Land Development Guidelines

All development within the El Rio corridor will provide an interconnected, multi-modal system with a mix of uses and green spaces. The goal of this planning document is to assist in providing guidelines for all development in the project area at a scale appropriate to its proposed location and level of flood risk. All development in the corridor will link to the El Rio Trail system and the river environment. This interconnected 'ribbon' of green will transform the El Rio corridor into a unified, cohesive setting where residents and visitors can reconnect with nature, and can pause and enjoy life. El Rio will be that special place where both natural and human ecosystems flourish.

3.1 Background

Historically, flooding in the El Rio corridor has played an important role in shaping the surrounding natural environment. Although floods occur relatively infrequently in the area, the consequences can be very significant. Flooding can place lives at risk and result in extensive property damage, therefore, managing the risk of flooding is an important consideration in the development of an economically and environmentally sustainable destination.

As development continues to take shape in the area, it is important to understand this history and plan for future development that takes this history into consideration. Based on the level of flood risk, future development can provide site design and/or structural improvements to mitigate flood risk. The framework outlined in this chapter allows for future development in the corridor.

3.2 Development Objectives

The El Rio Design Guidelines and Planning Standards document encourages future development at an appropriate scale to the level of flood risk and takes the following objectives into consideration:

1. Minimize the potential impacts of flooding on human health and safety.
2. Encourage development in locations with little or no risk from flooding.
3. Allow development throughout the corridor, at a scale appropriate to the risk of flooding and mitigation measures.
4. Recognize potential for changes in flood risk by considering future, funded local and regional flood improvements.

No design or improvement can completely eliminate flood risk in the corridor; therefore, managing the consequences of flooding is of paramount importance.

3.3 Implementation

Future development will be guided by the El Rio transect guides. There are two (2) transect guides in the El Rio corridor plan, the Viewshed transect and the Flood Risk transect. The Viewshed transect is intended as the overarching guide for land management and design and applies to all property in the El Rio corridor. The intent of the Viewshed transect is to ensure that the density and intensity of development is appropriate as it relates to the approach to the Gila River and the view of the southern mountain ranges and hills.

The Flood Risk transect covers any property, or portion thereof, that is within a FEMA designated floodplain. The intent of the Flood Risk transect is to ensure that the appropriate density and intensity of development is located and designed in a safe manner as it relates to the floodplain and flood depths. This transect could be further enhanced through the use of agricultural conservation easements, which would preserve farmland along the river. These guidelines recognize that agricultural land use remains a vitally important aspect of the community lifestyle while also benefiting wildlife.

In utilizing the transect guides, proposed development should be reviewed as follows:

1. If property is in the floodplain, it should follow the Flood Risk transect.
2. The Flood Risk transect is sectioned into different categories based on the depth of the base flood elevation. Development of the property should follow the guidance of the appropriate flood risk category (i.e., Regular Floodway, Natural Area, and Transitional Rural Area).
3. After determining the flood risk category, proposed development will refer to Table 3-1, El Rio Corridor Land Use, for guidance on density and intensity of development.
4. If property is not in the floodplain, it should follow the Viewshed transect.
5. The Viewshed transect is sectioned into different categories based on the distance from the Regular Floodway. Development of the property should follow the guidance of the appropriate Viewshed category (i.e., River Development Option 1 or 2, General Urban or Urban Center).
6. If the subject property is within a FEMA designated floodplain, then the development of the property should follow the Flood Risk transect.

Table 3-1, El Rio Corridor Land Use, sorts development into four categories: Highly Vulnerable, More Vulnerable, Vulnerable, and Low Vulnerability. In general, use vulnerability is based on the type, density and/or intensity of development in relation to:

1. The depth of the base flood elevation
2. The consequences of flooding on human health and safety
3. The extent of potential property damage

Vulnerability of development is based on the presence and level of concentration of people, infrastructure and/or buildings. Higher concentration of people, infrastructure and/or buildings results in higher vulnerability due to the potential costs to life and property in the event of a natural or man-made disaster. Also, higher concentrations require a higher level of disaster preparedness and mitigation in order to reduce the risk to life and property.

Development in any vulnerability category should consider mitigation measures in order to manage the potential consequences of flooding. Consequences of flooding can be managed by reducing the density/intensity of development since it naturally reduces the concentration of people, infrastructure and/or buildings. Therefore, less dense/intense development is, by definition, less vulnerable. Consequences of flooding may also be marginally reduced through local site design mitigation measures or more widely reduced through the construction of regional flood facilities.

