



# Attachment 2 PLANNING ELEMENT ANALYSIS

## El Rio Watercourse Master Plan and Area Drainage Master Plan

Contract FCD 2001C024  
Stantec Project No. 82000240



**Stantec**

April 2003  
Revised December 2005

# FINAL REPORT

# El Rio Watercourse Master Plan

## Planning Analysis

**PREPARED FOR:**  
FLOOD CONTROL DISTRICT  
of  
Maricopa County

**PREPARED BY:**  
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In conjunction with  
STANTEC CONSULTING Inc.  
Project No. 8200240

December 2005  
Contract FCD 2001C024



**Stantec**

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# INTRODUCTION

## PURPOSE

The planning element analysis is performed in support of the El Rio Watercourse Master Plan and Area Drainage Master Plan (ERWMP). The El Rio study area includes the FEMA Effective Floodplain of the Gila River from the confluence of the Agua Fria River to the SR 85 Bridge, as well as property located within a half mile of the floodplain boundary on either side of the river.

The purpose of the Phase II *Planning Element Analysis* is to compile the existing or proposed planning elements of the various jurisdictions within the El Rio project area, namely the Cities of Avondale and Goodyear, the Town of Buckeye, and Maricopa County. Planning elements include land ownership, land use, transportation, irrigation, recreation and other compatible uses. The available existing background data from public sources is then used to:

- Identify existing planning/zoning constraints that have been adopted by the governing jurisdictions.
- Identify the private and public landowners within the project area, specifically those within the floodway and floodplain boundaries.
- Identify any projects currently in development within the project area.
- Identify existing and/or planned infrastructure that may affect the proposed alternative.
- Evaluate the consistency of the recommended alternative with existing general land use categories in the governing jurisdictions.
- Assess the impacts of the preferred alternative on proposed transportation corridors.

## AUTHORITY FOR STUDY

Pursuant to Arizona revised Statues 48-3609.01 the Flood Control District of Maricopa County (FCDMC) is authorized to conduct watercourse master plans for river reaches within Maricopa County. Stantec Consulting Inc. was awarded the contract (FCD 2001C024).

## DATA COLLECTION- EXISTING CONDITIONS

### POPULATION

According to the 2000 census, the population of the 30,746-acres within the ERWMP is approximately 3,440 persons. A breakdown of the population of the El Rio project area by jurisdiction is shown in Table 1.

*Table 1  
Population per 2000 Census*

<b>City / County Jurisdiction</b>	<b>Population</b>	<b>%</b>
City of Avondale in El Rio Project Area	666	19%
Town of Buckeye in El Rio Project Area	1,155	34%
City of Goodyear in El Rio Project Area	763	22%
Maricopa County in El Rio Project Area	856	25%
<b>Total</b>	<b>3,440</b>	<b>100%</b>

### GENERAL PLAN LAND USE

Land use planning documents developed by communities provide a framework for defining future development patterns. An understanding of future growth and anticipated land use was considered key to the development of the El Rio Watercourse Master Plan. Land use data collection included the compilation of land use designations and mapping from General Plan land use maps as well as zoning maps, from the Town of Buckeye, Cities of Avondale and Goodyear and Maricopa County. The land use data collected was then organized and documented for reference and use by the various members of the Stantec Project Team. General Land Use Plans for the affected jurisdictions are included as Figures 1 through 4. A breakdown of jurisdictional acres within the project area is given in Table 2.

**Table 2**  
**City / County Jurisdiction Acres Breakdown**

City / County Jurisdiction	El Rio Project Acres	%
City of Avondale	1,402	5%
Town of Buckeye	5,057	16%
City of Goodyear	9,640	31%
Maricopa County	14,614	48%
<b>Total El Rio Project Area</b>	<b>30,713</b>	<b>100%</b>

The various land use plans presented in Figures 1-4 each use different land use designations and residential densities. In order to facilitate comparison, Stantec homogenized land use designations and compiled them into one document, entitled “Composite Land Use Designations within El Rio Study Area” (Figure 5). Figure 5 breaks the proposed land use within the ERWMP study area into 9 categories: 0-1 dwelling units per acre (DU/Ac), 1 to 2 DU/Ac, 2 + DU/Ac, 4+ DU/Ac, Commercial, Mixed Use, Open Space, Public/Quasi Public and Water.

#### **LAND OWNERSHIP/EXISTING LAND USE DATA**

Land ownership and existing land use based on the Maricopa County Assessors records ([www.maricopa.gov](http://www.maricopa.gov)) was provided to Stantec in electronic format by FCDMC. A document depicting land ownership, parcel boundaries, project boundaries, floodplain limits and existing land-use was developed for the project as a separate document. The document has been submitted under a separate cover and is entitled *El Rio Parcel Maps*. Land ownership and land use are shown in this report on Figure 6. A detailed discussion of land ownership as it relates to the planning elements of the El Rio project is included in the Existing Land Ownership and Use section of this report.

#### **RIGHT OF WAY AND TRANSPORTATION**

Right-of-way land use information for transportation was gathered from existing GIS roadway mapping from MCDOT and ADOT.

Transportation infrastructure, corridors, links and accesses are important to connect populations and cities together. The existing Gila River crossings include the State Highway 85 Crossing, the Tuthill Road Crossing, the Estrella Parkway Crossing and the Bullard Road Crossing.

## **RECREATION AND OPEN SPACE**

The recreational and open space elements, together with an analysis of recreational opportunities have been presented in the El Rio Landscape Management Guidelines, prepared and submitted by EDAW under separate cover. Some proposed trails associated with the Maricopa County Trail System have been shown on Figure 7.

## **EXISTING AIRPORTS**

Two airports are located in the vicinity of the project, Luke Air Force Base and the Phoenix-Goodyear Airport. Portions of the Phoenix-Goodyear airport are located within the project area. Flight pattern and aircraft noise contour maps for both airports and wildlife attractant separation zone for the Goodyear Airport have been obtained. Mapping of the wildlife attraction zones and bird strike zones can be found in the El Rio Environmental Resources Report.

## **FUTURE POTENTIAL DEVELOPMENT PROJECT CONCEPTS**

Contacts from the Planning and Zoning departments in each of the cities and Maricopa County provided input as to the proposed concept and preliminary plans in progress within or near the El Rio Project study area. When available, copies of the current, future, and private/public conceptual development project schematics were gathered. Table 3 summarizes the current areas of potential development projects in progress across the El Rio Project study area. The projects are shown graphically on Figure 6.

**Table 3**  
**Summary of Potential Development Projects**

Jurisdiction	Name of Proposed Project	Project Location	Owner or Developer	Acres	City Number	Proposed Density	Status in 2005
Avondale	Lakin Ranch	Broadway Road West of 115th Ave to 135th Ave	Pulte Homes- John Dannon 480-391-6143	1,200		2.78 DU/Ac	Planning
Buckeye	Olympic Properties	MC 85 & Watson	Bob Waggoner (602) 494-0133	18 to 1,000		18 Ac Commercial & Res. @ 4 DU/Ac	Unknown
Buckeye	Ed Richenburg	MC 85 & Rainbow Road/Baseline	Ed Richenburg	80			Unknown
Buckeye	Norte Vista	SWC MC 85 (Baseline) & Rainbow Valley Road Between Jackrabbit Trail and Rainbow Valley Road Alignment Portion of Northeast quarter of section 5 township 1 south range 2 west of Gila Salt River Base and Meridian Maricopa County	Unknown	63.29	Hunn # 99013	1.6 DU/Ac (39 lots)	Unknown
Buckeye	Buckeye Town Lake	SEC of Miller & Hazen Road	Town of Buckeye Jeanine Guy - Parks Recreation 623-386-2778	160	789907	Lake	Planning
Buckeye	Wastewater Treatment Plant Expansion	South of Beloat, North of the proposed Buckeye Town Lake at the site of the existing wastewater treatment plant.	Town of Buckeye Ian Dowdy 623-386-8299			Treatment Plant	Under Construction

SEC-Southeast Corner, SWC-Southwest Corner

*Table 3 (continued)  
Summary of Potential Development Concepts*

Jurisdiction	Name of Proposed Project	Project Location	Contact or Owner or Developer	Acres	City Number	Proposed Density	Status in 2005
Maricopa County	Empty Acres	SWC of Beloat and Miller				Equestrian Facility	Under Construction
Goodyear	Riverside Park	South of MC 85 at Sarival Avenue	Cornoyer-Hedrick	298.5	CH # 99239 W	Commercial Park and Residential @ 3.47 Du /G Ac	Unknown
Goodyear	Estrella Commerce Park	Between the Goodyear Airport and Gila River & Between Estrella Parkway and Bullard Avenue	SunMP- Todd Tupper			Master Plan & Commercial Park	Unknown
Goodyear	Estrella Mountain Ranch	MC 85, Perryville, Estrella Parkway	Newland Communities Wayne Hancock 602-468-0800	6,000 +		Master Planned Community	Unknown
Goodyear	Kings Ranch and Lakin Cattle	Between MC 85 & Beloat / Jackrabbit and Cotton Lane	Sonterra Partners Ed King 602.617.3641	1,500 +		Master Planned Community	Permitting

NEC=Northeast Corner; NWC=Northwest Corner; SEC=Southeast Corner

## EXISTING LAND OWNERSHIP AND USE

### LAND OWNERSHIP

When evaluating alternatives, it is important to take into account the existing land ownership and use. Most of the ERWMP study area acreage is comprised of land held in private ownership. Approximately 19,303 acres or 63% of the project area is privately owned. Government owned land consists of 11,410 acres or 37% of the study area. A more complete breakdown of public/private land ownership is presented in Table 4. The private land use is controlled by regulatory requirements such as the General Plan Land Use Designations and Zoning Regulations which are found in each of the cities and the county.

*Table 4  
Private / Government Acres Breakdown*

<b>Private / Government Acres (within Jurisdictional Boundaries)</b>	<b>Acres</b>	<b>%</b>
Maricopa County Flood Control District (1000 Foot Wide Channel)	2,139	7%
Flood Control District of Maricopa County (Acres Not In Channel)	300	1%
State of Arizona	1,038	3%
Game and Fish	2,616	9%
Bureau of Land Management	2,119	7%
Parks and Recreation	1,077	4%
Quasi Public (Roads, Buckeye Water Conservation District, Schools, Municipal)	2,121	7%
<b><i>Total Public Ownership</i></b>	<b><i>11,410</i></b>	<b><i>37%</i></b>
Private Acres in Floodway	3,847	13%
Private Acres in Floodplain	6,027	20%
Private Acres in Remaining Study Area (Outside Floodway and Floodplain)	9,429	31%
<b><i>Total Private Ownership</i></b>	<b><i>19,303</i></b>	<b><i>63%</i></b>
<b>Total of Public and Private Ownership</b>	<b>30,713</b>	<b>100%</b>

Cooperation from all land owners mentioned above and the regulatory bodies such as city and county Planning and Zoning will be necessary in order to implement the El Rio Project Preferred Alternative. Examples of possible areas where the vision of land owners and the vision of Flood Control District of Maricopa County might require cooperation are the preservation of environmentally sensitive lands, commercial activity such as sand and gravel operations that might be used to maximize floodway channel opportunities, and owner/developers desiring major residential housing master plans on their sites.

Land within the ERWMP study area has been broken into three categories- land within the FEMA designated floodway, land within the FEMA designated floodplain, and land included in the study area that is not within a designated floodway/plain.

### **Floodway**

Acreage within the floodway includes approximately 3,847 ± acres of land in Private Ownership. A breakdown and uses for land within the floodway is shown in Table 5. There are 93 recorded owners' names with private ownership of land within the floodway. There are 25 private owners with structures or improvements on their properties within the boundaries of the floodway. Of those 25 private owners with structures or improvements, 13 are private property owners who have single family residences or mobile home structures within the floodway.

### **Floodplain**

Privately owned floodplain acres within the ERWMP include 6,026 ± acres. This acreage lies outside of the floodway, but within the overall floodplain. Based on the Assessors Data, October 2002, El Rio Parcel Ownership Parcels, there are 253 recorded private property owners (including addresses) who own parcels outside of the floodway but within the floodplain area of the ERWMP. There are 98 private owners having structures or improvements on their properties within the boundary between the floodway boundary and the outward ultimate extent of the floodplain. Of the 98 property owners with structures or improvements there are 60 private property owners who have one or more single family residences or mobile home structures on their parcels within the floodplain area between the boundaries of the floodway and the floodplain. About 5% of the acreage within the floodplain contains residential (single family, mobile home) structures.

To avoid flooding risk and for safety purposes, the various municipalities and the Flood Control District of Maricopa County should work closely with developers who desire to build in the floodplain of the ERWMP area to insure that development in flood-prone areas meets conditions and development standards that mitigate flood risks through constructed flood control facilities. The recommended alternative has given consideration to the riparian habitat, aesthetic value and wildlife of the floodplain prior to

recommending development within its boundaries. Development Standards and Guidelines for the ERWMP floodplain will be established and maintained.

### **Project Area**

Private Ownership in the ERWMP Area is significant. There are 9,430-acres and 836 individual private property owners within the El Rio Project lands that are outside of the floodplain and floodway boundary. The ERWMP study area extends one-half mile beyond the floodplain boundary. Property owners who are outside the floodplain boundary are also considered to be stakeholders in the project because they have interest in flood control safety, recreational opportunities, wildlife and riparian habitat, the aesthetic character of the river areas and adjoining neighborhood values, as well as the fact that they are concerned about safety and emergency response plans should flooding occur on neighboring properties in flood prone areas. The Project area property owners are likely to relate their own impacts to neighboring properties in terms of property values and potential uses of their own properties. For El Rio Project Area parcel owner stakeholders whose property is not in the floodway or floodplain, the El Rio Alternative plans for flood control and river recreation will be made available by means of public hearings, public notice, and web site information.

