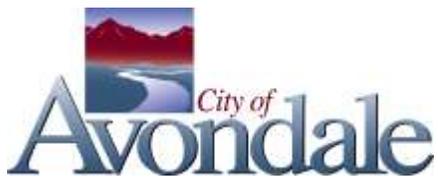


CITY OF AVONDALE

TRES RIOS GREENWAY

SPECIFIC PLAN

A REGIONAL OPEN SPACE PLAN



*DEVELOPMENT SERVICES
DEPARTMENT*

JUNE 17, 2002

CITY OF AVONDALE

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TRES RIOS GREENWAY SPECIFIC PLAN

I. TRES RIOS GREENWAY OPEN SPACE PLAN

The Tres Rios Greenway is a regional open space and trails system designed to provide a more livable environment, as well as enhancing adjacent developments. The project has been a coordinated effort among state, federal and local agencies as well as private land- owners. The project combines open space with outdoor recreation and ecological considerations, bringing connections to otherwise separated parks, neighborhoods, and other cities. The Tres Rios Greenway will connect people to each other and to the natural processes of the landscape. It will offer an opportunity for people to leave their vehicles and experience some of the natural and human-made corridors within the City of Avondale. The intent of this regional park system is to encourage visitors from all over the valley to come to Avondale for recreational opportunities.

A. Project Area Description

Unique to Avondale are the three rivers that traverse the community: the Gila, Salt, and Agua Fria Rivers. The Agua Fria, which travels in a north-south direction through the City, is located between 115th Avenue and Dysart Road. It enters the area affected by the project south of Indian School Road, and continues to its confluence with the Gila River. Greenway development adjacent to the Agua Fria will focus on bicycle and pedestrian trails. This multi-use trail system will complement the Maricopa County Parks and Recreation's proposed Sun Circle equestrian and multi-use trail system planned to be located in the Aqua Fria River's channel bottom.

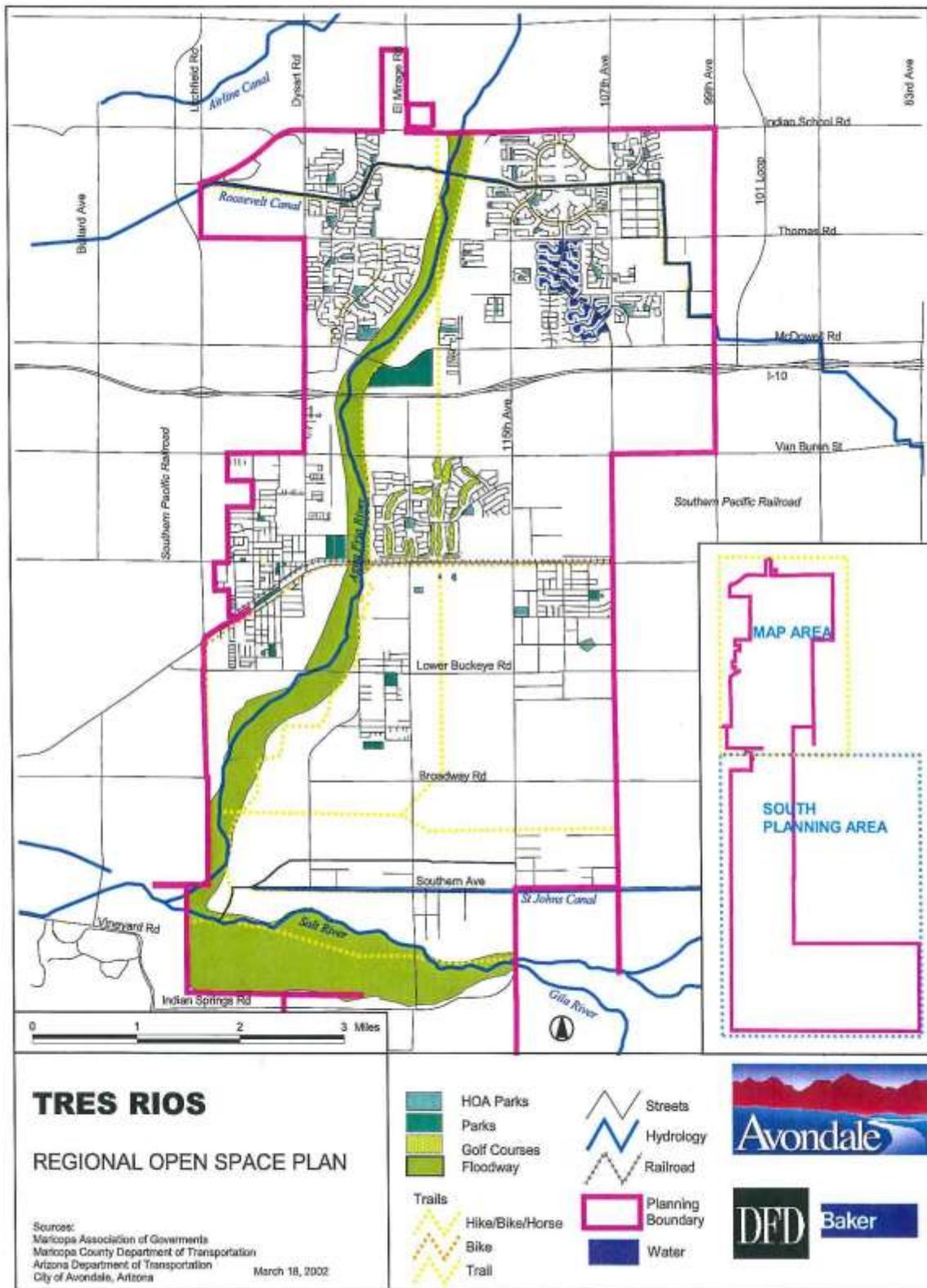
The confluence of the Gila and Salt Rivers occurs on the southeast border of Avondale, adjacent to the City of Phoenix. Upon entering the Avondale city limits at this location, these rivers become part of the area affected by the Tres Rios Greenway. The Gila River continues westward through Avondale, bordered by the Estrella Mountains to the South. Its confluence with the Agua Fria River occurs at the southwest boundary of the Avondale city limits. Greenway development in this area will provide passive and active recreational opportunities while maintaining and enhancing the existing and potential wildlife habitat (see Exhibit 1-2).

