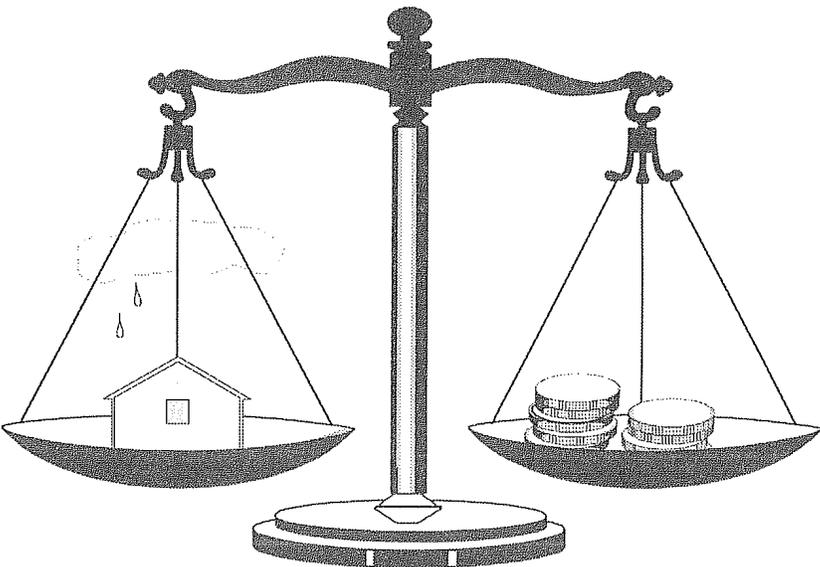
No.	Project
12-80P	<p data-bbox="313 254 1469 296">San Luis Area Drainage - Phase I COMPLETE, Phase II – COMPLETE</p> <p data-bbox="313 296 495 327">San Luis Mesa</p> <p data-bbox="313 327 1469 401">Need: Older sections of San Luis have insufficient drainage due to construction occurring before standards.</p> <p data-bbox="313 401 1485 474">Risk: High risk to over 50 homes of moderate damage due to homes built at or below street grade. New Port of Entry may need additional drainage.</p> <p data-bbox="313 474 1502 548">Recommended Solution: Area Drainage Study has identified the need for a storm drain system discharging to a regional basin along the international boundary west of Highway 95.</p> <p data-bbox="313 548 690 579">Estimated Cost: \$1,250,000</p> <p data-bbox="313 579 1209 611">Benefit/Cost: >1.0 (Provides a discharge for the San Luis Mesa area)</p> <p data-bbox="313 611 1274 642">Status: Phase I Construction Complete. Phase II – Construction Complete.</p> <p data-bbox="313 642 803 674">Agencies: YCFCD, San Luis, ADOT</p> <div data-bbox="440 730 1382 1608" style="text-align: center;"></div>

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No.	Project
12-81P	<p>Yuma Mesa Conduit Vaults Yuma Valley at Co. 11th & 12th Street</p> <p>Need: Connection vaults are needed at these locations for future connections in accordance with the Yuma Valley Master Plan.</p> <p>Risk: Long-term health risk for no disposal of retained stormwater for the areas served by the proposed connections.</p> <p>Recommended Solution: Coordinate with USBR to determine capacity and construct vaults.</p> <p>Estimated Costs: \$150,000</p> <p>Status: USBR is evaluating conduit capacity and water quality issues prior to permitting connections. The Yuma Valley Master Drainage Plan is being updated to redirect drainage toward the Valley Drain System. This area has access to both systems.</p> <p>Agencies: YCFCD, YCWUA, USBR</p>



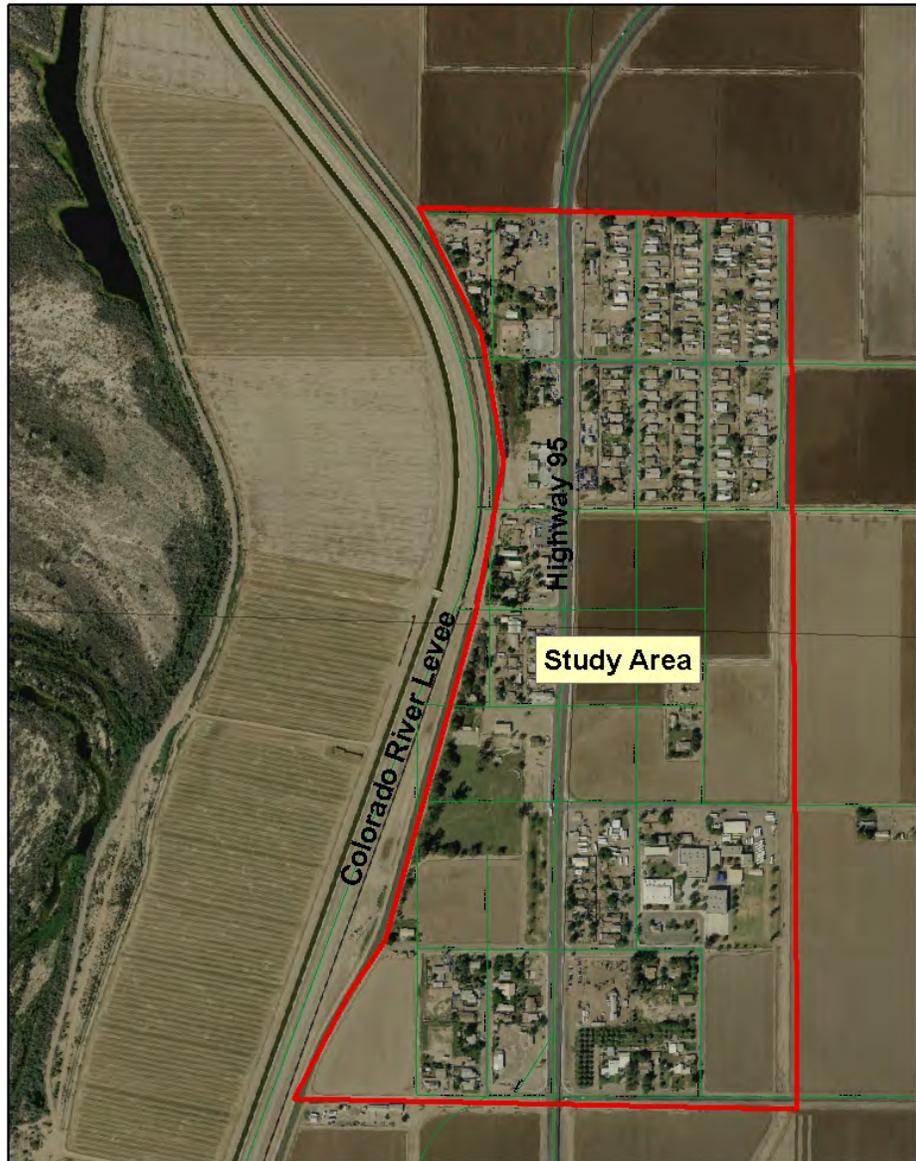
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No.	Project
12-82P	<p>Mitigation Fund Countywide Floodplains</p> <p>Need: A fund/process is needed to purchase and remove structures from the floodplain when the cost is less than other flood control mitigation.</p> <p>Risk: High, imminent risk to structures.</p> <p>Recommended Solution: Provide funding and develop guidelines for use of funds for mitigation. This fund would be used to pay to remove at-risk structures from the floodplain instead of paying for structural protection. Staff needs to prepare a draft mitigation plan for review.</p> <p>Estimated Costs: \$500,000 (Recurring)</p> <p>Status: No action</p> <p>Agencies: YCFCD</p>
	 A black and white illustration of a balance scale. The left pan is higher and contains a simple drawing of a house with a cloud above it raining. The right pan is lower and contains several stacks of coins. The scale is balanced, suggesting a comparison between the value of a house and the cost of coins.

