

Town of Marana

Honea Heights Neighborhood Park and Infill Housing

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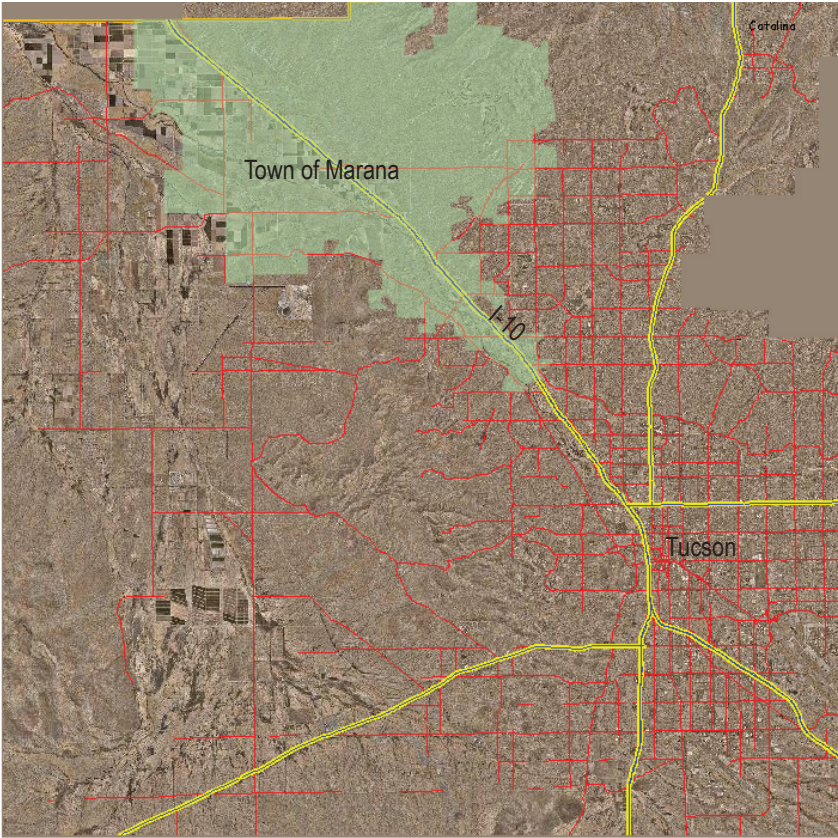
Introduction



DRACHMAN INSTITUTE: MISSION STATEMENT

The Drachman Institute is a research and public service unit of the College of Architecture and Landscape Architecture at The University of Arizona dedicated to the environmentally sensitive and resource-conscious development of neighborhoods and communities.

The Drachman Institute, in particular, focuses its research and outreach activities on the proposition that housing is the building block of neighborhoods and neighborhoods are the building blocks of communities. The work of the Drachman Institute therefore facilitates the development of demographically diverse neighborhoods, rich in environmental amenities and built from good-quality, well-designed, regionally-appropriate housing that conserves land, energy, and water. It is our contention that good quality and innovative architectural design and technology, sensible community planning, and a landscape architecture that fosters beautiful and healthy private and public space is the cornerstone of this work. We engage our students, our staff, our faculty, and our citizens in a collaborative, research-based outreach enterprise to make our communities healthier, safer, more equitable and more beautiful places to live.



The Town of Marana is located to the north of Tucson, Arizona, and is bisected by Interstate Highway 10.

The Project

Drachman Institute was approached by the Town of Marana to assist them with the development of a site that previously had been used to accommodate overflow from the Santa Cruz River. This area became prime for development when it was recovered from the Santa Cruz River by a new levee system. Currently, the site is made up of thirty-four acres of sandy soil, sparse vegetation and residue due to years of flooding. The Town of Marana proposes to develop this land with affordable housing. The intention of this project is to be an example of sensible community planning while playing a pivotal role in the revitalization of the Honea Heights Neighborhood.

This new development takes advantage of its proximity to the Santa Cruz River walk that connects a series of linear parks bordering several new neighborhoods in Marana. While the primary purpose of this project is to design housing, it is important to provide a conceptual master plan that includes park amenities and local connectivity for entire Honea Heights Neighborhood. This plan requires five acres of the site to be maintained as open green space that will also serve as a water retention basin for the area.



1940's Cotton Farming
www.pbs.com

Farming History

Marana has a long history of ranching and agriculture that has shaped much of the town, its people, and its land. Ranching was the primary use of the land from the mid-1800's until the early 1920's. Many of the original ranchers were of Mexican descent.

With the introduction of irrigation in the 1920's, Marana turned to agriculture with a focus on cotton. Fields exist to this day in the same areas originally planted by Hohokam Indians. The fields are now being plowed under as housing developments spread north and south along I-10 into the area. The Gladden Farms development (east of the proposed project site) will have 1800 new homes once it is fully built-out by 2008. Marana's new Heritage Farm Historic Park will have demonstration fields of cotton crops and an historic cotton gin.

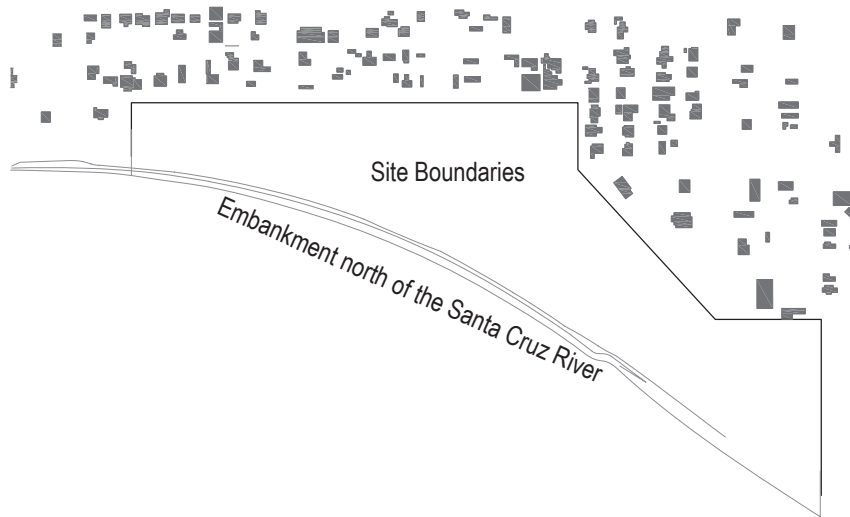
The leaders of Marana recognize the contribution that farm workers have made to the history of Marana. Their story, as part of the history of farming in Marana, will be told at the Heritage Farm Historic Park. At the same time, the Town of Marana is investing in affordable housing to serve the area's current workers. There has been an on-going process, in conjunction with the local high school and carpenters union, to develop infill housing in the Honea Heights Neighborhood. Marana wishes to continue this trend with the development and construction of more workforce housing on the proposed site.