B. History of the Gila, Salt and Agua Fria Rivers

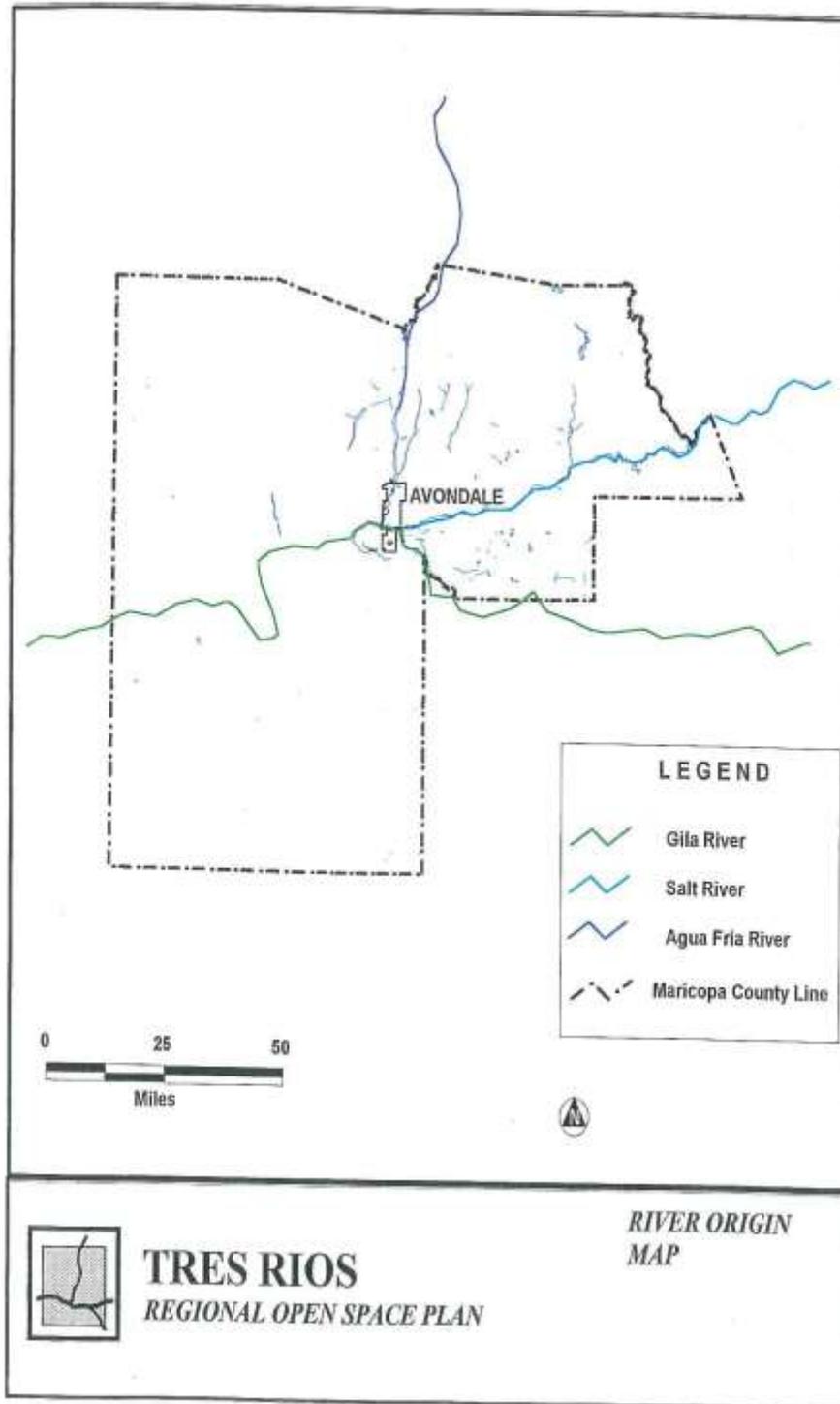
The three rivers that are the subject of the Specific Plan are the Gila, Salt and Agua Fria Rivers. Below is a brief history of these three rivers (see Map II).

1. Gila River

The Gila River is formed in the mountainous region of Silver City, New Mexico. Numerous streams carrying runoff from melting snow merge together to form its origin. From its origin, the Gila River moves in a westerly direction into Arizona, where the San Francisco River feeds into it near Clifton, Arizona. The Gila River continues west, where it is fed by the San Pedro River and continues through the southern portion of Maricopa



MAP II



County. As it moves out of Maricopa County, the Gila River meanders in a southwest direction until it feeds into the Colorado River just north of Yuma, Arizona.

The Gila River is often dry, with the exception of effluent water from the City of Phoenix 91st Avenue treatment plant. The amount of rainfall in the central and eastern areas of Arizona also has an effect on the volume of water the Gila River experiences. The confluence of the Gila and Salt Rivers occurs on the east border of Avondale, adjacent to Phoenix International Raceway (P.I.R.) and the Estrella Mountains. The Gila moves towards the West through Avondale, where it is met by the Agua Fria River, south of the populated areas of the City.

Human activity has impacted the Gila River. Mining activities in the vicinity of the Gila River increased at a rapid rate during the 1850s, and thrived throughout the remainder of the 19th century. As mining activities continued into the 20th century, it became apparent that environmental degradation was occurring. Deforested hillsides allowed soil to erode rapidly, leading to drastic flooding of the river's channel in times of heavy rains. In addition, abandoned mines left large scars on the land, destroying the aesthetic value of the river basin.¹

Other impacts to the Gila River have also been significant enough to completely harness the flow of water in the river channel throughout central and western Arizona. In 1924, legislation authorizing the construction of the Coolidge Dam, southwest of San Carlos, Arizona, was signed into law by President Coolidge. The Coolidge Dam created Lake San Carlos, providing hydroelectric power and recreational opportunities for the region. More importantly, it dictated the water releases into the Gila River – changing the flows forever.²

2. Salt River

The Salt River begins at the confluence of the White and Black Rivers in the White Mountains of eastern Arizona. In its easternmost reaches, the Salt River drains a rugged mountain region covered by substantial snow-pack during winter months. The river flows in a southwestern direction towards Maricopa County and the Phoenix Metropolitan Area.

The Salt River meanders through the heart of the metropolitan area, before it ends at its confluence with the Gila River in the southwestern part of Maricopa County.

The Salt River feeds into the Gila River on the eastern border of Avondale, Arizona. Although the riverbed is often dry throughout the year, periods of heavy rainfall require dams upstream to release water, often creating a high volume of flow near the confluence of the two rivers.

¹ McNamee, Gregory, Gila: The Life and Death of an American River, (New York Random House, Inc., 1994), p. 215.

² Introcaso, David M., Water Development on the Gila River: The Construction of Coolidge Dam, (Master's Thesis, Arizona State University, 1987), p. 148.

The Salt River received its name from an explorer in 1698, who named it from a stretch of saline beds over which it flowed.³ Settlers began to populate in the valley where present-day Phoenix and Tempe rest, and with the growing population came the need for construction of canals for irrigation. This movement was spearheaded in the late 1870s by the Grand Canal Company, which constructed the Grand Canal, diverting water for the northern part of Phoenix.⁴

3. **Agua Fria River**

The Agua Fria River originates from a series of tributaries north of Humboldt, Arizona. Large tributaries to the Agua Fria are Lynx Creek and Green Gulch from the west side, along with Yaeger Canyon, Grapevine Gulch and Texas Gulch to the East.⁵ The channel of the Agua Fria meanders south through the rolling, grassy hills of the upper elevations into Maricopa County. The river runs directly south through the western half of the county until it meets the Gila River north of the Estrella Mountains. As the Agua Fria River moves into the northwest region of Maricopa County, it spills into Lake Pleasant. The lake is formed and controlled like that of its counterparts along the Gila and Salt rivers; the Waddell Dam on the end of the lake initiates the respective uses of the water.⁶ The Agua Fria continues after the Waddell Dam, meandering south through Surprise, El Mirage, Youngtown, Phoenix, and Avondale. The Agua Fria feeds into the Gila River in the southern part of Avondale.

The characteristics and impacts of the Agua Fria River are similar to those of the Salt and Gila Rivers in Avondale. Like the Salt and Gila, the Agua Fria remains dry through most of the year, and serves as a channel for excess water when heavy rainfall causes the Waddell Dam to initiate releases from Lake Pleasant.

Although very little is known about the early days of settling in the vicinity of the Agua Fria River, it is clear that population growth in the western park of Maricopa County has had impacts on it through the years. A lack of knowledge about the parameters of the floodplain resulted in development occurring in locales subject to devastation in times of very heavy flooding. As a result of heavy flows in the river channel in 1978, 1979 and 1980, structures built in the floodplain were heavily damaged, contributing to loss of homes, property and in many instances people's livelihoods.

Following these events, measures were taken to contain the Agua Fria channel. Several agencies in Arizona initiated impact studies to find out what methods should be used to alleviate future flooding. The Arizona Department of Transportation (ADOT) spearheaded the movement by recognizing that channeling of the riverbed was necessary to protect the I-10 Freeway crossing in Avondale.

³ Powell, Lawrence Clark, Where Water Flows: Rivers of Arizona, (Flagstaff, AZ, Northland Press, 1980), p. 288.

⁴ Johnson, G. Wesley, Jr., ed., Phoenix in the Twentieth Century: Essays in Community History, (University of Oklahoma Press, 1993), p. 121-142.