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No.	Project
12-84P	<p>Basin Lands & Maintenance Countywide</p> <p>Need: Additional basins are needed to rehabilitate areas with failing drainage and accommodate future development.</p> <p>Risk: Purchasing basin lands when land is available is cheaper than purchasing developed land. Maintenance needed to prevent deterioration of basins.</p> <p>Recommended Solution: Purchase of land to set aside for retention basins. Land needed along East Main Canal.</p> <p>Estimated Cost: \$180,000/acre</p> <p>Status: Basin lands have been acquired along North Frontage Road, Somerton, Gadsden, Foothills, and Yuma. Basins improved at Sunset Mesa and Vista Del Valle. Basins complete in Gadsden. North Frontage Road basin easements being acquired.</p> <p>Agencies: YCFCD</p>
	

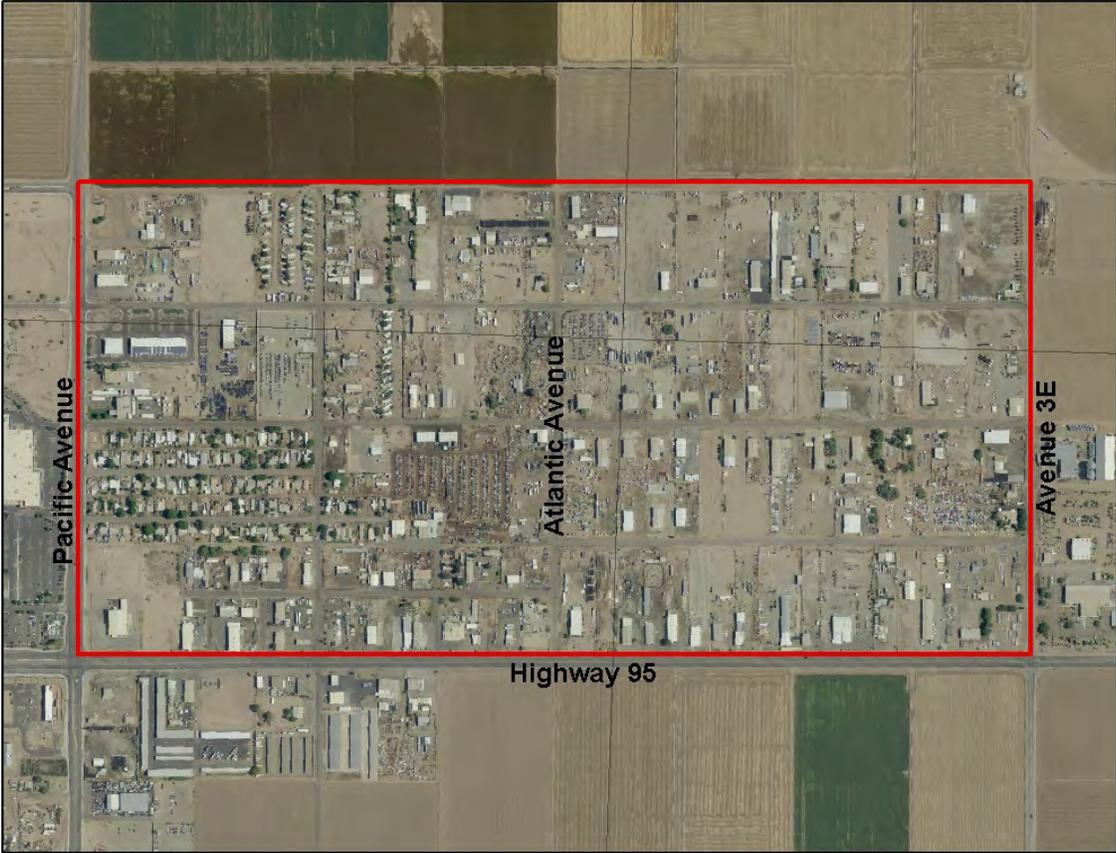
No.	Project
12-86P	Gadsden Area Drainage Gadsden
	<p>Need: Gadsden has ponding and localized flooding after storms.</p> <p>Risk: Moderate to high risk of flooding throughout Gadsden. Assessment study complete.</p> <p>Recommended Solution: An area drainage study is needed to identify the extent of flooding and recommend an overall solution for Gadsden. An alternate is to include Gadsden drainage into a new San Luis drainage system.</p> <p>Estimated Cost: \$7,000,000</p> <p>Status: Basin is complete in Gadsden. An outfall to the Bypass Drain or Colorado River is recommended by the draft Yuma Valley Master Plan Update.</p> <p>Agencies: YCFCD, Yuma County</p>



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No.	Project
12-88P	Yuma Valley Master Drainage Plan Update - ON HOLD Yuma Valley
	<p>Need: The Yuma Valley Master Drainage Plan is 20 years old. During the past two decades, many improvements have been constructed to address the identified drainage needs. An update to the master plan is needed to identify existing and future drainage needs and recommend improvement alternatives.</p> <p>Risk: Due to the age of the study, assumption and conditions of plan need to be reviewed and the area restudied to determine continued effectiveness.</p> <p>Recommended Solution: Update the Yuma Valley Master Plan including coordination with YCWUA, USBR, Yuma, Somerton and San Luis. (No new aerial photography)</p> <p>Estimated Cost: \$450,000</p> <p>Status: Final Draft Study is complete. Coordinating review with USBR</p> <p>Agencies: YCFCD, USBR, YCWUA, Municipalities</p>
	 An aerial photograph of the Yuma Valley region. A red line outlines the 'Yuma Valley Study Area'. Three yellow labels with black text are overlaid on the map: 'Yuma' is located in the upper central part of the study area; 'Yuma Valley Study Area' is centered within the red outline; and 'San Luis' is located at the southern edge of the study area. The map shows a mix of urban areas, agricultural fields, and natural terrain.

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No.	Project
12-90P	<p>Atlantic Avenue Area Drainage Study Atlantic Avenue north of Highway 95 Vicinity</p> <p>Need: The Atlantic Avenue area has developed prior to development standards. Paved roads did not address drainage resulting in runoff ponding adjacent to road.</p> <p>Risk: Moderate risk to road improvements.</p> <p>Recommended Solution: Prepare an area drainage study to identify the extent of flooding and recommend an overall solution for the area.</p> <p>Estimated Cost: \$5,000,000</p> <p>Status: No activity</p> <p>Agencies: YCFCD, Yuma County</p>
	 <p>The image is an aerial photograph of a developed area. A red rectangular box highlights a specific section of the area. The highlighted area contains a grid of streets and numerous buildings, likely residential or commercial. The streets are labeled: Pacific Avenue on the left, Atlantic Avenue running vertically through the center, and Avenue 3E on the right. Below the highlighted area, Highway 95 is labeled. The surrounding area consists of large, open fields, some of which are green, suggesting agricultural use.</p>