**Table 5**  
**Existing Land Use for Privately Held Land**  
*Based on Assessors Data, El Rio Parcel Map Index Sheets, October 2002 Land Use*

<b>Total Acres</b>	<b>Floodway Acres</b>	<b>%</b>	<b>Floodplain Acres</b>	<b>%</b>	<b>Project Acres Outside of Floodway or Floodplain</b>	<b>%</b>
<b>Vacant</b>	2,479	71%	1,113	18%	1,695	18%
<b>Agriculture</b>	1,244	32%	4,431	74%	5,964	63%
<b>Residential</b>	16	0.5%	304	5%	1,218	13%
<b>Commercial</b>	62	2%	86	1.4%	140	1.5%
<b>Well and Tower Sites</b>	1	0.05%	15	0.25%	9	0.09%
<b>Not Assessed</b>	45	1.05%	78	1.3%	390	4%
<b>Worship</b>	0		0		23	0.24%
<b>Total</b>	<b>3,847</b>		<b>6,027</b>		<b>9,430</b>	

## RECOMMENDED ALTERNATIVE PLANNED LAND USE

The goal of the ERWMP is “a hydraulic plan for a watercourse that examines the cumulative impacts of existing development and future encroachment in the floodplain and future development in the watershed and potential flood damages and established technical criteria for subsequent development so as to minimize potential flood damages for all flood events up to and including the one hundred-year flood.” In addition to these mandated goals, Flood Control District of Maricopa County Floodplain Management undertakes steps to preserve wildlife, riparian habitat, endangered species, cultural resources and recreational values within the ERWMP project area. The mission statement in the El Rio Vision, published in 1999, envisions the enhancement of public safety via flood control measures, the restoration of the river, the retention of heritage landscape character, a focus on multiple uses and a linking of the El Rio project amenities to the surrounding communities through public and private partnerships.

These goals increase the importance of consideration of land use and property ownership when forming the alternatives for the El Rio Project. The ERWMP recommended alternative selection involved an analysis of the existing zoning and land use, as well as opportunities for re-zoning land as it is removed from the FEMA Effective Floodplain.

### LAND USE

Due to different physical characteristics and legal restrictions, land within the ERWMP study area has been broken into three categories: land within the FEMA designated floodway, land within the FEMA designated floodplain, and land included in the study area that is not within a designated floodway/plain. A breakdown of Land Use Zoning by category is presented in Table 6.

#### Floodway

The implementation of the proposed alternative will create a potential opportunity for the enhancement of the channel area and for recreational uses, riparian habitat and wildlife preservation areas within the floodway. It is recommended that the residential and mixed use land use designations that fall within the floodway be reconsidered for less intense land use designations such as Open Space, which will allow the river to maintain 100 year flood conveyance.

As can be seen in Table 6, approximately 7,600 acres within the floodway have been set aside by the four jurisdictions as open space. Proposed amenities within the floodway include a trail system that will link up to existing and proposed trails throughout the area, cottonwood/willow corridors, as well as deep and shallow water features. These proposed amenities fit in well with the Open Space designation proposed by the various jurisdictions, as well as maintaining floodway conveyance.

## **Floodplain**

Currently, the largest category of land use within the floodplain is Open Space. Mixed Use and Residential land designations in the floodplain require that the developer of the land meet floodplain development criteria and/or standards prior to developing the land within the floodplain. These criteria include installing bank protection or bringing in fill such that the sites are protected from the 100 year flood. After implementation of the ERWMP, much of this area will no longer be within the FEMA Effective Floodplain, and will be available for residential or commercial development. A portion of the floodplain may be set aside for preservation, enhancement, recreation and other amenities.

Specific development opportunities exist in the Town of Buckeye and City of Goodyear. The implementation of the ERWMP will most likely aid the development of commercially zoned floodplain lands that are in the area of the proposed Buckeye Town Lake. In Goodyear there is potential to remove commercially zoned land from the floodplain on property owned by Kings Ranch Properties, part of a Development Master Plan.

## **Project Area**

Within the ERWMP there is land that falls outside of the floodway and floodplain but has been included in the study area because of the proximity to the overall project. This area represents stakeholders with an interest in the ERWMP; however the properties are outside of a defined risk area such as that of a floodway or floodplain. The preferred alternative does not specify proposed land uses within this area. A breakdown of the jurisdictional zoning within this area is presented in Table 6.

## **POPULATION**

Assuming that the current General Land Use Plans and zoning requirements remain constant, more than 18,000 residential dwelling units might potentially be developed over time. At a rate of 2.5 persons per dwelling unit, it is possible that 45,000 ± (more or less) persons could potentially live in the El Rio Project Area. In the floodway and floodplain the comparable acres are 4,289-acres with a potential for 8,128 dwelling units where 20,000 persons would be located. These numbers do not include the potential residential dwelling units that would be allowed in the land use designated as Mixed Use.

**Table 6**  
**Jurisdictional Land Use Zoning**  
**Based on El Rio General Plan Composite Land Use Map**

Land Use Designation City and County General Plan Data	Floodway Acres	Floodplain Acres	Project Acres Outside of Floodway or Floodplain	Total Acres	%
1-0 DU / AC Residential	608	1,779	6,415	8,802	29%
1-2 DU /AC Residential	53	750	659	1,462	5%
2 + DU/AC Residential		125	285	410	1%
4 + DU / AC Residential	3	971	568	1,542	5%
Commerce		181	231	412	1%
Industrial			-	-	-
Mixed Use	119	983	2,602	3,703	12%
Open Space	7,608	2,508	2,645	12,761	42%
Public / Quasi Public	30	86	87	203	1%
Water	1,147	135	137	1,419	5%
<b>Total Acres</b>	<b>9,568</b>	<b>7,518</b>	<b>13,629</b>	<b>30,713</b>	<b>100%</b>

## **OPEN SPACE, WATER, PUBLIC / QUASI PUBLIC**

The quality of life for the area's population can be related to the surrounding environment. The proposed open space in the preferred alternative has the potential to offer existing and future populations a variety of recreational and wildlife/riparian habitat preservation opportunities. Opportunities might include parks, trails, wildlife, riparian and bird sanctuaries or preserves, and observation areas.

Based on the ERWMP Composite Land Use Designations Map (Figure 5), the breakdown of designated land use in the floodway, floodplain and overall ERWMP study area includes an estimated 12,760 ± acres of designated Open Space land. The various City designations also include 1,418 ± acres as Water, which is generally found within the floodway and 203-acres of Public/Quasi-Public designated land. Combining the Open Space, Water and Public/Quasi Public designated land there are more than 14,381 ± acres of potential opportunity for river flood control facilities, as well as recreation, preservation, river restoration, heritage landscape character retention, multiple use focus and recreational amenities that link the El Rio project to the surrounding communities.

## **TRANSPORTATION PLANNING**

The bridges over the Gila River provide connecting links that allow for the transportation of goods, services and people. Design standards, optimal locations and flood control management are key issues that should be considered when contemplating a bridge. River crossings are critical for the continuity and linkage of the region, the cities, and the private land owners.

Access and transportation corridors drive the availability of land for various uses. Rural unimproved roadways are adequate for agricultural land use, however improved roadways with accompanying infrastructure are required for more dense urban populations. As population demands expand urban boundaries, the expanding improvement to roadways and infrastructure allow for cost effective development, thereby encouraging housing and commercial development expansion with the expansion and/or improvement of the transportation network.

Figure 7, the "Existing and Planned Infrastructure Map" illustrates the transportation corridors within the ERWMP. Within the El Rio study area future roadway improvements are under consideration, such as the potential for the extension of Hwy 303 with a bridge crossing on the Gila River and the Interstate 10 reliever. Based on conversations with the Planning and Zoning offices of Buckeye and Goodyear, the I-10 reliever will be located within the existing FEMA Effective Floodplain. In addition, with the build out and development of the larger proposed development projects, such as Estrella Mountain Ranch development, opportunities will increase as the transportation and infrastructure improvements are completed, making possible the development of adjacent lands. Notably Estrella Parkway / Rainbow Valley Road is planned to be improved ultimately from Southern Avenue to Ray Road, and a new bridge is planned along the Cotton Lane alignment. Optimally, transportation systems planning and land

use planning work hand in hand. As land is developed and the transportation and infrastructure are improved, adjacent land becomes more economically viable and therefore more attractive for consideration by land developers for further development and improvement.

## **SAND AND GRAVEL MINING**

Private land use within the floodway/plain of the ERWMP includes several active or potential sand and gravel mining sites, which are shown on Figure 8. Several individual operations exist. These include: American Aggregates, Rockland Materials, Gravel Resources, A and B Silica Sand Inc., Alleco Stone Company, Salt River Sand and Rock, Fort McDowell Yavapai Nation, Pioneer Landscaping Materials, Edward Kelton Construction, Phoenix Redi-Mix, and Buckeye Water Conservation and Drainage District.

Sand and gravel mining property owners working in cooperation with the Flood Control District afford potential opportunities for a planned pattern of river material extraction. During the alternative analysis phase of the ERWMP project, particular attention will be focused on the plans, opportunities and constraints presented by sand and gravel mining operators in the floodplain. Specifically, areas of deep open water with shallow benches have been proposed on lands where sand and gravel mining is underway or likely. These recommendations can be implemented through permitting and monitoring of private enterprise within the floodway/plain.

## CONCLUSION

The ERWMP study has identified many planning elements within the El Rio project area. Some key elements include existing zoning, maintenance and expansion of transportation corridors, creation of open space and recreational areas, and consideration for existing land ownership and use. Proposed developments within the project area were identified, as well as proposed transportation corridors and river crossings. The information gathered has been considered and incorporated into the recommended alternative.

Overall, the recommended alternative conforms closely to the existing land use designations, providing open space and recreation within the floodway. Once the recommended alternative has been implemented, there may be opportunity to re-zone land that is currently in the floodplain to include more high-density uses. Land that is within the project area but located outside of the FEMA Effective Floodplain will experience no direct effects, but may benefit from the increased opportunity on adjacent lands.

## LAND USE DATA COLLECTION SUMMARY

Item	Avondale	Buckeye	Goodyear	Maricopa County	Other	Data Source
<b>PARCEL OWNERSHIP / EXISTING LAND USE</b>						
Maricopa County Assessors Ownership and Land Use Code D	DF	DF	DF	DF		MC
<b>CITY / COUNTY FUTURE LAND USE MAPS</b>						
General Plan (HC)	HC	HC	HC	HC		A, B, G, MC
General Plan – land use mapping	DF	DF	DF	DF		A, B, G, MC
Boundary (include City most recent annexed areas)	DF	DF	DF	DF		A, B, G, MC
Zoning			HC	DF		G, MC
Water Sewer Treatment Plants		HC				B
<b>AIRPORT PLANS</b>						
General Plan / Luke AFB Contour Map -					HC / DF	STANTEC & WEB Site
Goodyear Airport Contour Map -			DF			WEB Site
<b>PROPOSED DEVELOPMENT</b>						
Developer Private Concept Plans / Preliminary Plans	HC	HC	HC	Do Not Have		A, B, G, MC
Proposed City Projects		HC	HC	Do Not Have		
<b>STUDIES HARD COPIES (digital if available)</b>						
Avondale and Goodyear Engineering Standards	HC		HC			A, G
City of Goodyear Parks, Trails and Open Space Master Plan With Executive Study			HC			G
City of Avondale Parks and Recreation - Open Space Master Plan	HC					A
City of Avondale Tres Rios Greenway Specific Plan	HC					A
City of Avondale "73 El Mirage Property"	HC					A
Maricopa County Trail Plan				HC / DF		MC

HC - Hard Copy; DF - Digital File; A - City of Avondale; B - Town of Buckeye; G - City of Goodyear; MC - Maricopa County