⁵ Yuma County, "Erosion Control on the Agua Fria River and its Tributaries above Humboldt, Arizona," County Farm Bureau, (Yuma County, AZ, January 22, 1934).

⁶ U.S. Department of Agriculture and Soil Conservation Service, Beardsley Farm Irrigation Measure, RC&D Measure Plan for Maricopa County, Arizona, (Phoenix, AZ, 1977), p. 1-4.

Today, the Agua Fria River, with its re-channeling, is constructed to constrain flooding. A number of other measures have been taken to ensure control during flooding. For example, soil cement has been put into place to stabilize the banks and protect them against erosion. Adjacent land uses, as well as several bridges that cross the channel are not protected against flooding.⁷

⁷ Maricopa County Flood Control District (MCFCD), Agua Fria River: Cooperation in Flood Control, (Phoenix, AZ, 1991), p. 56-71.

II. PROJECT OBJECTIVES

The three rivers in Avondale provide a unique opportunity to build an open space system around resources that are meant to convey flood waters. These rivers are highly suitable for trail corridors and promoting biological diversity. The objectives of the Tres Rios Greenway Plan are to: improve public amenities for trails, recreation, community meeting areas, as well as providing more favorable wildlife habitat where possible and appropriate, while maintaining the ability to safely contain flood waters when such events occur.

A. Community Identity

With its enviable character of spaciousness and natural resources that contribute to desert, mountain, and river channel variety, Avondale is well situated to develop a regional niche as a recreation-oriented city. Avondale's community character and its emerging, urbanizing image both depend heavily on its sense of space and natural vistas. Over time, transition from an agricultural community to an urban community will require particular attention both to the strategic preservation of environmental resources and enhancement of public open spaces.

The topography and river basins contribute to the natural attributes of the Avondale region. Flat agricultural land rises through foothills to the upper reaches of the Estrella and the White Tank Mountains, providing distant views. The confluence of two of Arizona's major watersheds results in a rising water table in the area, providing a local water resource that is the envy of other metropolitan communities. The Tres Rios Greenway directly involves the careful use and maintenance of these watersheds.

B. Resource Conservation and Enhancement

Land and water resources must be carefully managed in the project area. This includes particular attention to the ecological sensitivity of the river corridors. High priority is also given to the City's water quality and conservation efforts, and as the community expands, substantial increases in open space areas will need to be dedicated for public use.

Floodplain management improvements along the Agua Fria and Gila Rivers contribute substantially to guaranteeing future public access to equestrian trails, bicycle/pedestrian pathways, nature preserves, scenic areas, and active and passive recreational activity nodes. Vegetation native to the region will be emphasized throughout the project. In an effort to enhance the project area, native species will be planted along the perimeter of the Agua Fria channel in conjunction with the Maricopa County Flood Control District's requirements.

C. Accessibility

A system of any capacity within an urban area is ineffective without easy accessibility to that system. In the case of the Tres Rios Greenway, corridor, trail and street linkages on local and

regional scales define the accessibility to this project. By creating a system that is readily accessible to all residents and the public throughout the region, recreational opportunities increase for Valley residents and their ability to enjoy the open space.

The Agua Fria River, dividing Avondale into east-west segments, is an opportunity to bring residents together. Carefully designed to be accessible from all areas of the City, the Agua Fria's Greenway is being planned as a focal point – not a barrier. East-west corridors (Buckeye Road, R.I.D. Canal) will provide trail access to the Agua Fria River while regional nodes (Coldwater Park, Wetlands Recharge Site) will provide community gathering areas (see Map III).

III. EXISTING CONDITIONS

A. General Plan Adherence

Avondale enjoys an abundance of scenic views and open space which provides numerous recreational opportunities for residents and guests alike. As an urbanizing community, it is important for Avondale to preserve the recreational and ecological qualities of open space for future generations. General Plan goals are integral in seeking to develop and expand these natural resources. Greenway dedication is an expectation that Avondale will apply to the development plans of all new master-planned communities adjacent to the three rivers. It is fundamental to the success of the General Plan that the City is able to maintain its image as a healthful, spacious environment.

Outdoor recreational facilities are very important to the health and viability of a community. Many active and passive recreational uses work well within the regulations of floodways. An integral feature of Avondale's open space asset will be the Tres Rios Greenway. Bike and pedestrian paths are being planned both as recreational amenities and as alternative transportation links between neighborhoods and schools, playgrounds, and employment centers.

B. Character Analysis

The flows of the Gila and Salt Rivers follow in an east to west direction, while the Agua Fria moves in a north to southwest direction (See Map II). The existing conditions for each of these corridors is described and illustrated below.

1. Salt/Gila Corridor

The Avondale City limits begin at 107th Avenue and serve as the eastern border of the Project area. Moving westward about one half of a mile, one runs into the confluence of the Gila and Salt Rivers. The Salt River enters from the east, and the Gila enters from the southeast. Although the volume of water of the Salt River appears to be considerably greater than that of the Gila at the confluence, the fluvial continuation after the junction becomes the Gila. The Gila River is a habitat for many species of birds, fish, and vegetation. Land uses along the Salt and Gila River corridor consist of small farm communities, mobile home areas, Phoenix International Raceway, and areas of undeveloped land. The Estrella Mountains provide a backdrop to the south.

Significant roads to be noted in relation to the Salt/Gila corridor include 115th Avenue and El Mirage Road. The design of 115th Avenue at its crossing with the Gila River allows passage of water underneath. Heavy maintenance following flooding is necessary to keep the road's accessibility between the shorelines intact. In contrast, El Mirage Road touches both the north and south banks of the Gila River, but flooding has completely weathered away the road at the south bank. This makes the road completely inaccessible between its north and south banks. Maricopa County holds an agreement

with Maricopa County Flood Control District for the recreational use of the Gila River Corridor from the confluence of the Agua Fria River upstream to the Salt River confluence. This agreement was established for the development of the Sun Circle Trail. The Sun Circle Trail Corridor circles the Greater Phoenix Metropolitan Area and is over 100 miles in length (see Map IV).

2. Agua Fria Corridor

The Agua Fria River south of Indian School Road represents the north end of the project area. The corridor contains cemented embankments that provide flood control as the channel moves in a north to south direction. The channel passes through surrounding land uses such as residential, commercial, and recreational areas, and electrical towers can be found in the riverbed at several location. Coldwater Park, located just north of Buckeye Road on the west bank of the channel, serves as an existing activity node offering a variety of recreational opportunities. Two baseball diamonds, three volleyball courts, a tot lot, ramada, and future plans for a full basketball court are the recreational elements of Coldwater Park. Equestrian access to the Greenway will be provided at the site, and is also envisioned at future activity nodes.

The Agua Fria River south of Lower Buckeye Road represents the part of the project area that is least accessible by road or trail linkages. The Agua Fria moves toward the Gila River in a northeast to southwest direction. Residential and industrial land uses are identifiable beyond the Agua Fria's western bank, about one mile south of Lower Buckeye Road. The Agua Fria River feeds into the Gila River at the western border of Avondale, which also serves as the edge of the projected area.

Maricopa County has established an agreement with Maricopa County Flood Control District for the recreational use of the Agua Fria River Corridor from the Gila River confluence upstream to the confluence with New River (along the northern section of Maricopa County). The agreement was also for the purpose of developing the Sun Circle Trail.⁸

C. Opportunities and Constraints

Greenways represent an opportunity for planners and designers to influence how people interact with their surroundings, bringing awareness and understanding to the use of the land.

1. Opportunities

The opportunities for recreational enhancement in the project area are primarily based on the area's excellent positioning for the utilization of open space, along with the integration of quality neighborhoods and commercial areas outside of the project area. Traffic circulation, land values, aesthetic beauty, river bank amenities and entry treatments are all taken into consideration when evaluating the opportunities for the project. The details in the following paragraphs all add to the Greenway's future intensification.