Honea Heights

The Honea Heights neighborhood is one of the oldest platted neighborhoods in Marana. There are 200 lots in the neighborhood ranging in size from 10,000 square feet to 20,000 square feet. Presently, there are 150 housing units including a mixture of site-built, manufactured, and modular construction.

The “figure ground” map shown below blacks out the existing buildings in the neighborhood. This is helpful to illustrate the density of the surrounding area. The integration of the new housing on the proposed site should be respectful of these existing conditions.



Infill housing built by Marana High School students



Site-built homes



Mobile homes

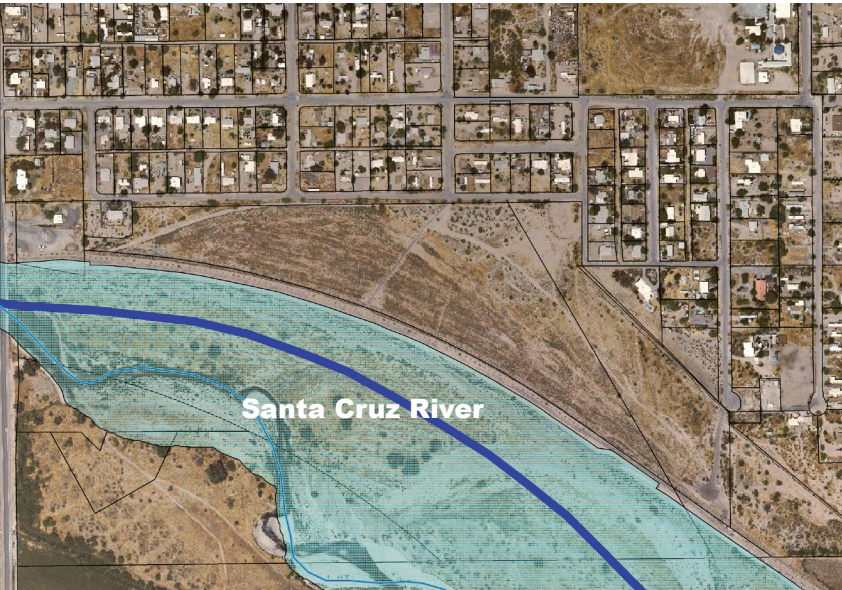
Site Analysis



Site Location

The proposed 34-acre site for the new housing and park lies along the southern boundary of the Honea Heights Neighborhood, south of Sandy Street. The site is owned by the Town of Marana.

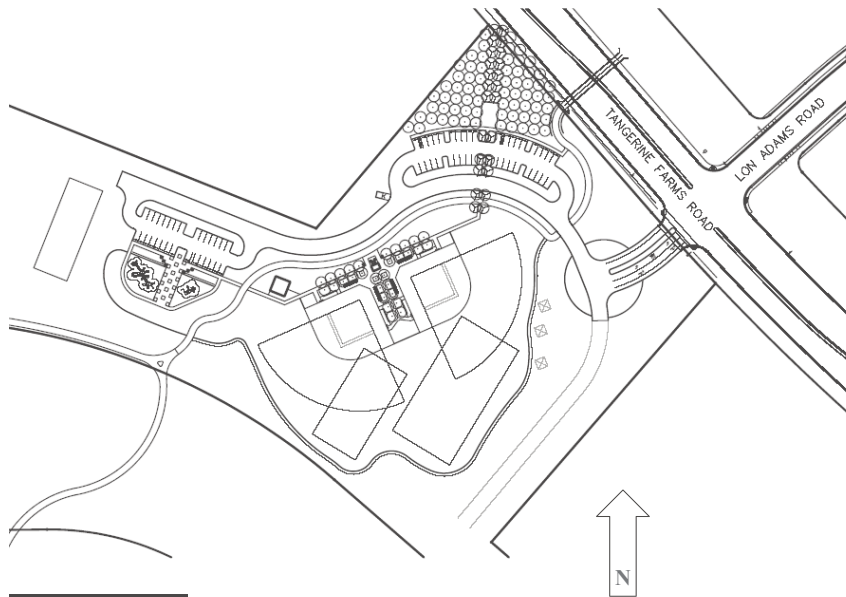
A significant feature of the site is the embankment of the Santa Cruz River which is immediately south of the site and serves as an important element of connectivity to the extensive park trail system currently established in Marana. It is important to note that all water draining from the Honea Heights Neighborhood flows to the site.





Surrounding Context

The aerial photograph shows the location of the Honea Heights Neighborhood in relation to nearby parks - Gladden Farms Park, Marana Heritage River Park, and the Linear Park. Access to these parks should be maintained as important amenities. Although the site being developed in the Honea Heights neighborhood will include open space, it may be repetitious to include features that are found at the nearby parks. Therefore, the development of open space on the proposed site will be focused to serve more localized needs.



Gladden Farms Park

Features of Nearby Parks

Gladden Farms Park

Gladden Farms and the Town of Marana have teamed up to create a 16-acre park that will be beneficial to the surrounding communities. The Gladden Farms Community Park will feature:

- Two Little League baseball fields
- Soccer fields
- Separate play structures for young and older children
- Picnic ramadas and BBQs
- Restroom facilities

The new park is located at the southern end of Lon Adams Road and will be connected to Marana's Santa Cruz River Park system. The park is expected to be completed in June 2006.

