



# CITY OF MANVEL

M A S T E R P A R K S P L A N  
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Master Parks Plan





## Master Parks Plan

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# MANVEL

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## MASTER PARKS PLAN

“A society grows great when old men plant trees whose shade they know they shall never sit in.” - a Greek Proverb

# Executive Summary

## Sense of Place

Creating a community is more than just roads and buildings, parks and trails. A livable, authentic community is one with character and identity – a sense of place. In his article, “The Distinctive City” for UrbanLand magazine, Ed McMahon defines sense of place as, “...a unique collection of qualities and characteristics – visual, social, and environmental – that provide meaning to a location. Sense of place is what makes one city or town different from another, but sense of place is also what makes our physical surroundings worth caring about.” McMahon goes on to say that “to foster distinctiveness, cities must plan for built environments and settlement patterns that are both uplifting and memorable and that foster a sense of belonging and stewardship by residents.”

“When it comes to 21st century development, a key concept is community differentiation. If you can’t differentiate your community from any other, you have no competitive advantage.” (McMahon, UrbanLand) In the age of anonymous suburban sprawl, Manvel can differentiate itself as a city of parks, as city with ‘room to breathe’, as a city committed to nature and natural resources.

Throughout the planning process, residents shared that they moved to Manvel to get away from the crowds and bustle of Houston – they were seeking, and found, room to breathe. As Manvel builds-out, and it inevitably will, care should be taken to preserve and enhance the community’s strongest assets – the natural resources that provide ‘room to breathe’ and opportunities to be in nature. It is with this spirit that the City embarked on a park master planning process in order to identify a vision for Manvel’s future parks system and a path to reach it.

## Introduction

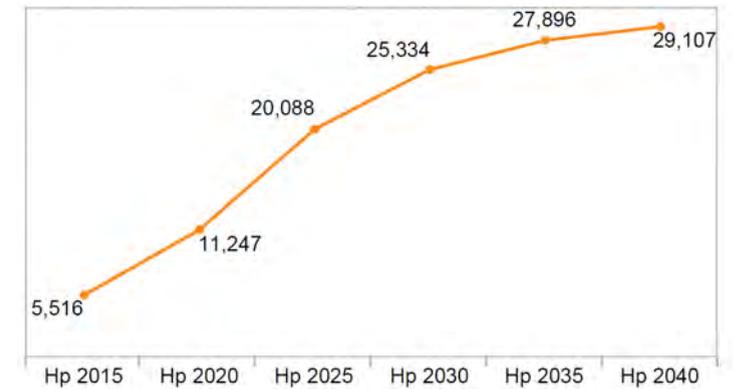
In December of 2015, the City of Manvel advertised a Request for Qualifications to engage a planning team to develop a Master Parks Plan. This planning effort aims to evaluate existing parks and recreation facilities to determine opportunities for improvements and additions, as well as identify new park and facility opportunities to support the recreation needs of residents as Manvel continues to grow and develop. Burditt Consultants, LLC was engaged by the City to develop a plan that would serve as a guiding document for future capital projects and any developer-driven initiatives. The following approaches were implemented in the development of the master plan:

- Standards-Based Approach - utilizing traditional park standards and evaluation of current trends.
- Demand-Based Approach - utilizing input from staff, Council, working groups, sports leagues, and the residents to identify current and future needs and desires.
- Resource-Based Approach - leverage of available land, natural features, rights-of-way, and city facilities to enhance park and recreation opportunities.

The following studies were undertaken in the development of the master plan:

- Inventory of existing parks and facilities.
- Evaluation of available growth and demographic data, trends and projections.
- Stakeholder involvement including ongoing staff and Parks and Recreation Board guidance, a public meeting, an online survey, social media, and City Council input.

The resulting plan outlines the findings and recommendations for existing parks and facilities and provides concepts for new facilities where opportunities have been found that align with the



*HGAC projects a household population of 29,107 in the City of Manvel by the year 2040<sup>4</sup>*

demand and input provide by residents and other stakeholders. Each proposed improvement and addition is accompanied by statements of probable costs and annual operation cost estimates for use in City budgeting.

## Growth and Demographic

The City of Manvel, located approximately 20 miles south of downtown Houston in Brazoria County, Texas; is historically a small rural community with agricultural roots. Manvel is currently home to an estimated 7,950 residents in 2,074 households<sup>1</sup>, with growth expected as Houston and the surrounding area continues to develop. The Houston Area Council (HGAC) projected an approximate population of 29,107 residents in Manvel by the year 2040 in its *Regional Growth Forecast*<sup>4</sup>.

## Existing Parks and Facilities

Manvel currently maintains and operates two City parks for sports, passive recreation, picnics, and other activities. Recently dedicated and acquired lands for park space include the former Almost Heaven RV Resort and the adjacent sand quarry property.

# Executive Summary



Project Cost Estimate (avg. low-high)

Annual Cost per Property Valuation

Capital Project	low	high	Annual Debt Svc	I&S Rate per \$100 Value	\$100,000	\$150,000	\$200,000	\$250,000
Croix Memorial Park Renovation	\$1,480,000	\$1,780,000	\$142,587	0.030	\$30	\$45	\$60	\$75
Police Station Park Renovation	\$3,640,000	\$4,360,000	\$385,369	0.081	\$81	\$122	\$162	\$203
Multi-Purpose Trail System	\$18,100,000	\$21,720,000	\$1,743,795	0.367	\$367	\$551	\$735	\$918
Almost Heaven Park Improvements	\$360,000	\$430,000	\$38,055	0.008	\$8	\$12	\$16	\$20
Sand Pit Park Improvements	\$1,650,000	\$1,980,000	\$158,965	0.033	\$33	\$50	\$67	\$84
Neighborhood Park Prototype 1.5 to 2 acres	\$450,000	\$550,000	\$43,354	0.009	\$9	\$14	\$18	\$23
Neighborhood Park Prototype 4 to 6 acres	\$1,510,000	\$1,820,000	\$160,410	0.034	\$34	\$51	\$68	\$84

\*annual cost per property valuation based on 2015 City tax rates and total property valuation

\*assumes 5% debt service and 15-year bond

*\*The table above represents probable costs per property valuation for projects identified in this plan. The Multi-Purpose Trail System figure represents the costs if all proposed alignments were implemented at once. See the table of proposed trail alignments for individual trail costs. The Neighborhood Park Prototypes are included for reference as to the general costs, however it is the City's intent to work with developers utilizing the Park Dedication Ordinance to secure future neighborhood park space in Manvel.*

## Priority Projects

The following Priority Projects have been identified in this plan:

- Develop city-wide trail system
- Concept for a City Center with municipal buildings, recreation center and large gathering spaces.
- Renovations to Croix Memorial Park
- Renovation and Expansion of the Police Station Park
- Further development of Almost Heaven Park and the sand quarry.

## Additional Considerations

In addition to Priority Projects, additional consideration was made for future community and neighborhood parks and guidelines to consider for development of shoot sports facilities.

Prototypical layouts of neighborhood and community parks, with common amenities and probable costs, were developed for use in future budget development.

## Cost Per Property Valuation Explanation

The cost per property valuation (household) for each project was determined by the total 2015 property valuation within Manvel City Limits. Under this scenario, the total cost for a given project is averaged between high and low estimates and then calculated at a 5% debt service rate for a 15-year bond.

The cost per valuation is based on 2015 property value, and therefore it does not consider growth of the City over the next 15 years. This means that residents will bear a higher cost per household for projects that are implemented soon, whereas the same cost will be distributed across more households in the future.

# Inventory & **Analysis**



01

Inventory &  
Analysis

02

Demand  
Assessment

03

Walkability

04

Programs &  
Events

05

Natural  
Resources

06

Priority  
Projects

07

Implementation

# Inventory and Analysis

## Project Methodology

The Master Parks Plan was developed using a three-fold technique that follows general methodologies accepted by TPWD for local park master plans and by the Department of the Interior for local park system Recovery Action Plans (RAP). The following approaches were implemented:

**1. Standards-Based Approach** – uses standards established by the local jurisdiction (Manvel) to determine the quantity of park facilities required to meet the City’s needs for a given population. Standards are usually expressed as the quantity of park facilities needed to adequately serve every 1,000 citizens of the City.

Standards are established to provide the level of service that the particular jurisdiction believes is most responsive to the amount of use and interests of its citizens. This plan establishes individual standards for the City.

**2. Demand-Based Approach** – uses a public meeting, staff and committee input, social media outreach and an online survey to determine how much the population uses and desires certain types of parks and recreation facilities and programs.

**3. Resource-Based Approach** – is based on the usefulness of available physical resources to provide recreation opportunities. For example, the City’s street rights-of-way, floodplains, and drainage corridors provide opportunities for trail connections.

All three methods are important in their own manner, but individually do not represent the entire picture. The assessment component of the project utilizes all three methods to determine what types of recreation facilities and park requirements are needed.