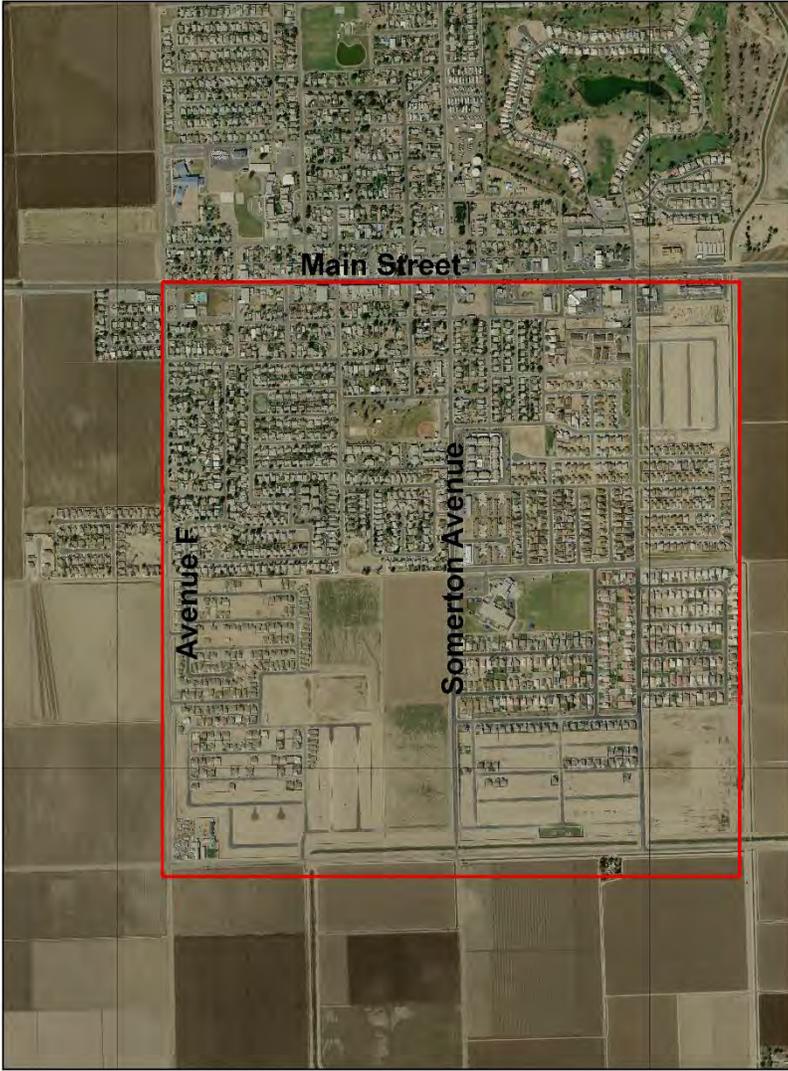
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No.	Project
12-91P	<p>Yuma East Flooding - ON HOLD Yuma East, Units 3 & 4 near Mesa Drive.</p> <p>Need: Failed on-site retention and homes at or below street grade results in flooding of streets and some yards and mobile home pits.</p> <p>Risk: Greater than 20 homes are at risk of moderate flooding.</p> <p>Recommended Solution: Improvement District needed to fund improvements.</p> <p>Estimated Cost: \$750,000</p> <p>Status: Design Concept Report is complete. Project on hold until property owners propose funding mechanism.</p> <p>Agencies: YCFCD, Yuma County</p>
	

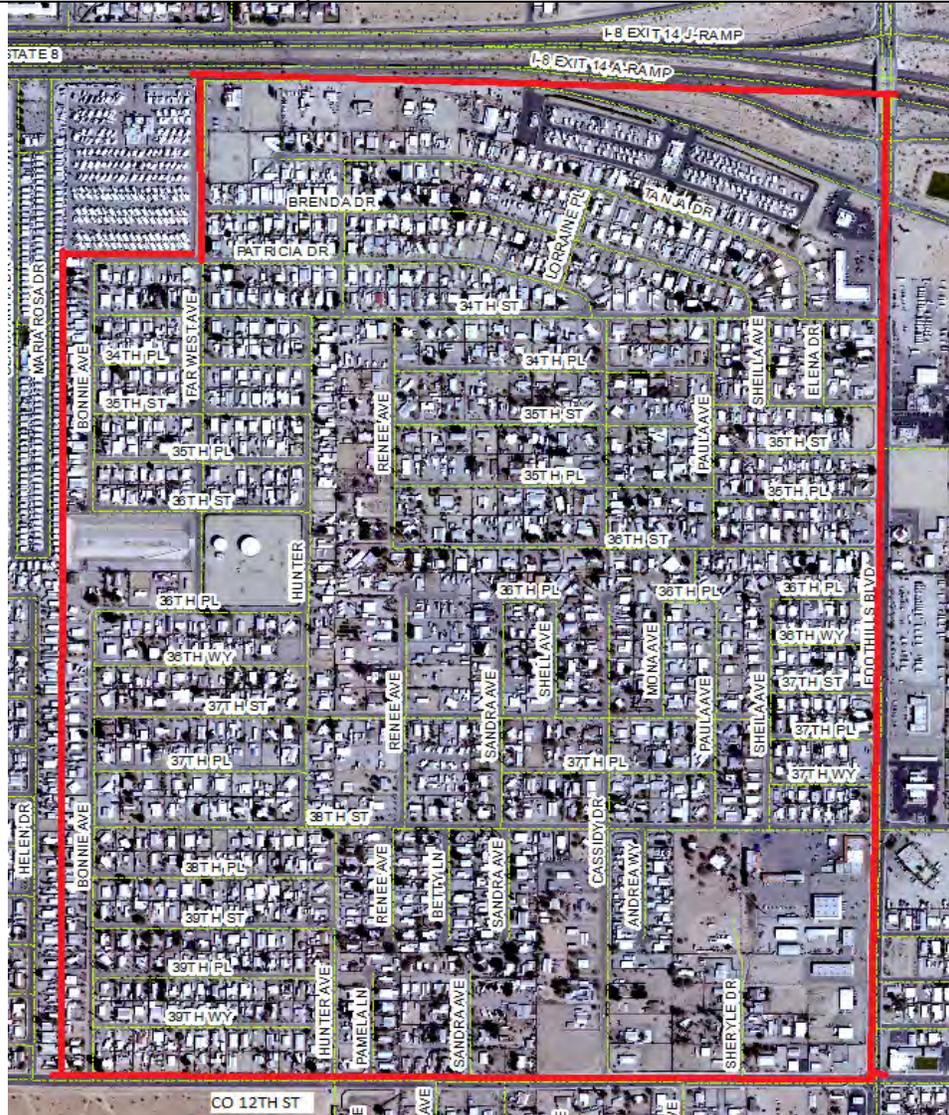
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No.	Project
12-92P	<p>Desert Air Estates, Unit 1 & 2 and Country Life Mobile Estates Flooding - ON HOLD Desert Air Estates, Units 1 & 2 and Country Life Mobile Estates Subdivisions near Avenue 9E.</p> <p>Need: Failed on-site retention and homes at or below street grade results in flooding of streets and some yards and mobile home pits.</p> <p>Risk: Greater than 20 homes are at risk of moderate flooding.</p> <p>Recommended Solution: Prepare a conceptual design to identify drainage options.</p> <p>Estimated Cost: \$1,000,000</p> <p>Status: Design Concept Report is complete. Project on hold until property owners propose funding mechanism.</p> <p>Agencies: YCFCD, Yuma County</p>



No.	Project
12-94P	<p data-bbox="313 254 828 296">South Somerton Drainage Evaluation</p> <p data-bbox="313 296 706 327">Somerton – South of Main Street</p> <p data-bbox="313 327 1396 401">Need: City of Somerton has identified the need for improved drainage and discharge facilities.</p> <p data-bbox="313 401 1453 474">Risk: Localized ponding and no discharge system results in insect problems and reduced capacity for back-to-back storms.</p> <p data-bbox="313 474 1023 506">Recommended Solution: Need has not been evaluated</p> <p data-bbox="313 506 690 537">Estimated Cost: \$3,000,000</p> <p data-bbox="313 537 1477 569">Status: Facility Inventory and Drainage Study are complete. Project is advanced to design.</p> <p data-bbox="313 569 803 600">Agencies: YCFCD, City of Somerton</p> 

No.	Project
12-95P	<p>Farwest Storm Drain System Foothills - North of Co. 12th Street and West of Foothills Blvd.</p> <p>Need: Foothills Master Plan identified need for storm drain for Bonnie Avenue and adjoining streets and discharge to Far West Basin.</p> <p>Risk: Moderate risk due to low impact to >50 residences.</p> <p>Recommended Solution: Storm drain along Bonnie Avenue and adjacent streets discharging to Far West Basin. Local drainage improvements can be added with road improvements.</p> <p>Estimated Cost: \$3,500,000</p> <p>Status: Design 100% complete. Project construction is Completed.</p> <p>Agencies: YCFCD, Yuma County</p>