Marana Heritage River Park

The intent of the park is to focus on the farming that took place in Marana from 1920 to the present. Visitors will have the opportunity to observe and participate in a working cotton farm. The site will have horses and a cotton gin.

Linear Park

A pathway runs along the embankment next to the Santa Cruz River making up the Linear Park. This park is ideal for walking, running, biking, and horseback riding.



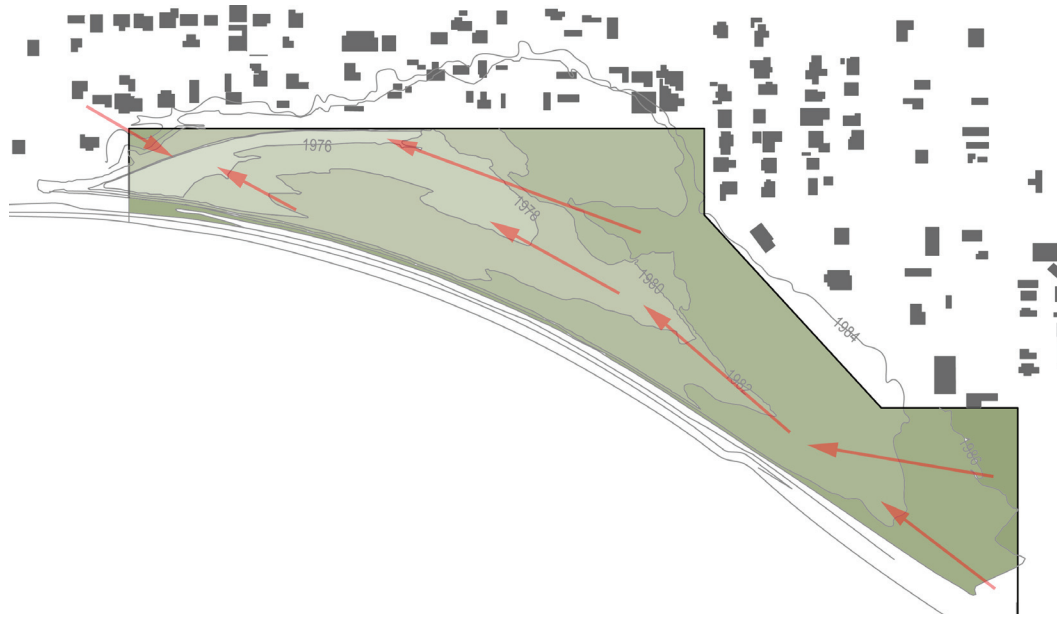
Marana Heritage Park

Concept Plan
0 25 50 100
2005 Prepared by: [illegible] Consulting Engineers
[illegible] Group



Site Access

Main access to the site is from the Honea Heights Neighborhood off Sandy Street from the north with secondary access off Steele Drive from the east. Connectivity between the proposed development and the Honea Heights Neighborhood is essential to ensure that the development is integrated into the existing neighborhood and is an asset to the entire community. Access to the site should continue through to the Linear Park. Access should also remain open to any newly created green spaces.



Topography

This diagram depicts the existing topography and drainage of the site. The highest elevation is on the east at 1,988 feet sloping to the north-west with a low point at 1,976 feet. The site has a saddle-like form as it rises in elevation as one moves south across the site toward the Santa Cruz River embankment.

Water on the site flows primarily northwest. Of particular concern is the water introduced from the adjacent neighborhood since there is no stormwater drainage system in place. As water flows toward the site from the neighborhood, it goes into a detention area between the old levy and the new levy. Here there is a set of drainage pipes that allows water in the detention area to flow into the Santa Cruz River. It will be important to keep water away from the housing units and to keep some programmatic elements out of the detention area, especially the children's play area. Utilizing the runoff to irrigate vegetation and multi-use turf fields is an effective way to reduce maintenance costs for green areas.



Views from the site looking north into the neighborhood.

Surrounding Views

The unobstructed view of the Tucson Mountains offers a unique asset to the development of the project. In addition to views of the desert scenery, views will also be offered of the surrounding green spaces. Having such appealing outdoor spaces will facilitate the inside-outside living that is so sought out in the Sonoran Desert.