*Land Use Data Collection Summary (continued)*

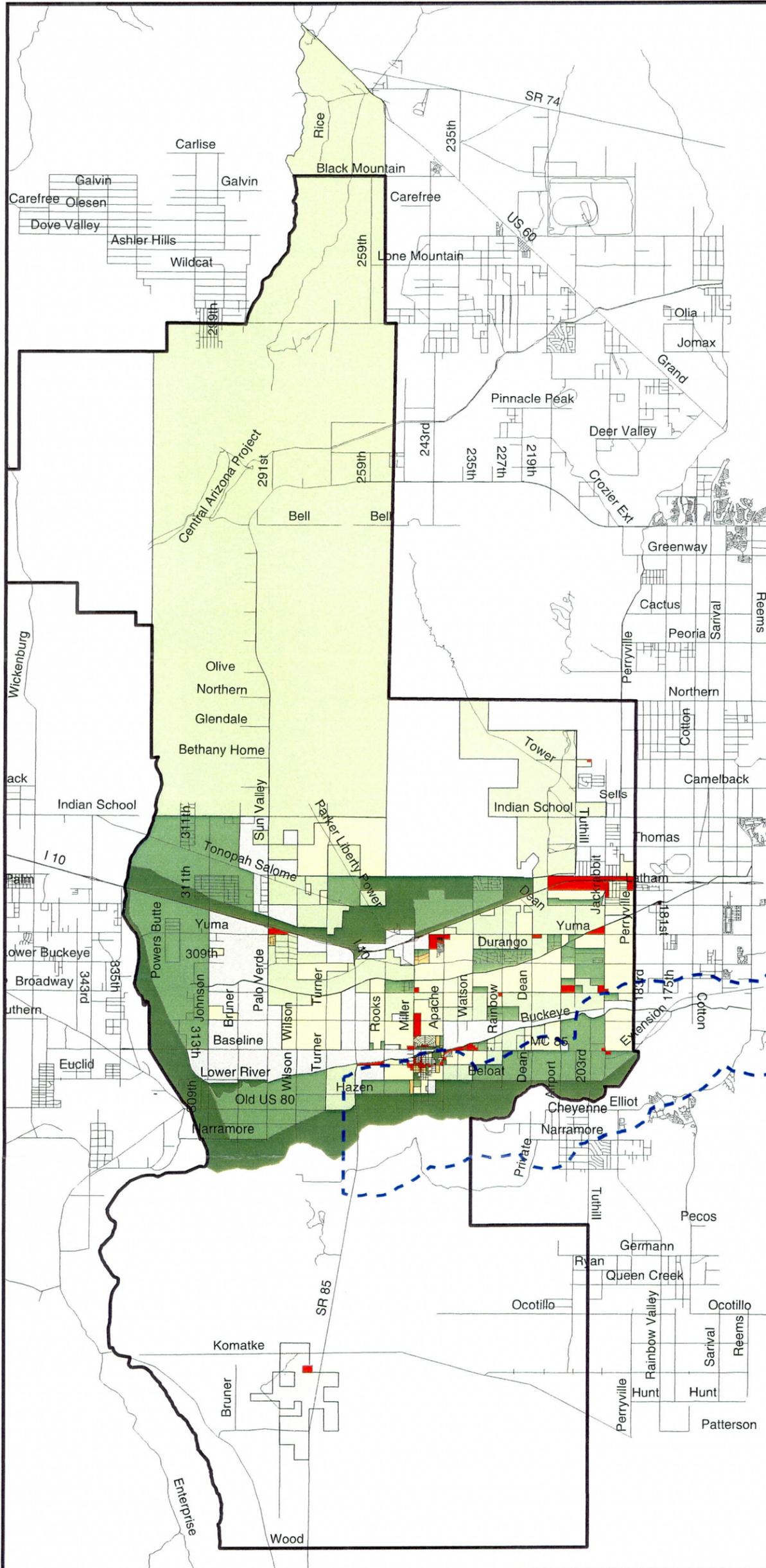
Item	Avondale	Buckeye	Goodyear	Maricopa County	Other	Data Source
Agua Fria Watercourse Master Plan by Kimley Horn November 2001 for MCFCD				HC		MC
West Valley Recreation Corridor, July 1999, by Carter Burgess for MCFCD				HC		A
Southwest Valley Transportation Study Maricopa County, October 1996, by BRW				HC		MC
Little Rainbow Valley Land Use Maricopa County, Jan 1992				HC		MC
Desert Spaces Environ. Sensitive Development Area, June 2000, for Maricopa County by SWCA				HC		MC
Estrella Mountain Regional Park Long Range Master Plan, 1987, by BRW for Maricopa Parks and Recreation				HC		MC
SRP Substation, Southwest Valley, between 119th Ave & 121st Ave and Lower Buckeye and Broadway Road, 31 July 2002, by TKC Engineers	HC					A
Town of Buckeye Wastewater Master Plan, February/March 2000, by David Evans and Associates		HC				B
Town of Buckeye Final Traffic Circulation Parking Study, 27 September 2001, by Entranco		HC				B
Town of Buckeye Development Code, Revised 19 August 1996, by Town of Buckeye		HC				B
Town of Buckeye Final report Buckeye Town Lake Engineering Feasibility Study, 1 November 2001, by URS/BRW		HC				B
Luke AFB General Plan (hard copy), April 2002, by Stantec					HC	STANTEC

HC - Hard Copy; DF - Digital File; A - City of Avondale; B - Town of Buckeye; G - City of Goodyear; MC - Maricopa County

# El Rio Watercourse Master Plan

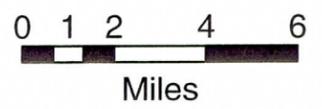
## Figure 1

### Town of Buckeye General Plan



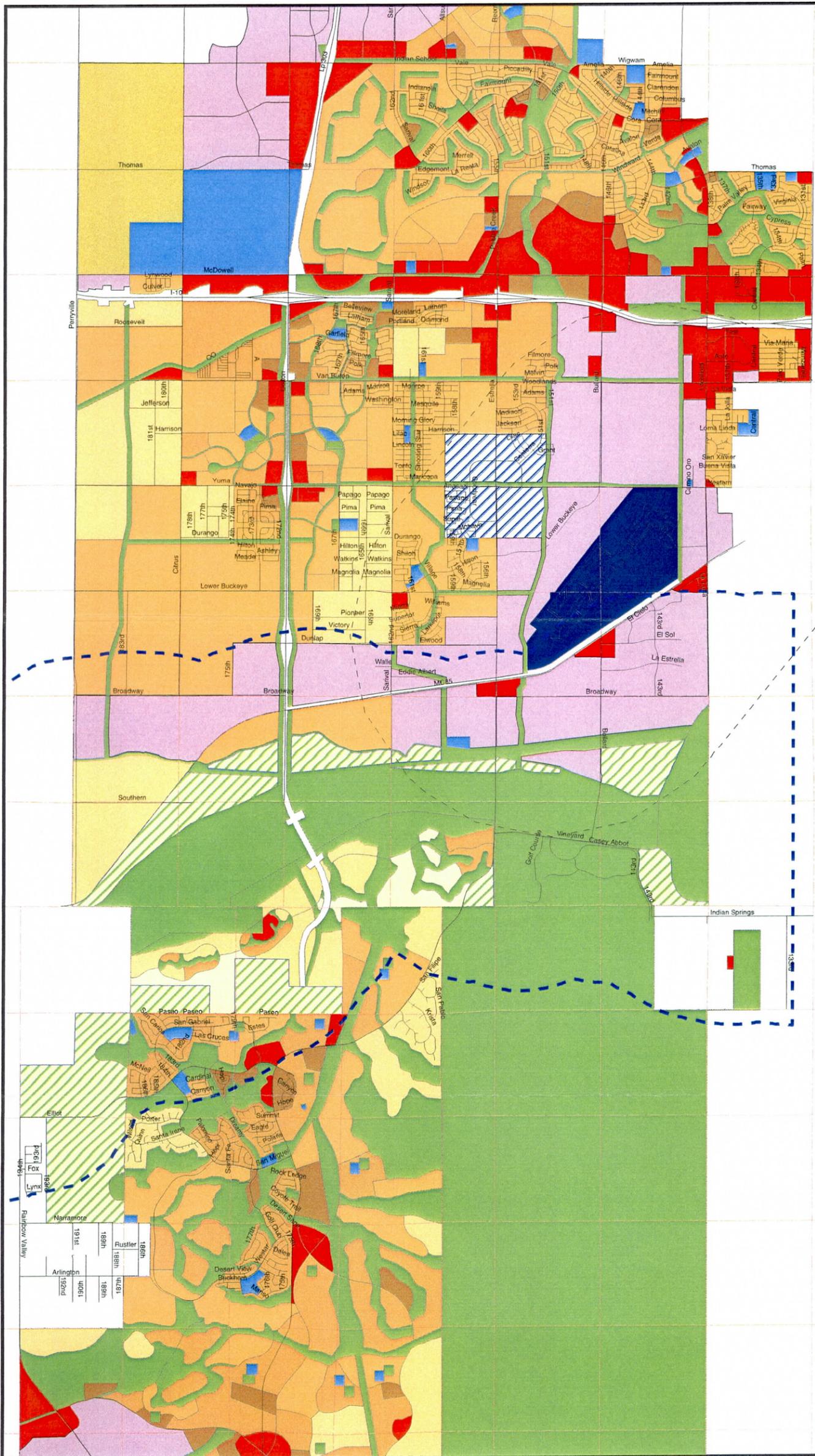
#### LANDUSE

- Planned Residential
- Planned Community
- General Commerce
- Mixed Residential
- Commercial Center
- Rural Residential
- Planned Community
- General Commerce
- Special Use
- Municipal Planning Boundary
- Streets
- El Rio Project Boundary



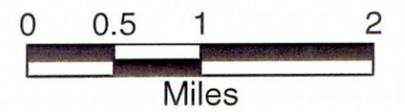
# El Rio Watercourse Master Plan

Figure 2  
City of Goodyear General Plan



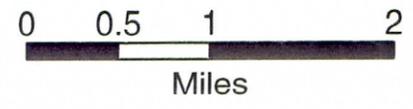
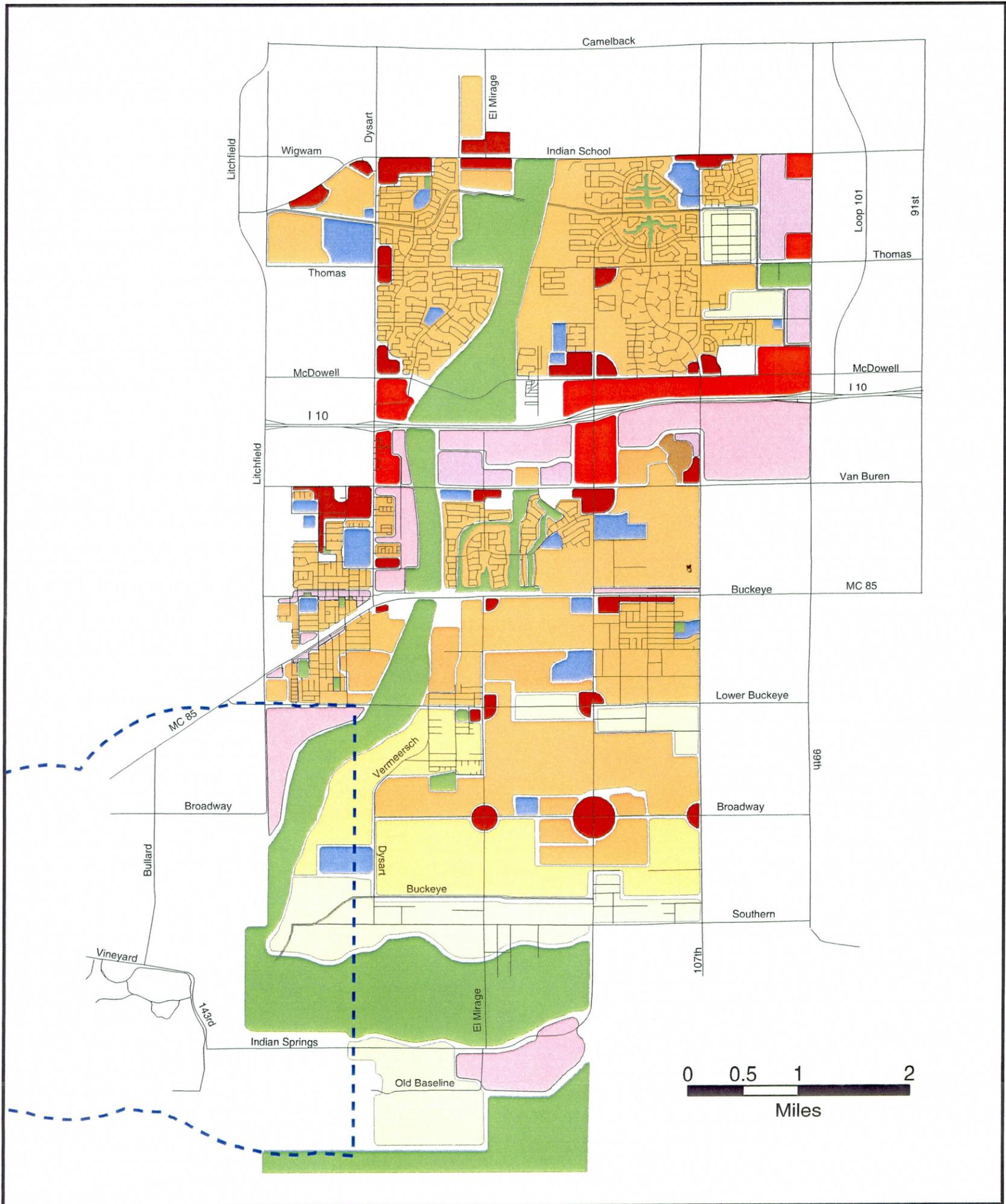
## LANDUSE

- Low Density
- Medium Low Density
- Medium Density
- Medium High Density
- High Density
- City Center
- Commercial
- Employment
- Airport
- Public Facilities/Schools
- Open Space
- Sensitive Land Area
- Agriculture
- Wildlife Attractant Separation Zone
- El Rio Project Boundary