Typical assessments evaluate Level of Service (LOS). While this is important, we believe it is also critical to understand and evaluate the specific needs of residents through community involvement to identify how the facility or park amenity is performing according to the expectations of citizens overall. This Quality of Service is most easily identified through conversation. Engaging park users is the most direct method of understanding the user experience for a given facility.

As national guidelines and standards are based on demographic trends rather than specific local desires, they must be fine-tuned to meet local conditions. It is important to recognize that national standards are simply guidelines or benchmarks that are intended to serve as a starting point for park planning. Each city has its own unique geographic, demographic, and socio-economic composition, and as such, the arbitrary application of national standards, as is often done, would not necessarily meet the needs of Manvel.

### Inventory and Analysis

The inventory phase includes inspection of the City’s existing parks and recreation facilities to determine overall condition, maintenance needs, and opportunities for additions/improvements. Observations of site, equipment and facility conditions are noted.

In addition to the City’s facilities, recreational facilities provided by other entities are noted to identify service gaps, duplication of service and to gather a complete picture of recreation in Manvel.

### Demographics, Growth and Trends

A key component of any master plan is understanding patterns of growth in the community and region. Manvel is growing faster than the U.S. Census Bureau can keep up with. Anecdotal assessments

“People are moving to our area, and they want parks and trails. It’s up to us to accomplish their goals and needs.” - *Delores Martin, Mayor*

of the City’s growth in population, combined with data from Alvin ISD enrollment, local business observations and other sources provide a more realistic understanding of the size of population and potential recreation needs.

Regional, state and national trends in recreation are also considered, as the types of facilities and activities desired by the public are ever-changing.

### Priority Projects and Implementation

The results of data collection, analysis and stakeholder input result in the identification of priority projects for enhancement of Manvel’s parks and recreation system. Some of these projects are recommended to provide upgrades and improvements to existing facilities, whereas others are opportunities to add new features to the parks system that address growing needs for recreation. Projects have been studied to determine feasibility and probable costs to the level of detail appropriate at the conceptual level. Further study during a “design development” phase with a planning and design consultant will be needed to further vet the details, programming and costs for a given project.

Some of the identified “priority projects” within this plan are defined in terms of program (i.e.: the number and types of facilities needed), but do not identify specific locations for development. The planning of land acquisition for City projects requires savvy on the part of decision makers in order to avoid negatively influencing the prices of land and inhibiting acquisition opportunities.

## Growth and Demographics

### Planning for the Future

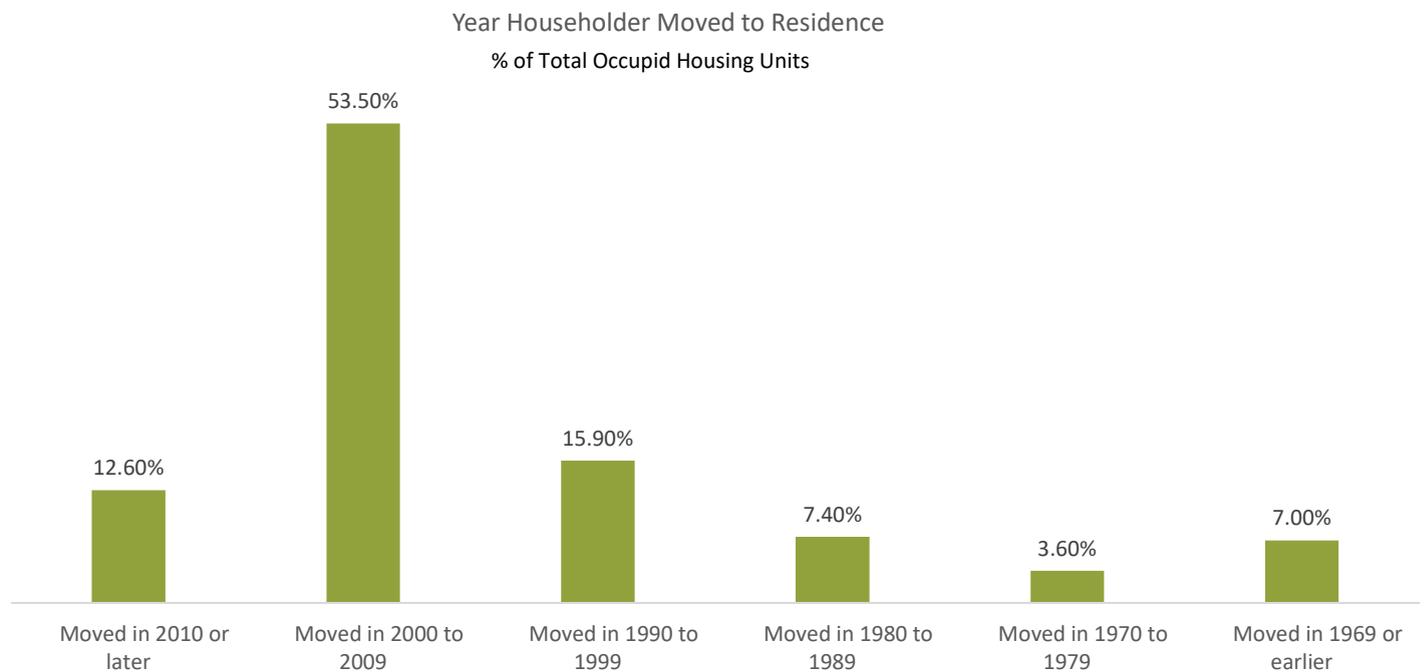
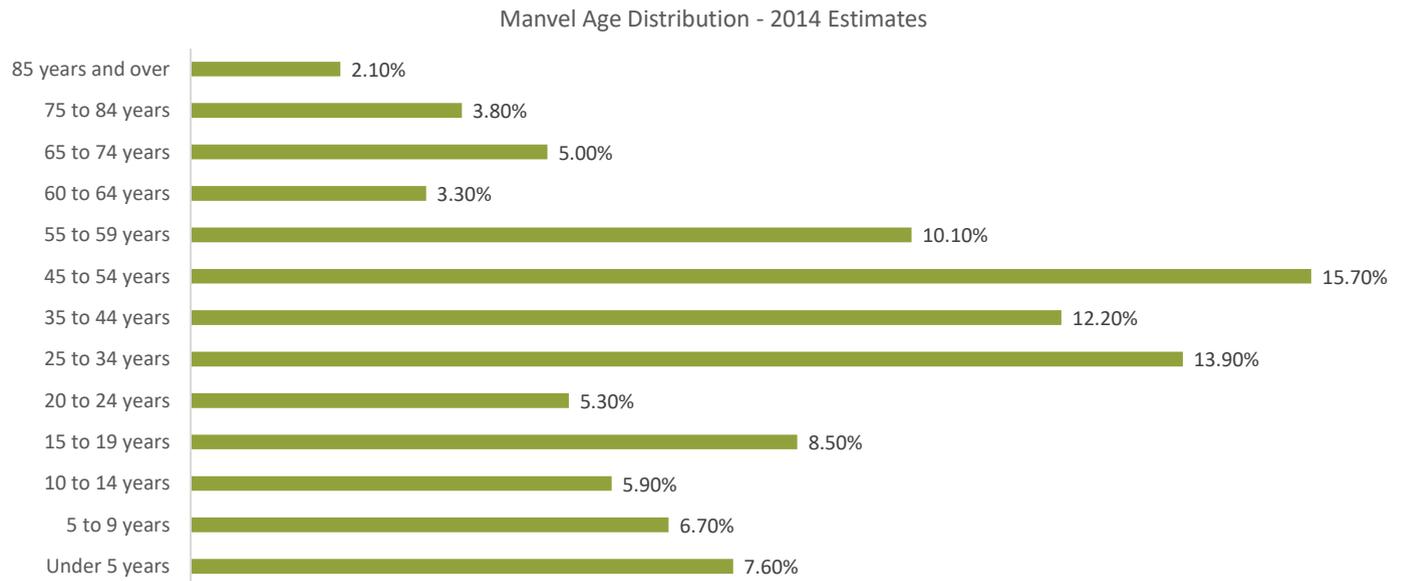
The City of Manvel has experienced significant growth in recent years. The U.S. Census 2010 reported 5,179 residents in Manvel and reported 2015 population estimate of 7,950. The growth in population since 2010 represents an approximate 53.5% increase that is largely influenced by the development of the surrounding Houston Metropolitan Region and local neighbors such as Alvin and Pearland.

Age distribution in Manvel is balanced with the largest cohort in the age group of 45-54 years. Age distribution is an important consideration for parks and recreation planning to determine where tax dollars and effort is best spent when considering additional parks, facilities and programs. Where small neighborhood parks are important for younger children, indoor swimming, senior centers, and programs for adults are often sought after by older age groups. It should be noted that older populations represent a significant portion of the users of recreation centers and trails in communities, and demand for these resources is likely to increase.

The Houston Galveston Area Council (HGAC) conducts comprehensive studies of growth in the region on a periodic basis. The most recent Regional Growth Forecast, published in 2016, projects a future household population of approximately 29,107 in Manvel by 2040. This estimate represents 266% growth over 25 years. Other predictions vary widely; but may not account for a balanced distribution of land use, including commercial and industrial in addition to residential.

