

**Flood Control
Advisory Board**

WELCOME

May 25, 2016



Agenda

- 1 Call to Order
- 2 Pledge of Allegiance
- 3 Approval of the April 27, 2016 Minutes
- 4 El Rio Buckeye Levees Design Concept Report
- 5 Ahwatukee ADMS Update
- 6 Laveen Area Drainage Master Study Update
- 7 Comments from the Chief Engineer and General Manager
- 8 Summary of Recent Actions by the Board of Directors
- 9 Other Business and Comments from the Public





IGA FCD 2016A013 El Rio Buckeye Levees Design Concept Report

Bobbie Ohler, P.E.
Project Manager

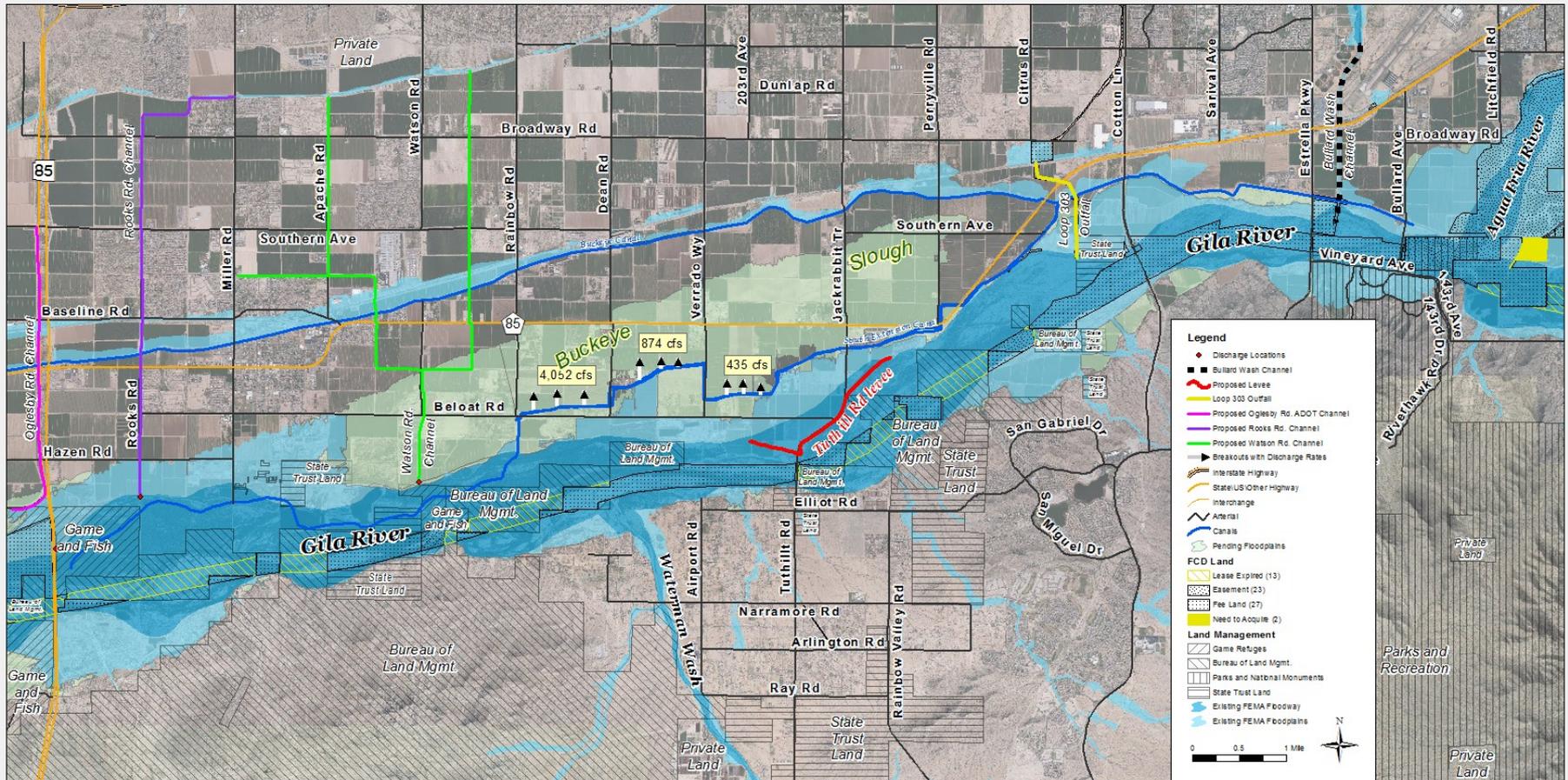
Action Item

Staff Recommends:

Advisory Board endorse and recommend that the BOD approve IGA FCD 2016A013 between the District and the City of Buckeye, for the El Rio Buckeye Levees Design Concept Report



El Rio Buckeye Levees with Vegetation Management Plan



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Flood Control District of Maricopa County, GIS Division, 4/18/2016



Past Authorizations

- **Resolution FCD 2006R001 adopted the El Rio WCMP**
- **IGA FCD 2013A003 (District, County, Avondale, Buckeye, and Goodyear), approved Dec. 11, 2013 (to develop plan for El Rio WCMP implementation)**
- **Resolution FCD 2006R001A, adopted April 6, 2016**

Background

- **El Rio Watercourse Master Plan (2006)**
- **Lower Gila River Flood Plain Delineation Study** (under review at FEMA)
 - 7.3 square miles of additional floodplain, mainly in Buckeye Slough area, due to increased vegetation (predominantly salt cedar)
- **Floodhazard Mitigation Study** (Stantec Consulting, Inc. - ongoing)
- **Vegetation Management Plan** (Stillwater Sciences - ongoing)
- **Sediment Transport Modeling Study – West Consultants, Inc. (2015)**
- **El Rio Design Guidelines and Planning Standards – J2 Matrix Design Group (2015)**

Buckeye Slough Proposed FEMA Floodplain from Lower Gila River Floodplain Delineation Study

Preliminary & Effective Floodplain



Purpose and Goal, DCR:

- **Protect the Buckeye Slough from the 100-year flood; define and cost alternatives**
- **Look at alternatives with and without vegetation management**
- **Look at best locations/alignments for levee segments**
- **Value Engineering Workshop will be included in the design effort**
- **Select a recommended alternative**
- **DCR to provide 15% plan and cost estimate for moving forward with final design**

Vegetation Management Plan (Stillwater Sciences)

DRAFT
Appendix A: Vegetation Management Units Maps

El Rio Vegetation Management Plan
Volume 3: Management Units and Implementation Elements