Table 3-1 El Rio Corridor Land Use

	Use Type Descriptions		Permitted Development			
			Flood Risk Transect			Viewshed
Vulnerability	Residential Uses	Non-Residential Uses	Regular Floodway	Natural Area	Transitional Rural Area	
Highly Vulnerable	Residential densities in excess of 4.01 du/ac	All Buildings for Retail and Service Uses, such as, but not limited to, Lodging, Meeting Hall, Hospital, Religious Institution, School, Group Living, Day Care, Restaurants, Indoor Entertainment.	X	X	P_2	P
More Vulnerable	Residential densities from 2.01 to 4.0 du/ac	All Buildings for Industrial, Retail and Service Uses in excess of 20,000 square feet.	X	P_2	P_1	P
Vulnerable	Residential from 0 to 2 du/ac	All Buildings for Industrial, Retail and Service Uses in excess of 10,000 square feet and Outdoor Entertainment.	X	P_1	P	P
Low Vulnerability	Residential densities up to 1 du/ac	Agricultural, Parks and Open Space, Mining	P_2	P	P	P

X = Not Permitted
P = Permitted with no restrictions
P_1 = Permitted with note on final approved site plan and/or subdivision plat indicating flood risk.
P_2 = Permitted with a) Note on final approved site plan and/or subdivision plat indicating flood risk, and b) site design and/or structural mitigation measures.

Note: All Development should be in accordance with Maricopa County flood regulations and / or the applicable local jurisdictional flood regulations.

*-Finished floors of an permitted building should be elevated a minimum of two (2) feet above the 100-year base flood elevation.

-Smaller lots may be permitted provided clustering techniques are utilized and overall project density does not exceed permitted general plan density.

-All development should comply with FEMA Rules.

(1) River Urban Core development permitted with detailed development plan
(2) River Suburban Fringe development permitted by right

Land Use

All development within the El Rio corridor is intended to be guided by a sustainable planning vision that respects the desert southwest environment, and enhances and preserves the unique setting of the El Rio corridor. The following El Rio transects will guide future development within the corridor.

The intent of the transect guides is not to prescribe allowed uses, nor modify or amend approved local jurisdictional General Plan land use designations but instead illustrate how different densities and intensities of development should be integrated with each other, while respecting and enhancing the unique El Rio environment.

In general, this approach allows the full range of land use types, densities and intensities, provided the appropriate mitigation is included with the development.

El Rio Land Use Transect Guides

3.4 Design and Land Management Goals

Goal 1

Preserve the scenic vistas while enhancing the natural riparian environment with development that is responsible and respectful of its setting, in order to establish the corridor as a unique regional and national destination.

Policies

1. In low and very low density/intensity development, infrastructure should enhance the character of the corridor by minimizing street widths using alternatives to asphalt roads, utilizing ribbon curbs, minimal street lighting and trails/path system rather than a sidewalk network.
2. In medium to high density/intensity development, infrastructure should enhance the character by utilizing street alignments and site design to take advantage of sightlines to the Gila River corridor and the mountain ranges and hills to the south.
3. Use site planning techniques that minimize the visual impact of development along north/south arterial corridors.
4. Transition development adjacent to the floodway by using appropriate setbacks, building scale, building massing and open space.

Goal 2

Recognize the potential for inundation and provide guidelines for development that balances the density and intensity of development as it relates to the potential for, and intensity of, flooding.

Policies

1. Cluster development may be considered in flood risk areas. Clustering is any general approach which results in a more compact arrangement of buildings and creates larger tracts of connected open spaces.
2. Cluster development should provide a range of housing types and an approach to maintaining areas in their natural state. Net density and character of clustered areas should not exceed the approved General Plan of the applicable local jurisdiction.
3. Finished floors of any permitted building should be elevated a minimum of two (2) feet above the 100 year base flood elevation.
4. Uses such as golf courses, low intensity resorts and non-commercial equestrian centers should have minimal visual impact and preserve the natural setting.

Goal 3

Encourage an integrated approach to land development that promotes inter-connected public access to open space and that results in integrated diverse uses, densities and intensities.