⁸ Skaggs, Bob, Trails System Coordinator, Maricopa County Recreation Services Department, (Personal Interview, Phoenix, AZ, September 30, 1996).

- a. **Accessibility** – The relative proximity to Interstate 10, State Route 85, 115th Avenue and Buckeye Road corridors suggest that access to and from the Project are excellent to place it in competition with other West Valley locations now being considered as ready for development. The circulation system must be improved, however, to accommodate both increasing traffic demands and to shorten travel times to and from Interstate 10.
- b. **Open Space** – The Avondale General Plan’s long range vision emphasizes open space excellence. Plan aspects such as trail networks and river-riparian improvements correspond perfectly with master planned community attributes outside of the project area. The proximity to the Sun Circle Trail, Phoenix International Raceway, and the Estrella Mountain Regional Park encourages outdoor activity. This enhances the rural lifestyle image, attracting families who find outdoor recreational activities appealing and who recognize Avondale as an excellent environment to raise children.
- c. **Views** – The availability of aesthetic beauty is widespread throughout the entire project area. The open spaces and development along the Agua Fria River affords residents a clear portrait of the Estrella Mountains to the south, and a scenic vista of the White Tank Mountains to the northwest. The Salt and Gila Rivers border the northern base of the Estrella Mountains, which majestically dwarf the area around them. With closer proximity to these mountains, more detail (such as formations, cacti, and other vegetation) is evident to the viewer in the project area below. As the area develops, these scenic attributes will be maintained with the natural preservation of view corridors.
- d. **River Conditions** – Many locations along the three rivers are currently eyesores but have the potential to be upgraded into a recreational and open space amenity. Channel treatments such as the planting of vegetation and trail improvements are the focus of the upgrades for the Tres Rios Greenway. The three rivers also have a long-standing regional recreational significance. The alignment of the Sun Circle trail, the metropolitan area’s major multi-use trail loop, follows the riverbeds through the city and will be included in Greenway planning efforts.

2. **Constraints**

The Tres Rios Greenway project area contains characteristics that discourage urban development. The following constraints should be mitigated to facilitate the projects implementation (see Map V).

- a. **Municipal Boundaries** – The City of Avondale contains Maricopa County land within its planning area boundaries, much of which exists along the Tres Rios Greenway. This presents potential jurisdictional overlap problems regarding the City’s General Plan and Tres Rios Greenway Specific Plan. To overcome planning authority complications, in and along the Greenway planning area, the City reserves the right to review any plans the County may have within Avondale’s municipal planning area.

Additional jurisdictional overlap may have to be addressed with cities bordering Avondale, and more specifically the Tres Rios Greenway. These affected areas occur at the southern end of the Agua Fria River with respect to the City of Goodyear, and along the eastern and northern borders of the project with respect to the City of Phoenix. The Gila River Indian Community boundaries occur from 107th Avenue to 115th Avenue, south of the Salt and Gila Rivers. However, through cooperative planning efforts, the goals of the specific plan in these specific areas can be achieved. Through cooperative planning efforts, the goals in these specific areas of the project can be met.

b. Circulation Deficiencies

i) **Street Improvements** – With the increasing population of Avondale encouraging residential and commercial development, increases in traffic throughout the city is inevitable. Improvements to the circulation system throughout Avondale will be necessary. Because many of the streets are in County domain, cooperation with Maricopa County will be necessary to achieve this goal. At the present time, Avondale’s circulation system which is adjacent to the project area is insufficient to accommodate future traffic demand for people who will utilize the regional open space system.

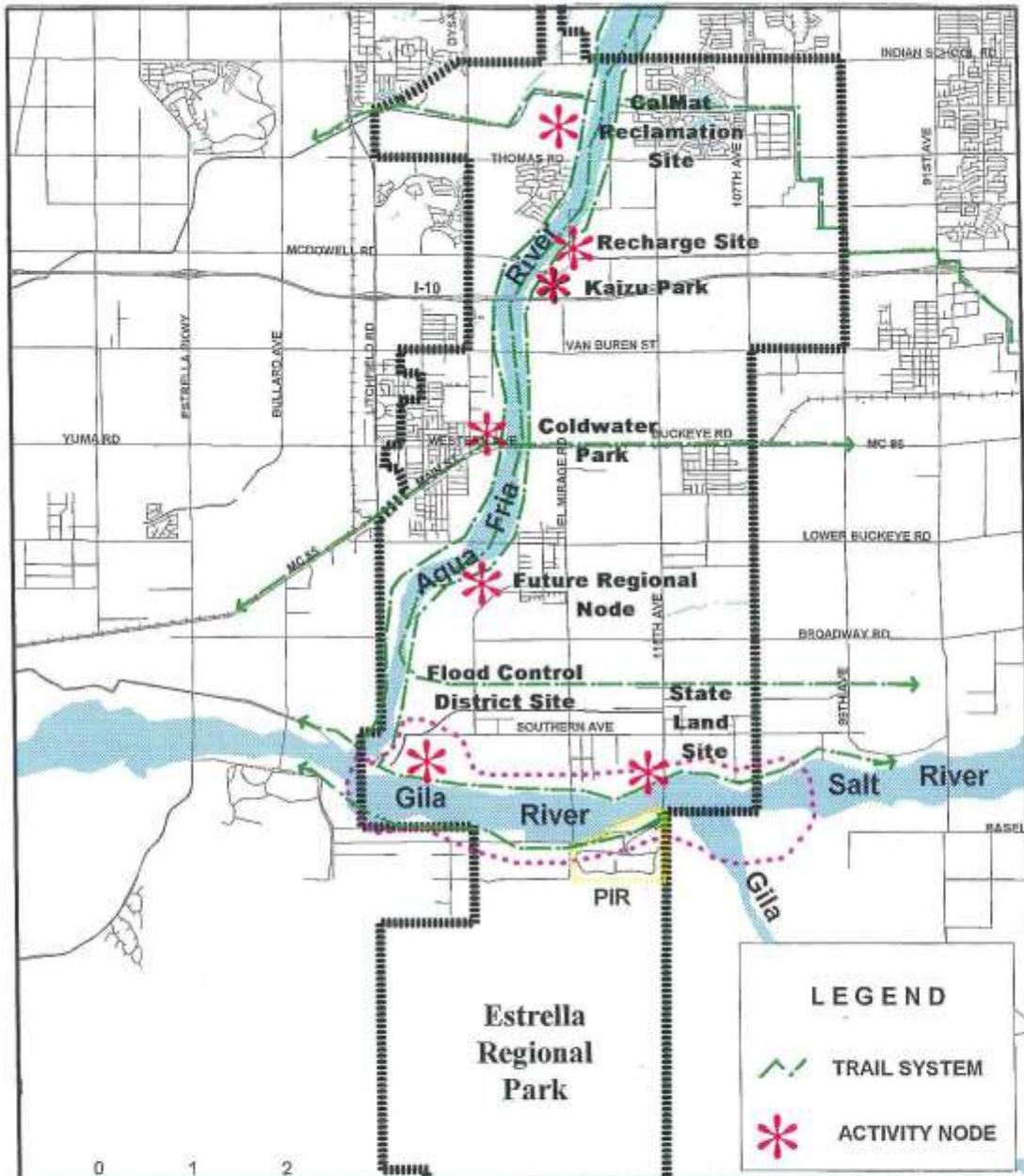
ii) **Bridge Access**

a) **Present Conditions** – An important issue involves the accessibility from the north bank of the Gila River to the south bank and its recreational opportunities. It should be noted that there is no possibility for access east of 115th Avenue at the Gila River crossing in Avondale; the topography in this location is inappropriate for access. El Mirage Road is often closed during periods of heavy flooding. The loss of El Mirage Road limits access between the north and south portions of the project area.

b) **Future Conditions/Requirements** – Future traffic increases will force traffic to be bottlenecked on Bullard Avenue’s two land bridges in Goodyear, west of the project area. Naturally, these problems will increase dramatically during times of activity at Phoenix International Raceway. The bridge across the Gila River at 115th Avenue is necessary and provides efficient circulation with respect to accessibility between the heart of Avondale, P.I.R., and the City south of the Gila River. Other future potential bridges under consideration may occur across the Gila River at El Mirage and Dysart Roads.

c. **Flood Control Structures** – The Flood Control District was established to provide flood and storm water management services for the benefit of Maricopa

County. As a policy, the District encourages recreational uses in flood control projects to the extent that the uses do not interfere with the operation of the flood control facility, and the cost of maintaining the facility is not significantly increased. The Tres Rios Greenway is limited in its design and accessibility options that occur in areas of Maricopa County Flood Control property. This would include structures such as bridges, levees and electric towers. Plantings of trees and shrubs in flood plain areas of the Tres Rios Greenway will adhere to Flood Control District requirements.