#### Key Message:

- Manvel is projected to grow significantly.
- Age distribution in Manvel suggests the need to plan for a wide range of recreation needs for all age groups.



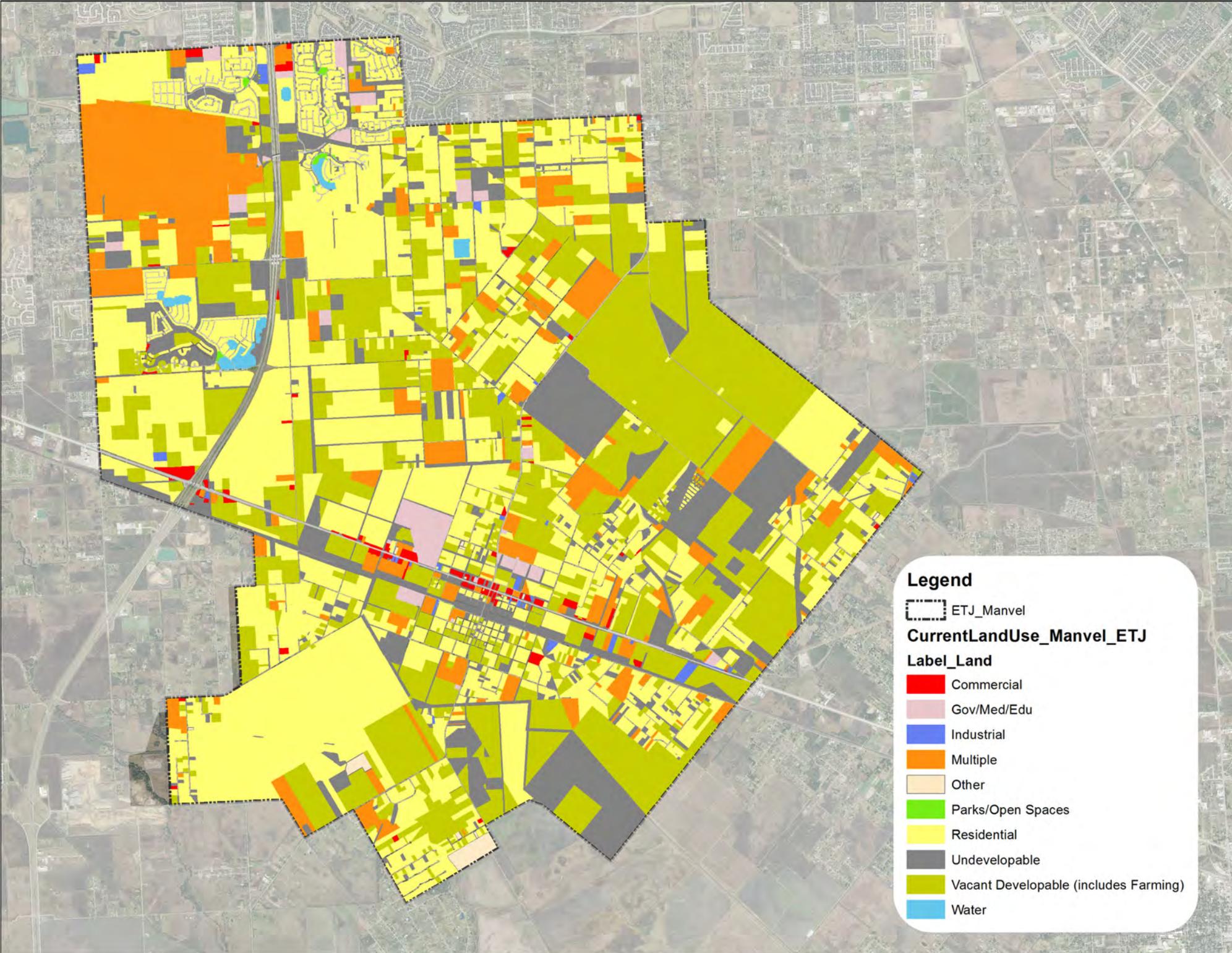
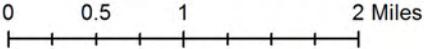
**“MANVEL IS PRESENTLY A SMALL CITY IN A POPULOUS REGIONAL CONTEXT, BUT WILL NOT STAY THAT WAY FOR LONG, AND WILL HAVE TO QUICKLY RESPOND TO AND PREPARE FOR THE GROWTH PRESSURES OF THE REGION”**

*- Manvel Comprehensive Plan 2015*

# Growth and Demographics



Existing Land Use  
as of January 2016



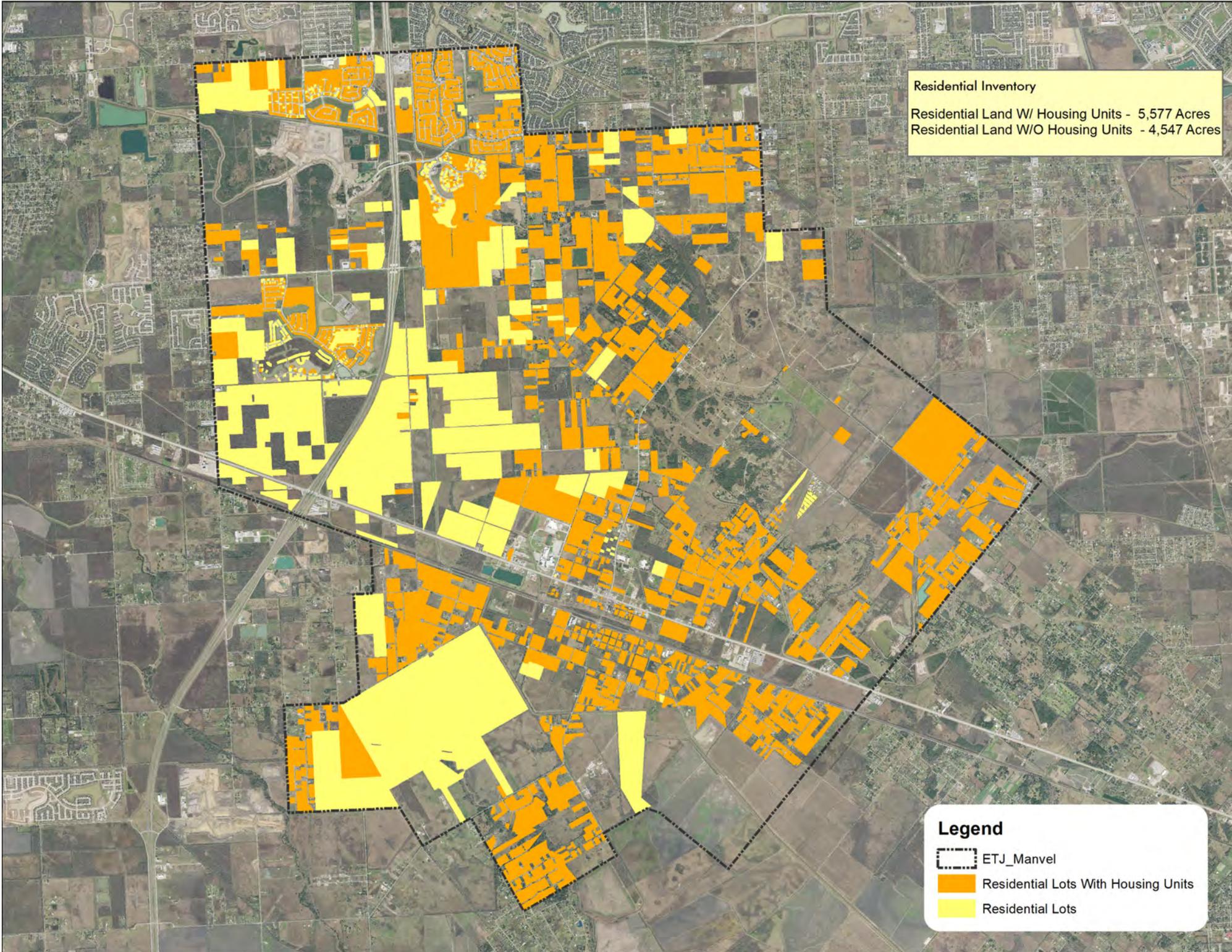
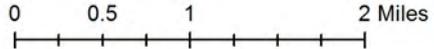
**Legend**

- ETJ\_Manvel
- CurrentLandUse\_Manvel\_ETJ**
- Label\_Land**
- Commercial
- Gov/Med/Edu
- Industrial
- Multiple
- Other
- Parks/Open Spaces
- Residential
- Undevelopable
- Vacant Developable (includes Farming)
- Water

# Inventory & Analysis 01



## Residential Property as of January 2016



**Future Park Space Needs**  
**Build-Out Population: 50,000**  
**Minimum Developed Park Acreage: 312 to 525 acres**

# Standards Analysis

## National Standards and Level-of-Service

The National Recreation and Park Association (NRPA) published *Recreation, Park and Open Space Standards and Guidelines* which includes criteria for the provision of parks and recreation facilities and open space. The criteria are based on a national survey of municipalities of all sizes and geographic regions.