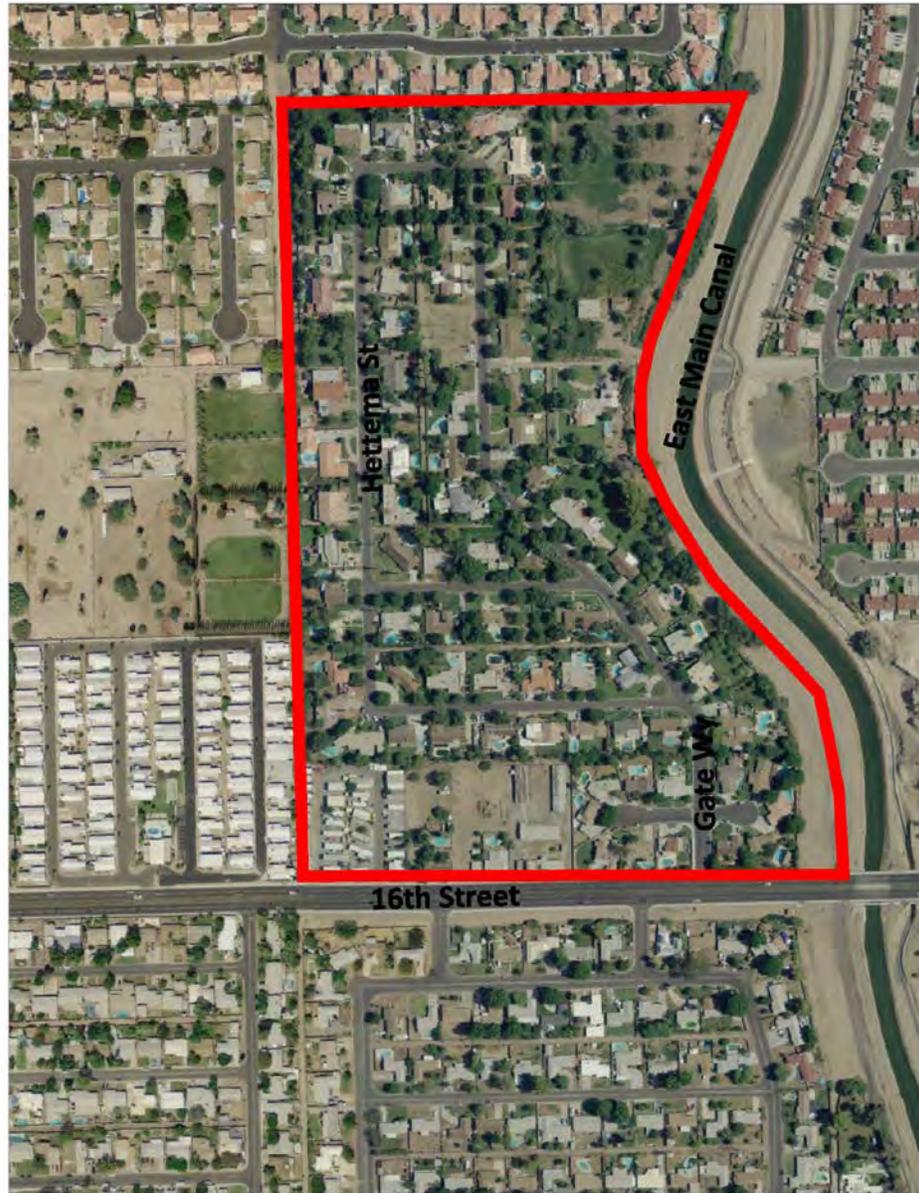


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No.	Project
12-98P	<p>County 14th Street - Mesa Dunes Subdivision Yuma Mesa - Co. 14th Street and Avenue 7E</p> <p>Need: Localized flooding due to uncontrolled runoff from the bombing range. Risk: Moderate risk due to low impact to >50 residences. Recommended Solution: Coordinate evaluation with MCAS. Estimated Cost: \$350,000 Status: New Project Agencies: YCFCD, Yuma County, MCAS</p>
	

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No.	Project
12-99P	<p>Hettima Subdivision Street Ponding Yuma - 16th Street and East Main Canal</p> <p>Need: Inadequate street gutters prevent drainage from draining to 16th Street per subdivision design resulting in ponding at intersections.</p> <p>Risk: Low risk due to low impact to <20 residences and streets.</p> <p>Recommended Solution: Replace gutters as needed and install cross gutters to release drainage to 16th Street.</p> <p>Estimated Cost: \$150,000</p> <p>Status: New Project</p> <p>Agencies: YCFCD, Yuma County</p>



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No.	Project
12-100P	<p>San Luis Basin Discharge System San Luis - Merrill Avenue and Los Oros Street</p> <p>Need: Subdivision basins lack discharge facilities resulting in insects and reduced capacity for back-to-back storms. Future development in the valley will also lack method of discharge.</p> <p>Risk: Moderate risk due to low impact to >30 residences.</p> <p>Recommended Solution: Evaluate extending Merrill Avenue system to drain Rio Sonora St. basins. Drainage Plan for valley between developed San Luis and Gadsden to prepare for future development.</p> <p>Estimated Cost: \$250,000</p> <p>Status: Discussion has occurred with City identifying the need to connect Rio Sonora St. basins sooner than drainage plan would allow due to planned road improvements.</p> <p>Agencies: YCFCD, San Luis</p>
 <p>The image is an aerial photograph of a residential subdivision. Several basins are highlighted with red boxes. The basins are located in the following areas: three basins along the West Main Canal, one basin at the intersection of Los Oros St and Merrill Ave, and two basins along Rio Sonora St. The subdivision is bounded by West Main Canal to the west, Los Oros St to the north, and Rio Sonora St to the south. The area is densely packed with residential buildings and streets.</p>	

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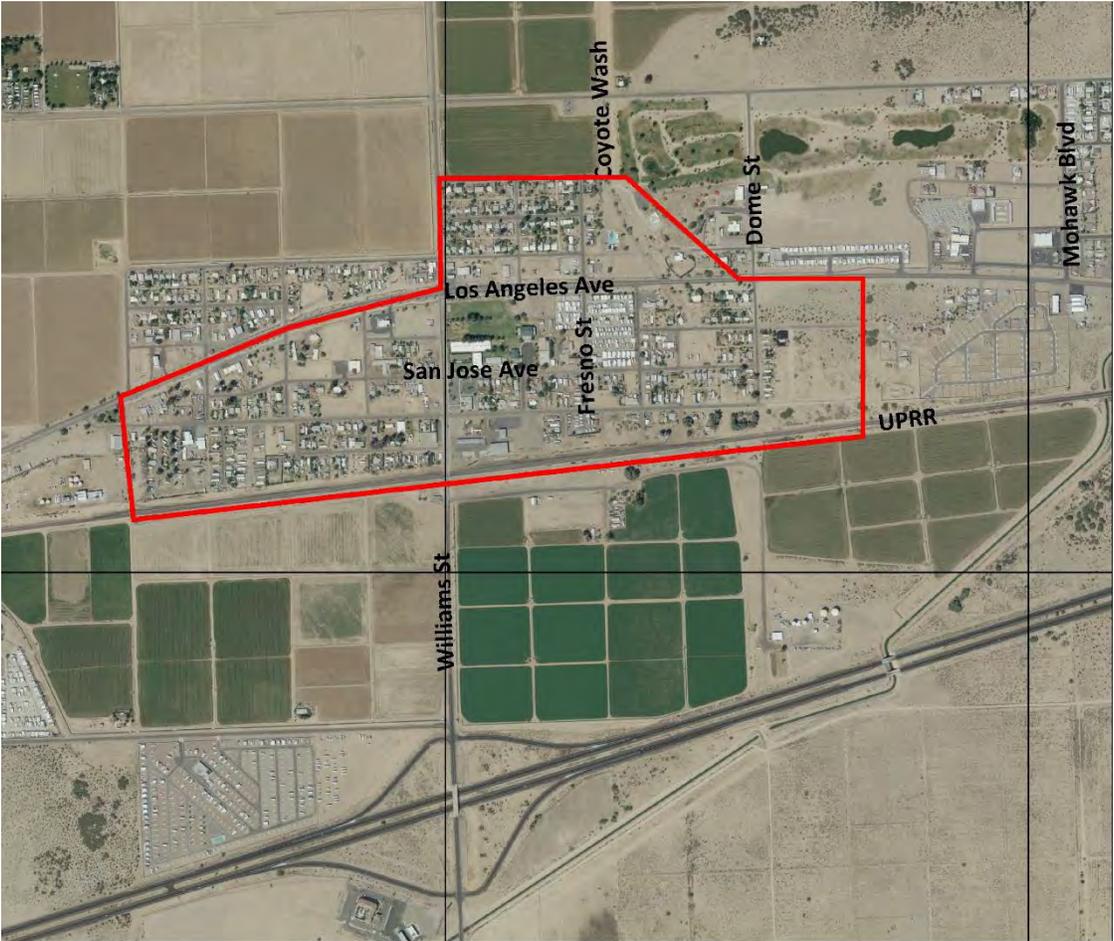
No.	Project
12-101P	Yuma 44th Drive Basin Discharge Yuma - 15th Street and 44th Avenue
	<p>Need: Subdivision retention basin has no discharge system.</p> <p>Risk: Low risk due to low impact to <10 residences.</p> <p>Recommended Solution: Construct discharge system to irrigation lateral.</p> <p>Estimated Cost: \$150,000.</p> <p>Status: No progress.</p> <p>Agencies: YCFCD, Yuma</p>
	