Policies

1. Development should provide multiple access points to open space. Open space areas should be accessible through residential neighborhoods.
2. Residential uses should use site planning, open space, building massing and construction techniques which preserve the natural setting.
3. Non-residential uses should be similar in character to the surrounding residential development.
4. Open space, pedestrian paths and trails are encouraged throughout all development projects.
5. The perimeter of projects should be designed to promote a sense of arrival and integrate the natural setting of the El Rio corridor.
6. To ensure open space connections and the feeling of openness throughout the corridor, development should utilize open space to transition from development to development and should minimize the use of subdivision walls to separate different subdivisions.
7. Designate and sign appropriate public access to all bike/pedestrian paths and trails.
8. All bike/pedestrian paths/trails should connect to the El Rio trail
9. Use open space conservation areas to preserve the natural setting through the following methods:
10. Provide visual open space amenities along and near streets and use natural open space between developments and roadways to minimize the impact on views.
11. Encourage the use of natural area open space in site planning and subdivision design to ensure an overall openness.
12. Encourage natural area open spaces that can be used and enjoyed by all residents and connect to open areas outside the development.
13. Provide building setbacks that are staggered and not in a straight line.
14. Preserve and protect the unique open spaces, along with archaeological and historical sites.
15. Encourage large continuous use of open space.
16. Restrict access to sensitive habitats.
17. Active open space areas should incorporate the unique natural setting of the El Rio corridor, emphasizing the unique river environment, through site and architectural design.
18. Turf should be limited to active recreation areas, open play spaces and areas of high public use.

3.5 Flood Risk Transect

The Flood Risk transect identifies the appropriate type and scale of development for properties within the El Rio corridor that may be at risk for some level of flooding.

Where development is proposed, suitable mitigation measures should be incorporated within the design to ensure that development is as safe as possible and there is minimal risk to life and minimal potential for property damage. However, it is important to recognize that design and improvements cannot eliminate flood risk completely. Therefore, where development is allowed, plans/measures must be in place to manage the consequences of flooding and, where necessary, long-term maintenance of improvements must be provided. All proposed development on property identified as 'at-risk' of flooding should identify and provide means for safe egress in the event of flooding.

The table below is used to guide the density and intensity of development based on which flood risk category the development is located (i.e. Regular Floodway, Natural Area, or Transitional Rural Area).

Table 3-1 El Rio Corridor Land Use

Vulnerability	Use Type Descriptions		Permitted Development			
			Flood Risk Transect			Viewshed
	Residential Uses	Non-Residential Uses	Regular Floodway	Natural Area	Transitional Rural Area	
Highly Vulnerable	Residential densities in excess of 4.01 du/ac	All Buildings for Retail and Service Uses, such as, but not limited to, Lodging, Meeting Hall, Hospital, Religious Institution, School, Group Living, Day Care, Restaurants, Indoor Entertainment.	X	X	P_2	P
More Vulnerable	Residential densities from 2.01 to 4.0 du/ ac	All Buildings for Industrial, Retail and Service Uses in excess of 20,000 square feet.	X	P_2	P_1	P
Vulnerable	Residential from 0 to 2 du/ac	All Buildings for Industrial, Retail and Service Uses in excess of 10,000 square feet and Outdoor Entertainment.	X	P_1	P	P
Low Vulnerability	Residential densities up to 1 du/ac	Agricultural, Parks and Open Space, Mining	P_2	P	P	P