These standards offer guidance to municipalities for parks and recreation planning. The NRPA offers these standards and guidelines as a starting point and benchmark for communities to plan from. As with all communities, Manvel has unique characteristics that require consideration of local demand for parks and recreation facilities that reflects the values and interests of residents in addition to the recognized standards.

The National Recreation and Park Association (NRPA) recommends creating a park classification system that categorizes parks based on use, size, and service area. Examples include neighborhood parks with 1/4 mile service areas (5-10 minute walk) versus community parks with 1 mile or more in service area.

The City of Manvel is unique in that there are only two developed parks that are servicing a relatively small city. Both parks serve as community parks. Due to the small size of Manvel, evaluating the parks based on a 1/4 mile service area allows for determination of “service gaps” where pedestrian users do not have adequate access to recreation facilities.

### Park Space

Traditional park and recreation planning techniques have used standards established by the NRPA to determine the quantity and type of amenities a city should provide. An example of such standards is the overall recommendation for park acreage by population.

The NRPA suggests a minimum of 6.25 to 10.5 acres of park land per 1,000 population. This standard would suggest that the City of Manvel should provide 49.7 to 83.5 acres of park land for its current residents. A reasonable estimated build-out population of Manvel is approximately 50,000 residents. Utilizing the above standard, Manvel would need between 312 and 525 acres of

developed park space. Currently the City provides two parks with a total of approximately 39.4 acres (4.96 acres/1,000 residents) of developed park land. The park land dedicated by subdivisions under the Park Dedication Ordinance adds a total of 102.2 acres of recreation space to the parks system for an effective total of 141.6 acres of park land. Traditionally the NRPA has recommended a set of standards for minimum numbers of specific park facilities according to population (e.g.: 1 soccer field per 1,000 population), however they recognize that communities have unique needs and standards need to be used as benchmarks rather than firm rules for determining the number of facilities needed.

Level of Service Compared to Other Cities (in order of population)			
City	Developed Park Acreage	Acres per 1,000 Residents	Population 2015
GALVESTON	1010.67	20.14	50,180
GEORGETOWN	756	11.87	63,716
PFLUGERVILLE	500	8.75	57,122
CEDAR PARK	500	7.58	65,945
FRIENDSWOOD	234	6.03	38,800
ALVIN	127.85	5.28	24,236
LA PORTE	178	5.06	35,148
Manvel	39.4	4.96	7,950
CONROE	325	4.74	68,602
DEER PARK	139.36	4.35	33,806
PEARLAND	458.4	4.21	108,821
SAN MARCOS	246	4.05	60,684
STAFFORD	32.63	1.77	18,459

*The Level of Service of a city's parks system is traditionally measured by the ratio of developed park land to population. This metric allows for comparison to other communities. when considering land acquisition to provide adequate park space for future growth.*

# Inventory & Analysis 01

## NRPA Standards for Facilities - Comparison of Manvel's Facilities

Manvel Facilities (# of courts, fields, etc.)

Facility	NRPA Recommended Units per Population	Service Area Radius	Location	Current Inventory	Current Need	Need at Buildout (50,000 pop.)
Basketball	1 court per 5,000	1/4 to 1/2 mile	Community park	0	1.6	10.0
Baseball	1 game field per 5,000	1/4 to 1/2 mile	Community park with lights	0	1.6	10.0
Soccer	1 game field per 5,000	1 - 2 miles	Number of units depends on popularity. Youth soccer on small fields adjacent to schools or neighborhood parks.	3	1.6	10.0
Softball	1 game field per 5,000	1/4 to 1/2 mile	Slight differences in dimensions for 16" slow pitch. May also be used for youth baseball	0	1.6	10.0
Swimming Pool	1 pool per 20,000, Room for 3 to 5% of population at one time	15 to 30 minute travel time	Pools for general community use should be planned for teaching, competitive and recreational purposes with enough depth (3.4m) to accommodate 1m and 3m divingboards. Located in community park or school site.	0	1.0	2.5
Volleyball	1 court per 5,000	1/4 to 1/2 mile	Recreation facility	0	1.6	10.0
Outdoor Volleyball	1 court per 5,000	1 - 2 miles	Community park	0	1.6	10.0
Play Structures	1 per 1,500 (No NRPA Standard)	1/4 mile	Community park	2	5.3	33.3
Smooth Surfaced Walking Paths	1 mile per 3,000 (No NRPA Standard)	1 - 2 miles	Community park or public rights-of-way	0	2.7	16.7
Covered Picnic Shelters	1 shelter per 4,000 (No NRPA Standard)		Community park	1	2.0	12.5

*The standards established by the NRPA were once the primary factor in determining adequate park space for a community. Current recommendations are to use these standards only as a benchmark while determining the appropriate amount of park facilities/amenities for Manvel.*

# Parks and Facilities Inventory

## Sports Complex Considerations

### Demand-Based Perspective

The majority of organized team sports programming for Manvel residents are satisfied by existing leagues and facilities in other communities surrounding Manvel. Feedback from residents as to access to these facilities and programs was reported to be satisfactory, however there is always the option to “bring home” organized team sports such as soccer, baseball, and softball with the development of sports facilities in town if it is seen as a priority.

Community and city leadership feedback indicate strong preferences for prioritization of a recreation/community center construction, a City Center with ample community gathering space, trails and associated greenspace mini-parks, and future development of the quarry and Almost Heaven public space areas. Also of high priority is the need to upgrade and improve the City’s two existing parks.

### Resource-Based Perspective

Manvel must undertake a highly-aggressive capital improvement campaign to address a multitude of community improvement needs. Community gathering places, new municipal buildings, common green space, a recreation/community center, and trail connectivity between existing and future neighborhoods will require substantial investment over the next 5-10 years. Construction of a City Center, quarry/sand pit, and Almost Heaven Park development, redevelopment of Croix Park and the Police Station Park in addition to essential trailhead and trail construction represent significant financial prioritization during the 10 years contemplated by this Master Plan.

Sports complexes in this region must compete in an already saturated marketplace. A community seeking to enter this particular regional market must be able to provide an offering of quality and amenities that are as significant as competitor communities surrounding Manvel thereby necessitating an investment of capital monies so large as to represent a debilitating opportunity cost as relates other city capital needs.

Finally, the “payback” dynamics usually associated with a sports complex do not exist for Manvel at this time and on the 1-7 year horizon. Often, sports complexes are treated as economic development projects focused on increasing sales tax and, to a lesser extent, Hotel Occupancy Taxes (HOT).

Manvel’s retail needs are largely solved by surrounding communities well within a 10-mile reach to the north of the community. Brand diversity and volume in retail and hotel offerings in these communities are already positioned to handle most of the demand in the immediate area plus on-going growth over the next few years.

The capacity to spin up sufficient retail and hotel operations to capture any new demand a sports complex could potentially bring is limited and again, comes with a substantially deleterious opportunity cost which undermines more important and immediate goals both for trails, community space, parks, and municipal infrastructure.

## Recreation by Others

Manvel residents have grown accustomed to seeking recreation opportunities in a wide variety of places. Some recreation is currently being provided by other communities such as Little League baseball, public pools, hiking at state parks, splash pads in

Pearland, and much more. Being so close to Houston and surrounding areas offers Manvel residents an incredible amount of choice for recreation. The following cities and entities were identified in the Parks and Recreation Survey as providers of recreation for Manvel residents:

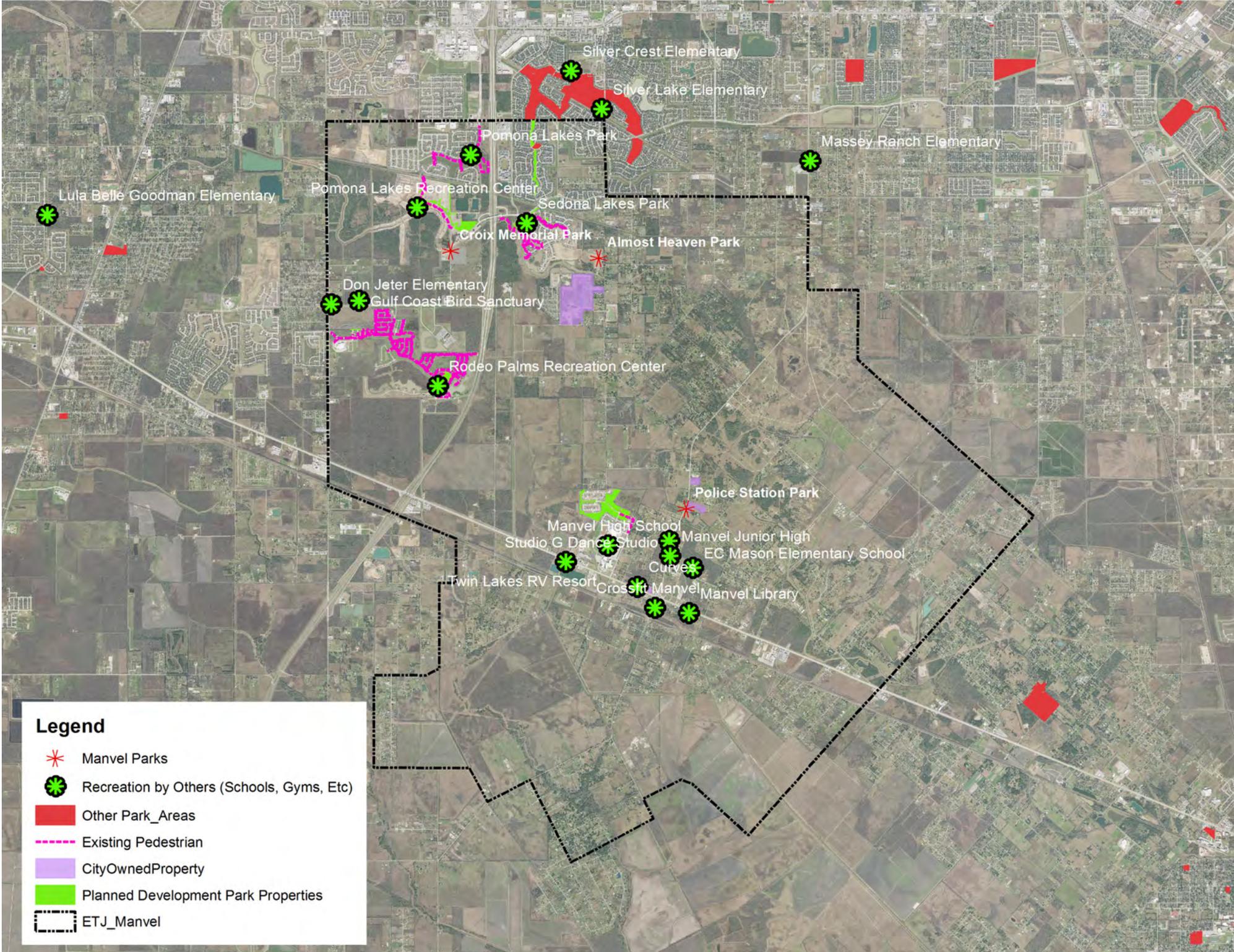
- Alvin
- Houston
- Galveston
- Angleton
- Friendswood
- Pearland
- Alvin ISD

Manvel residents are willing to travel to find recreation, usually by car. The average distance travelled by survey participants for recreation was 53 miles/44 minutes, with a median trip 30 miles/25 minutes. Some of this travel for recreation is likely out of necessity due to the limited offerings in Manvel. It is important for residents to continue to communicate with City officials regarding recreation needs and any desire for providing specific programs and facilities in the future.



## Existing Recreation

0 0.25 0.5 1 Miles



# Parks and Facilities Inventory

## Principles for Addressing Growth <sup>16</sup>

16. *Journal of Park and Recreation Administration*

“New development generates a need for additional park amenities. The people responsible for creating that need should bear the cost of providing the new amenities.

- Three options for paying for growth:
  - Existing residents subsidize new park development
  - Lower the level of service (i.e., reduce the number of parks/quality of life)
  - Require new growth to pay for itself”

## Neighborhood Parks - Partnership with Developers

Neighborhood parks provide an opportunity for residents to gather and play in places near their home and are an important component of the overall park system. They are often accessed by sidewalks or trails and are safe, convenient places for families to play.

The City of Manvel has adopted a Park Land Dedication Ordinance (Se. 47-6 - Park land and trail dedication requirements) that provides for added park space and trails as residential subdivisions develop. The purpose of the ordinance is to provide usable recreational areas in the form of neighborhood parks. Requirements for park land under this code are as follows:

General requirements for single-family, duplex, and multi-family residential developments:

- One acre per 100 homes set as dedicated park land
- Payment of money in lieu of land; or
- Pledge of security guaranteeing future dedication of park land.

Up to fifty percent of requirement may be met by:

- Provision of private neighborhood park land
- Land use for trails

Trails:

When trails are developed under the ordinance, credit is given for the following:

- All weather hike/bike trails and or equestrian paths
- Having multiple access points to a city-wide trail system
- Being connected to recreational areas and schools as part of an open space system
- Having a average minimum width of 20-30 feet

The current language in the code provides for giving the developer credit when certain conditions are met. However, creating some standards for what park features will be included can be useful.

Land dedicated by developers for park use should be not only preserved for parks, but actually developed into usable park space with a variety of amenities typical of neighborhood parks.

A basic neighborhood park should include open space for passive recreation, picnic areas, walking trails, playgrounds and other amenities. The site and proximity to other park areas will determine which amenities are needed most.

The following table provides some basic standards for how many park features should be included for a given community. The table utilizes “Dwelling Units” rather than population to aid developers in scaling their park space and improvements appropriately.

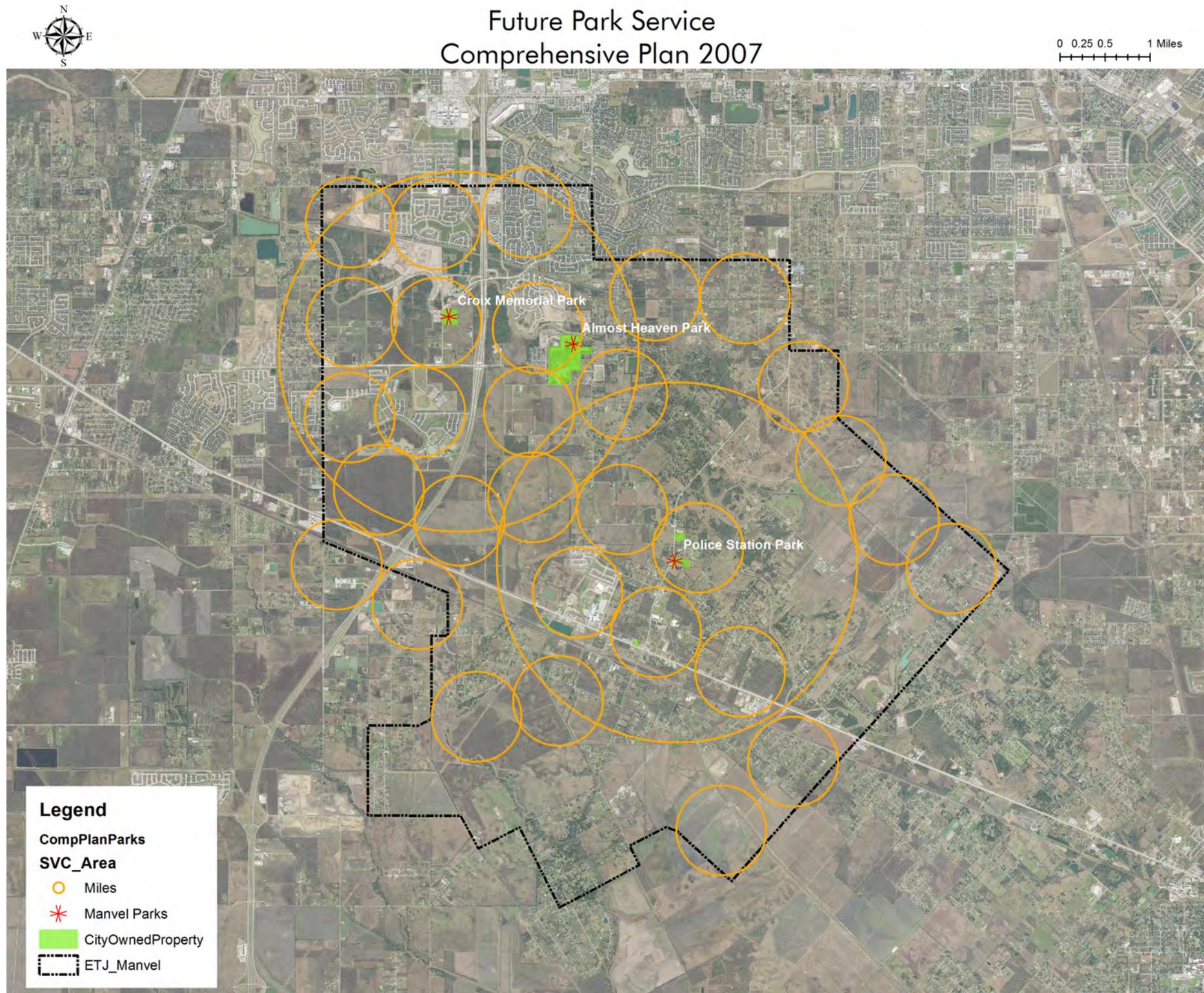
Review and revision of this ordinance is recommended to ensure that the parks and recreation amenities included in new neighborhoods meet the immediate and long-term goals of the community.

Any review to the ordinance should ensure that the cost of construction and maintenance of neighborhood parks should continue to be borne by developers. This standard or an equivalent should be adopted by reference as a component of the Park Land Dedication Ordinance to ensure developer compliance.