LEGEND

 TRAIL SYSTEM

 ACTIVITY NODE

SITE MAP



TRES RIOS
REGIONAL OPEN SPACE PLAN



Prepared By: Community Development Department

IV. SPECIFIC PLAN ELEMENTS

A. Land Use Element

The primary land use in the Tres Rios Greenway is open space. This is consistent with the General Plan goal of adopting a “wholesome living environment.” The planning area will include waterways, equestrian trails, bicycle/pedestrian pathways and activity nodes to be integrated throughout a linear greenway system (see Map III). There will also be areas planned to facilitate passive recreational uses, including enjoying the views provided by the Estrella and White Tank Mountains, bird watching and contemplation. It is a benefit to Arizona that Avondale contains nearly 30% of its land use as open space; an important goal of the project is to maintain and enhance the quality of life in the City. Provision of and accessibility to these recreational areas and activities should be viewed as Avondale’s major attraction for urban growth.

The project’s open space commitment is scaled at the regional and community levels. Activities that contribute to the regional open space include bicycle and pedestrian pathways connecting to other municipalities and the regional Sun Circle Multi-Use Trail. At the community level, the open spaces of the project will connect to multi-use activity nodes, schools and parks, neighborhoods and employment centers.

Residential and commercial development will be guided by other specific plans to enhance and support the open space system. The Tres Rios Greenway and appurtenant recreational facilities are meant to provide a more livable environment, as well as enhancing adjacent developments. The three major components of the Tres Rios Greenway project are the trail system, activity nodes, and the riparian ecosystem.

1. Trails System

The trails system is the backbone of the Tres Rios Greenway. The accessibility provided by the system allows it to cater to local residents while also connecting people throughout the region. This framework, in-conjunction with close proximity to employment and commercial areas, gives people an alternative means of transportation.

2. Activity Nodes

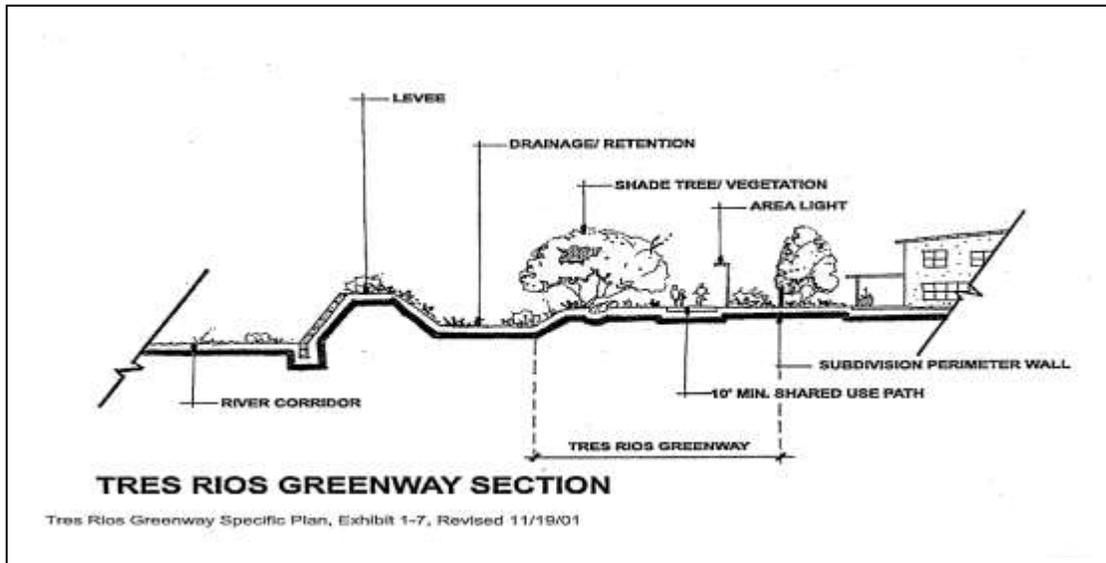
Several nodes exist or are planned within the Greenway area, emphasizing both active and passive recreation to serve a variety of interests. The nodes also serve as gathering places to draw local residents and regional citizens to the Tres Rios Greenway.

3. Riparian Ecosystems

The Salt/Gila corridor riparian ecosystems that make it the more vital sphere of the Greenway. These fragile ecosystem must be recognized and respected with considering trail passage through that area of the project.

B. Design Element

This section is directed towards the enhancement and promotion of a natural environment within an urban framework. The City envisions residential and commercial development accessible to a series of interconnected trails and parks. Properly designed and managed, the Tres Rios Greenway can furnish a wide variety of interesting designs that accentuate the natural setting. Far removed from what was once via river corridor landscapes, the Tres Rios Greenway will be designed to increase and maintain a natural ambiance while service the particular functions and image of the City of Avondale.



The following criteria affect the layout of the project, both directly to and from outside linkages. Development proposals will be evaluated based on the criteria established below, along with their adherence to the General Plan, specific plans, and the Avondale Zoning Ordinance. Contained within the following categories are the Greenway elements, indicating specific design standards.

1. Network System/Trails Planning

The trails that exist within the project area will serve their respective uses accordingly. With respect to the goals and intentions of the Tres Rios Greenway, the trails within the project area will adhere to standards that make them desirable for usage. The trail systems within the project area will uphold the atmosphere of proximity to the river channel while also allowing the user to opt for access to areas outside of the trail systems.

- a. Multi-use Trail** – The shared use non-motorized trail will be designed to accommodate bicyclists and pedestrians, and route the user along the perimeter of the river channels within the projected area. The material and aesthetics of the river channels within the project area. The material and aesthetics of the multi-use trail vary throughout the project area according to the land use environment.

It is important that the makeup of the trail coincides with its surroundings, be it urbanized or natural.

- i) **Urbanized Areas** – The meandering trail system along the Agua Fria Corridor will be at a minimum ten feet (10') wide and paved. The trails will border between the Agua Fria River and the developments along the project perimeter. Trails will provide access to the recreational trails proposed in the Agua Fria Watercourse Master Plan, West Valley Non-Motorized Multi-Modal Transportation Corridor Plan and other adopted plans for trails and recreation facilities along the Agua Fria River. Although not required by ADA, trails leading to and from the activity nodes will be ADA accessible.
- ii) **Natural areas** – As the trail moves away from intensive development zones into the more delicate, natural locations such as riparian areas at the confluence of the Agua Fria and Gila Rivers, paving and intensive trail development will change. The trail will retain a flavor natural to its riparian surroundings, such as a clay or gravel pathway designating the route.

- b. **Sun Circle Multi-Use Trail** – As part of the regional multi-use (hike, horse, and bike) Sun Circle Trail, the trail will be located in the river channels of the Tres Rios Greenway. The trail will consist of equestrian trails mainly in the riverbed area, while accommodating hikers and bicycles on the banks of the riverbed.