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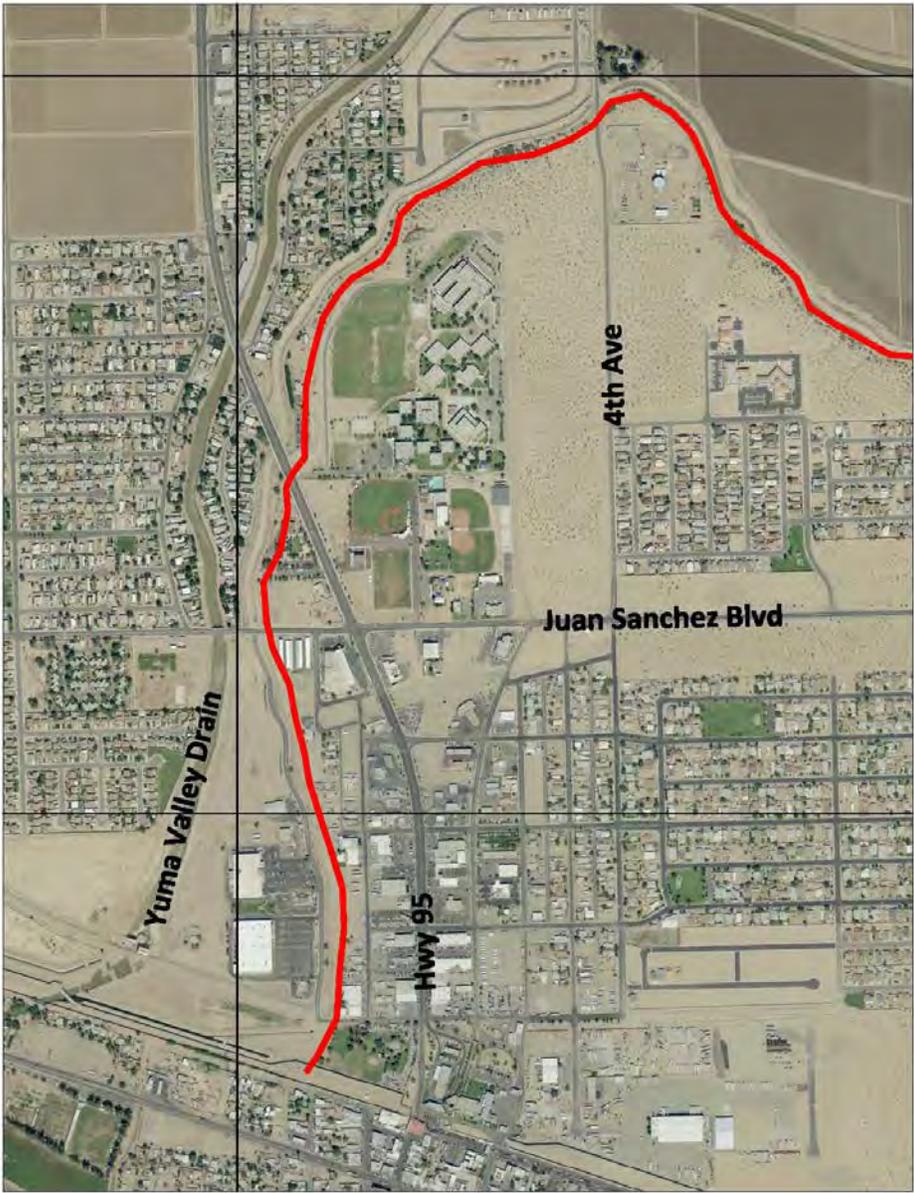
No.	Project
12-102P	<p>Coyote Wash Channelization Wellton - Coyote Wash</p> <p>Need: The Coyote Wash channel is not well defined within Wellton, increasing the floodplain width.</p> <p>Risk: Moderate risk due to moderate impact to <20 residences.</p> <p>Recommended Solution: Evaluate channelization of Coyote Wash.</p> <p>Estimated Cost: \$1,500,000</p> <p>Status: Evaluated with Wellton Study. Project is advanced to design.</p> <p>Agencies: YCFCD, WMIDD, Wellton</p>



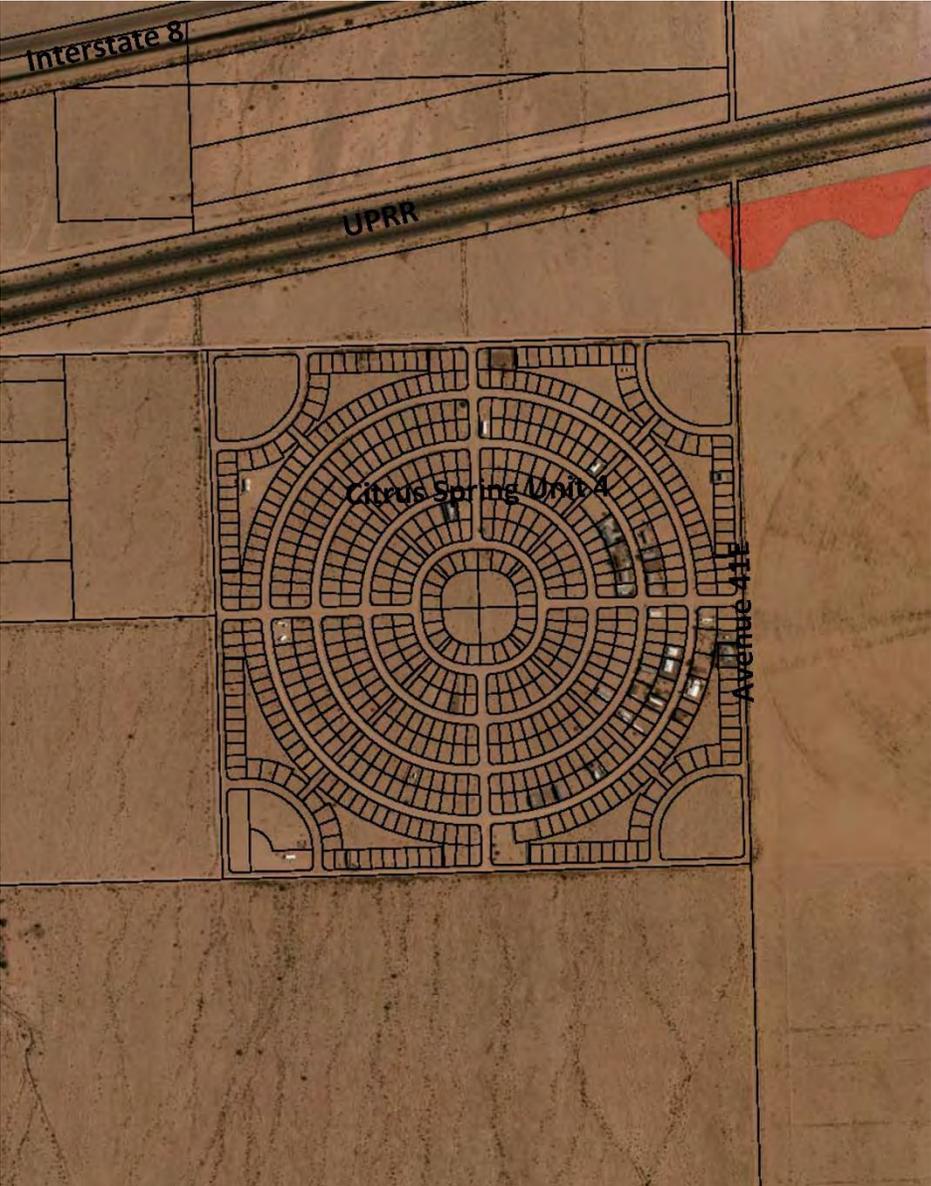
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No.	Project
12-103P	Wellton Drainage Improvements Wellton - Various Locations
	<p>Need: Ponding at intersections and low lying areas in Wellton. Town has also identified drainage needs along roads. Channelization of Coyote Wash</p> <p>Risk: Low risk due to low impact to >10 residences each.</p> <p>Recommended Solution: Evaluate need</p> <p>Estimated Cost: \$5,000,000</p> <p>Status: Study is complete. Project is advanced to design.</p> <p>Agencies: YCFCD, Wellton</p>
	