View of the Tucson Mountains, looking south from the site

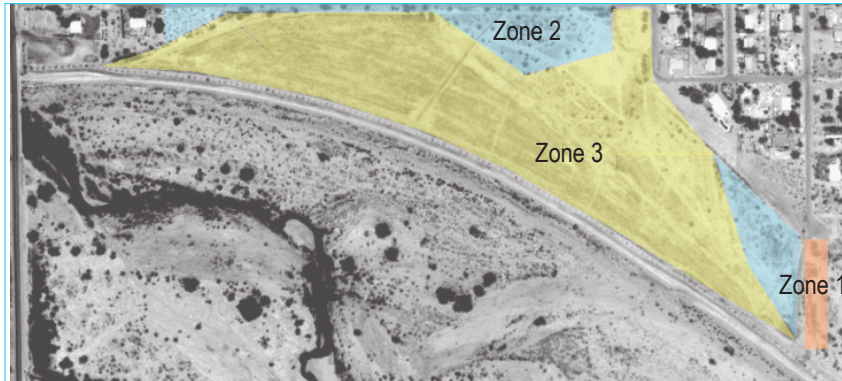


Diagram indicating the zones of vegetation



Zone 1: Dense thicket of velvet mesquite and creosote bush



Zone 2: Velvet mesquite and bushy plants 5' tall

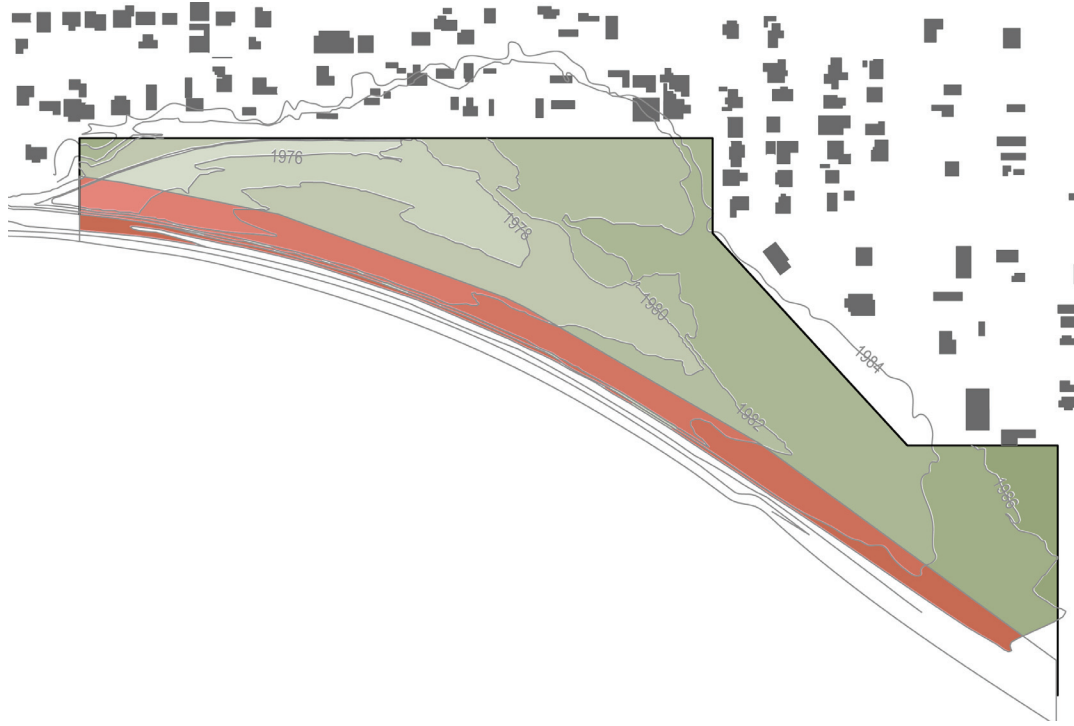


Zone 3: Creosote bush and grasses

On-Site Vegetation

There are three distinct zones of vegetation present on the site. The vegetation to the southeast near the city water well consists primarily of older velvet mesquite trees in close proximity to one another with some creosote bush along the perimeter (Zone 1). The trees in this area are 8'-12' tall and appear to be healthy. The second zone is directly northwest of Zone 1 and consists of younger, smaller, and more dispersed velvet mesquite. Finally, the third zone of vegetation is the detention area that was disturbed when the new levy system was installed along the Santa Cruz River. Zone 3 consists of buffel grass and creosote bush.

Now that the site is no longer subject to regular flooding from the Santa Cruz River, the site could support a variety of native plant life. Native landscape restoration will beautify the site, provide shade, and regulate humidity, encouraging birds and other wildlife and promoting recreational use of the site.



Site Considerations

Due to flood concerns and the site's proximity to the Santa Cruz River, there is a considerable 200' setback from the inside of the embankment to the south boundary of the site. No structures can be built in this area.

Another major constraint for this site is the topography and poor soil conditions. The site will have to undergo extensive soil engineering in order to maximize its use. This and the sizing of water retention basins are beyond the scope of this project and will need to be addressed before any actual development can take place on the site.

Precedent Examples



Armory Park del Sol Community

This development in the Armory Park Neighborhood has brought a unique way of building homes while respecting the existing neighborhood character.

Different Facade Treatments

The varying treatment of the facades in Armory Park del Sol drastically contrasts with the uniformity of many new developments. By using different facade treatments, each home can have a distinct identity from the other homes in the community while still fitting in with the existing neighborhood.

Garages/Plan

The parking solution proposed here is to have all the garages face each other along a common driveway behind the units. This allows for the main entry to the homes to be unobstructed by the garage. Front entries face each other therefore creating opportunity for neighbors to meet in spontaneous ways.

Use of Courtyards

One of the features considered for the floor plans for the Honea Heights Neighborhood that can be seen at Armory Park del Sol is the use of courtyards and public outdoor spaces. It is important to plan for both private and shared outdoor spaces to provide natural lighting and ventilation within the home, extended living space, and community interaction.



Civano Community

The Civano Community is noted for fostering respect for nature while encouraging personal connections between neighbors.

Vegetation and Pathways

Natural vegetation is used to landscape both public and private spaces. There are numerous paths through the neighborhood to encourage walking and biking. All of these paths are shaded by trees to make walking in the summer more pleasant. The fronts of the houses face the pathways rather than the streets where there are cars and few people. Lights are provided along the pathways to provide a safe environment at night.

Streets

Parking is provided along the streets that are lined with large shade trees. These trees enhance the environment visually as well as functionally, providing shaded places to park and screening the cars and the roads from view from the houses. The roads are narrow to help slow traffic. Medians are also vegetated.

Water Collection

All rainwater is retained on site. The large retention basin running through the center of the neighborhood is planted with mesquite trees so they can benefit from the extra water. This basin is bridged where the pathways cross it, but can be accessed for walking through or playing in. Additionally, most houses use reclaimed water for their landscaping supplemented with water harvested in cisterns on site.

Design Proposal



Option 1

100 total units: 30 single family detached units, 70 attached units



Option 2
122 total units: 30 single family detached units, 92 attached units



Option 3
 110 total units: 30 single family detached units, 80 attached units



Site Diagrams

The site was developed in a way that integrates attached units and single-family detached units. This is indicated in the diagram to the left that highlights the detached units in pink and the attached units in red. This mix allows for better integration with the existing neighborhood and provides greater flexibility to the City for development options. Participation by Habitat for Humanity has been discussed and the option of detached housing units is desired so that units may be built one at a time.



The new development seeks to maintain five acres of open green space. That designated space occurs in the areas highlighted in red in the drawing to the left. This area totals 5.4 acres.