## Recommended Park Standards for Dedicated Park Land

Facility	Recommended Units per # of Dwelling Units
Basketball or Volleyball Court	1 per 2,000 DU
Play Structures	1 per 600 DU
Smooth Surfaced Walking Paths	1 per 1,200 DU
Covered Picnic Shelters	1 per 1,600 DU
Park Bench	2 per acre
Grill/Barbecue Pits	1 per 2 acres
Trash Cans	1 per acre

*Standards adopted from NRPA population standards for use with a Dwelling Unit calculation of 2.5 persons per DU.*



*Park service areas identify a general distance that a given sized park will served. Service areas for neighborhood parks are usually 1/4 to 1/5 mile radius, the equivalent of a 10 minute walk. In the Comprehensive Plan, service areas for future neighborhood parks are shown at 1/2 mile. These will largely be developed by subdivisions under the requirements of the Park Land Dedication Ordinance.*

# Parks and Facilities Inventory

## Croix Memorial Park Inspection and Observations

Croix Memorial Park is an approximately 17 acre community park that serves a variety of recreational needs. The park is situated on the west side of State Highway 288 and is adjacent to Mustang Bayou. The park provides the following features:

- Soccer Fields
- Baseball Backstops
- Restrooms
- Picnic Areas
- Gazebo
- Azalea Garden
- Parking
- Playground

Croix park is in overall good condition, and is the largest of the two parks in the system. Some features, such as the restrooms, are ready for upgrades. The park offers beautiful shade trees with picnic areas and a gazebo. Residents and the Parks Board have indicated that Croix Park should remain focused on community wide service, providing features for all residents. New residential subdivisions in Manvel have been providing their own neighborhood parks, pools and other amenities, therefore Croix Park should provide features that aren't available within subdivisions.

### Observations:

- Restrooms should be replaced
- Walking paths are needed
- Larger covered pavilion needed
- Great location for a dog park



# Inventory & Analysis 01



## Croix Memorial Park

0 50 100 Feet



# Parks and Facilities Inventory

## Police Station Park Inspection and Observations

The park at the police station on Masters Road is a small neighborhood park with a playground and open space. The park provides a safe place to play or enjoy some passive use of the open lawn. Specimen-quality Live Oak trees provide exquisite shade near the playground and park entrance.

The park provides the following features:

- Play module
- Passive lawn area
- Parking (shared with Police Dept.)

The park is in overall good condition and serves well as a community park. The City owns approximately 7 acres adjacent to the north boundary of the property that significantly increases the opportunities for additional features.

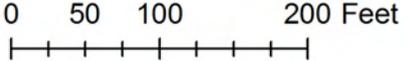
Observations:

- Parking is limited, any expansion will require an increase.
- Existing Live Oak trees are irreplaceable. Care should be taken to preserve them during any redevelopment projects.
- No current access to drinking fountains or restrooms.





## Police Station Park



# Demand **Assessment**



Live Oaks at Police Station Park

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# Stakeholder Input

## Public Workshop - 6/23/2016

The City of Manvel held a public workshop to gather much-needed input regarding residents' values, interests and needs for parks and recreation facilities and programs in the community. The meeting was held at the Church of the Harvest on June 23, 2016 at 6:00 p.m..

Community members attended and participated in round table discussions about the future of parks, trails, recreation, and community spaces in Manvel.

As participants entered they were asked to share their thoughts through a series of brainstorming questions. The following comments were written by Manvel residents:

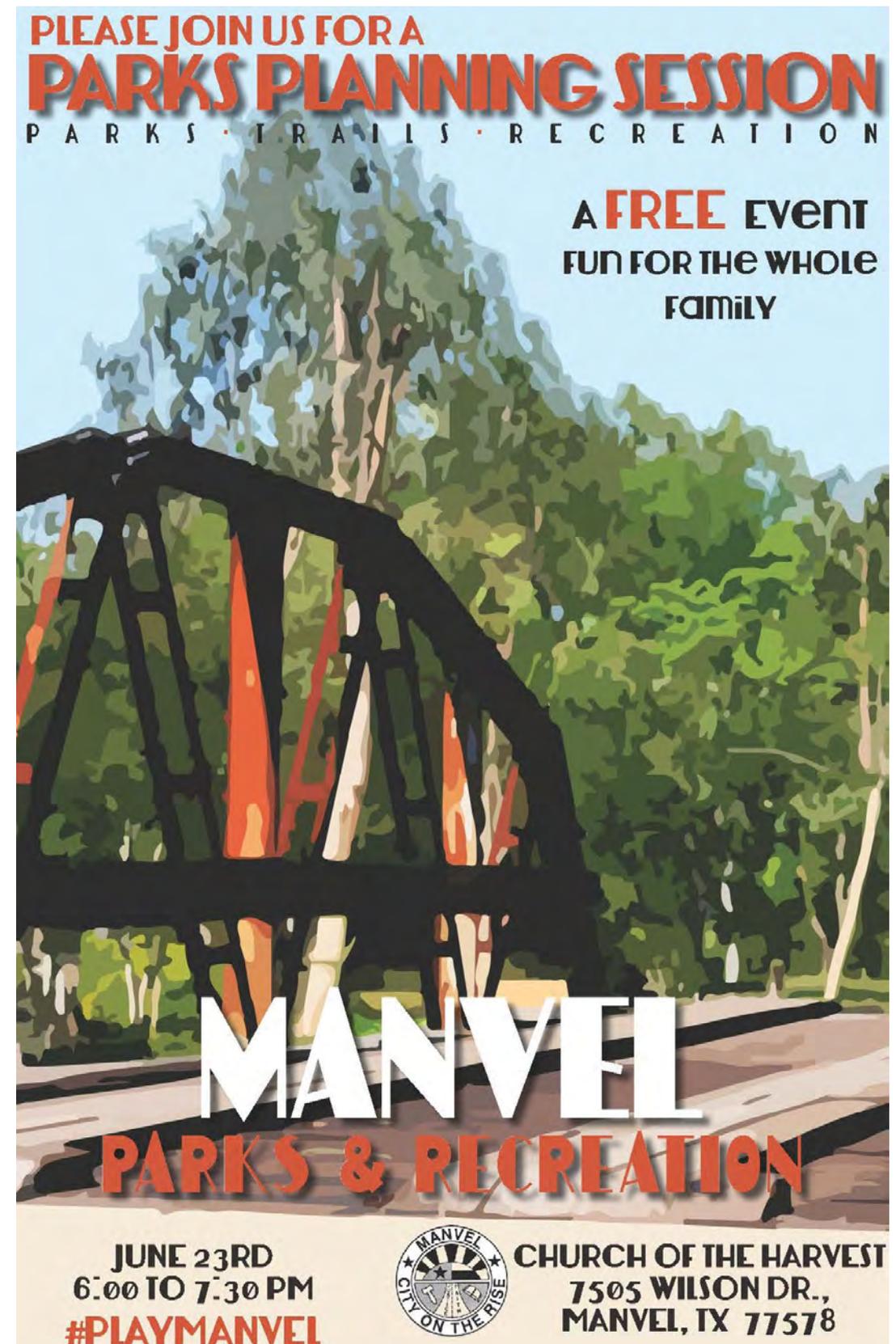
### Written Comments from Residents:

#### WHAT DOES MANVEL MEAN TO YOU?

- *My life and my future*
- *Home, community and family*
- *A nice place to live*
- *Hoka Hey! Family*
- *Family*

#### TO ME PARKS MEAN....

- *A life line for our community*
- *Family time*
- *Sense of community, healthy living*
- *Fun, good clean fun, picnics, ball games*
- *Open space, kids free-for-all, Serenity*
- *Outdoor fun*
- *A place to gather outdoors*
- *Trees*
- *Family, food, fun*
- *Being outdoors*



**PLEASE JOIN US FOR A  
PARKS PLANNING SESSION**  
P A R K S • T R A I L S • R E C R E A T I O N

**A FREE EVENT  
FUN FOR THE WHOLE  
FAMILY**

**MANVEL  
PARKS & RECREATION**

**JUNE 23RD  
6:00 TO 7:30 PM  
#PLAYMANVEL**

 **CHURCH OF THE HARVEST  
7505 WILSON DR.,  
MANVEL, TX 77578**

## TO ME MANVEL IS....

- *A city of our future*
- *Good place to live*
- *Peace & quite*
- *Great place to raise a family*
- *Home, 39 years*
- *Peace & quiet*
- *Home*
- *A clean slate for development*

## WHAT ARE YOUR DREAMS FOR MANVEL PARKS?

- *Awesome Splash Pads*
- *Large Gazebo*
- *Butterfly Gardens*
- *Meeting places*
- *Community Center*
- *Library*
- *Picnic tables*
- *Fishing Ponds*
- *Walking trails*
- *Outdoor pools so kids can swim*
- *Bands*
- *Public Pool*
- *Sports Arena*
- *Equestrian Trails*
- *Shelters for shade*
- *Community Centers*
- *Dog Parks*
- *Playground equipment*
- *Gatherings*
- *Connectivity*
- *Walking trails*
- *Places where people can come and find peace and enjoyment*
- *Large trees*
- *Farmers Market*



*Participants in the public meeting were organized into small working groups. Each group worked through a series of topics to determine their priorities for parks and recreation. At the end of the meeting, each working group presented a summary of their priorities, interests and concerns to the larger audience.*

# Public Meeting

## Comments from Public Workshop - 6/23/2016

The small group discussions focused around the following themes: Path, Shelter, Play, and Place. The discussions were lively and resulted in some great ideas for the future of Manvel. Common themes found in the online survey and public workshop include:

1. A large park that can serve as a community gathering place and provide an identity/sense of place unique to Manvel – a city center. This space could include green space for play and festivals/events, a pavilion/amphitheater, library, community center, food trucks, a place for a farmers' market,
2. Connectivity: trails, cycling, equestrian. The bayous are a great starting point for trails.
3. We should think of our roads as parks and connectors.
4. A connection to nature: bayous, prairie, oak trees, birds, butterflies.