# El Rio Watercourse Master Plan

Figure 3  
City of Avondale General Plan



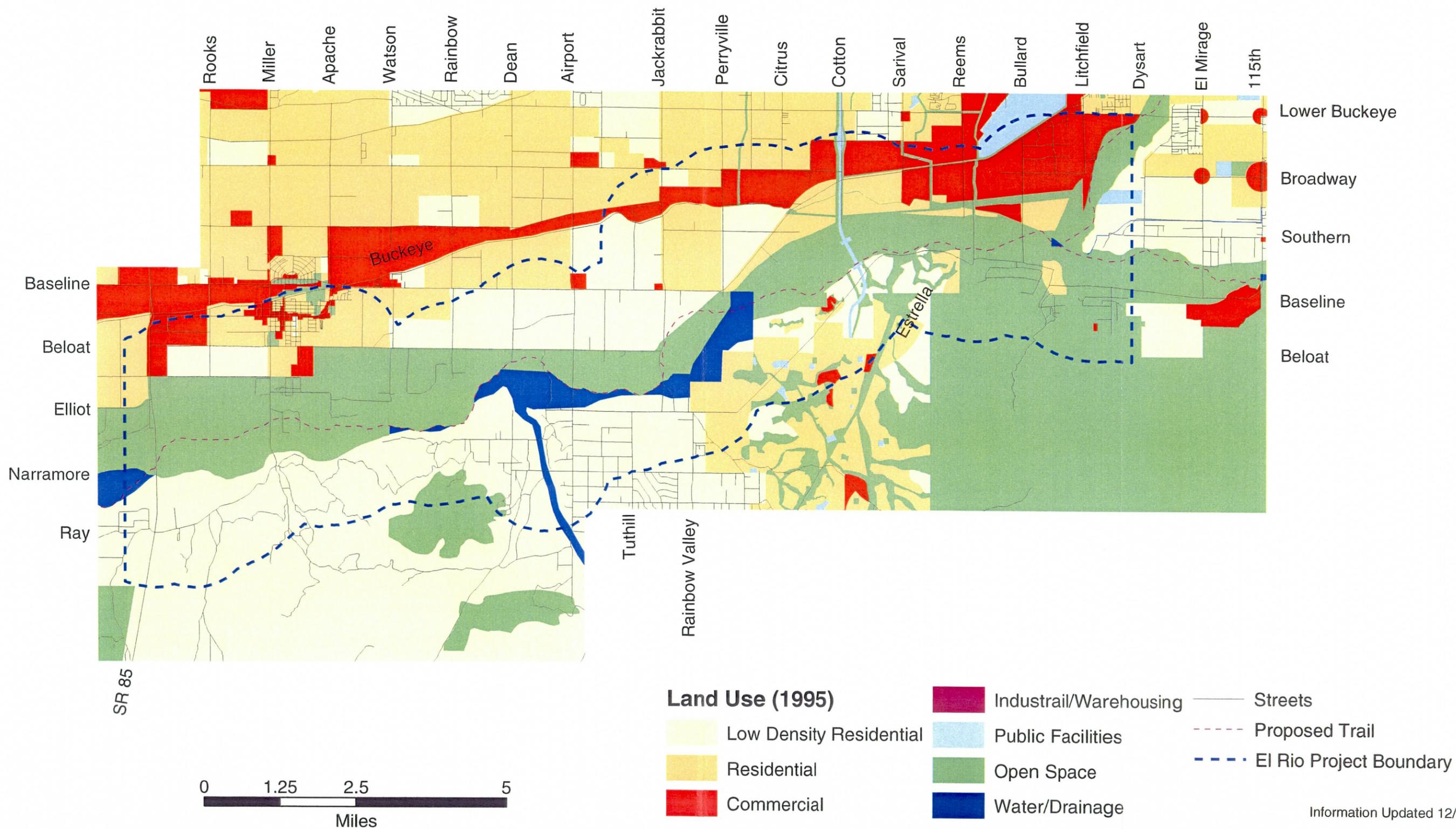
## LANDUSE

- |                    |                                 |                               |
|--------------------|---------------------------------|-------------------------------|
| Freeway Commercial | Employment                      | Low Density Residential       |
| Commercial         | High Density Residential        | Rural Low Density Residential |
| Mixed Use          | Medium High Density Residential | Open Space                    |
|                    | Medium Density Residential      | Public Facilities             |
|                    |                                 | Streets                       |
|                    |                                 | El Rio Project Boundary       |

# El Rio Watercourse Master Plan

## Figure 4

### County Land Use





Flood Control District  
of Maricopa County  
2801 W. Durango St.  
Phoenix, AZ 85009



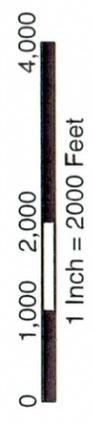
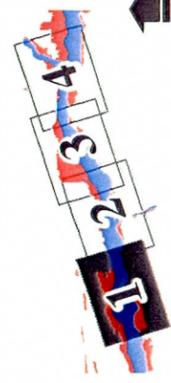
Stantec Consulting Inc.  
8211 S. 48th St.  
Phoenix, AZ 85044

- 0 to 1 Du/Ac
- 1 to 2 Du/Ac
- 2+ Du/Ac
- 4+ Du/Ac
- Commerce
- Mixed Use
- Open Space
- Public/Quasi Public
- Water

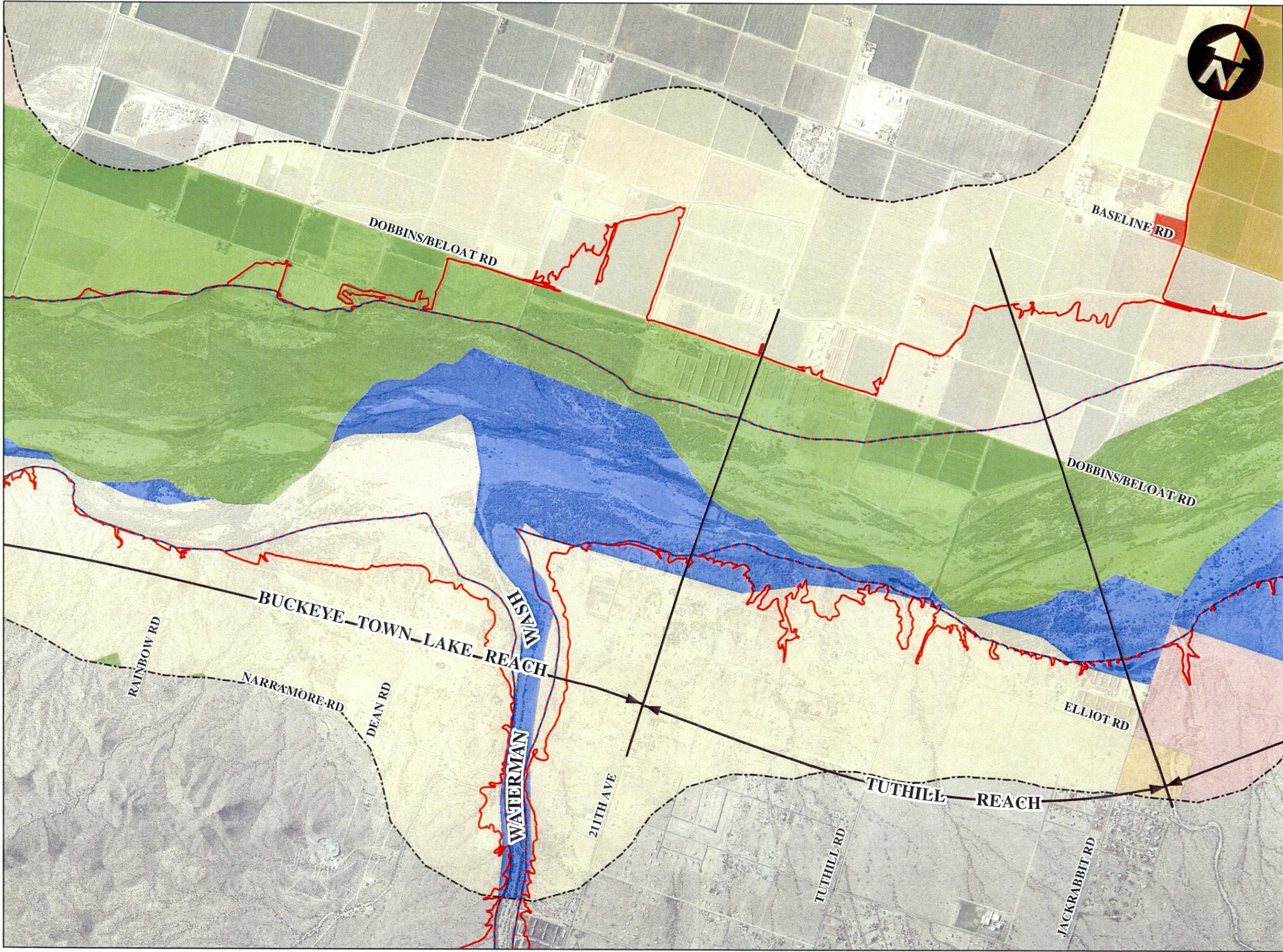
- Floodway Boundary
- 100 Year Floodplain Boundary
- Project Limit



**EL RIO WATERCOURSE MASTER PLAN**  
**FIGURE 5 - COMPOSITE LAND USE DESIGNATIONS**  
**SHEET 1 OF 4 (BUCKEYE TOWN LAKE REACH)**  
 23 MAY 2005



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Phoenix, AZ 85009



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Phoenix, AZ 85044

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- 4+ Du/Ac
- Commerce
- Mixed Use
- Open Space
- Public/Quasi Public
- Water

- Floodway Boundary
- 100 Year Floodplain Boundary
- Project Limit



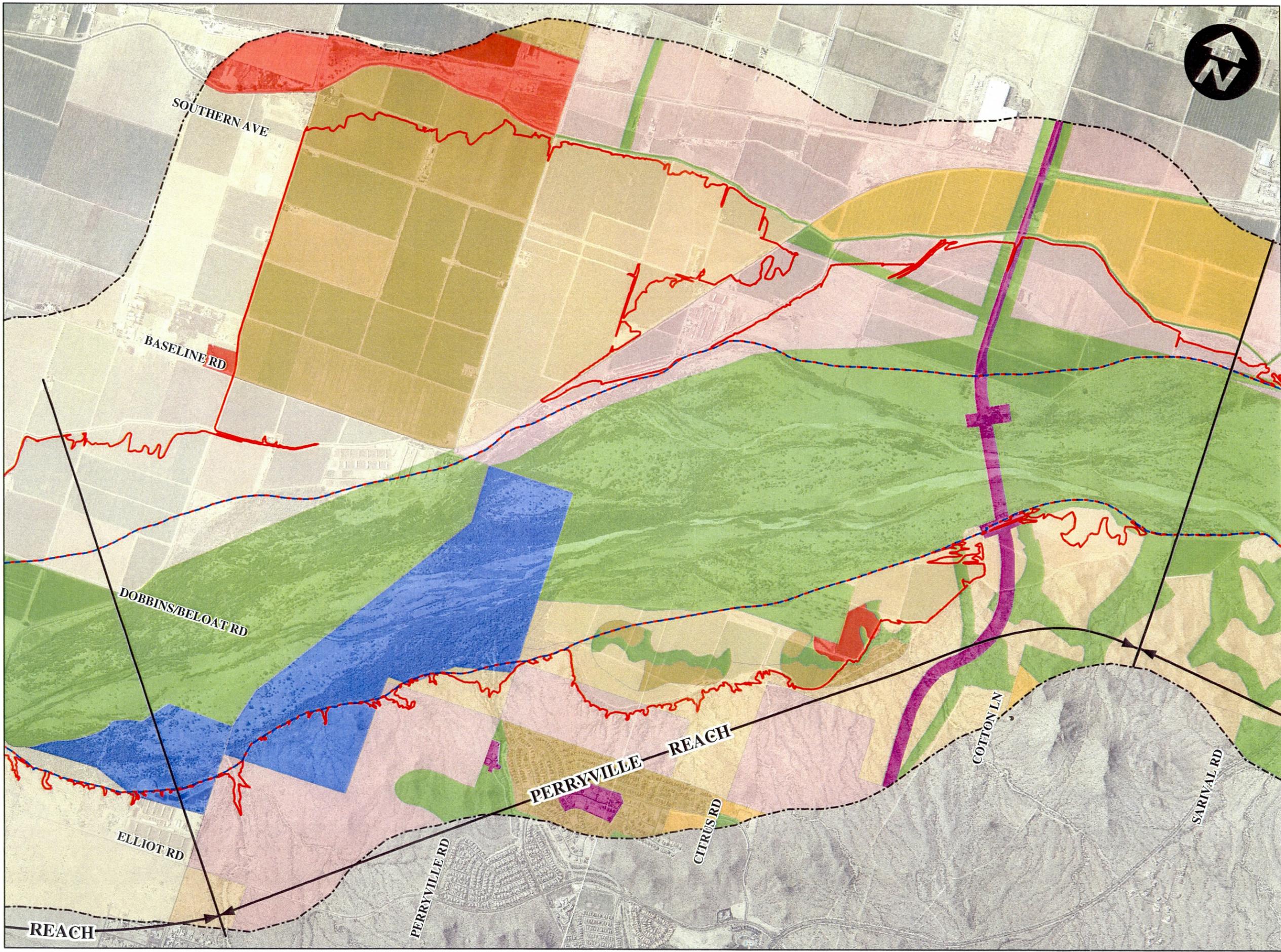
0 1,000 2,000 4,000  
1 Inch = 2000 Feet

23 MAY 2005

**EL RIO** EL RIO WATERCOURSE MASTER PLAN

FIGURE 5 - COMPOSITE LANDUSE DESIGNATIONS  
SHEET 2 OF 4 (TUTHILL REACH)

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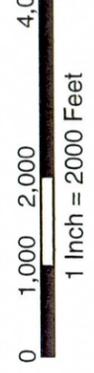
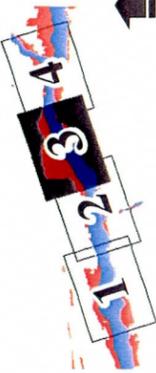
Flood Control District  
of Maricopa County  
2801 W. Durango St.  
Phoenix, AZ 85009



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8211 S. 48th St.  
Phoenix, AZ 85044

- 0 to 1 Du/Ac
- 1 to 2 Du/Ac
- 2+ Du/Ac
- 4+ Du/Ac
- Commerce
- Mixed Use
- Open Space
- Public/Quasi Public
- Water