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No.	Project
12-104P	<p>San Luis Mesa Erosion San Luis - 4th Avenue to International Boundary</p> <p>Need: Uncontrolled runoff is eroding the side of the mesa. Risk: Moderate risk due to sedimentation in the Yuma Valley Drain. Recommended Solution: Evaluate flood potential along mesa. Estimated Cost: \$1,500,000. Status: No progress Agencies: YCFCD, YCWUA, San Luis</p>
	

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No.	Project
12-105P	Tacna - Citrus Park Unit 4 Sheet Flow Tacna - Avenue 41E Alignment
	Need: Private roads are flooding from uncontrolled sheet flow from the south. Risk: Eroded or flooded roads will make properties inaccessible. <1.0. Recommended Solution: Private road improvements including drainage to address problem. Estimated Cost: \$1,500,000 Status: New Project - No further action until homeowners propose improvement district or other financial proposal. Agencies: YCFCD, Yuma County
	 An aerial photograph overlaid with a technical site plan. The map shows a circular residential development labeled 'Citrus Spring Unit 4' with a central circular area and concentric streets. To the north of the development are the UPRR (Union Pacific Railroad) tracks and Interstate 8. A vertical road labeled 'Avenue 41E' runs along the right side of the development. A red shaded area is visible in the upper right quadrant of the map.

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No.	Project
12-106P	<p>West Yuma Mesa Outfall Yuma - Along East Main Canal</p> <p>Need: The basins along the West Yuma Mesa drain into the East Main Canal which results in comingling of stormwater into irrigation water. The canal also has limited capacity to convey stormwater when carrying irrigation water which will prolong drain times from the basins. A dedicated outfall draining to the Colorado River or Yuma Valley drain system would increase discharge capacity.</p> <p>Risk: Moderate risk to >1,000 residences and businesses from repetitive storms.</p> <p>Recommended Solution: Construct force main outfall to drain basins.</p> <p>Estimated Cost: \$2,500,000</p> <p>Status: Discussions have occurred with USBR</p> <p>Agencies: YCFCD, USBR, YCWUA, Yuma</p>

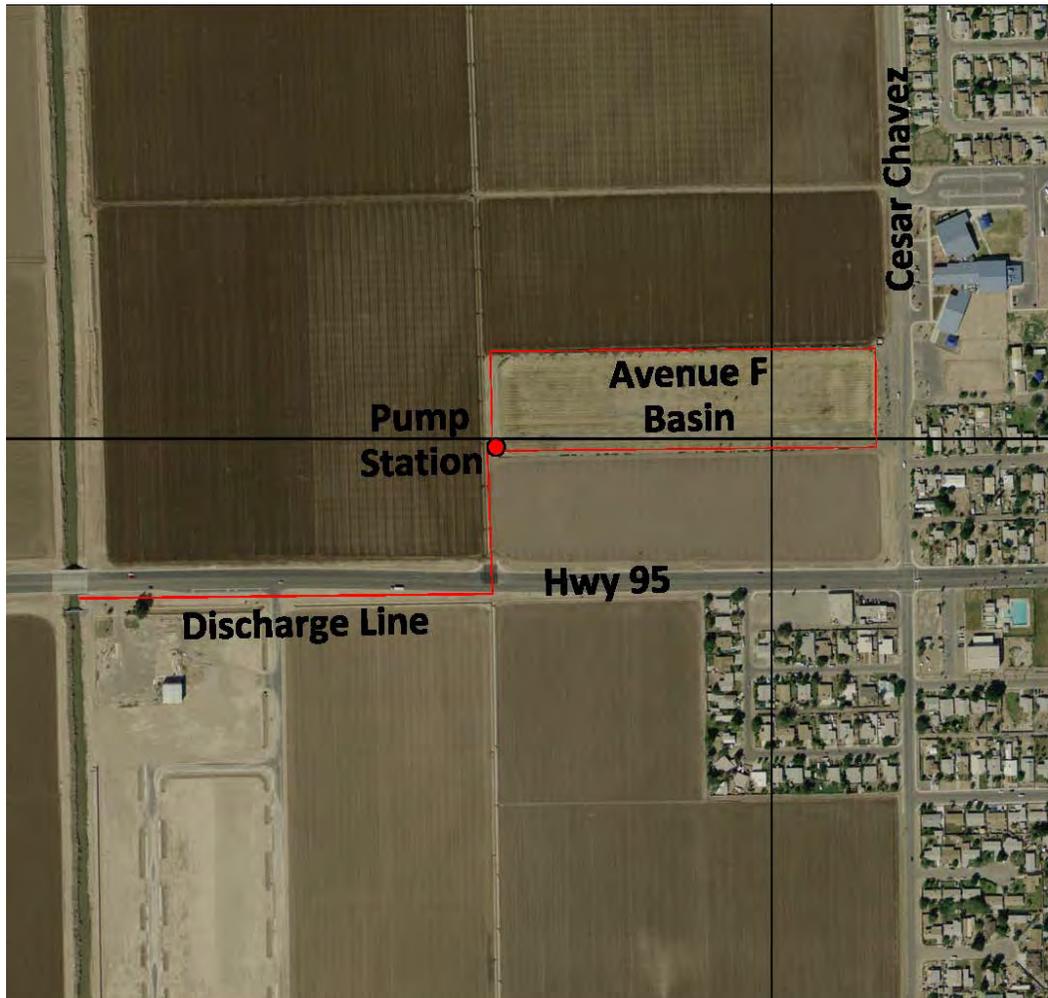


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No.	Project
12-107P	<p>Airport Loop Road Drainage Improvements Yuma - Airport Loop Road/MCAS</p> <p>Need: Uncontrolled runoff from the runway extension is leaving MCAS and flowing across the Airport Loop Road and into the Yuma Valley.</p> <p>Risk: Moderate risk to Agricultural Land</p> <p>Recommended Solution: Construct retention basin on MCAS.</p> <p>Estimated Cost: \$600,000</p> <p>Status: City of Yuma has contacted MCAS</p> <p>Agencies: City of Yuma, MCAS</p>
	

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No.	Project
12-108P	<p>Avenue F Pump Station - Somerton Somerton - Avenue F North of Main Street</p> <p>Need: Avenue F basin is the terminal discharge point for most of Somerton's stormwater. Currently, the basin discharges by gravity to the valley drain system.</p> <p>Risk: Moderate risk to >1,000 residences and businesses from repetitive storms.</p> <p>Recommended Solution: Construct force main outfall to drain basins.</p> <p>Estimated Cost: \$250,000</p> <p>Status: New Project</p> <p>Agencies: YCFCD, Somerton, YCWUA</p>