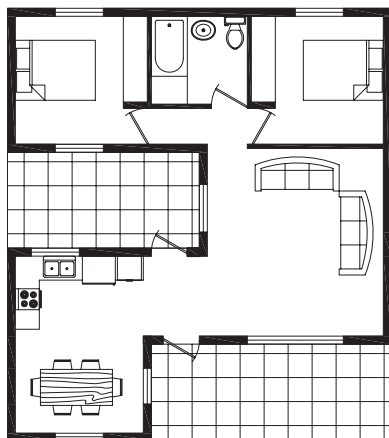
Water drainage is a significant issue on this site. Basins create a sunken area where water can be collected. This provides a unique opportunity for the neighborhood to use runoff to irrigate open green space.



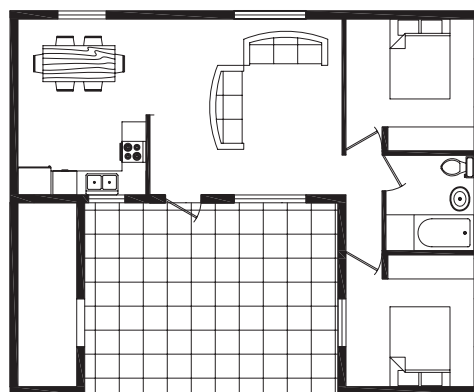
It is important that the new development's amenities and green space be accessible to the surrounding Honea Heights Neighborhood. It is also important that the neighborhood maintain accessibility to the river walk and nearby parks. This plan takes into account views into this area, and includes on-street parking for visitors.



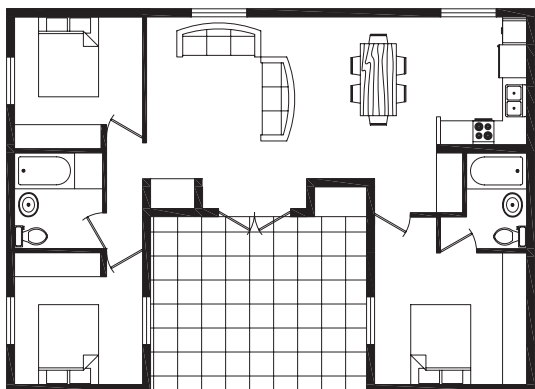
The master plan respects the 200-foot setback to ensure required flood control.



2 Bedroom Unit, 864 sf.



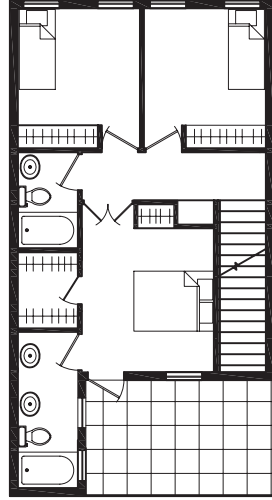
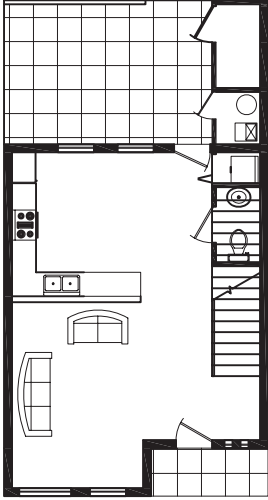
2 Bedroom Unit, 924 sf.



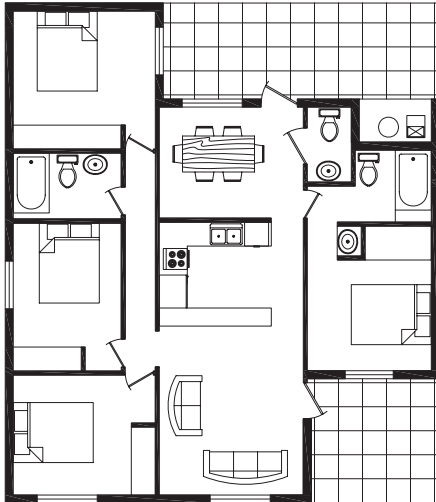
3 Bedroom Unit, 1144 sf.

Housing schemes for this proposed site

Most schemes can be modified for wheelchair accessibility with slight modifications. The two exceptions are the three-bedroom, two-story unit and the four-bedroom unit.