2. Vegetation Planting

The provisions of adequate shade during the summer months is identified as a critical issue with the Greenway plans. Because the trail will connect to activity nodes, a significant level of shade should be achieved. Shade will serve not only for aesthetic purposes, but will improve the level of comfort for trail users, encouraging consistent use. The most recognizable use of vegetation for shade purposes will occur at major activity nodes. Portions of the Greenway that are adjacent to urban areas will feature native species of vegetation, chosen more for visual effect than for benefit of wildlife or other ecological reasons. Such portions of the project occur along the Agua Fria River. As the greenway continues south towards the confluence of the Salt and Gila Rivers, the trails will be enhanced as part of a wildlife habitat network. The plant palette will conform to the approved Arizona Department of Water Resources' (ADWR) plant list found in the glossary of the Avondale Zoning Ordinance.

- a. **Urbanized Area** – In order to encourage Greenway use, it is required that one (1) tree and two (2) shrubs be planted for every twenty (20) linear footage of trail. Clustering of trees and shrubs is encouraged near seating areas.
- b. **Natural Area** – Ample vegetation presently exists along the Salt/Gila River Corridor. Greenway development in this area is encouraged to maintain existing conditions. Vegetation enhancement should be characteristic of the corridor.

3. **Signage**

The signage will orient people in and around the vicinity of the Tres Rios Greenway, and will be geared towards the following uses.

- a. **Entry Treatment Signage** – Several locations in Avondale are to serve as Greenway entry points. Potential entryways include: Broadway, Southern, Lower Buckeye and Indian Springs Roads. These areas should receive special signage so as to announce the entry into the Tres Rios Greenway area. The aesthetics of the signage should pleasantly coincide with and reflect the elements of the Tres Rios Greenway, with title and project symbol included and legible on the signage. Entry treatment signage shall not exceed five (5) feet in height or ten (10) feet in width. Maricopa County shall have the City’s permission to attach County “Sun Circle Trail” designations to City signs or provide separate “Sun Circle Trail” signage at entryways.
- b. **Trails Signage** – To keep the user oriented with the different locations throughout the system, signs, not to exceed a maximum of six (6) feet in height, will be located along the pathway. Maricopa County shall have the City’s permission to attach County designated trail signage to City signs or provide separate signage where appropriate.

4. **Lighting**

Essential to the success of the Greenway is the element of security. Several methods will be employed to achieve this; however, this section will address exclusively lighting and the impact on the use of the trail. Adequate lighting throughout the evening enhances people’s feelings of security, but should be the least intrusive to adjacent properties as possible. In many cases, the pedestrian can rely on a variety of light sources such as store fronts, and automobiles. The majority of the trail will not run along major or arterial roads, nor will it occur near many store fronts. In order to offset the lighting deficit while not disturbing neighboring housing developments, the employment of pedestrian scale lighting should be utilized. Developer-required lighting should be directed downward onto the trail: one (1) light pole per one hundred seventy-five (175) feet of linear trail.

5. **Furnishings**

The trail is projected to serve a vast array of users, including pedestrians, bicyclists, and a variety of other users. Assuming the trail will generate a fair amount of traffic, the use of several furnishings will be necessary to maintain a clean, comfortable, and user friendly environment. The following are recommendations to enhance the Greenway experience: benches, ramadas, drinking fountains, trash receptacles, and kiosks.

6. **Adjacent Development**

Certain factors should be considered in the review and approval of adjacent developments. Open spaces should be used to link the various land uses within the project area. Open space trail systems provide the opportunity for pedestrian movement among residential, commercial, and recreational uses. Park land and school developments should take advantage of open space interconnections, with the

responsibility lying with developers and their respective developments. Coordination with the present and developing communities will be necessary to encourage proper neighborhood integration.

- a. **Residential Neighborhoods** – Residential subdivisions are a common element found in the vicinity of the planning area, and are concentrated near the Agua Fria River between Indian School and Southern Roads. Accessibility from these areas to the project serves as an important block in the foundation of the Tres Rios Greenway. Linkages by way of the Roosevelt Irrigation District canal, streets crossing the project area, and activity nodes will be the elements of this accessibility. The maintenance and upkeep of this linear trail system connecting to the Greenway will go through the neighborhoods’ respective Home Owners’ Association.
- b. **Commercial/Employment Uses** – Many commercial and industrial developments found in the metropolitan area tend to focus on their own “urban space” by creating a sense of place with little regard to surrounding land uses. The Tres Rios Greenway encourages the incorporation of commercial and employment land use adjacent to the project that promotes pedestrian interaction. In order to accomplish this goal, attention must be given to the siting characteristics of these uses as they relate to the open space system. The City encourages the provision of quality retail and office development patterns that take advantage of residential interaction, open space, trail connections, and park land. Commercial development proposals adjacent to the Tres Rios Greenway will be reviewed for their attempt to achieve the goals of the project.

7. Infrastructure Improvements

Improvements to the project focus mainly on road upgrading for those that affect the project directly. Bridge improvements and construction will be designated accordingly, with respect to engineering and safety standards. These other infrastructure improvements will include adequate parking facilities for uses throughout the region.

C. Circulation Element

The success of future development envisioned for the Tres Rios Greenway will rely upon the completion of an efficient and safe circulation system (See Map IV). Convenient access through pedestrian, bicycle, equestrian and automotive means is necessary to draw people to the unique lifestyle of the City and make use of the Project’s amenities. Proper circulation must address both local and regional elements.

1. External Circulation Elements

The following elements are part of the Tres Rios Greenway circulation system that address the project area’s relationship with areas outside of it.

- a. **Arterial linkages** – Several east-west arterial streets intersect the Tres Rios Greenway. These include: Indian School Road, McDowell Road, Van Buren

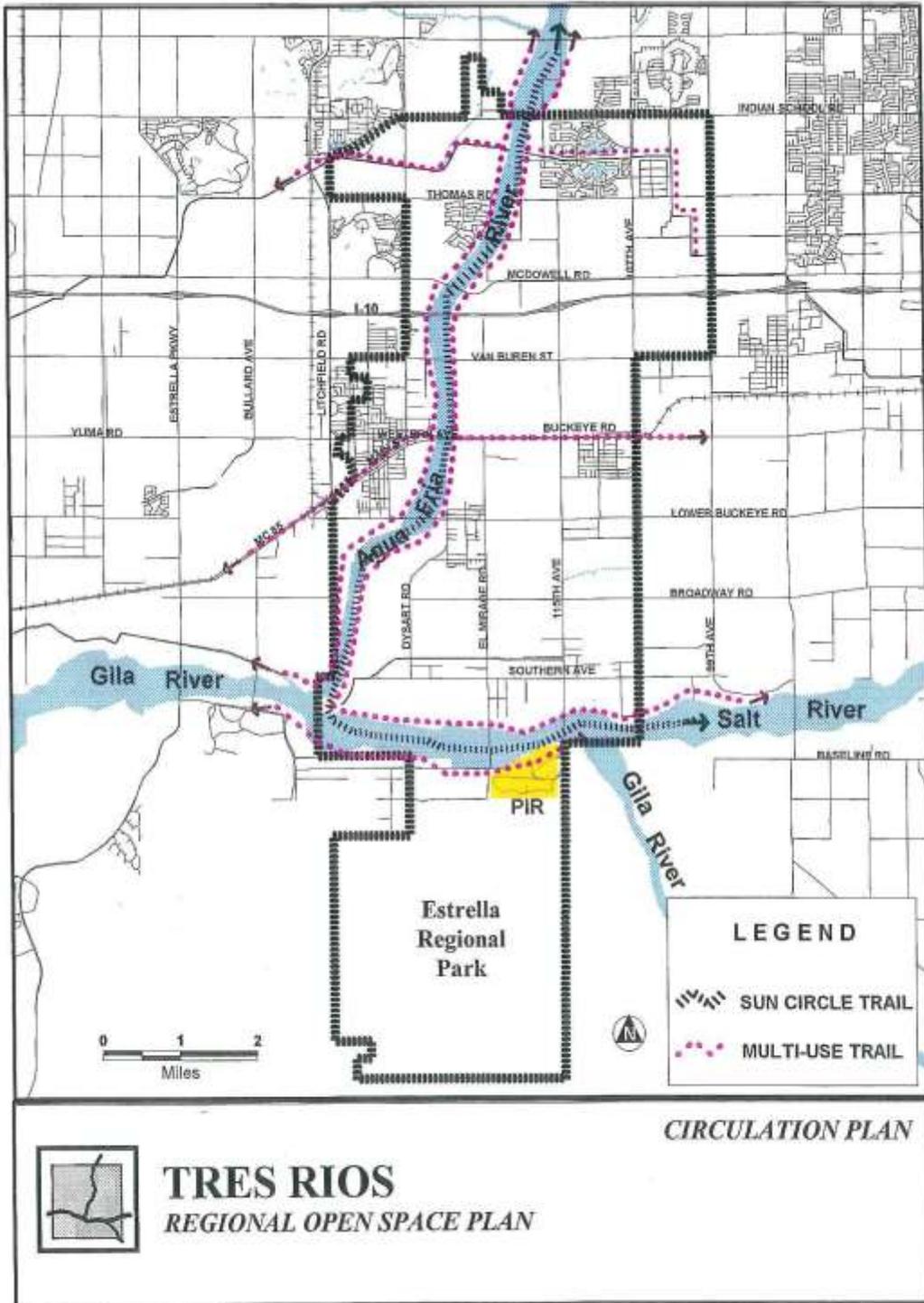
Street, Buckeye Road, Lower Buckeye Road, Broadway Road, and Southern Road. A north-south arterial intersecting the Greenway is 115th Avenue. These roads will link to the multi-use trail system that follows the channels. It will be the responsibility of the City to ensure that the Greenway is accessible from these roads.