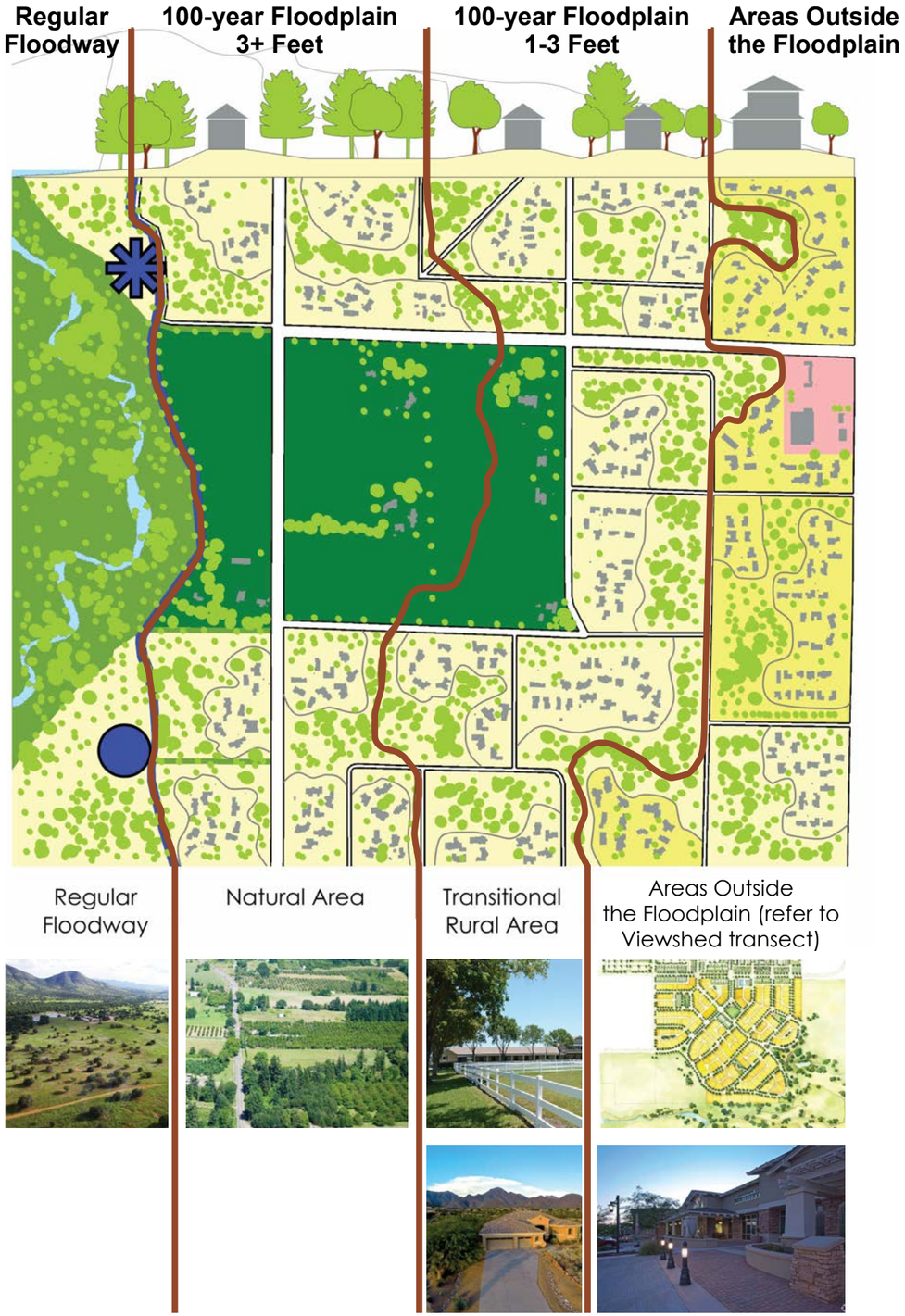
X = Not Permitted
P = Permitted with no restrictions
P_1 = Permitted with note on final approved site plan and/or subdivision plat indicating flood risk.
P_2 = Permitted with a) Note on final approved site plan and/or subdivision plat indicating flood risk, and b) site design and/or structural mitigation measures.

Note: All Development should be in accordance with Maricopa County flood regulations and / or the applicable local jurisdictional flood regulations.

*-Finished floors of an permitted building should be elevated a minimum of two (2) feet above the 100-year base flood elevation.

-Smaller lots may be permitted provided clustering techniques are utilized and overall project density does not exceed permitted general plan density.

-All development should comply with FEMA Rules.



Regular Floodway

Area Location
The Regular Floodway describes land located in the FEMA designated floodway.

Allowed Land Uses
One dwelling unit per acre or less, agricultural uses, open space, and permitted mining operations.

Area Description
This area is defined as the Gila River floodway and contains a perennial water flow that is supplied by reclaimed water, agriculture tailwater and groundwater. The area consists of expansive open space areas that include salt cedar thickets, mesquite bosques, marsh lands and cottonwood/willow corridors. The area also includes some sand and gravel mining operations. The predominately natural condition of this area supports a varied wildlife habitat and passive recreation opportunities.

Character Areas
The High Value Habitat character area is the Regular Floodway.

Natural Area

Area Location
The Natural Area describes those areas that are within the floodplain with a flood depth of 3+ feet.

Allowed Land Uses
Very low density residential and agricultural uses are permitted within the Natural Areas. However, development is discouraged in Natural Areas, that is in excess of the allowable floor area ratio (FAR) of the underlying base zoning district of the governing jurisdiction.

Area Description
These types of areas are in the floodplain, therefore, finished floors of any permitted building will need to be elevated a minimum of two feet above the 100-year base flood elevation. Expected typical uses in the natural area are active and passive open space uses, particularly trails and trailheads. These are encouraged to help connect the "Edge" areas (see Section 4) with the rest of the El Rio corridor. Opportunities may exist for the preservation of natural resources in these types of areas.