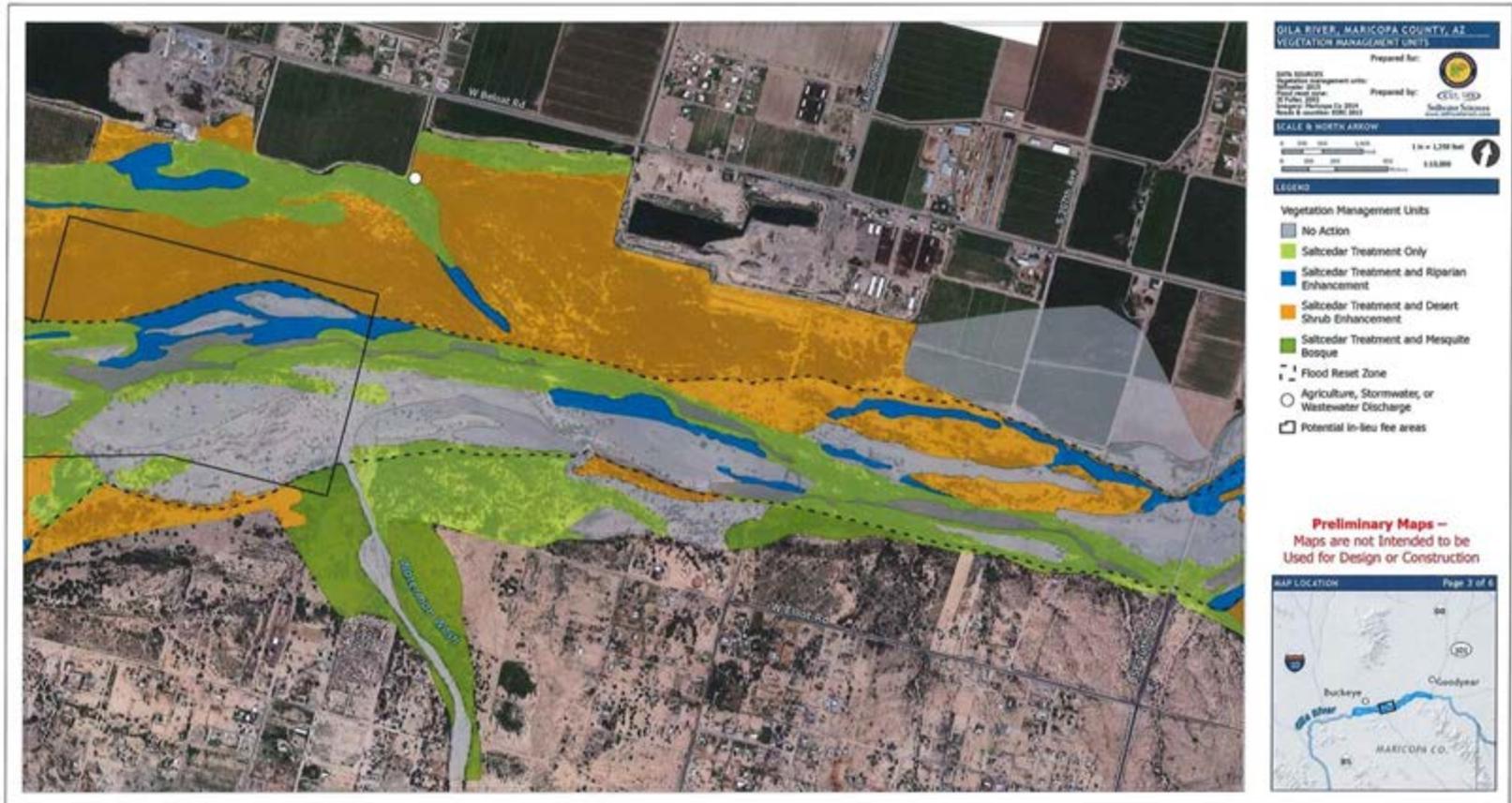


Figure A-3. Vegetation management units map (tile 3 of 6) of the planning area.