- b. Roosevelt Irrigation District (RID) Canal** – Canals can serve as a linear parkways that link residential and commercial areas to an open space project. Moving through designated neighborhoods in the northern portion of Avondale, the RID canal contains the linear park qualities that make it a desirable route to follow and link with the Tres Rios Greenway. The City of Avondale has adopted design guidelines for the Roosevelt Irrigation District canal which include a 30’ wide public access trail corridor. This corridor may be dedicated to the City through the development or rezoning process, or may be privately developed and maintained for public use.
- c. Activity Nodes** – Various activity nodes exist or are proposed throughout the project area. Serving as regional parks and points of activity, these nodes plan an important role in providing access to the rail system and providing parking for convenient regional access. The maintenance and upkeep of these activity nodes, made part of the Greenway, will be the responsibility of the City.
 - i) Access to trails from nodes** – Activity nodes will serve as points of access to the trail system, which consists of a multi-use trail. The links between the activity nodes and trail systems will be user-friendly, providing easy access for equestrian trailers, pedestrians and bicyclists.
 - ii) Parking conditions** – The parking conditions will allow for access to the trail system on a regional scale. Residents outside of Avondale will have easy access to the open space activities through parking provided at the activity nodes.

2. Internal Circulation Elements

Tres Rios corridors – The three rivers in the project provide accessibility to the trail systems through their respective corridors. As part of the regional Sun Circle Trail, the multi-use routes will focus on circulation in or near the river channels, with outside accessibility also provided at activity nodes. While providing corridor access, the multi-use trail system will be more intimate with development on the perimeter of the riverbeds. The latter trail will materialize with its respective nearby development, and provide access to more outside linkages than its equestrian and multi-use counterpart.

MAP IV



V. IMPLEMENTATION

The methods utilized in carrying out the implementation have been devised to be equitable and protect the right of property owners, while at the same time provide effectiveness in achieving Greenway objectives. The implementation strategy includes incentives for private sector participation, assurance of development rights, and guaranteed governmental oversight and cooperation.

The overall strategy for maximizing the effectiveness of public and private sector actions relies mainly on taking a “market oriented” approach to achieving public goals. This approach concentrates on providing a governmental framework to encourage maximum participation by the private sector in providing for the needs for the community.

The primary importance of private sector participation involves creating a market environment that provides positive profit incentives. The creation of the public amenity in the affected areas should significantly enhance development potential. Capturing a portion of this value enhancement would assist in paying for these improvements.

The City will be held responsible for researching and acquiring any and all appropriate revenue sources through state and federal grants and related programs. Grants including, but not limited to, ISTEAs (Federal)⁹, State Parks Heritage Grants¹⁰, and Game and Fish Heritage Urban Grants (State)¹¹, are aimed towards encouraging municipalities to take a pro-active position with regard to the preservation and enhancement of regional open space. Additional fiscal relief can also be generated through the direct purchase of Greenway land through General Obligation bonds. Finally, an encouraged and well accepted policy requesting dedication of Greenway from developers of new subdivisions will contribute to the overall success of the project.

A. Specific Plan Administration

Under state law, specific plans provide a greater level of detailed planning and regulation of a sub-area of the community. Specific plans are considered a part of or an amendment to the community’s general plan, and may, by state law, be regulatory. That is, the plan may contain provisions, standards, and restrictions which supersede regulations of the city’s ordinance.

The Avondale Tres Rios Greenway Specific Plan contains a number of provisions which are regulatory in Nature. Administration of the specific plan will be subject to the following rules:

⁹ ISTEAs. For regional information, contact: Maricopa County Department of Transportation, Phoenix, AZ, (602) 506-8600.

¹⁰ State Parks Heritage Grants. For regional information, contact: The Arizona State Preservation Office, Arizona State Land Department, Phoenix, AZ, (602) 542-4174.

¹¹ Game and Fish Heritage Urban Grants. For regional information, contact: Arizona Fish and Game Department, Phoenix, AZ, (602) 789-3607.

1. Where a provision of the specific plan varies from the underlying zoning of subdivision ordinance, the specific plan shall prevail.
2. Within the Tres Rios area, any land or structure to be developed shall be in conformance with regulations contained in the specific plan.
3. If, at time of adoption of the specific plan, land uses existing in an otherwise lawful manner that does not conform to the specific plan regulations, such uses shall be deemed non conforming. Such use may continue in the manner and to the extent that it existed or was being used at the time of such adoption. Non conforming uses shall be governed by the non-conforming use regulations of the zoning ordinance.
4. Variances from regulations contained on the specific plan may be granted in accordance with the procedures and standards for granting variances from the zoning ordinance.
5. Any amendment to the adopted specific plan shall be processed in accordance with State law. Any amendment to this plan which qualifies as a major amendment as defined in the adopted Avondale General Plan will also be considered a major amendment to the Avondale General Plan and must be adopted through the adopted General Plan Major Amendment process.
6. Violation of any regulation contained in the specific plan shall be deemed to be a violation of the Avondale Zoning Ordinance.

B. Development Guidance

The Tres Rios corridor will continue to be subject to Avondale's city-wide policies. However, to maintain consistence in terms of policy and design, it will be essential that the City of Avondale provide effective leadership throughout the process. The intention is to maintain housing and land values, and furthermore, create a livable community appearance.

1. Municipal Leadership

The initial step toward implementation of the Tres Rios Greenway Specific Plan consists of adopting amendments to integrate design and open space components into the community through developers exercising creative site layout engineering. Cooperative liaison with other government agencies and with corporate or institutional leadership is essential to obtain necessary dedications for rights-of-way, parks, and view corridors.

The following specific steps involving the development of regional nodes are proposed by, and the responsibility of, the City of Avondale to facilitate development along the Tres Rios Greenway project. These too are designed to encourage participation in the project by private developers.

- a. Develop an action plan to complete Coldwater Park. This process will be on going and will evolve appropriately as the community sees fit.
- b. Acquisition of land for Kaizu Park, a dedication to Avondale's Sister City, Kaizu, Japan. As with Coldwater Park, the project will reflect the values and needs of the community and will remain an on-going project.