### PLACE

The discussion theme “Place” provides a lens through which to evaluate parks and public spaces, not for their features and amenities, but as locations for activity in the public realm. Meeting participants discussed a wide variety of topics within this theme, including such as ideas as Farmer’s Markets, Community Event Space, Dining Opportunities, Nature Experiences and Museums. Other comments, took a pragmatic approach with consideration for Land Acquisition, Utilization of Rights-of-Way, and Infrastructure Needs. One common trend in the discussion was the conclusion that there is not enough public space in Manvel for recreation activities and events.

### PLAY

The “Play” discussion theme is a general category to guide conversation about desired recreation activities within parks and public spaces in Manvel. The desired activities and amenities desired by residents varied greatly, including Aquatics Facilities, Water Sports, Disc Golf, Playgrounds, Dog Park, Equestrian Activities, Shooting Sports and Team Sports, and many more. The most frequently discussed activities were Aquatics, Team Sports and Water Activities (kayaking, fishing, etc.)

Team sports were discussed ten times within the “Play” theme of dialogue. Residents discussed a desire for tournament opportunities, a multi-use sports complex, softball-specific sports complex, and Little League fields. One comment indicated a need to wait for sufficient population to support a sports complex. There is a clear desire by some residents to bring team sports home to Manvel, when the timing, resources and land are available.

### PATH

The “Path” theme encompasses recreation activities such as walking, jogging, and hiking, as well as considerations such as access and proximity to recreation spaces, parking and overall community connectivity. Meeting participants clearly stated their desire to have multi-purpose trails throughout the community, with the second highest frequency of comments at the public meeting. Details of discussion included the need for connectivity, cycling opportunities, hiking, equestrian trails, nature trails and use of drainage-ways for connection.



*Comments from the round table discussions were coded by subject to look for patterns in the comments. The chart on the right shows the frequency of comments for each categories.*

**SHELTER**

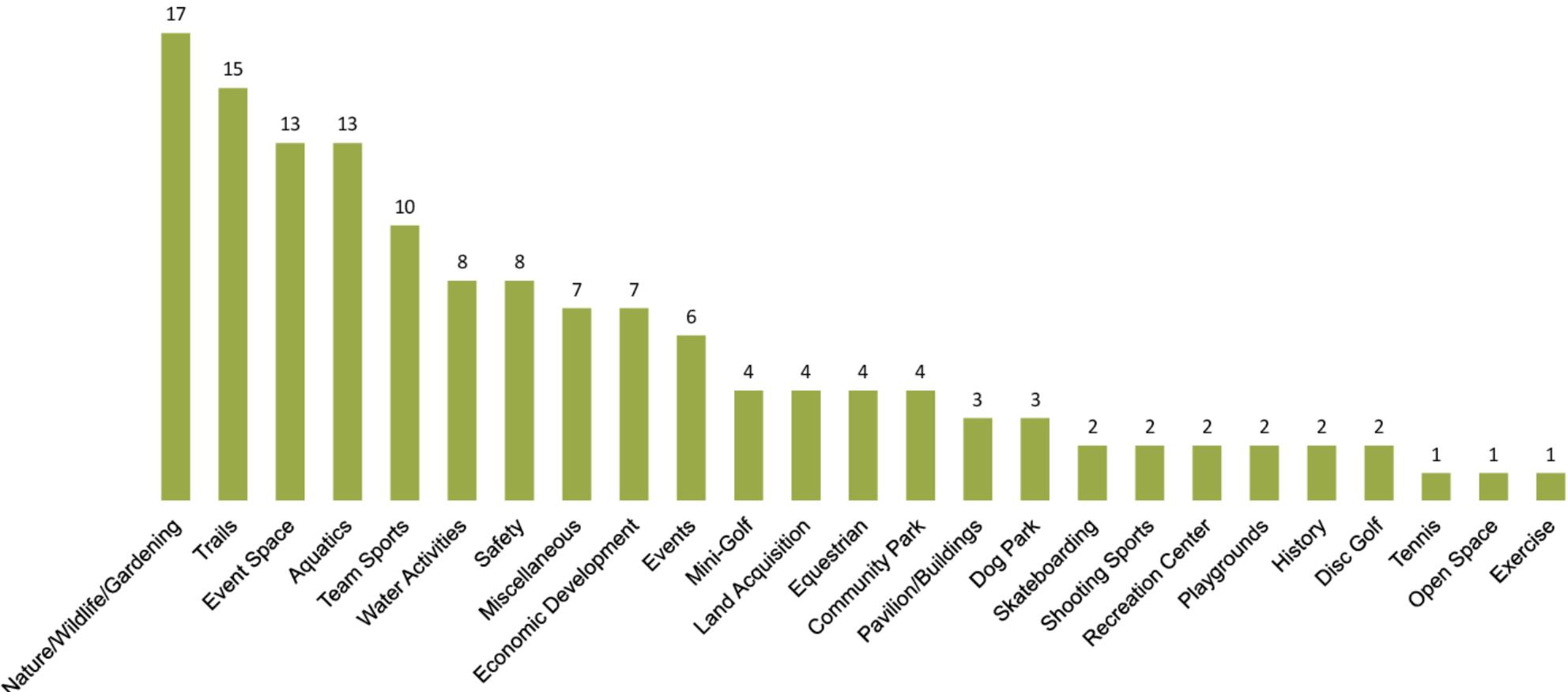
The “Shelter” discussion theme is focused on topics and ideas related to buildings, pavilions, and other built structures for recreation purposes. Meeting participants expressed a need for meeting and gathering spaces for events, such as an amphitheater, a recreation center, pavilions, and possible rental facilities for events such as parties and reunions.

**PEOPLE**

Discussion about events and activities focused on the community gathering together were categorized under the discussion theme of “PEOPLE”. While a master plan has limited control over future events and programs, the discussion yields insight into the types of events that Manvel residents value. Events mentioned during the meeting included a desire for a trail ride, Independence Day fireworks, and parades. There was a general agreement that Manvel needed a location for events to take place.

**On the Topic of Safety**

While not a formal theme of discussion for the public meeting, the topic of “Safety” was mentioned several times and warrants notice. Meeting participants mentioned safety, mostly with regard to walking activities. A lack of trails and roads without shoulders mentioned, as well as an expressed desire to have safe routes for bicycles as well. Masters Road was mentioned several times as a primary route with a need for safer shoulders and potentially a trail.



# Online Survey

## Parks and Recreation Survey Results

The City of Manvel conducted an online Parks and Recreation Survey beginning in May 2016 and running through the end of July 2016. A total of 227 respondents completed the 13 question form, providing insight into current recreational activities that Manvel residents participate in, as well as the desired parks, facilities and activities that they would like to see in the future parks system.