Salt Cedar in the Project Area



Land Ownership

DRAFT
Appendix A: Land Ownership Maps

El Rio Vegetation Management Plan
Volume 2: Data Collection and Analysis

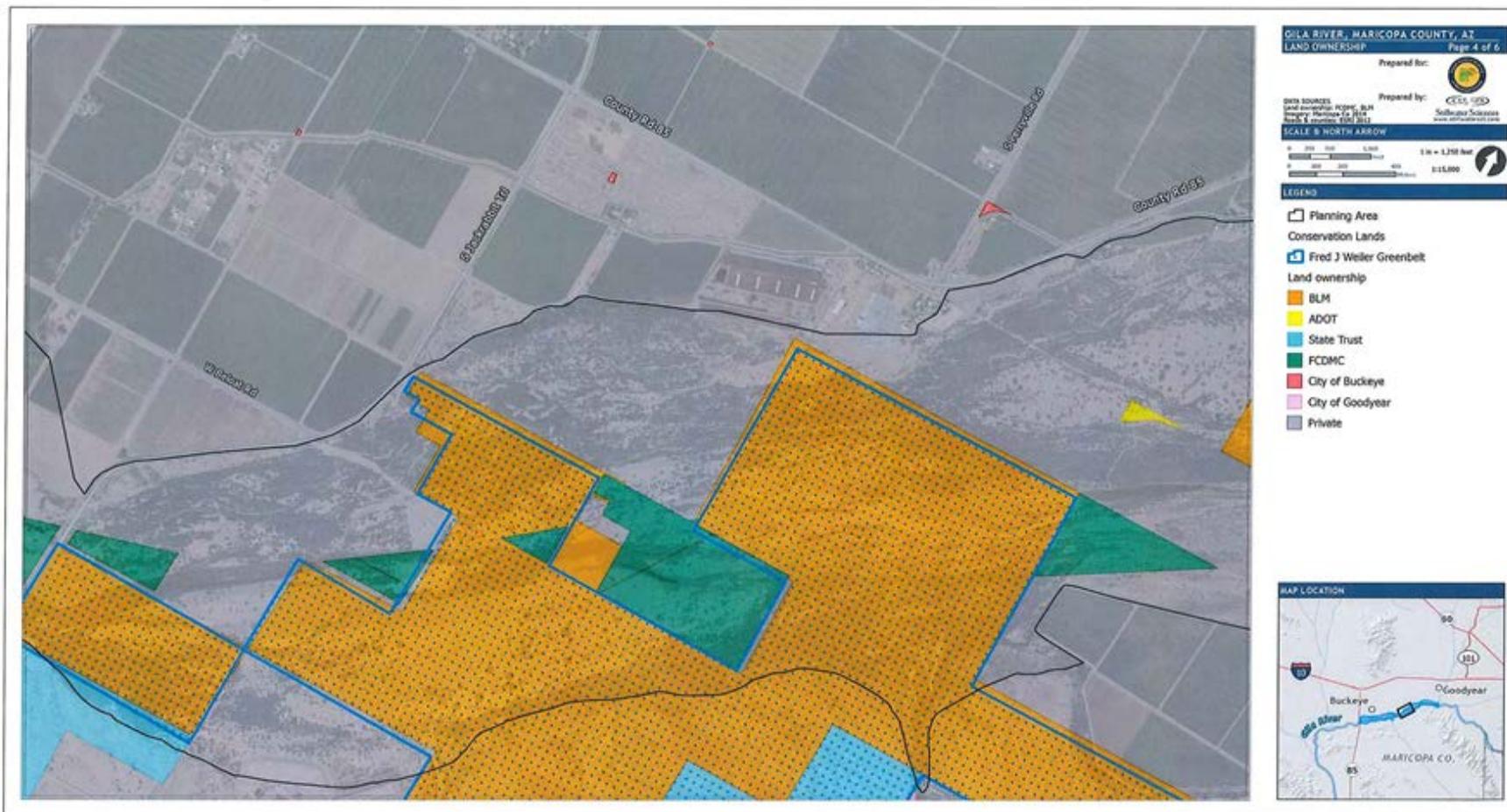


Figure A-4. Land ownership map (tile 4 of 6) of the planning area.

IGA Provisions

- Design cost estimated to be \$750,000
- District to pay 50% of design costs (Estimated cost = \$375,000)
- Buckeye to pay 50% of design costs (Estimated cost = \$375,000)
- District to be lead agency
- Project to be designed for 100-year flood
- Target date for completion – March 31, 2017

Recommendations

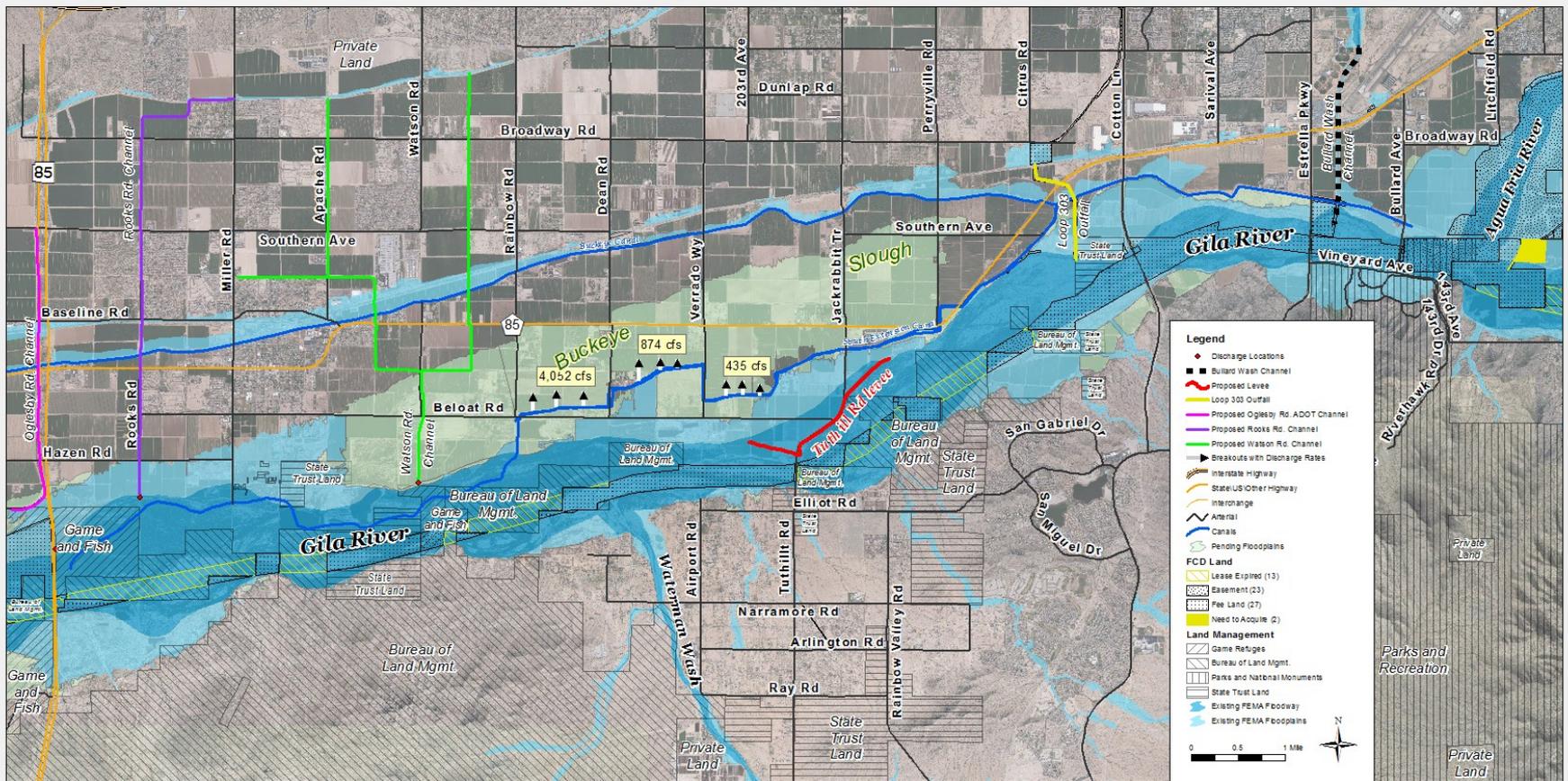
Staff Recommends

Advisory Board endorse and recommend that the BOD approve IGA FCD 2016A013 between the District and the City of Buckeye for the El Rio Buckeye Levees Design Concept Report

Questions?