Areas designated as Natural Areas (or open space) should be limited from new development, with the exception of projects, like trails, that are designed to preserve or accentuate their natural resources.

Character Areas
A portion of all character areas falls into this category.

Transitional Rural Area

Area Location
The Transitional Rural Area describes those areas within the floodplain with a flood depth of 1-3 feet.

Allowed Land Uses
Low density residential and agricultural uses are permitted within Transitional Rural Areas.

Area Description
These types of areas are at risk of flooding. Finished floors of any permitted building will need to be elevated a minimum of two feet above the 100-year base flood elevation. Expected typical developments will be single stand-alone houses, clustered very low-density housing, agricultural and related agricultural industry uses. Active and passive open space uses, particularly trails and trailheads, are encouraged to help connect this area with the rest of the El Rio corridor.

Most of the natural desert scape has already been turned over to agricultural uses in the Transitional Rural Areas of the El Rio corridor, therefore, developers who utilize clustering techniques are encouraged to fill in the non-elevated areas of their developments with native plants, identified elsewhere in this document, in order to help unify this concept area with the rest of the El Rio corridor.

Character Areas
Parts of Buckeye North Bank Development, Parts of Waterman Wash Rural Development and Recreation Area, Scenic Rural Development and Open Space constitute this category.

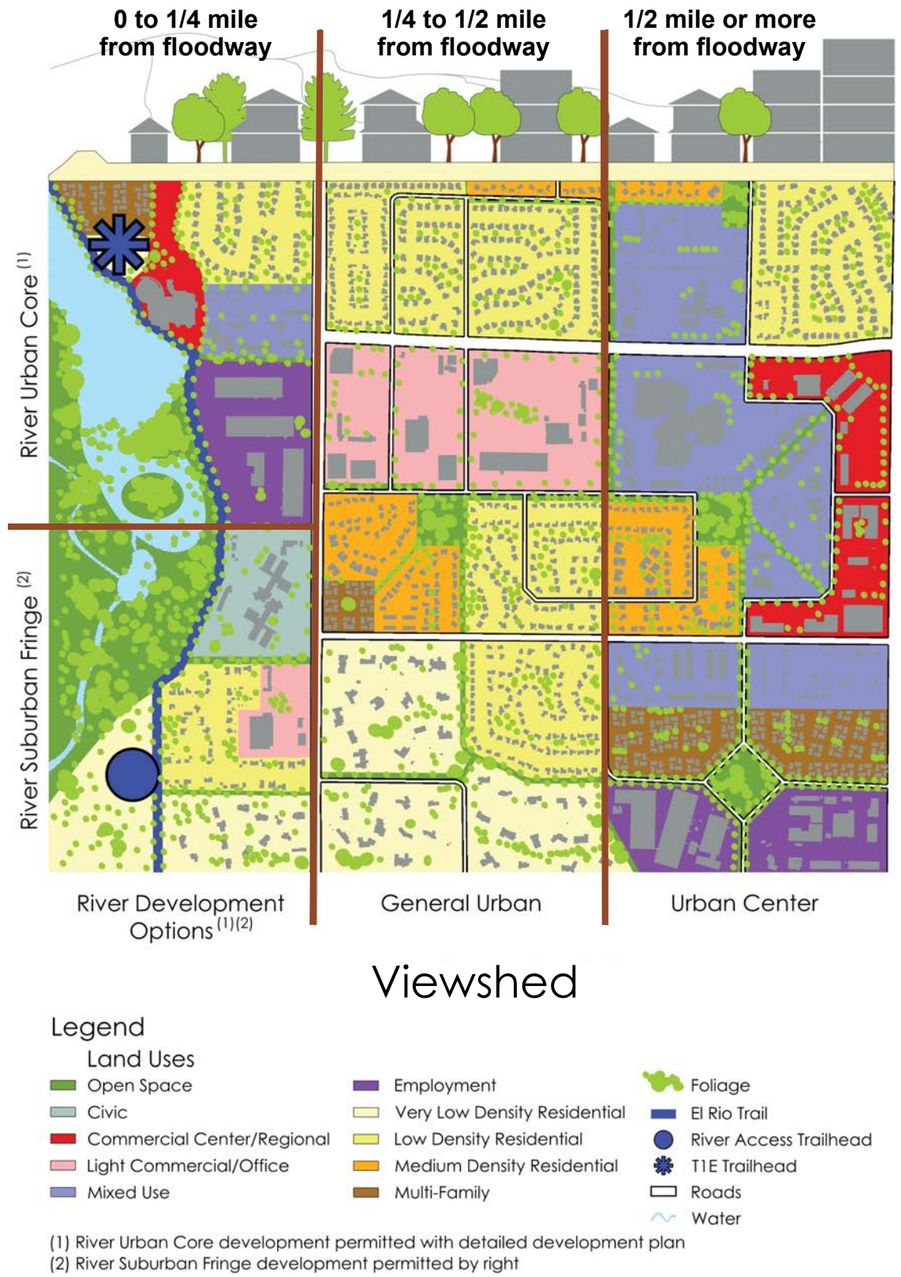
3.6 Viewshed Transect

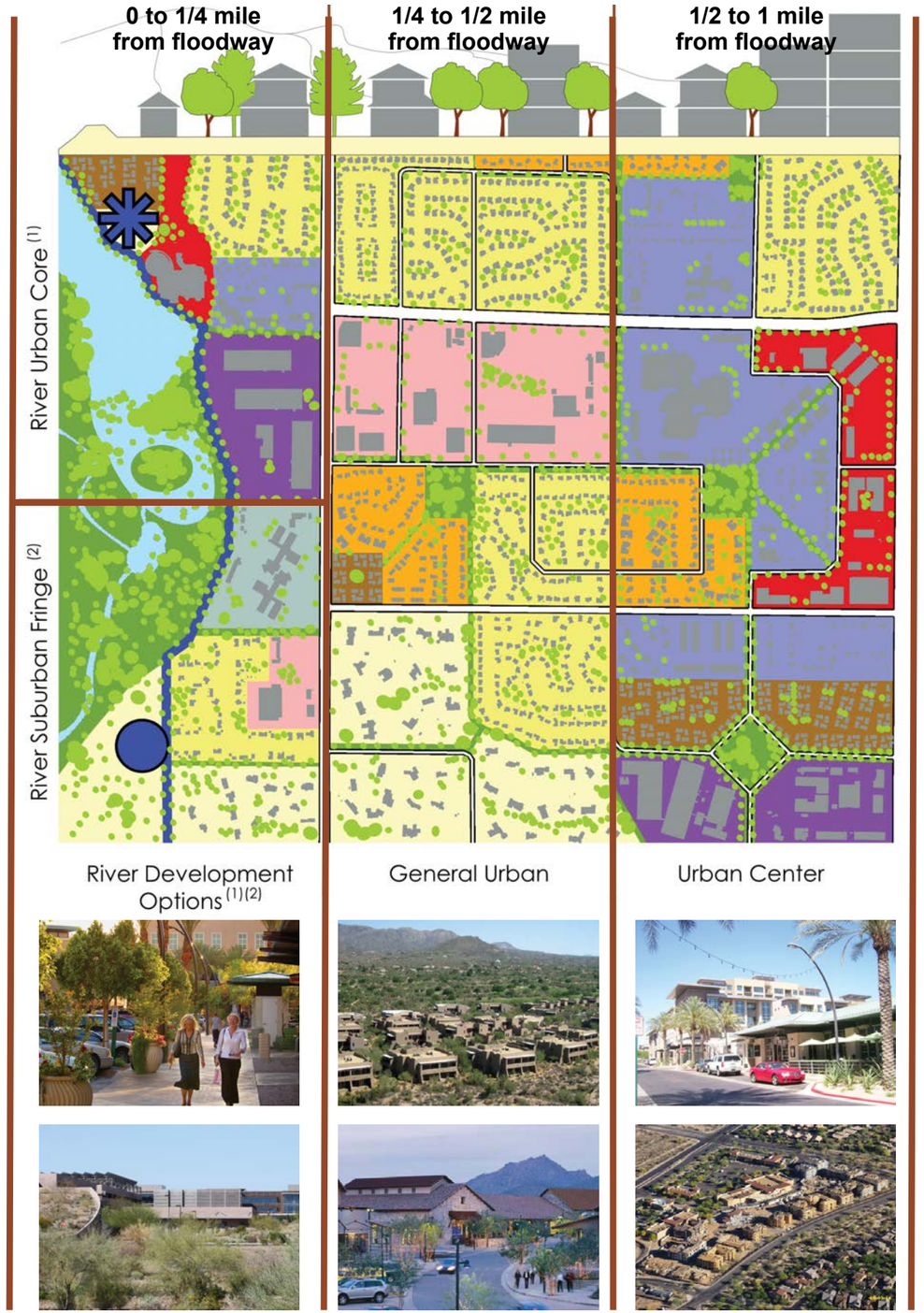
All development within the El Rio corridor should follow the approved General Plan of the applicable local jurisdiction in which the property is located. In addition, property within the El Rio corridor should follow the *El Rio Design Guidelines and Planning Standards* document.