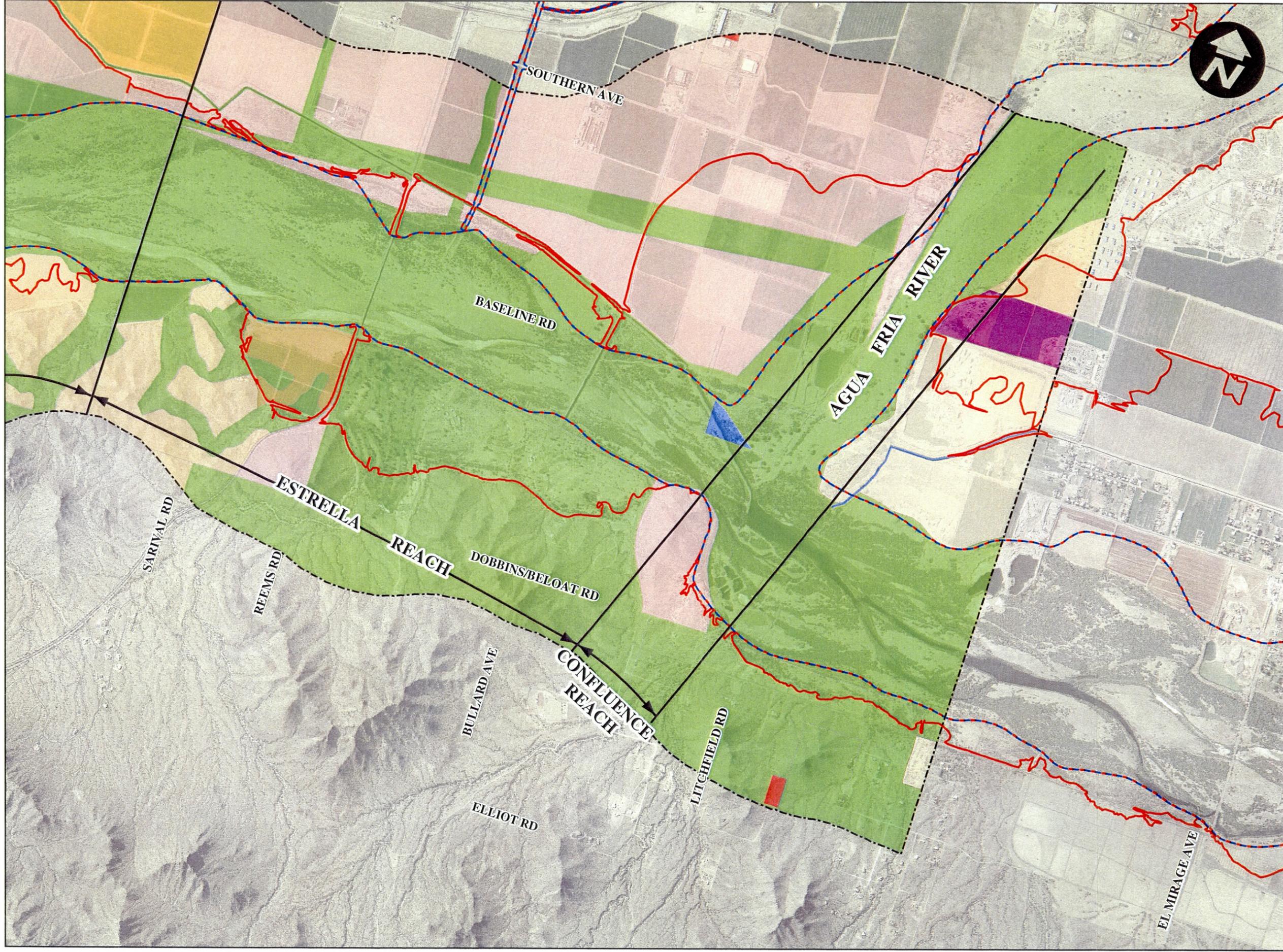
- Floodway Boundary
- 100 Year Floodplain Boundary
- Project Limit



23 MAY 2005

**EL RIO** EL RIO WATERCOURSE MASTER PLAN  
FIGURE 5 - COMPOSITE LANDUSE DESIGNATIONS  
SHEET 3 OF 4 (PERRYVILLE REACH)

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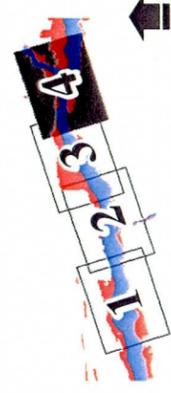
Flood Control District  
of Maricopa County  
2801 W. Durango St.  
Phoenix, AZ 85009



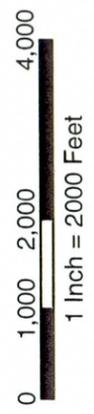
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Phoenix, AZ 85044

- 0 to 1 Du/Ac
- 1 to 2 Du/Ac
- 2+ Du/Ac
- 4+ Du/Ac
- Commerce
- Mixed Use
- Open Space
- Public/Quasi Public
- Water

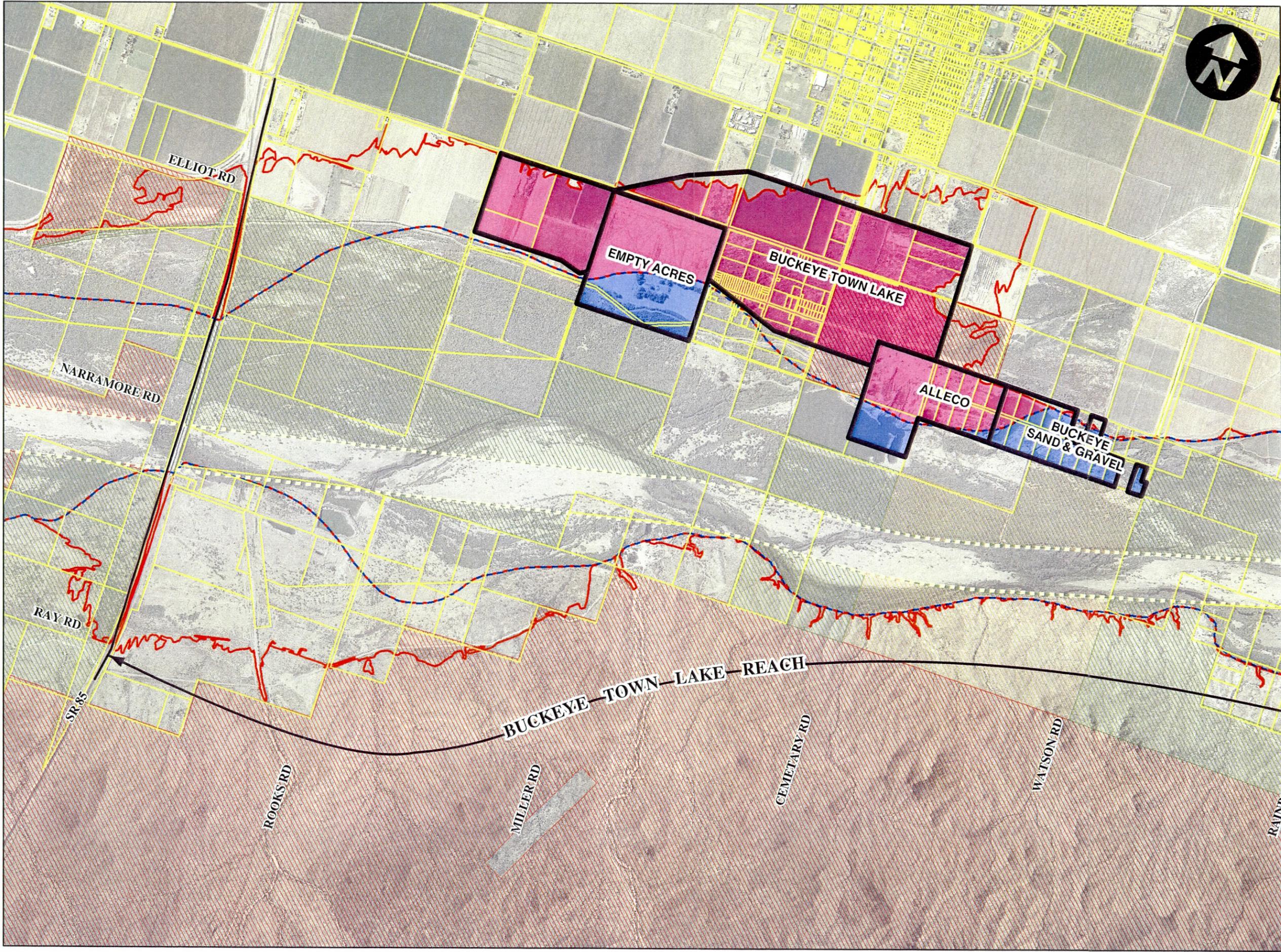
- Floodway Boundary
- 100 Year Floodplain Boundary
- Project Limit



**EL RIO WATERCOURSE MASTER PLAN**  
**FIGURE 5 - COMPOSITE LANDUSE DESIGNATIONS**  
**SHEET 4 OF 4 (ESTRELLA REACH)**  
 23 MAY 2005



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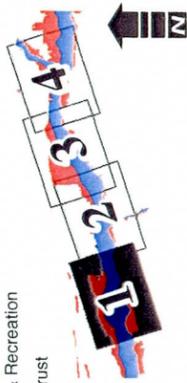
Flood Control District  
of Maricopa County  
2801 W. Durango St.  
Phoenix, AZ 85009



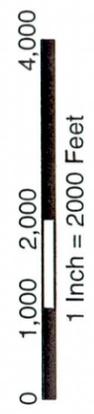
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Phoenix, AZ 85044

- New Development Areas**
  - Parcels
  - FCD 1000 Ft. Corridor
- Flood Zone**
  - 100 Year Floodplain Boundary
  - Floodway Boundary
- Site of Potential Development**
  - Within Floodway
  - Within Floodplain

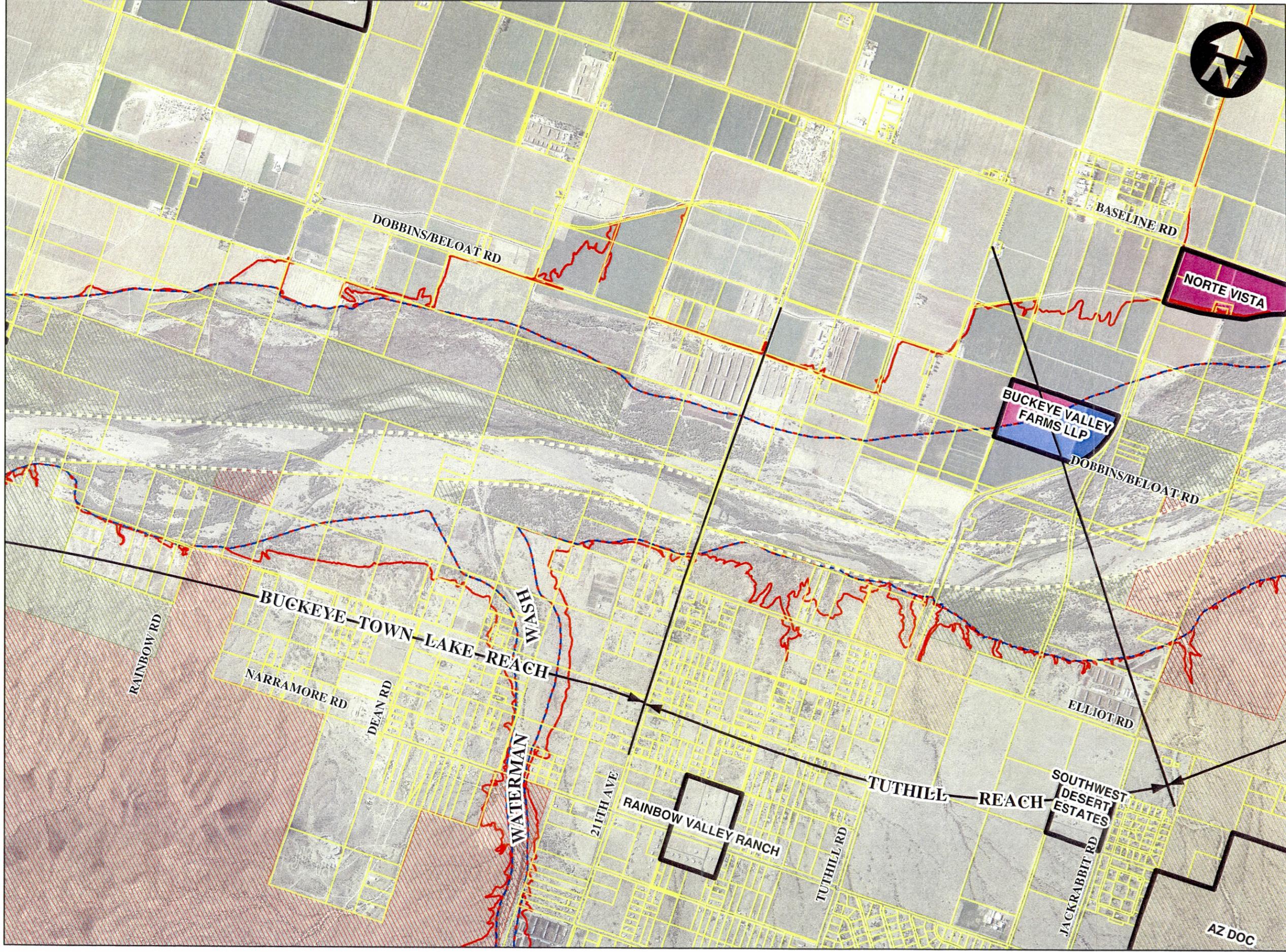
- Government Property**
  - Bureau of Land Management
  - Game & Fish
  - Parks & Recreation
  - State Trust



**EL RIO** EL RIO WATERCOURSE MASTER PLAN  
 FIGURE 6 - PRIVATE/PUBLIC LAND OWNERSHIP & POTENTIAL DEVELOPMENT  
 SHEET 1 OF 4 (BUCKEYE TOWN LAKE REACH)  
 23 MAY 2005



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**EL RIO WATERCOURSE MASTER PLAN**  
**FIGURE 6 - PRIVATE/PUBLIC LAND OWNERSHIP & POTENTIAL DEVELOPMENT**  
**SHEET 2 OF 4 (TUTHILL REACH)**  
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**Government Property**

- Bureau of Land Management
- Game & Fish
- Parks & Recreation
- State Trust

**New Development Areas**

- Parcels
- FCD 1000 Ft. Corridor

**Flood Zone**

- 100 Year Floodplain Boundary
- Floodway Boundary

**Site of Potential Development**

- Within Floodway
- Within Floodplain

**Scale:** 1 Inch = 2000 Feet  
 0 1,000 2,000 4,000

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**EL RIO WATERCOURSE MASTER PLAN**  
**FIGURE 6 - PRIVATE/PUBLIC LAND OWNERSHIP & POTENTIAL DEVELOPMENT**  
**SHEET 3 OF 4 (PERRYVILLE REACH)**  
 23 MAY 2005