El Rio Buckeye Levels with Vegetation Management Plan



Ahwatukee ADMS Update

Valerie A Swick

Project Manager

Study Purpose & Goals

- Identify flood hazards
- Identify problems
- Develop possible solutions
- Involve City of Phoenix as a partner

Major Study Tasks

Completed

- Data Collection, Flooding Inventory & Analysis
- Identify Flood Hazards

Current

- Determine which flood hazards are problems

Future

- Develop Potential Alternatives
- Prepare an Area Drainage Master Plan

Public/Stakeholder Involvement

Established Community Working Group

- Includes: Residents, HOA Managers, Save the Lakes, Chamber, School Districts, Utilities, Others
- Have reviewed hazards and provided input
- Met with large HOAs to review hazards
- Met with City of Phoenix Village Planning Committee
- Mandan Street flood mitigation meetings
- Conducted general public meeting

FLOOD HAZARD ANALYSIS

Key Findings

- Overall, stormwater drainage system in Ahwatukee is working well
- No widespread flooding predicted in a major storm (100-year event)
 - A few clusters of localized flooding
- Confirmed by September 2014 storm event
 - 3-5" rain in 8 hours (100-1,000 year storm)

Flood Hazard Criteria

- Structures: Locations with $>6''$ depth
- Streets: Locations with $>1'$ depth



Structures: 21 locations



Streets: 15 locations

Flood Hazard Areas

Legend

..... Model Watersheds

Flood Hazard Areas

Structural

Street

Sediment / Erosion

100-yr, 6-hr Depth of Water (ft)

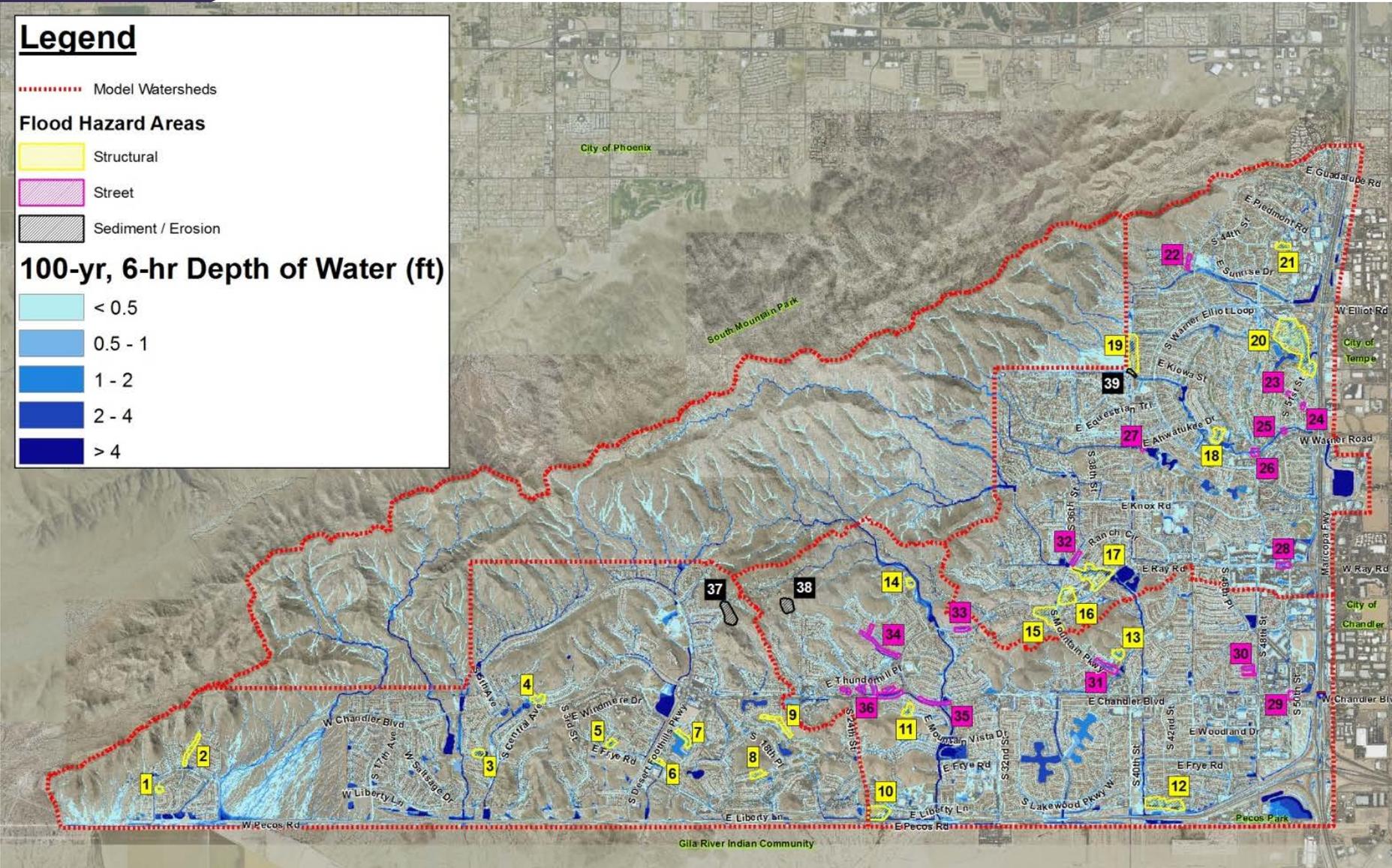
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Flooding Causes in Potential High Hazard Areas

- Undersized channels/structures
- Undersized stormwater outlets for parcels
- Homes built below grade
- Trapped flow



Identify Focus Areas

- Community input on which flood hazards are considered a problem
- Develop possible solutions for several problem areas



Area Drainage Master Plan (ADMP)

Potential solutions identified in ADMP
for existing conditions

- **Structural solutions** (e.g. culverts, pipes, channels, basins)
- **Non-structural solutions** (e.g., signage, education, flood insurance)