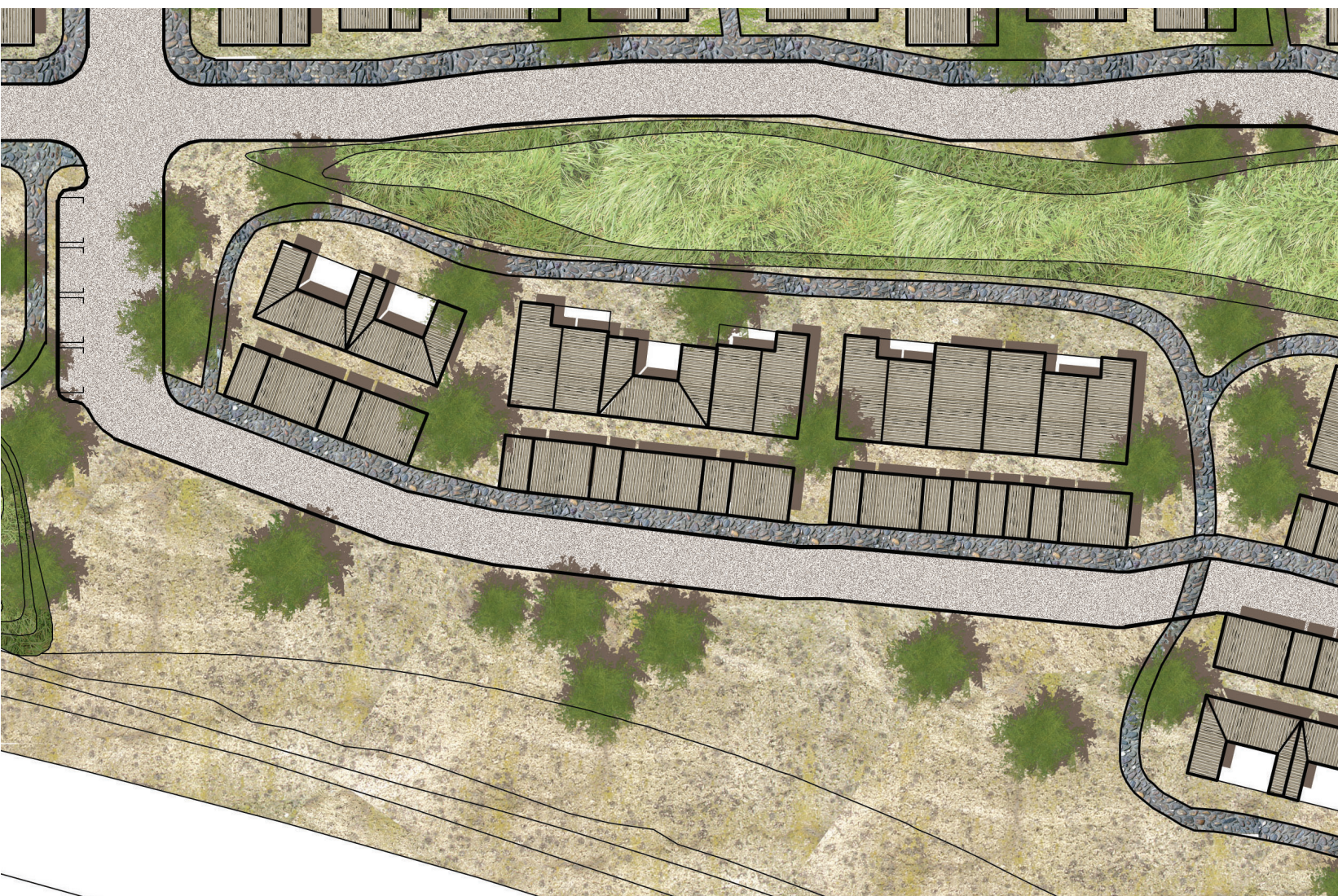
3 Bedroom Unit, 1200 sf., 2 stories



4 Bedroom Unit, 1212 sf.



Enlarged view of clustered arrangement for attached units.



Example of attached housing facing green space with vehicular access from the street into the carports at the rear.



Pathways between housing allow access to the park. Vegetation is used to buffer the homes from the public pathways.



View depicting a variety façade treatments and a friendly, walkable, neighborhood circulation corridor.



View of a pocket park, which is intended to maximize the use of run-off from the neighborhood, provide play space, reduce heat gain, and make the neighborhood more pedestrian friendly.



View of a playground showing a localized park need at an appropriate scale.

Park Survey Results

Park Survey

A survey was sent to the 220 residences of the Honea Heights neighborhood. The questionnaire was designed to solicit information on the types of amenities the community would like to see in a neighborhood park. More than 25 percent of the neighborhood responded to the questionnaire. Most responded positively to the idea of a park being built on the project site and offered suggestions regarding the activities they would like to engage in while visiting the park. The questionnaire included a map that located the Honea Heights Park, the Heritage Park, and the Gladden Farms Park.

Honea Heights Park QUESTIONNAIRE:

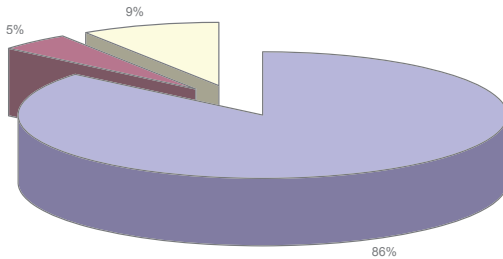
Please fill in one block for each question NA-Not Applicable

Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1. If a park were built in my neighborhood I would use it
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2. I would take my children to the park to play.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3. My kids like to play on structured play equipment.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4. My kids prefer to play sport activities like basketball, soccer, or baseball.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5. I would take my dog to the park.
			6. Features I would use at the park:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	a. Restrooms facilities
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	b. Drinking fountains
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	c. Basketball court
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	d. Baseball field
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	e. Soccer field
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	f. Water feature (specify : _____)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	g. Nighttime lighting
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	h. Grill for cooking
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	i. Picnic tables
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	j. Quiet areas away from play area
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	k. Demonstrations of the use of native plants in the landscaping
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	l. Facilities for horses such as drinking water, shade structures, access to the wash.

User Analysis

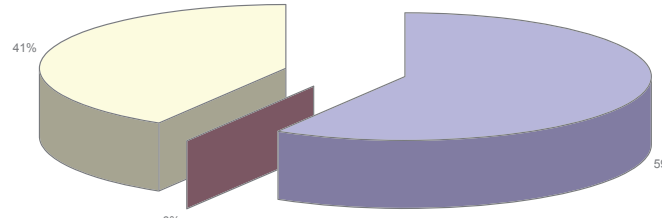
The information gathered from the questionnaire was compiled and the results for each question are displayed below.

Q1: If a park was built in my neighborhood I would use it.



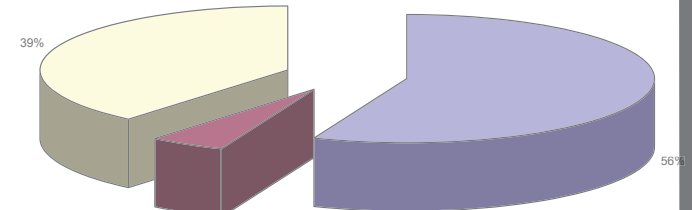
86 percent stated they would use the park if it were built.

Q2: I would take my children to the park to play.



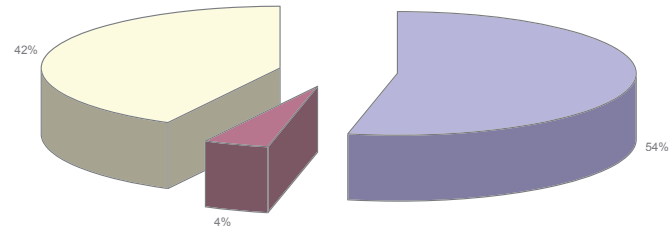
59 percent indicated they would take their children to the park.