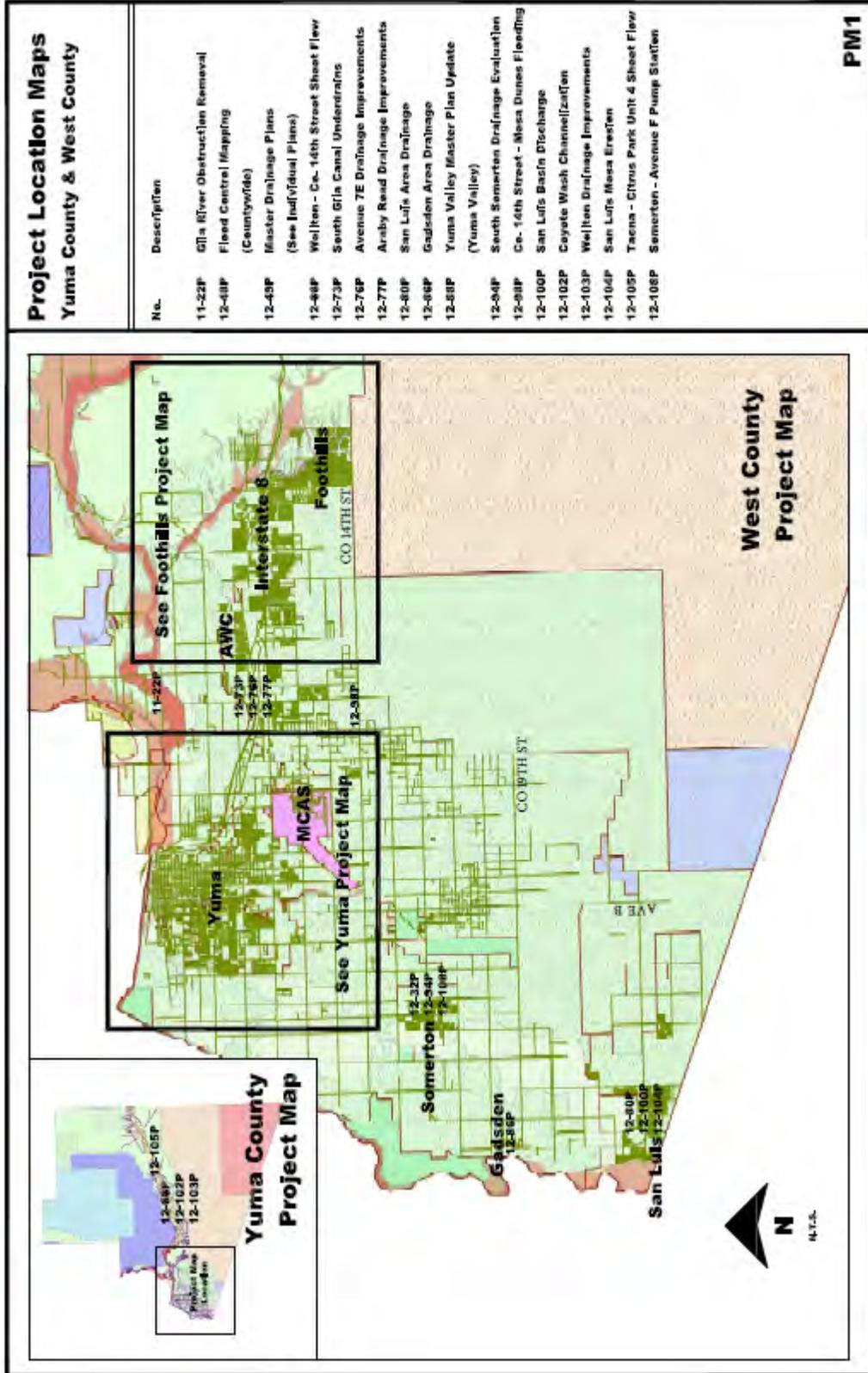


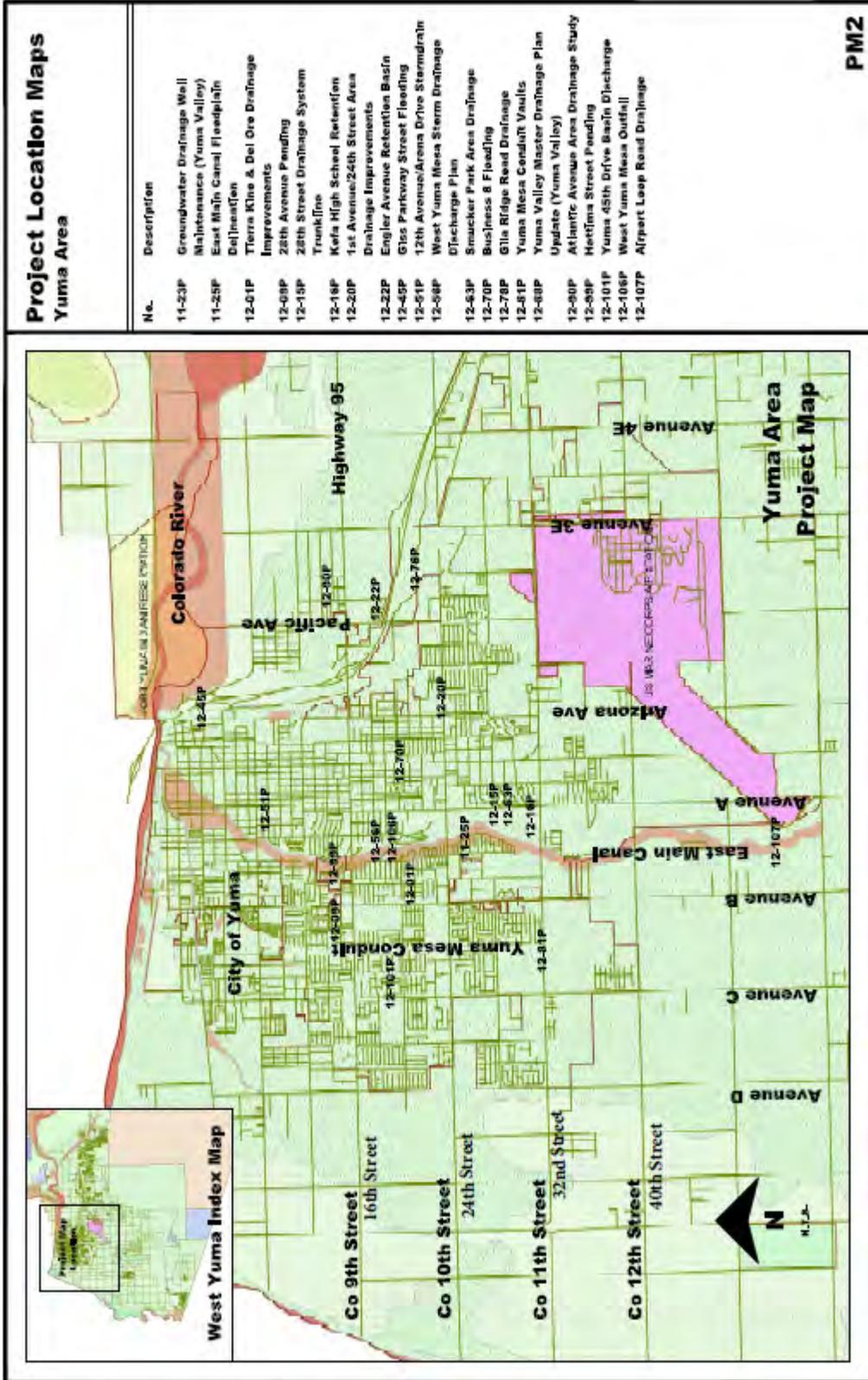
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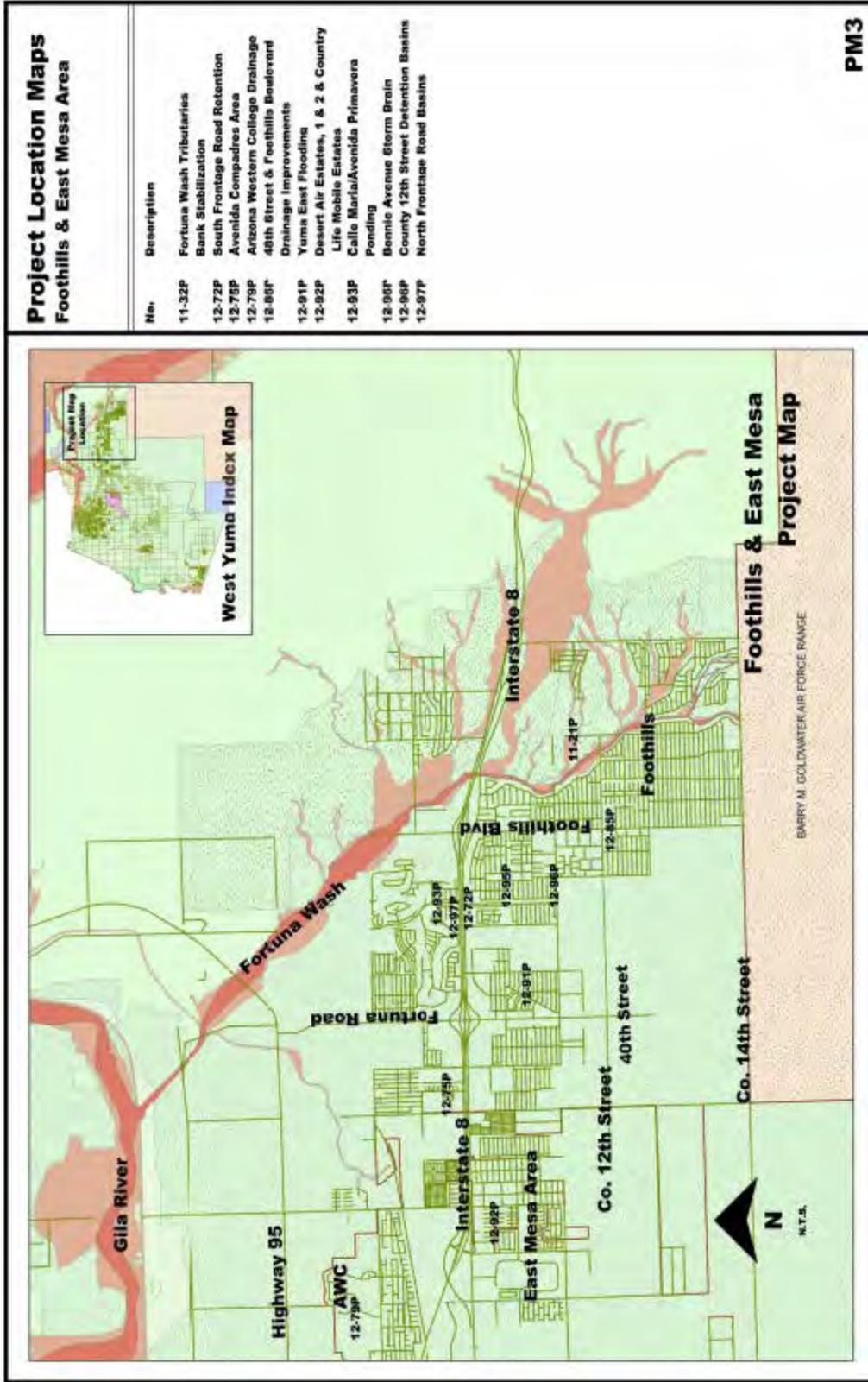
APPENDIX B
Project Location Maps