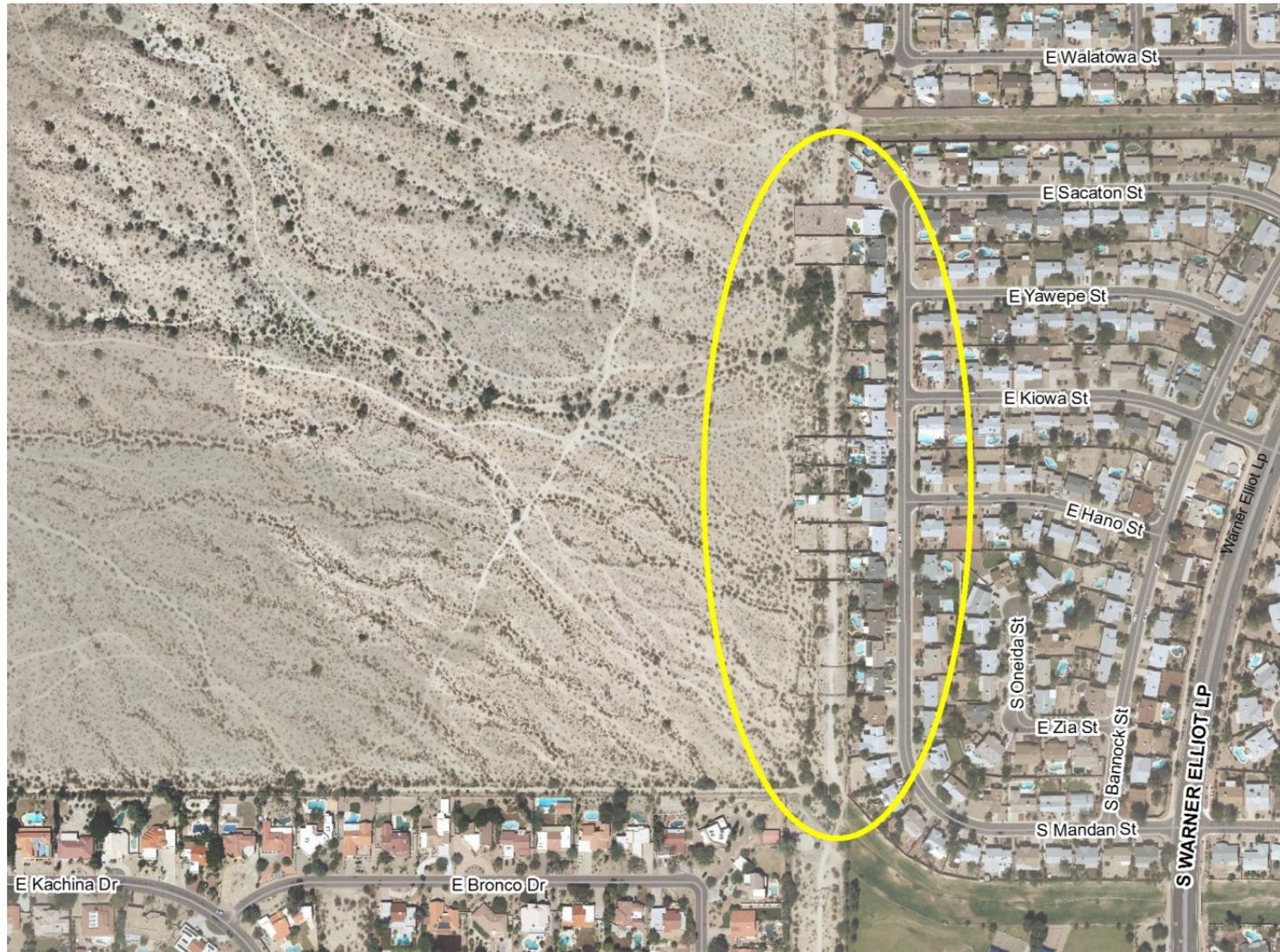
ADMP Implementation

- **Solutions could be done by many parties** (e.g., FCD, City, HOAs, property owners)
- **Future changes to land use will be regulated through City of Phoenix permitting process**

Funding sources

- Capital Improvement Program
- Small Projects Assistance Program
- Grants

Mandan Street



Mandan Street Flooding



Mandan Street Tasks

Completed

- Met with residents
- Applied for FEMA Grants
- City Parks and Recreation Board endorsement
- City Council approval

Future

- Wait for approval of FEMA Grants
- Start pre-design of facility
- Prepare IGA for design and construction

Next Steps

- Prioritize flooding problems
- Develop solutions
- Continue community outreach
- Seek funding



Questions?



Laveen Area Drainage Master Study Update

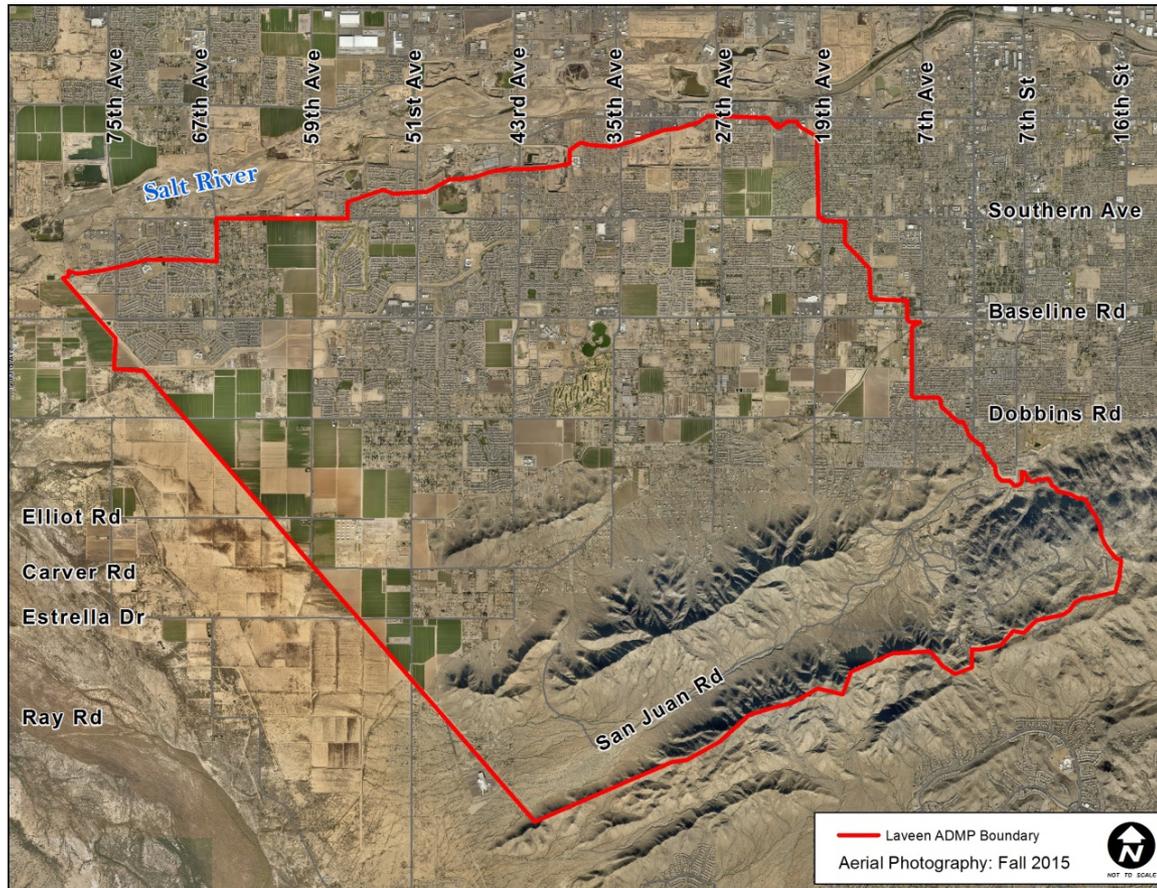
Afshin Ahouraiyan

Project Manager

Agenda

- **Study Area**
- **Background**
- **2014 Storms**
- **Need for the Update**
- **Status Update**
- **Next Steps**