Q3: My kids like to play on structured play equipment.



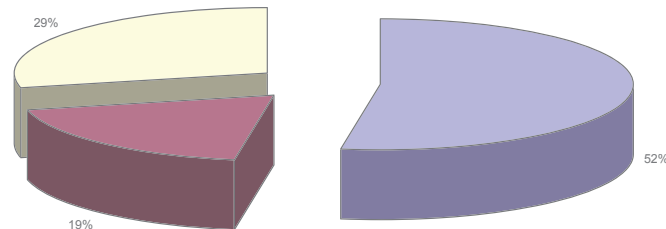
56 percent said they thought their children would enjoy playing on structured play equipment.

Q4: My kids prefer to play sport activities like basketball, soccer, or baseball.

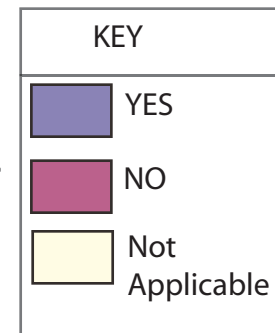


54 percent stated their children prefer to engage in activities like basketball, soccer, or baseball.

Q5: I would take my dog to the park.



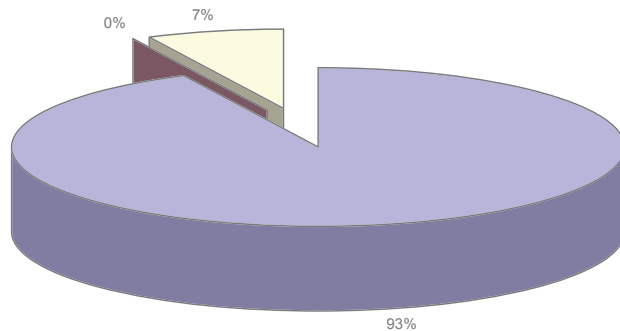
52 percent said they would take their dog to the park.



User Analysis

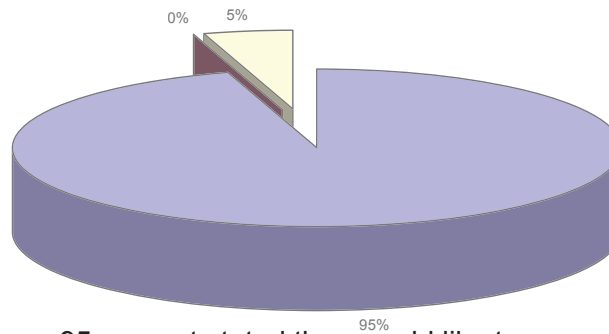
The survey also asked for ideas of specific features to be included in the new park design.

Features: Restroom facilities.

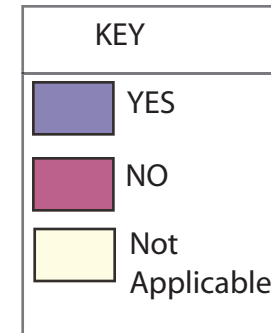


93 percent stated they would like to have restroom facilities in the park.

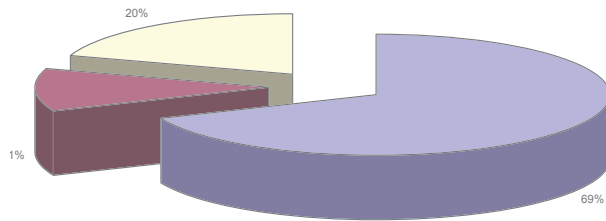
Features: Drinking fountain.



95 percent stated they would like to have a drinking fountain in the park.

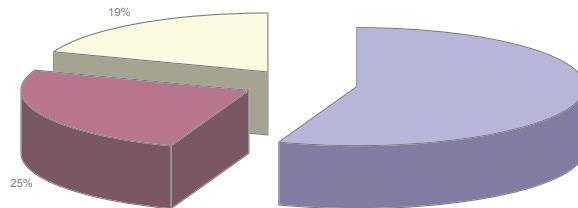


Features: Baseball fields



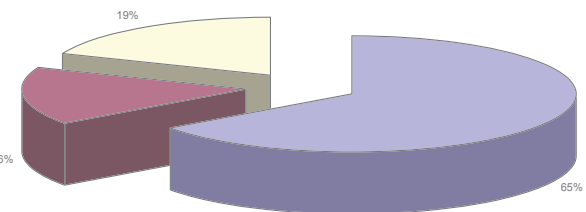
69 percent stated they would like to see a baseball field located on the site.

Features: Soccer fields



56 percent stated they would like to have soccer fields in the park.

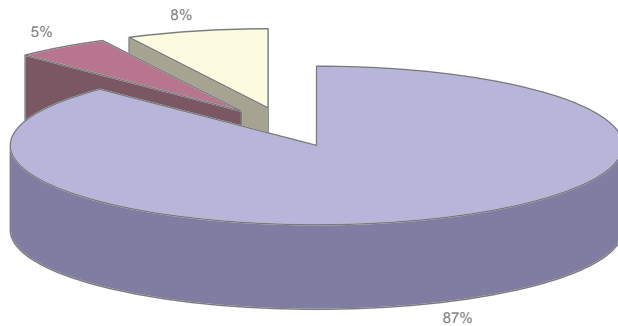
Features: Basketball Court



65 percent stated they would like to have a basketball court in the new park.