The *El Rio Design Guidelines and Planning Standards* document is established in order to set a consistent set of goals and policies for development, within the corridor, across jurisdictional boundaries. When considering development, all property "Outside the floodplain" should comply with the Viewshed transect.

The Viewshed transect identifies the appropriate type and scale of development for properties within the El Rio corridor as it relates to the distance of a property to the Gila River floodway. The Viewshed transect is sectioned into different categories based on the distance from the Regular Floodway. Development of the property should follow the guidance of the appropriate Viewshed category (i.e., River Development Option 1 or 2, General Urban or Urban Center). In general, as development approaches the Gila River floodway, development should become less dense and intense. However, it is recognized that the Gila River is an attractive amenity, therefore, more dense and intense development adjacent to the floodway may be considered under the River Urban Core development option, provided a detailed development plan is submitted and approved by the applicable jurisdictional entities.

Because of the corridor's unique riparian setting, development in the corridor should take advantage of both active and passive recreational opportunities while respecting the natural setting and being mindful of the inherent risk of flooding. To that end, the goals and policies on the following page have been established.





River Development Options

Area Location

These areas are adjacent to the Gila River floodway. If property is located in a FEMA designated floodplain, the property should follow the Flood Risk transect guide. The River Development Options describes those areas that are outside the floodplain and also adjacent to the river.

Area Description

The River Development Options includes two development type options, Option 1, the River Urban Core and Option 2, the River Suburban Fringe. Properties in this location have direct access to the unique riparian habitat of the Gila River. Properties in this area also enjoy views of the natural river setting and expansive views of the mountain ranges and hills to the south. Active and passive open space uses, particularly trails and trailheads, are encouraged to help connect these edge areas with the rest of the El Rio corridor. Opportunities may exist for the preservation and utilization of natural resources in these types of areas, which developers are encouraged to protect. These areas, when developed, should become showpieces for the region.

Character Areas

Parts of El Rio Historic Rural, Goodyear North Bank Development Area, Buckeye Commerce Center, El Rio West Urban Core, Tres Rios Scenic Confluence, King Ranch Development and Recreation, El Rio East Employment Core create this space.

If further flood risk mitigation factors are employed, the Buckeye North Bank Development and the El Rio Historic Rural areas could both fall into this category.

River Urban Core

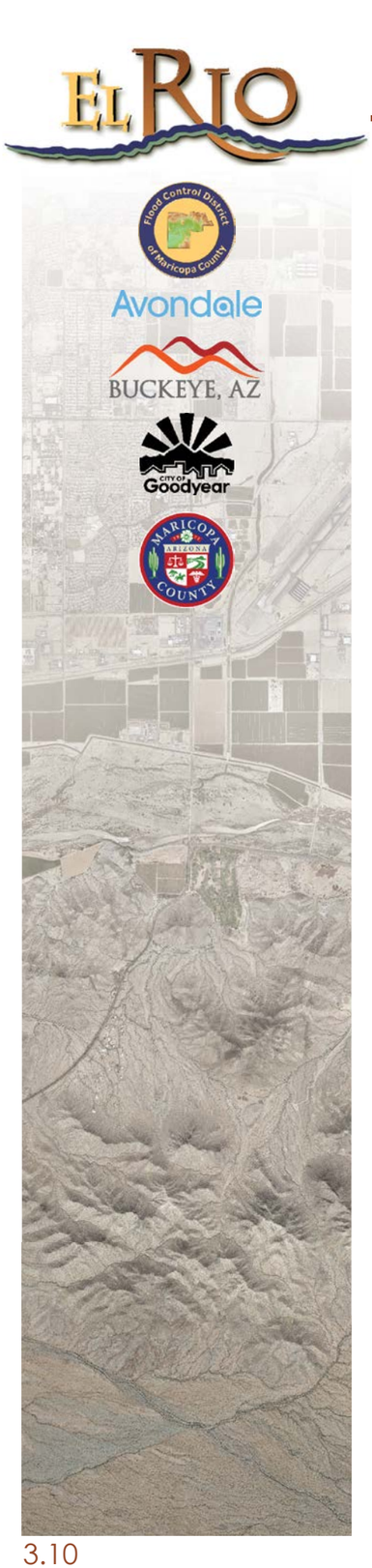
Allowed Land Uses

River Urban Core - higher impact densities like employment, multi family, and regional commercial uses, are permitted with detailed development plans approved by the applicable jurisdictional entities.