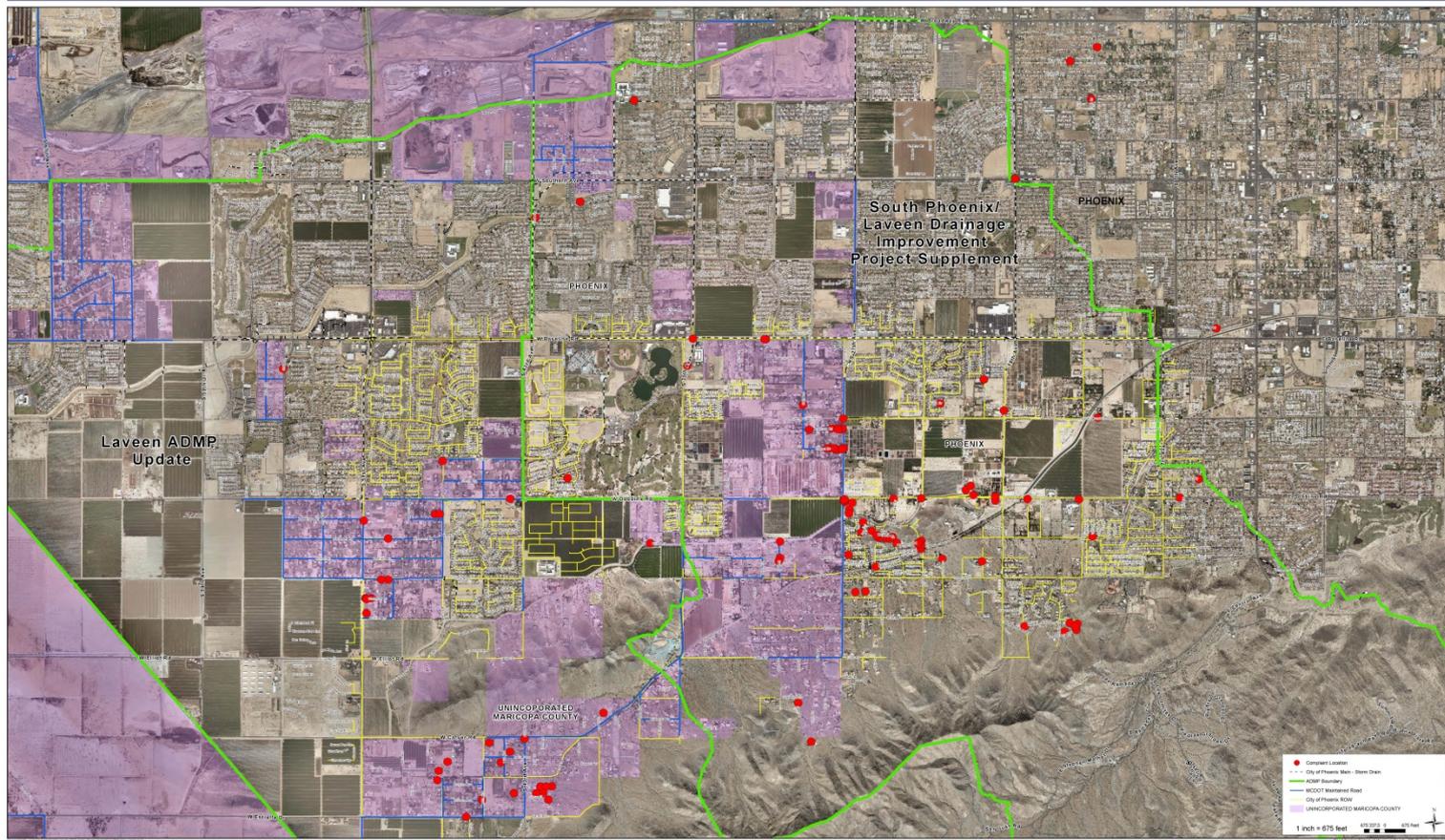
Study Area



2014 Storms



Laveen/South Phoenix Summer 2014 Storm Complaints



2014 Storms

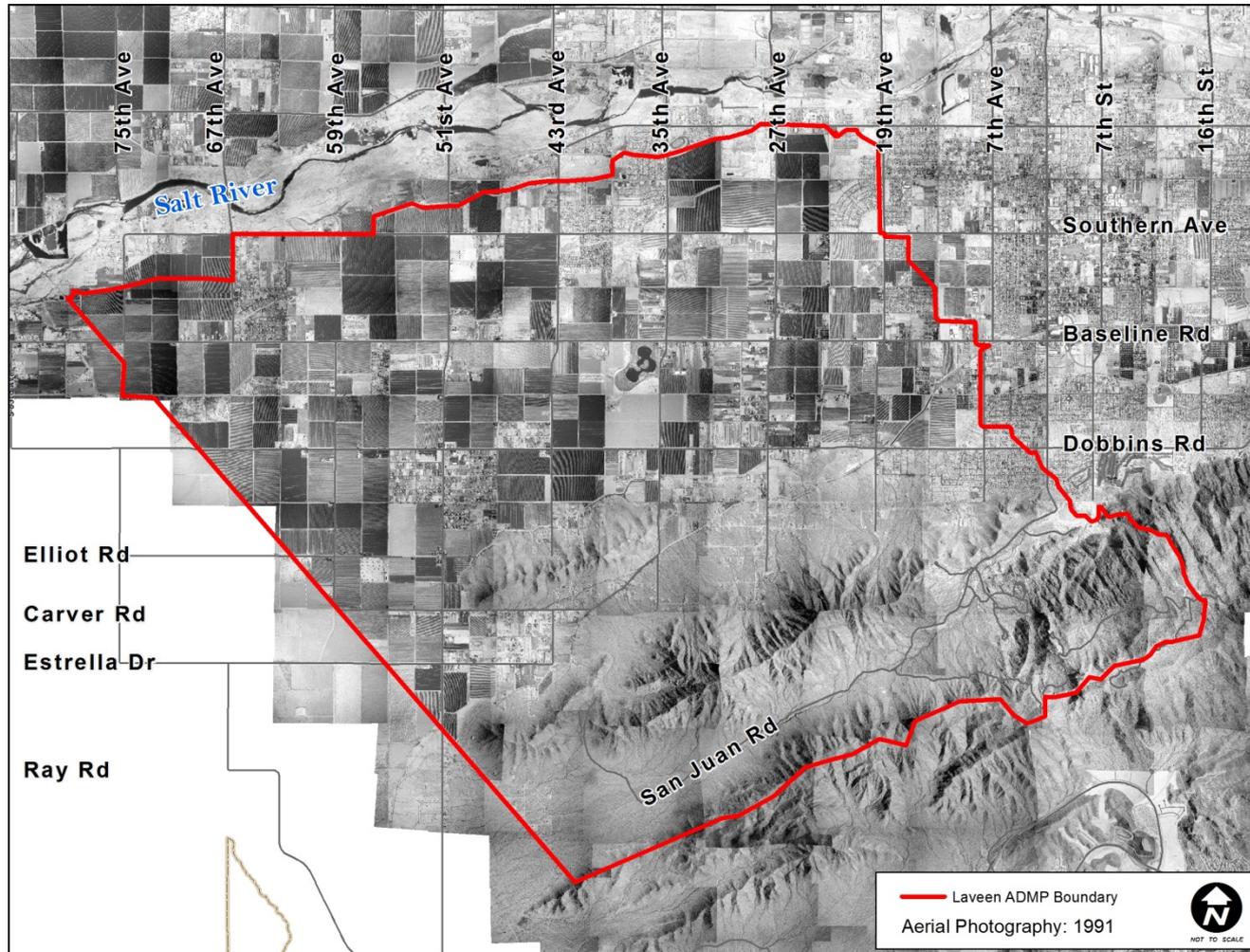


2014 Storm



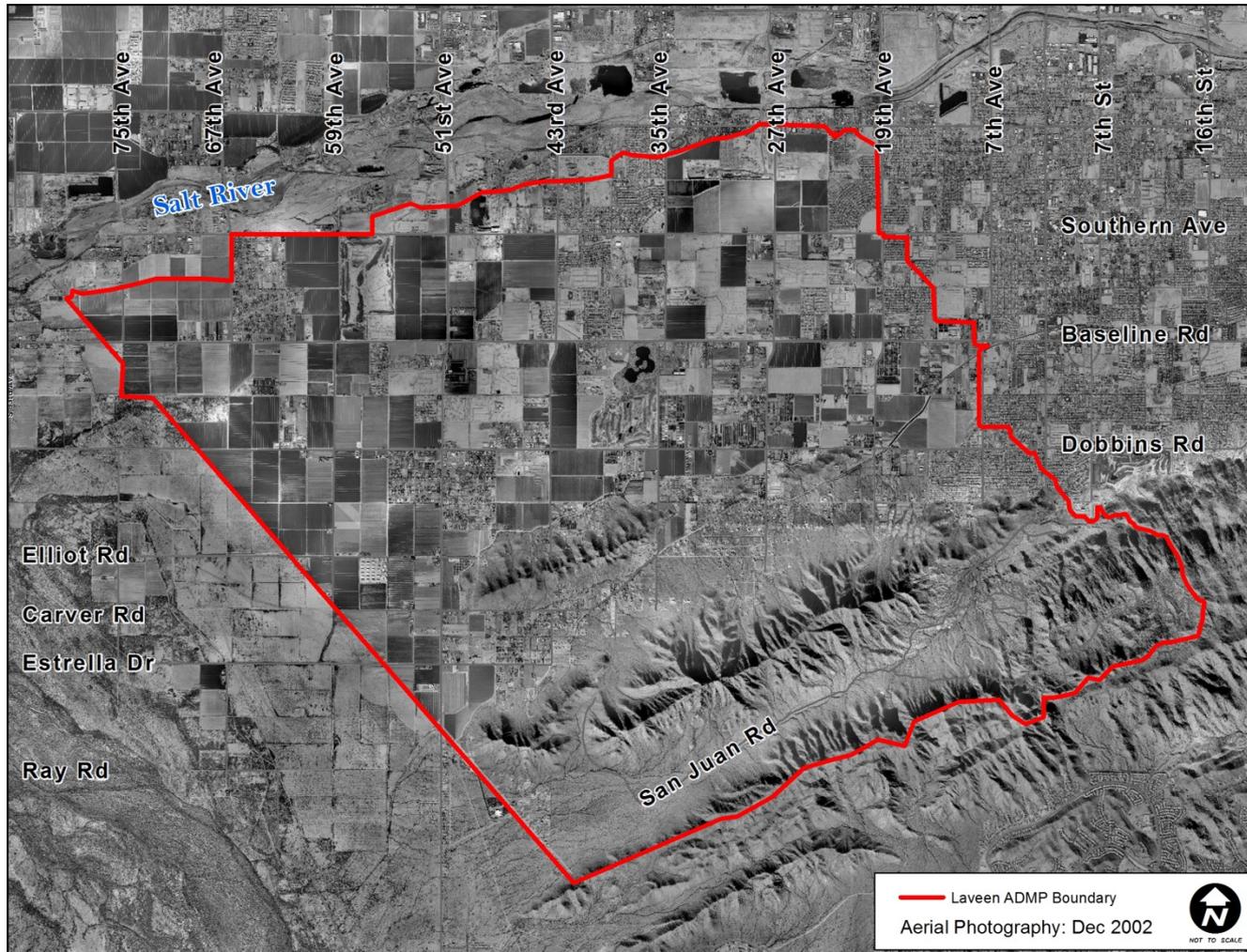
Need for Update

1991 Aerial



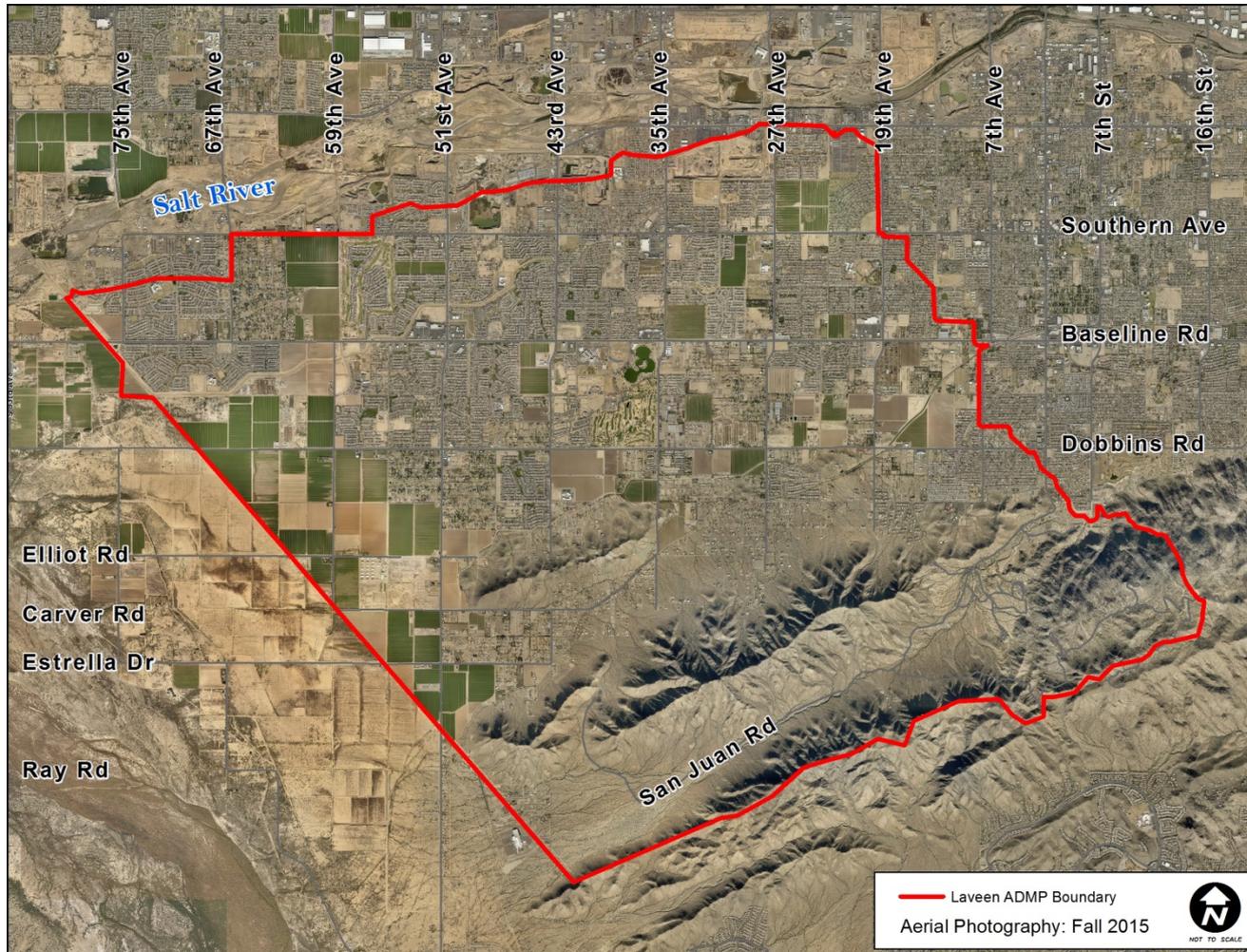
Need for Update