**Government Property**  
 Bureau of Land Management (Red hatched)  
 Game & Fish (Green hatched)  
 Parks & Recreation (Blue hatched)  
 State Trust (Yellow hatched)

**New Development Areas**  
 Parcels (Yellow outline)  
 FCD 1000 Ft. Corridor (Red outline)  
 100 Year Floodplain Boundary (Red dashed line)  
 Floodway Boundary (Blue dashed line)

**Flood Zone**  
 100 Year Floodplain Boundary (Red dashed line)  
 Floodway Boundary (Blue dashed line)

**Site of Potential Development**  
 Within Floodway (Blue)  
 Within Floodplain (Purple)

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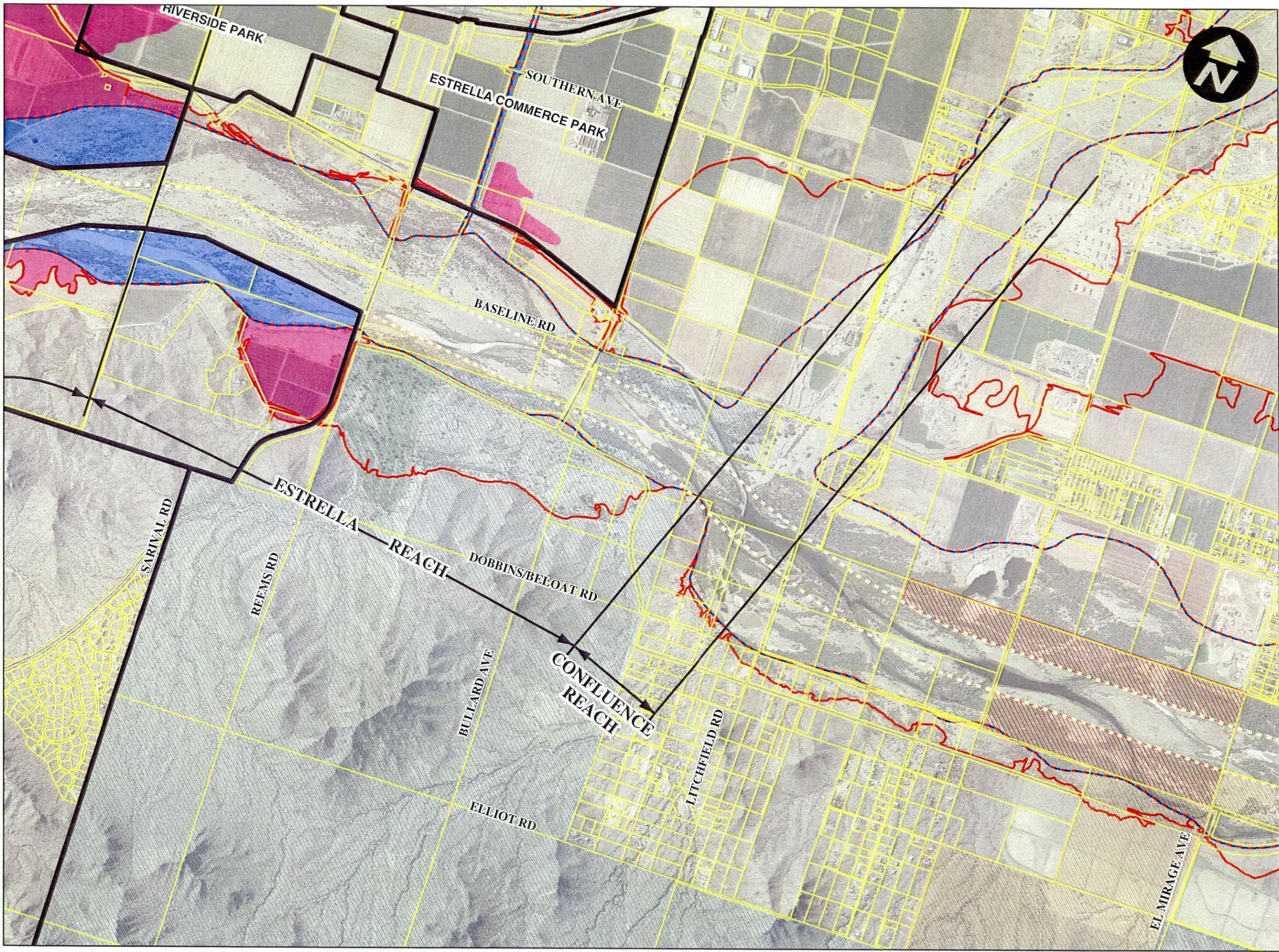
**Stantec Consulting Inc.**  
 8211 S. 48th St.  
 Phoenix, AZ 85044

**Scale:**  
 0 1,000 2,000 4,000  
 1 Inch = 2000 Feet

**Navigation:**  
 1 2 3 4  
 North Arrow

**Logos:**  
 Flood Control District of Maricopa County  
 Stantec

**File Path:**  
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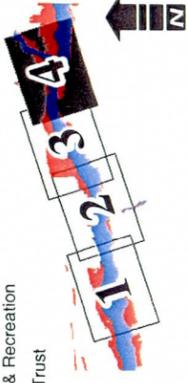


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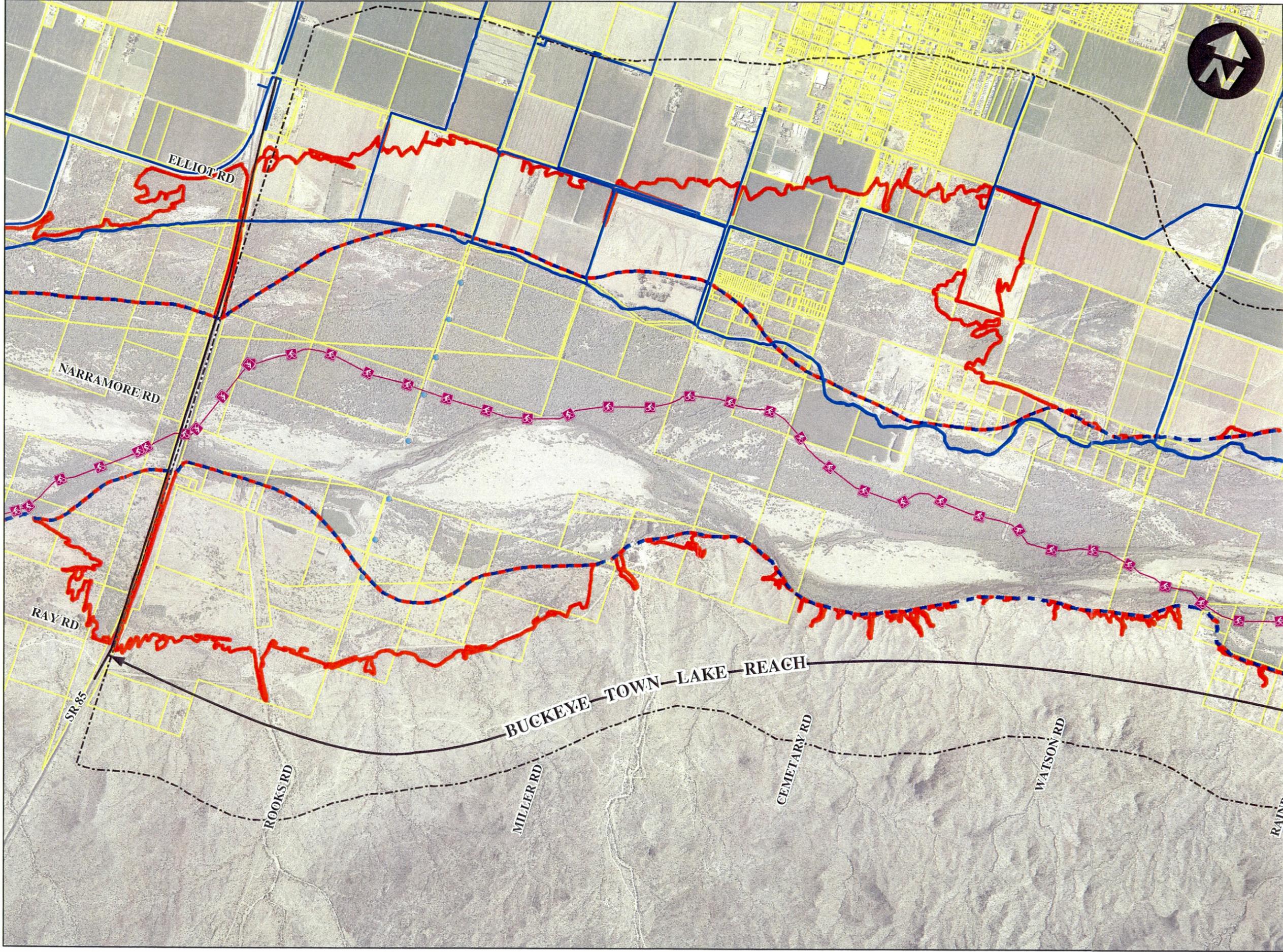
- New Development Areas**
  - Parcels
  - FCD 1000 Ft. Corridor
  - 100 Year Floodplain Boundary
  - Floodway Boundary
  - Within Floodway
  - Within Floodplain
- Flood Zone**
  - 100 Year Floodplain Boundary
  - Floodway Boundary
  - Within Floodway
  - Within Floodplain
- Site of Potential Development**
  - Within Floodway
  - Within Floodplain
- Government Property**
  - Bureau of Land Management
  - Game & Fish
  - Parks & Recreation
  - State Trust



**EL RIO EL RIO WATERCOURSE MASTER PLAN**  
**FIGURE 6 - PRIVATE/PUBLIC LAND OWNERSHIP & POTENTIAL DEVELOPMENT**  
 SHEET 4 OF 4 (ESTRELLA REACH)  
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- Power Pole
- Proposed Trails
- Canals
- Project Limit
- Parcels
- Flood Zones**
- Zone AE
- Zone A
- Zone AH
- Floodway

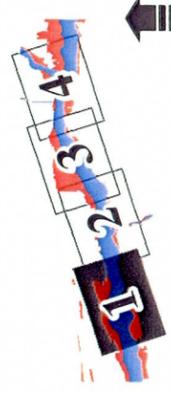


# EL RIO WATERCOURSE MASTER PLAN

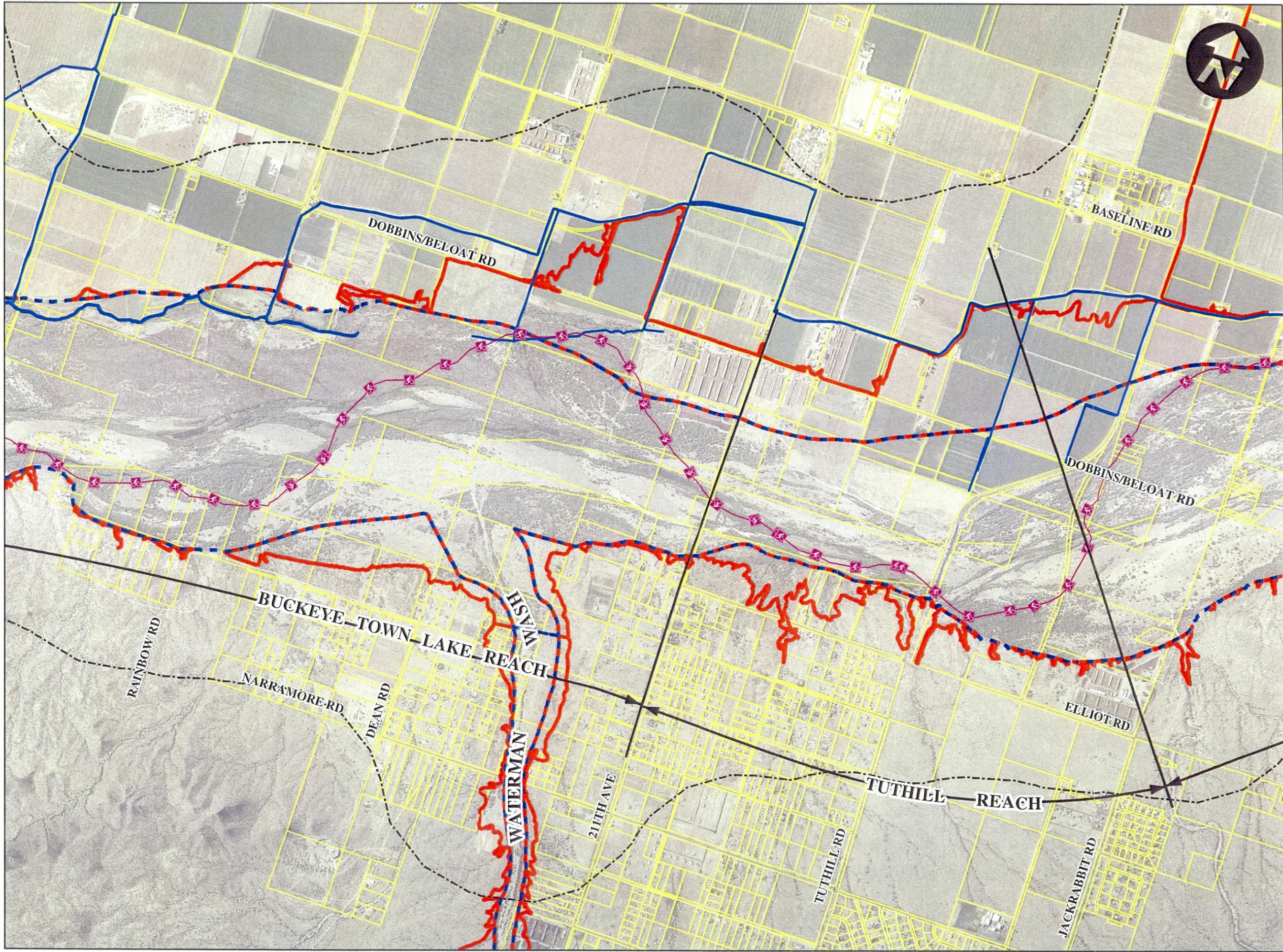
FIGURE 7 - EXISTING & PLANNED INFRASTRUCTURE