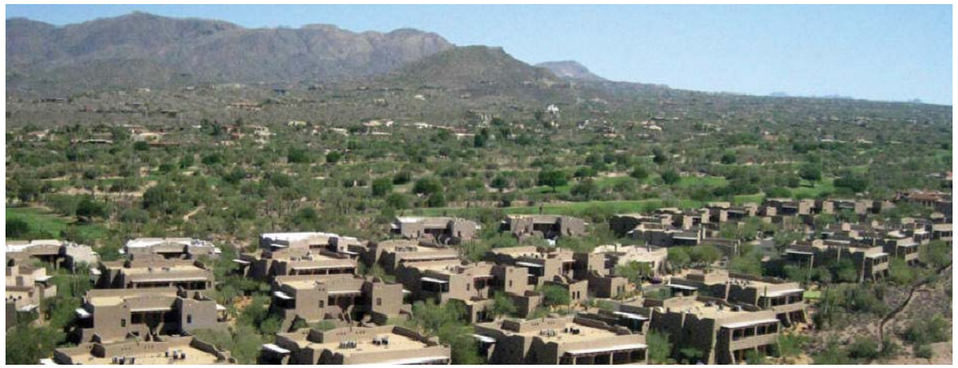
River Suburban Fringe

Allowed Land Uses

River Suburban Fringe - low impact densities, like very low density residential, low density residential, and light commercial uses are permitted.



General Urban



Area Location
The General Urban area describes those areas that are within one-quarter of a mile to one-half mile (1/4 to 1/2-mile) from the Gila River floodway and removed from the floodplain.

Allowed Land Uses
The General Urban category is a transition area that should serve as a visual and spatial buffer between the properties adjacent to the river floodway and the more dense and intense Urban Center properties over 1/2-mile from the river floodway. Development within this area will incorporate a blend of both rural and suburban development and will achieve a balance between the built and natural environments. Natural open spaces will be incorporated with development in order to create in interconnected network of green spaces and bike and pedestrian paths and trails.

Properties falling in the General Urban category will provide a range of residential densities and housing types. Development will also include limited light commercial and/or office opportunities intended to complement the traditional neighborhoods by providing local convenience services. As part of zoning approvals, development within this concept area will also provide a consistent set of standards to guide the physical development and the visual quality of the proposed development. Proposed residential and non-residential uses should conform to the current approved General Plan for the underlying jurisdiction in which the development is proposed.

Area Description
The General Urban Center category includes all properties 1/4 to 1/2-mile from the river floodway and removed from the floodplain. The topography north of the river is generally flat with a slope to the Gila River. The area north of the river is primarily in active agricultural production. The topography south of the river ranges from low flatland directly adjacent to the south bank of the Gila River to hilly terrain created by the foothills of the Estrella Mountains and several desert washes that dominate the southern portion of the area. A large portion of the land in the General Urban category is in a FEMA designated floodplain.

Character Areas
The General Urban category begins 1/4-mile away from the floodway and portions of all character areas, with the exception of the floodway itself, (High Value Habitat) fall in the General Urban category.

Urban Center

Area Location
The Urban Center area describes those areas that are 1/2- mile or greater from the Gila River floodway and removed from the floodplain.

Allowed Land Uses
The Urban Center area is intended for the highest density and intensity of uses in the corridor. Development will provide a diversity of uses at a variety of scales with the intent of providing a vibrant urban mixed use environment or "lifestyle centers' to serve the larger region. Development will integrate a range of residential densities and housing types with a diverse architectural palette. Development will also include a full range of intensity of uses for commercial, office and employment. As part of zoning approvals, development within this concept area will also provide a consistent set of standards to guide the physical development and the visual quality of the proposed development.

Area Description
The Urban Center category includes all properties 1/2-mile or further from the river floodway. The topography north of the river is generally flat with a gentle slope toward the Gila River to the south. The area is primarily in active agricultural production and associated uses, with virtually all natural desert vegetation and washes removed. The topography south of the river ranges from low flatland directly adjacent to the south bank of the Gila River to hilly terrain created by the foothills of the Estrella Mountains along with several desert washes that dominate the southern portion of the area. Portions of the Urban Center category are currently in a FEMA designated floodplain.

Character Areas
The Urban Center category begins 1/2-mile away from the floodway and portions of all character areas, with the exception of the floodway itself, (High Value Habitat) fall in the Urban Center category.