2. Development Incentives

Because the area adjacent to the Tres Rios Greenway will be predominantly residential, attractions to land use planning center on the home building industry. Similar to the Residential Development Option, contained within the North Avondale Specific Plan, flexibility with regard to density will be considered with this plan. This approach creates opportunities for efficient units-per-acre yields with master-planned outdoor activity amenities. In short, builders of new neighborhoods are encouraged to integrate parks, recreation areas, trails and buffer spaces along the Tres Rios Greenway, receiving density bonuses in return.

C. Regulatory Procedures

Regulatory provisions and procedures are necessary to secure compliance with planning objectives and program specifications. Regulatory requirements that will have significant effects on the implementation of this project include.

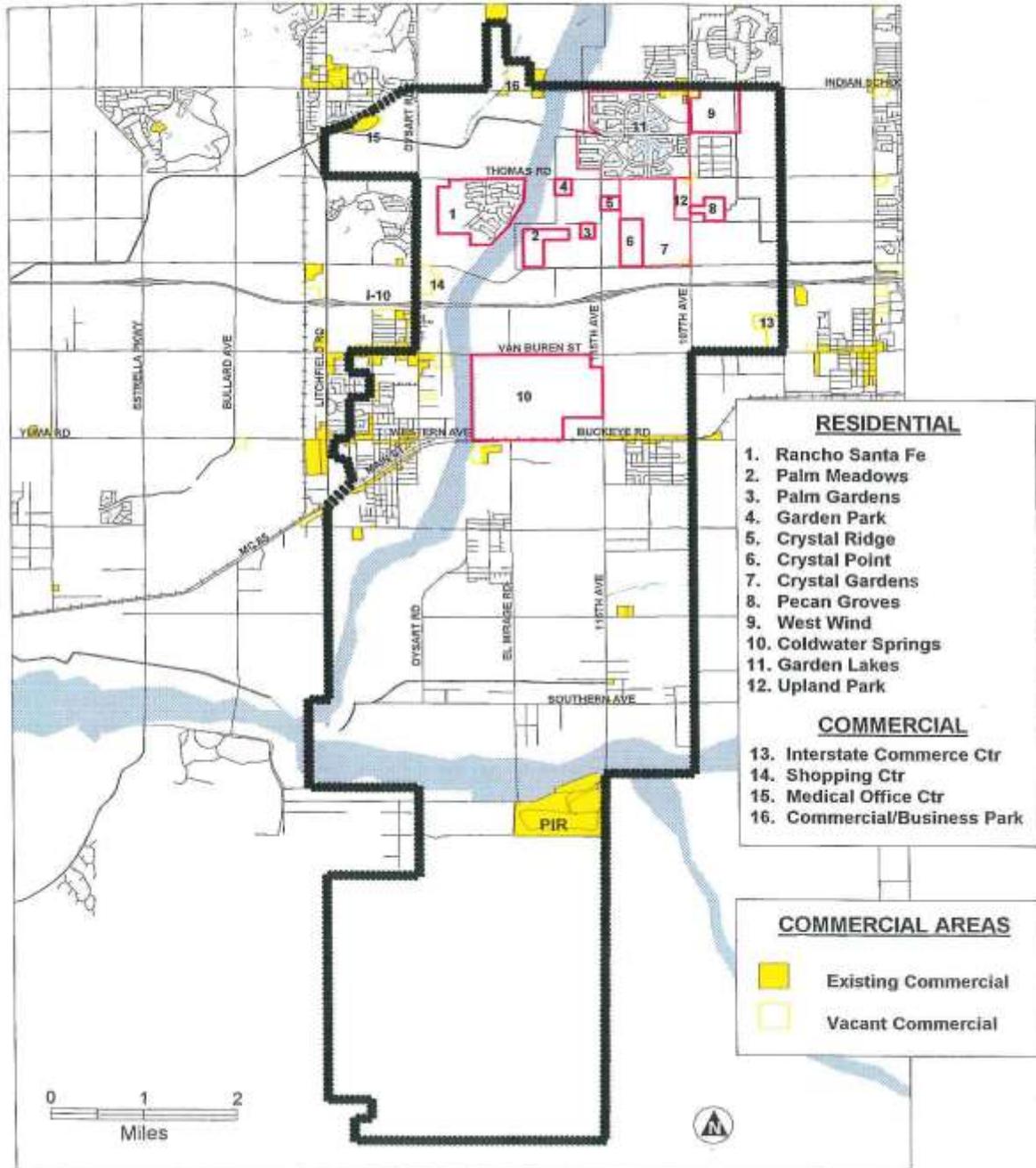
1. **Maricopa County Flood Control District** will dictate, to a certain degree, the design and function of the river corridors. Some regulatory controls will affect the design of adjacent land uses (i.e., landscaping, chemical application, limiting drainage from developments into the river beds).
2. **Maricopa County Parks and Recreation** has an agreement with Maricopa County Flood Control District which reserves the rights for recreational use within and along the Agua Fria Riverbed. MCPR has demonstrated significant interest in the Tres Rios Specific Plan and furthermore engaging in partnership with the City of Avondale to further develop and enhance the Sun Circle Multi-use Trail.
3. **General Plan and Specific Plan** guidance will be utilized in the review of development proposals adjacent to the Greenway. Overall density and siting provisions will be followed to provide for urban growth patterns.
4. **More specific requirements of the Tres Rios Greenway** will also be adhered to. Many of the project's implementation procedures, while not regulatory in nature, will be utilized during the City's review and approval processes.

D. Improvements

1. Developers will be required to improve their properties as necessary to fulfill the goals and objectives of the Tres Rios Greenway Plan. Requirements will include such amenities as bike paths, open space, tot lots, and playgrounds.
2. Developers will be required to contribute \$250 per single family home for the City's Park Land Development Fund. Funds will be used to extend and enhance the Tres Rios Greenway regional trail and park system.
3. For the purpose of enhancing the aesthetic quality and economic vitality of Avondale and the Tres Greenway, developers will be required to comply with the new design guidelines for Planned Area Development Districts (PADD).

CITY OF AVONDALE Proposed/Planned Developments

COMMUNITY
DEVELOPMENT
DEPARTMENT



VI. PLAN SUMMARY: BENEFITS OF THE PLAN

The Tres Rios Greenway Plan will promote a more economically stable and viable community. Cities with regionally significant open space and recreation opportunities are amenities that residents and tourists desire, as well as business owners. The City's scenic qualities, recreational nodes, trail system, and wetlands project are just a few of the elements which can promote a healthy economic setting.

The county-wide open space plans studied in this document present examples of successful guidance towards enhancing the area's property values and economic stability.

The Tres Rios Greenway Plan will promote social gatherings for the community and the region. The Plan contributes to the implementation of the Goals of the adopted Avondale General Plan and addresses the need for park, recreation, trail systems, and greenbelts that interconnect open space areas and communities. Residents will have the opportunity to experience recreational activities within the natural environment and learn about these areas through educational opportunities.

Both active and passive recreational activity areas will be provided within the Tres Rios Greenway. The City will preserve and use existing parks, riverbed, mountain, and other natural areas for open space and recreation opportunities. The Plan will establish a network of trails, bikeways, and pathways which will link with surrounding cities' trail systems and regional parks. The plan also encourages the multiple use of parks and trails; it promotes active recreational facilities to be developed with other public facilities, such as school sites, retention areas, and flood control areas.

The implementation of the Plan will provide regional environmental, economic, social, educational, and recreational benefits. Benefits of the Plan occur with time, with some of the benefits being immediate. The Tres Rios Greenway will impact the City's overall character and image, as well as the lives of present and future generations. The establishment of an open space system will include environmental benefits and higher quality of life for community residents. The City of Avondale will directly benefit from the preservation of fragile desert riparian areas, wildlife habitat, and specifically, the preservation of water resources.

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