SHEET 1 OF 4 (BUCKEYE TOWN LAKE REACH)

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**EL RIO WATERCOURSE MASTER PLAN**

FIGURE 7 - EXISTING & PLANNED INFRASTRUCTURE  
SHEET 2 OF 4 (TUTHILL REACH)  
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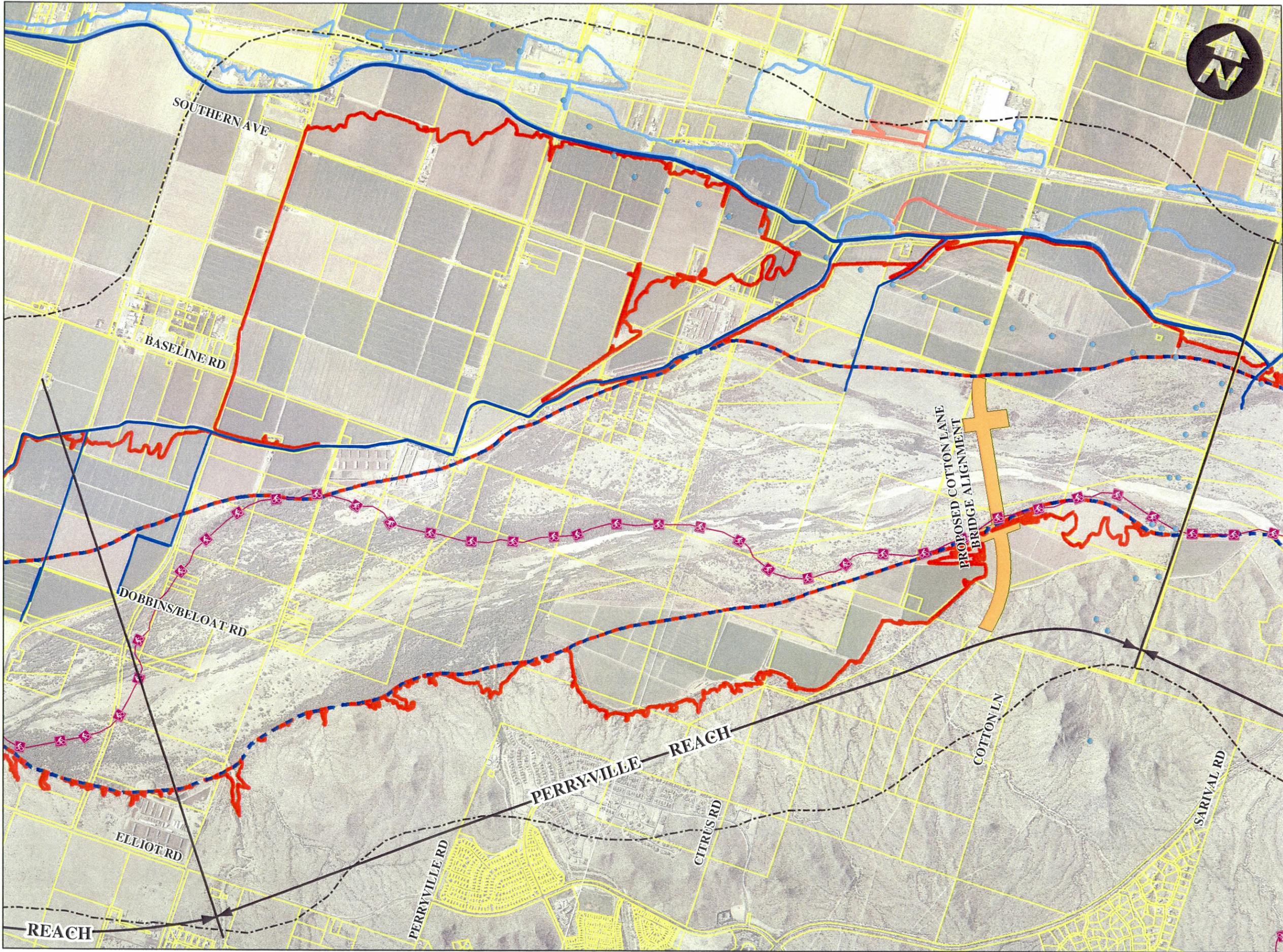
1 2 3 4

0 1,000 2,000 4,000  
1 Inch = 2000 Feet

Power Pole  
 Proposed Trails  
 Canals  
 Project Limit  
 Parcels  
**Flood Zones**  
 Zone AE  
 Zone A  
 Zone AH  
 Floodway

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- Power Pole
- Proposed Trails
- Canals
- Project Limit
- Parcels
- Flood Zones**
- Zone AE
- Zone A
- Zone AH
- Floodway

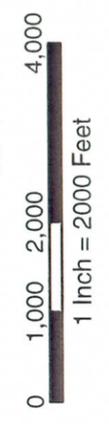


**EL RIO WATERCOURSE MASTER PLAN**

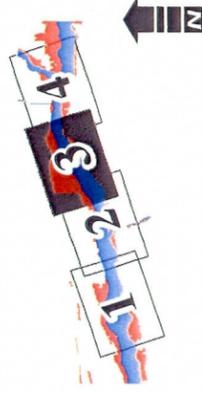
FIGURE 7 - EXISTING & PLANNED INFRASTRUCTURE

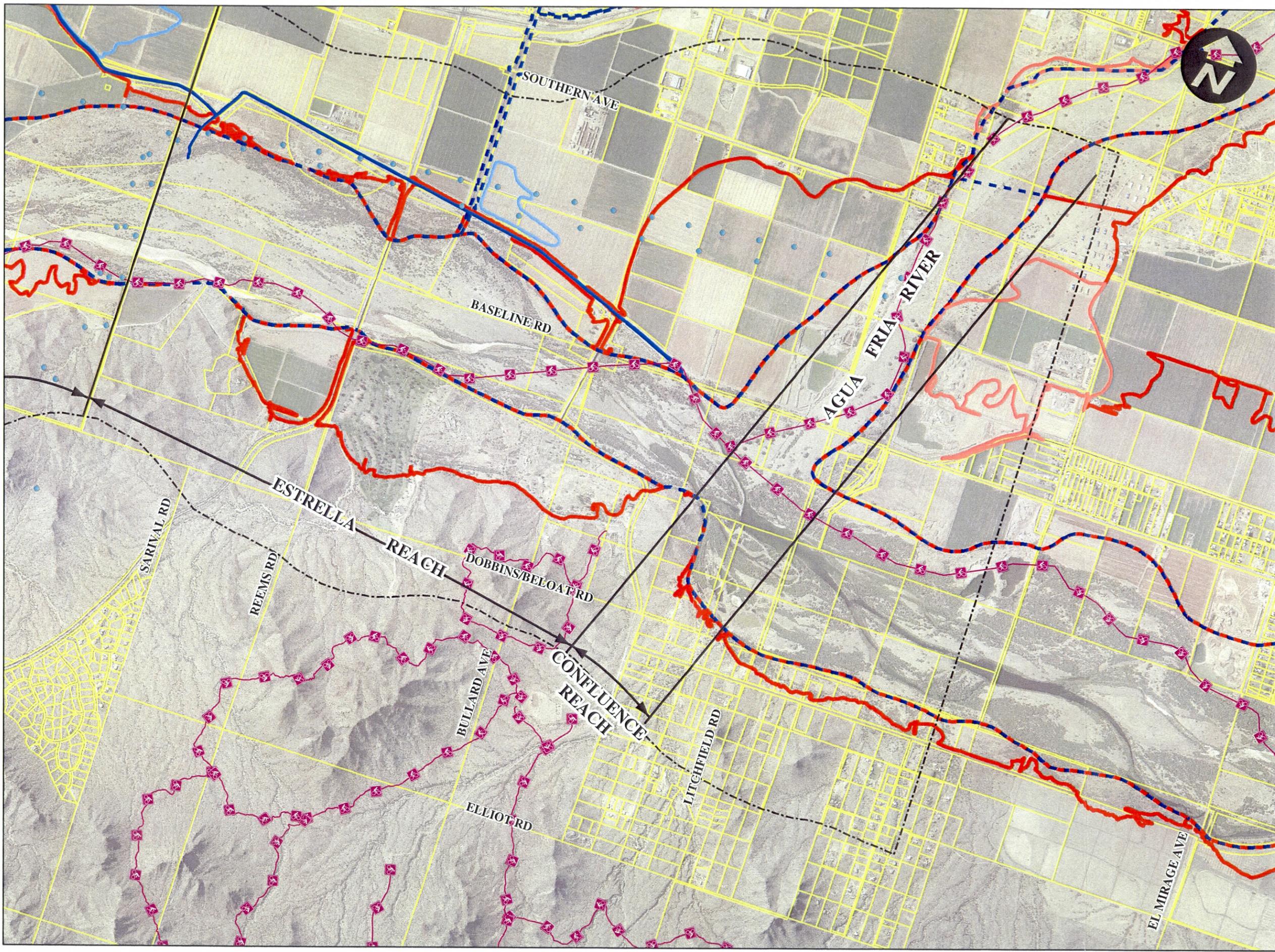
SHEET 3 OF 4 (PERRYVILLE REACH)

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Flood Control District  
of Maricopa County  
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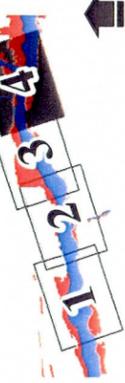
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Phoenix, AZ 85044

- Power Pole
- Proposed Trails
- Canals
- Project Limit
- Parcels
- Flood Zones
  - Zone AE
  - Zone A
  - Zone AH
  - Floodway



EL RIO WATERCOURSE MASTER PLAN

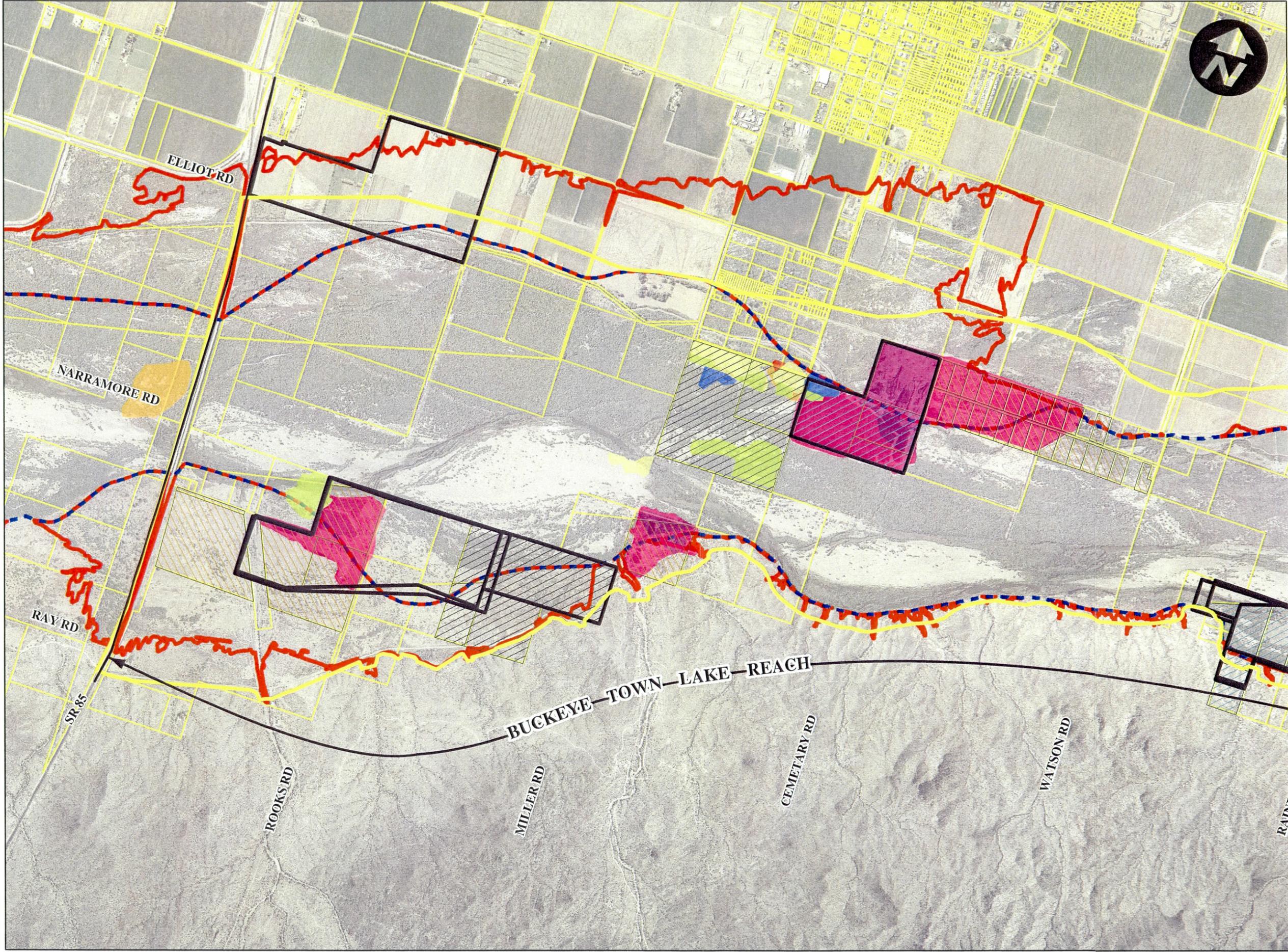
FIGURE 7 - EXISTING & PLANNED INFRASTRUCTURE  
SHEET 4 OF 4 (ESTRELLA REACH)