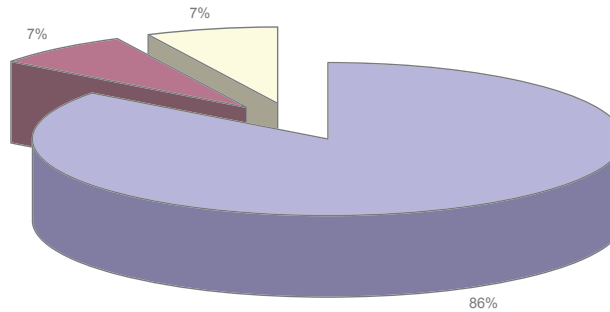
User Analysis

Features: Nighttime Lighting



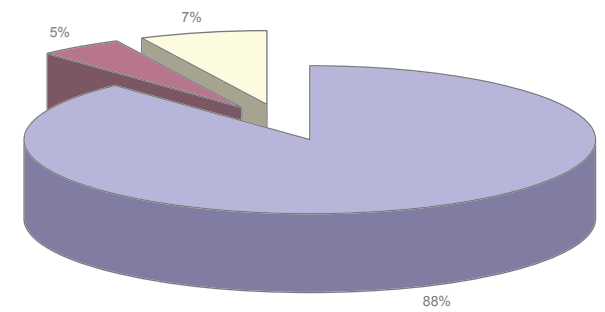
87 percent stated they would like to have nighttime lighting in the park.

Features: Cooking Grills



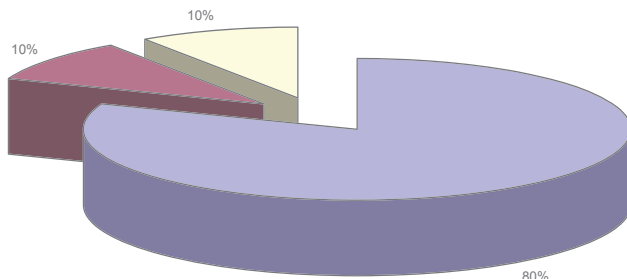
86 percent stated they would like to have grills in the park for cooking.

Features: Picnic Tables



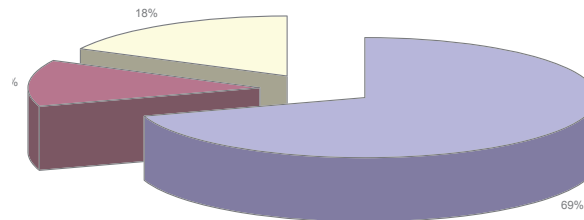
88 percent stated they would like to have picnic tables in the park.

Features: Quiet Areas away from Play Areas



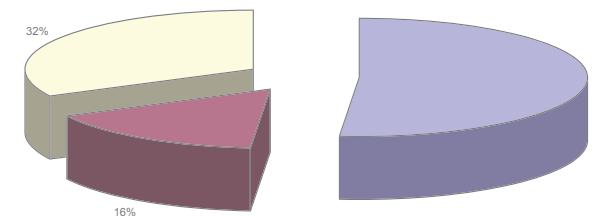
80 percent stated they would like quiet areas away from play areas.

Features: Demonstration of the use of native plants in the landscape.



60 percent stated they would like to have demonstration areas where the focus of the landscape was on native plants.

Features: Facilities for horses.



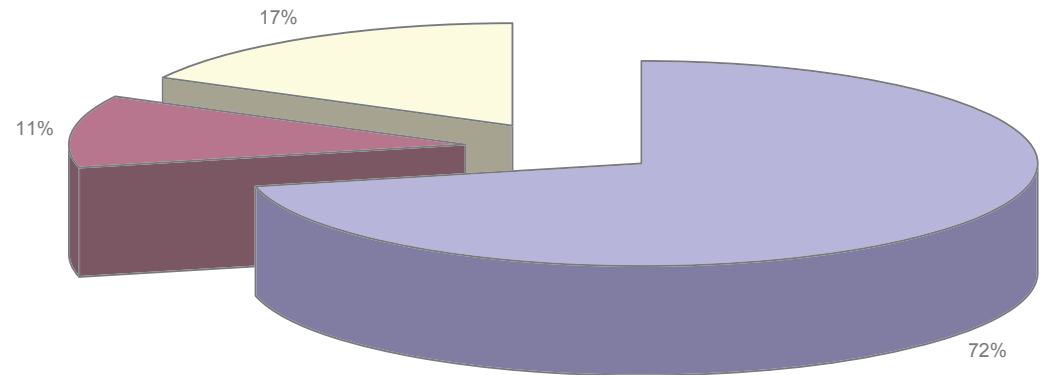
52 percent stated they would like to have facilities for horses. (There are a number of horse owners in the neighborhood.)

User Analysis

People gave suggestions for the type of water feature (if any) they would like to see in the park. Almost three-quarters said they would like some type of water feature. The suggestions ranged from a swimming pool to a fishing pond.

Top ranking responses:

Pool, water slide, sprinklers 16
Urban fishing 4
Small pond, waterfall, artificial stream 3
Fountain 1



Other suggestions for the park are listed below:

Open area for dogs to play without leash
Garbage cans throughout
Signs for picking up after dogs
Separate play areas for older and younger kids
Skate park
Shade structures over the picnic area
Lots of trees
Park benches
Walking/hiking/jogging trails and exercise paths
Volleyball
Nature area and/or bird watching
Security
Quad trails
Area for farmer's market or similar
Covered picnic areas
Playground
Dog enclosure

Dog enclosure
Measured walking areas
Bike jumps
Bike trails
Historic trail with markers including geological references
Open area for dancing and performances such as musicals
Concessions and/or snack machines (ice cream)
Gazebo
Theater area
Racquetball courts

References

References

Department of Urban Planning and Design, City of Tucson Land Use Code (web version), <http://www.tucsonaz.gov/planning/codes/luc/lucweb/index.html#TopOfPage>

National Parks web site for Tumacacori National Historic Park:
www.nps.gov/tuma/home.htm

Pima County Department of Transportation, Geographic Information Services Division, Pima County MapGuide Maps, <http://www.dot.co.pima.az.us/gis/maps/mapguide/>

Pima County Wastewater Management Department, Honea Heights Colonia Sanitary Sewage Conveyance System Plan No. G-2002-177
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Town of Marana, www.townofmarana.com

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