List of Project Location Maps

West County Project Map.....B-2
Yuma Area Project MapB-3
Foothills & East Mesa Project MapB-4







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APPENDIX - C
Projects Completed in FY19

- 3.1004 FarWest Storm Drainage Improvements
- 3.1804 Avenue C and 5th Street Pump Station Rehabilitation Improvements
- 3.0505 San Luis Area Drainage Improvements
- 12-97P North Frontage Road Retention Basins and storm drain system

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AGENDA ITEM 3

YUMA COUNTY
CAPITAL IMPROVEMENT PLAN
SECTION 3-FLOOD CONTROL DISTRICT

FUNDING SOURCE: Flood Control District, except as noted

CIP NO	District	Project Name	note	Total Project Cost	Expend thru FY20	FY21	FY22	FY23	FY24	FY25
3.9703	2	Smucker Park Retention Basin		\$10,300,000	(\$1,500,000)	\$9,800,000	\$0	\$0	\$0	\$0
3.0103	1 & 5	West Yuma Mesa Storm Drainage Improvements, County 8th-16th St		\$3,500,000	\$0	\$0	\$250,000	\$0	\$0	\$0
3.0504	1	Somerton Area Drainage Improvements - South		\$4,090,000	(\$60,000)	\$4,090,000	\$0	\$0	\$0	\$0
3.1501A	3	Wellton Area Drainage Improvements-Phase 2		\$1,497,000	(\$245,000)	\$0	\$1,412,000	\$0	\$0	\$0
3.1501B	3	Wellton Area Drainage Improvements-Phase 1 Coyote Wash		\$1,238,000	(\$8,000)	\$1,215,000	\$0	\$0	\$0	\$0
3.1601	4	Gadsden - San Luis Outfall and Basin Discharges - Phase 1		\$5,000,000	(\$250,000)	\$0	\$720,000	\$1,165,000	\$400,000	\$0
3.1701	all	NPDES and MS4 Stormwater Discharge, Environmental Retrofit		\$420,000	\$0	\$0	\$420,000	\$0	\$0	\$0
3.1802	5	Smucker Park Retention Basin outlet		\$2,000,000	\$0	\$0	\$0	\$0	\$300,000	\$0
3.1803	all	Storm water retention/detention basins		\$255,000	\$0	\$255,000	\$0	\$0	\$0	\$0
3.1804	all	Facility maintenance		\$530,000	\$0	\$230,000	\$0	\$300,000	\$0	\$0
3.1806	2	28th Street Trunk Line extension to Smucker Basin		\$630,000	\$0	\$0	\$0	\$0	\$0	\$100,000
3.1807	2	Holly Drive Storm Drainage system to Smucker Park Retention Basin		\$630,000	\$0	\$0	\$255,000	\$0	\$0	\$0
3.1902	3	Avenue 10E & Co. 10 1/2 Street (Avenida Compadres Area)		\$4,000,000	(\$125,000)	\$757,000	\$0	\$0	\$0	\$0
3.1903	2	Atlantic Avenue Area Drainage Improvement		\$4,000,000	\$0	\$0	\$0	\$0	\$150,000	\$200,000
3.1904	3	Yuma East, Units 3 & 4 near Mesa Drive		\$4,500,000	\$0	\$0	\$0	\$0	\$150,000	\$0
3.1905	3	Desert Air Estates, Units 1 & 2 and Country Life Mobile Estates Subdivisions near Avenue 9E		\$1,150,000	\$0	\$0	\$0	\$150,000	\$0	\$1,000,000
3.1906	2 & 3	Gila River at Laguna Dam Road, Between Avenue 6.5E and Avenue 11E		\$5,000,000	\$0	\$0	\$0	\$0	\$110,000	\$110,000
TOTAL:				\$48,740,000	(\$2,920,000)	\$16,347,000	\$3,057,000	\$1,615,000	\$1,110,000	\$1,410,000

[1] Project to be completed in FY20 included in Expended thru FY20 total

3.1004 3 Foothills Area Drainage Improvermer \$ 732,000.00 (\$732,000.00)

AGENDA ITEM 4

Yuma County Flood Control District

2019 Board of Director Actions

May, 20, 2019: Approve the construction plans for the Smucker Park Detention Basin Project (CIP No. 3.9703) and authorize DDS to advertise for bids. **Approved**

July 22, 2019: Authorize the Flood Control Manager to enter into a contract with Dibble Engineering for engineering and construction administration services for construction of the Smucker Park Detention Basin (CIP No. 3.9703) in the amount of \$898,484. **Approved**

August 19, 2019: Reappoint of Kevin Dahl to the At-Large Member/Largest City Resident position on the Flood Control Advisory Board for an additional 5-year term ending August 20, 2024. **Approved**

August 19, 2019: Approve to award the construction contract to DPE Construction, Inc. in the amount of \$10,393,925.75 and authorize the Flood Control Manager to sign the construction contract, and adopt Budget Amendment Resolution No. 20-07 transferring \$5,184,331 from reserves for the Smucker Park Detention Basin Project (CIP No. 3.9703). **Approved**

October 21, 2019: Adopt Budget Amendment Resolution No. 20-19 transferring \$90,000 from Flood Control Contingency to the Farwest Storm Drain Improvement Project (CIP #3.1004). **Approved**

AGENDA ITEM 5



**Yuma County
Flood Control Advisory Board
2020 Meeting Schedule**

- Thursday, March 5, 2020
- Thursday, June 4, 2020
- Thursday, September 3, 2020
- Thursday, December 3, 2020