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- Historic S & G Sites**
  - 1940s
  - 1950s
  - 1960s
  - 1970s
  - 1980s
  - 1990s
  - 2000s
  - Erosion Hazard Area
- Floodplain Use Permits**
  - New Application or Amendment to Application
  - Active
  - Expired, In Process or No Permit
  - Inactive
- Flood Zones**
  - Zone AE
  - Zone A
  - Zone AH
  - Floodway

**EL RIO** EL RIO WATERCOURSE MASTER PLAN

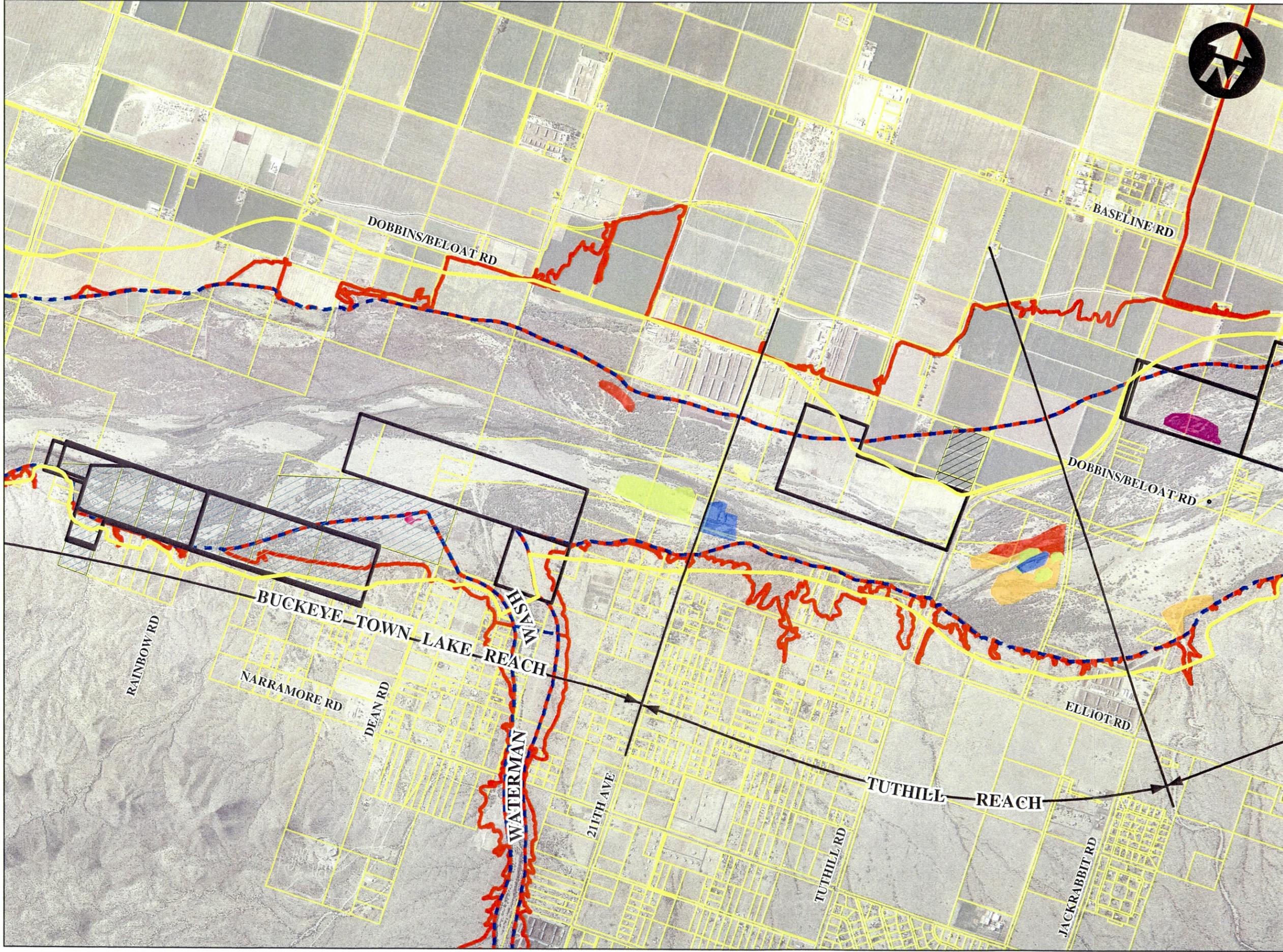
FIGURE 8 - SAND & GRAVEL MINING

SHEET 1 OF 4 (BUCKEYE TOWN LAKE REACH)

23 MAY 2005

0 1,000 2,000 4,000  
1 Inch = 2000 Feet

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Phoenix, AZ 85044

**Historic S & G Sites**



**Floodplain Use Permits**



**New Application or Amendment to Application**

**Floodplain Use Permits**



**Flood Zones**



**New Application or Amendment to Application**



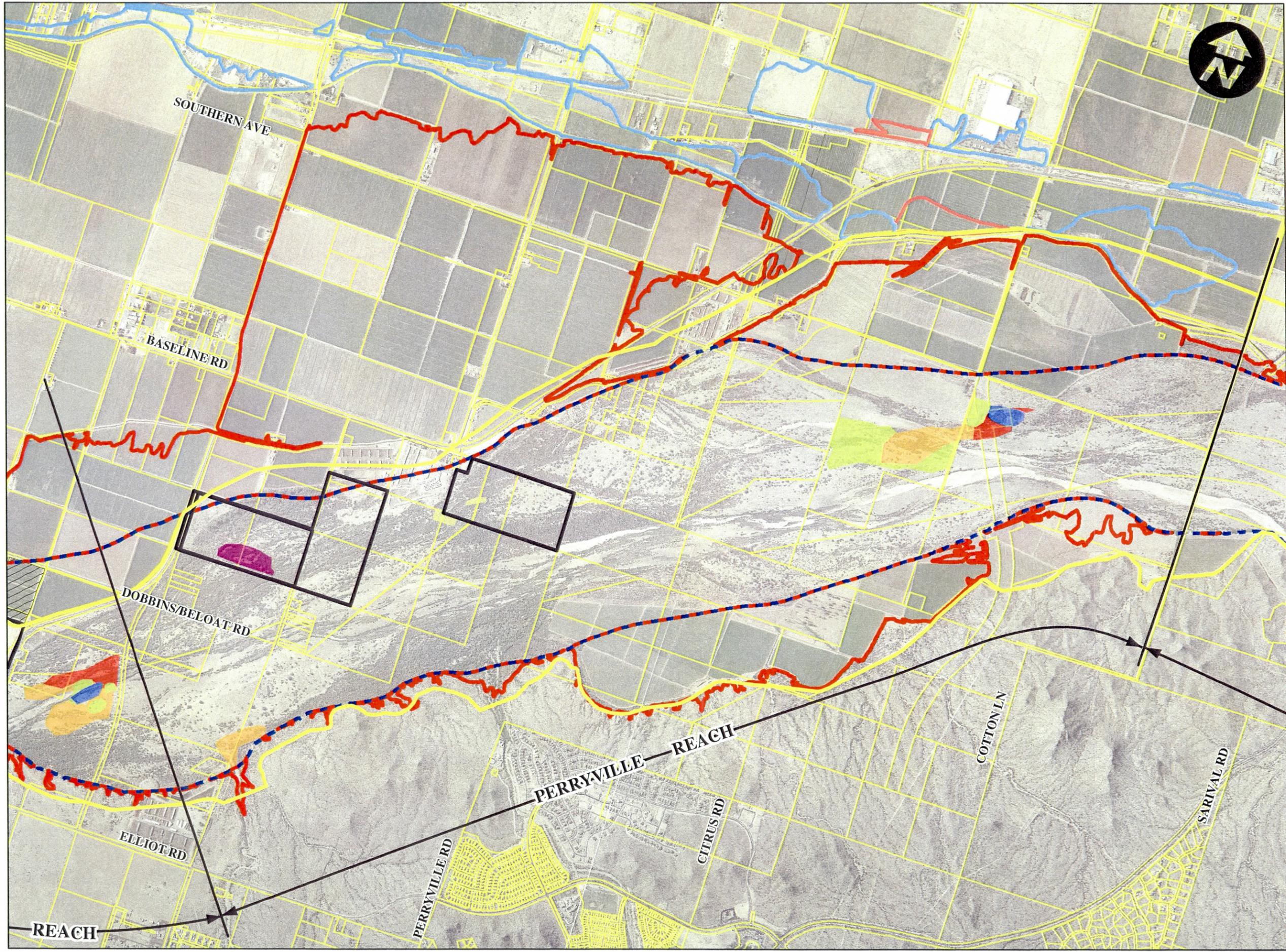
**EL RIO WATERCOURSE MASTER PLAN**

FIGURE 8 - SAND & GRAVEL MINING  
SHEET 2 OF 4 (TUTHILL REACH)

23 MAY 2005



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**EL RIO WATERCOURSE MASTER PLAN**  
**FIGURE 8 - SAND & GRAVEL MINING**  
**SHEET 3 OF 4 (PERRYVILLE REACH)**  
 23 MAY 2005

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**Historic S & G Sites**  
 1940s  
 1950s  
 1960s  
 1970s  
 1980s  
 1990s  
 2000s  
 Erosion Hazard Area

**Floodplain Use Permits**  
 New Application or Amendment to Application  
 Active  
 Expired, In Process or No Permit  
 Inactive

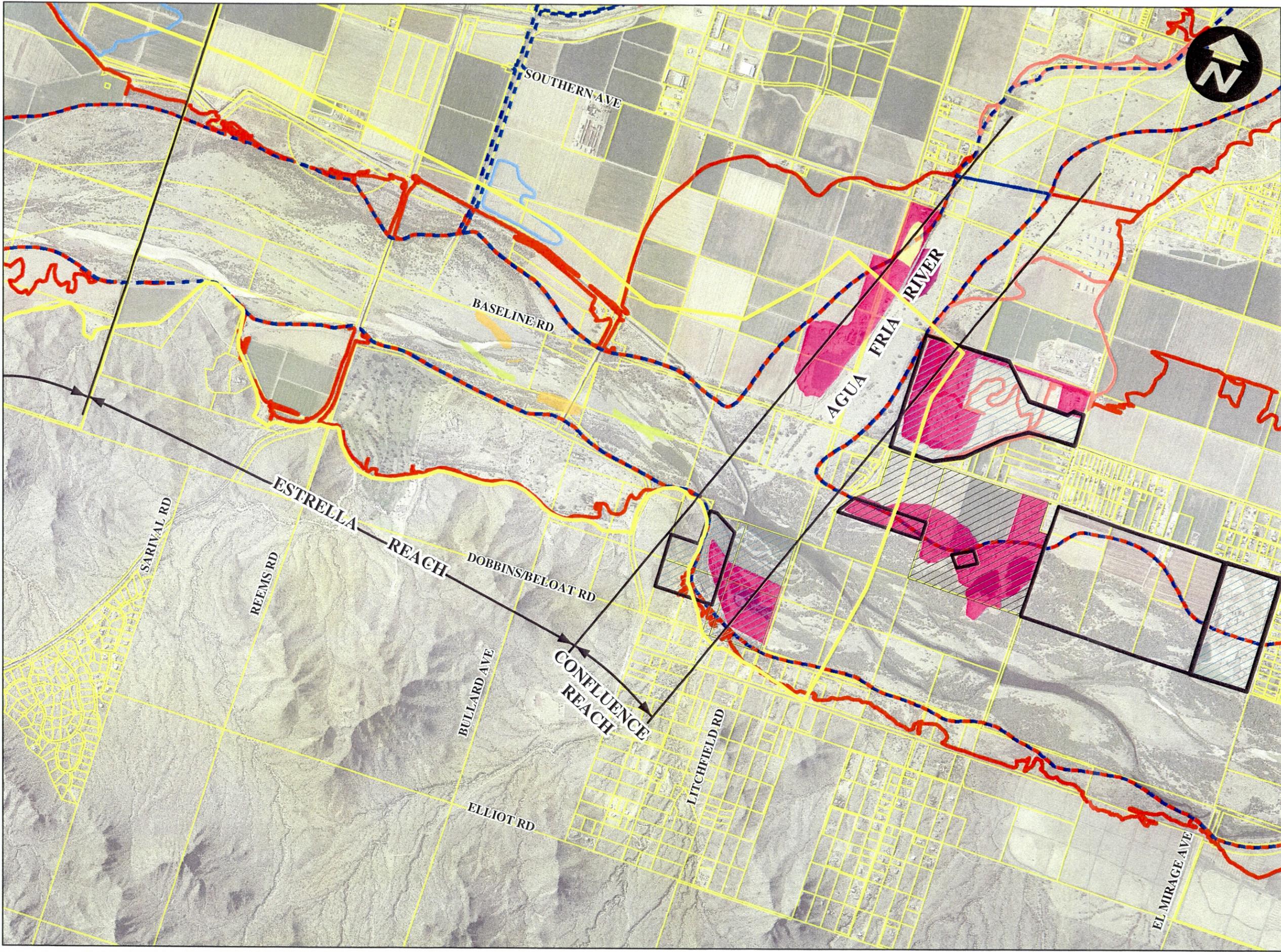
**Flood Zones**  
 Zone AE  
 Zone A  
 Zone AH  
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1 2 3 4

0 1,000 2,000 4,000  
 1 Inch = 2000 Feet



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- 1970s
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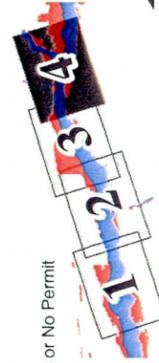
**Floodplain Use Permits**

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- Active
- Expired, in Process or No Permit
- Inactive

**Flood Zones**

- Zone AE
- Zone A
- Zone AH
- Floodway

**El Rio**



**EL RIO WATERCOURSE MASTER PLAN**

FIGURE 8 - SAND & GRAVEL MINING  
SHEET 4 OF 4 (ESTRELLA REACH)  
23 MAY 2005



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