2002 Aerial



Need for Update

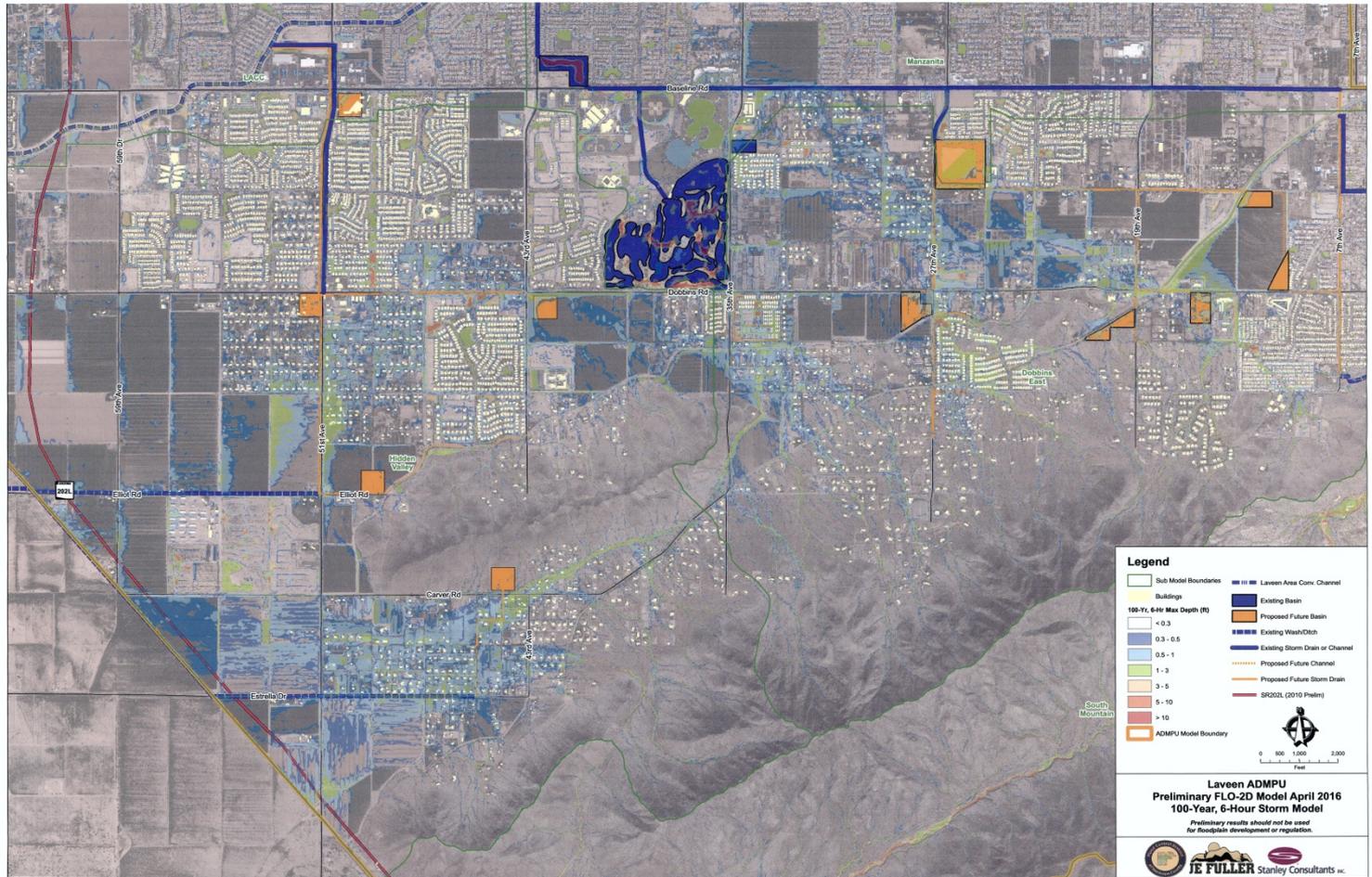
2015 Aerial



Status Update

- **New 2' mapping- Completed**
- **Consultants working on new models**
- **Partial Preliminary Results**

Status Update



Next Steps

- **Finalize models**
- **Public Meetings**
- **Assess past alternatives**
- **Propose any new alternatives**

Questions



Comments from the Chief Engineer and General Manager





Summary of Recent Actions By the Board of Directors



Denny Barney
District 1



Steve Chucri
District 2



Andy Kunasek
District 3



Clint L. Hickman
District 4
- Chairman -



Steve Gallardo
District 5