The most important question asked of survey participants is what their top priorities are for parks, recreation and outdoors in Manvel. The top 3 priorities identified are as follows:

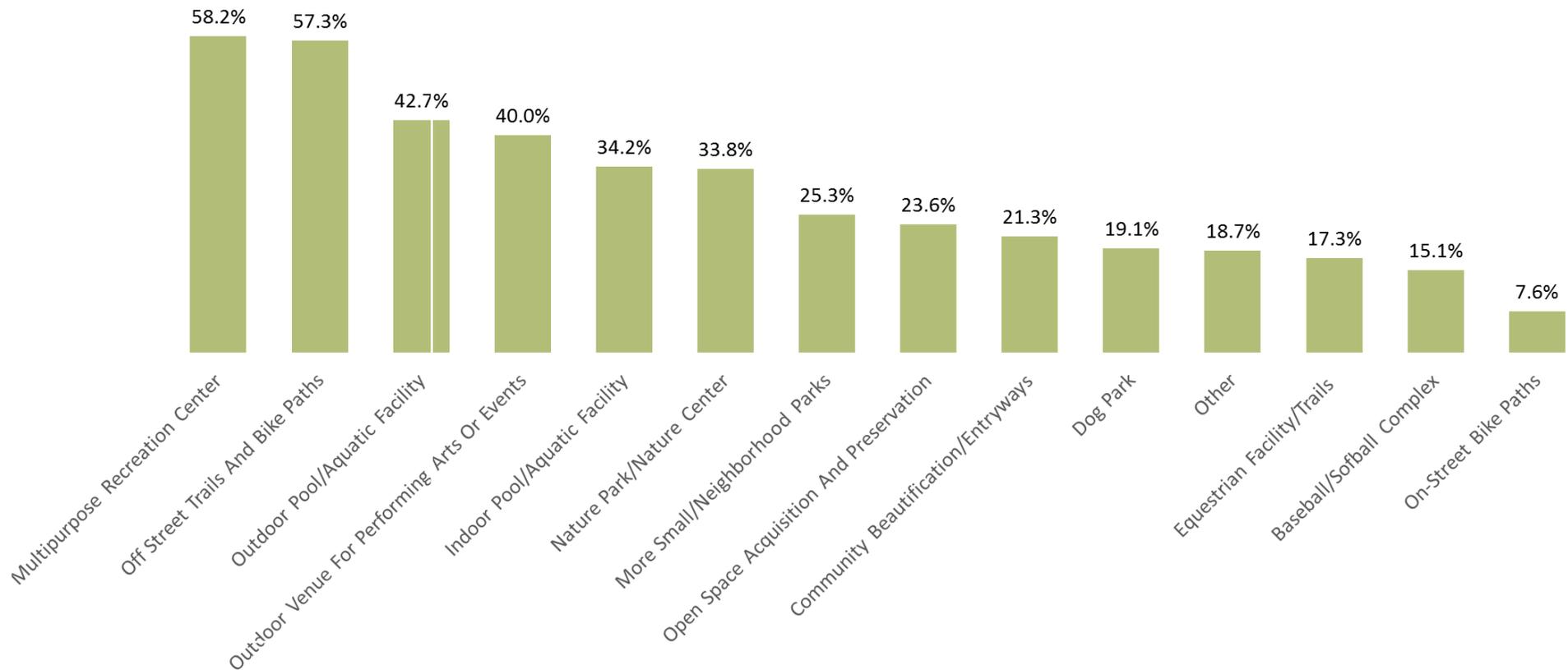
### Top 3 Priorities

1. Multi-Purpose Recreation Center
2. Off-Street Trails and Bike Paths
3. Outdoor Pool/Aquatic Facility

Survey participants were asked a number of open ended questions about how they spend their recreation time and money. Manvel residents participate in a wide variety of activities at a wide number of locations. The median distance travelled for recreation activities is approximately 25 miles with an average monthly expenditure of \$269. The greatest number of participants reported spending recreation time in Pearland followed by Houston, Alvin and Galveston. As Manvel continues to grow, a time will come to decide which of those recreation activities they would like to bring “in-house”, and which ones are best served by other entities.

*The online survey sample produced results with an approximate 6.41% margin of error and a confidence level of 87.3%.*

What are your top priorities for parks, recreation, and outdoors in Manvel?



“Where do you and members of your family go for recreation?”



*This “word cloud” graphic displays the most frequently reported locations that Manvel residents go to for recreation. The larger the font, the more frequently mentioned.*

“How much Money would you estimate you spend when traveling to other cities for recreation purposes ie.. Gas, Restaurants, Retail Shopping, etc? ”

Average Monthly: \$269

Median Monthly: \$200

“How far do you travel for recreation?”

Median Trip: 30 minutes/25 miles

# Online Survey

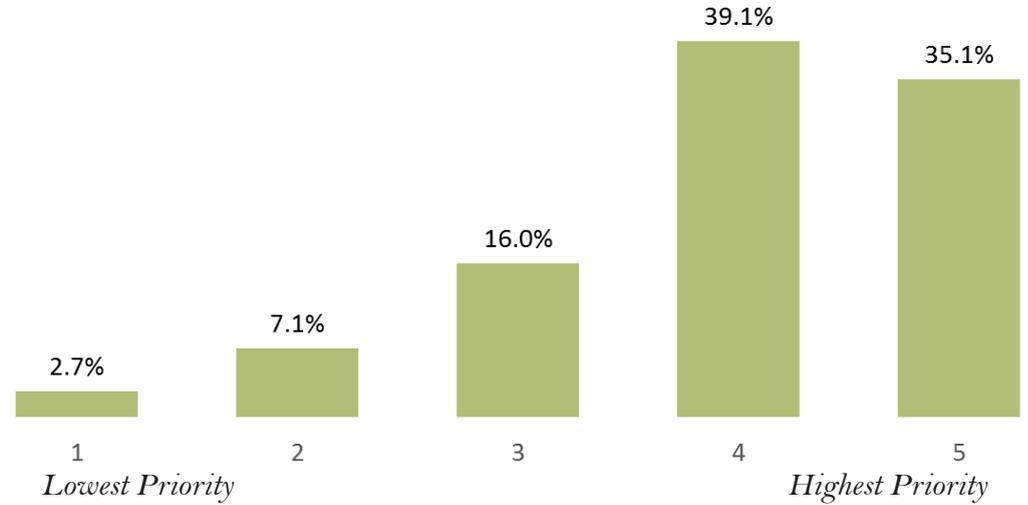
## Parks and Recreation Survey Results

Fundamental to any consideration of new parks/recreation facilities and programs in Manvel is the question of funding. Survey participants were asked the following:

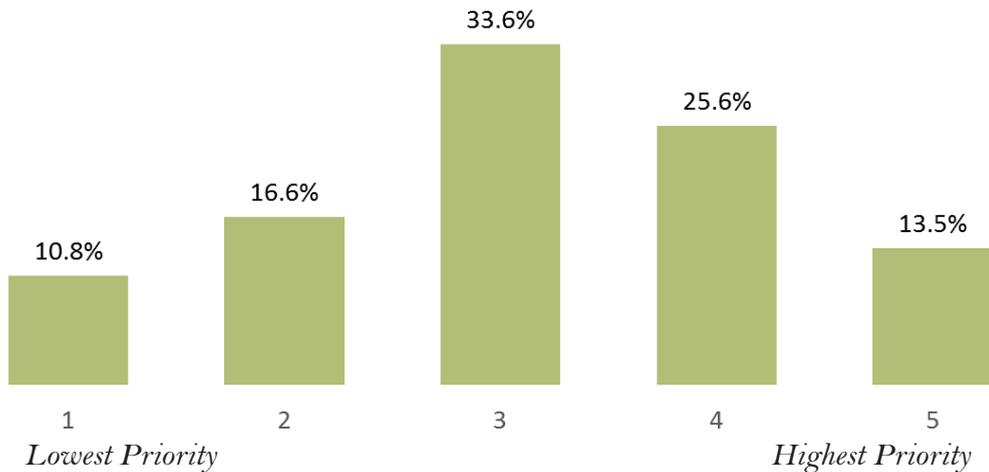
“Can money be raised to build, maintain, and operate facilities and programs?” If so, how much and through what funding mechanisms?”

The results indicate a general willingness to expand funding for trails, recreation and parks programs and open space acquisition. These results displayed a similar level of priority as that of roads, infrastructure and maintenance.

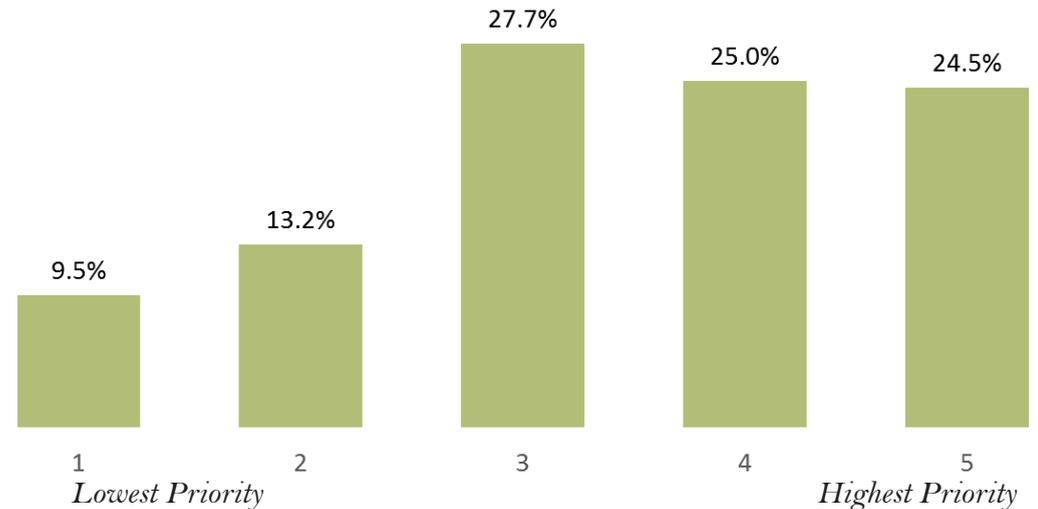
Recreation and Parks Programs

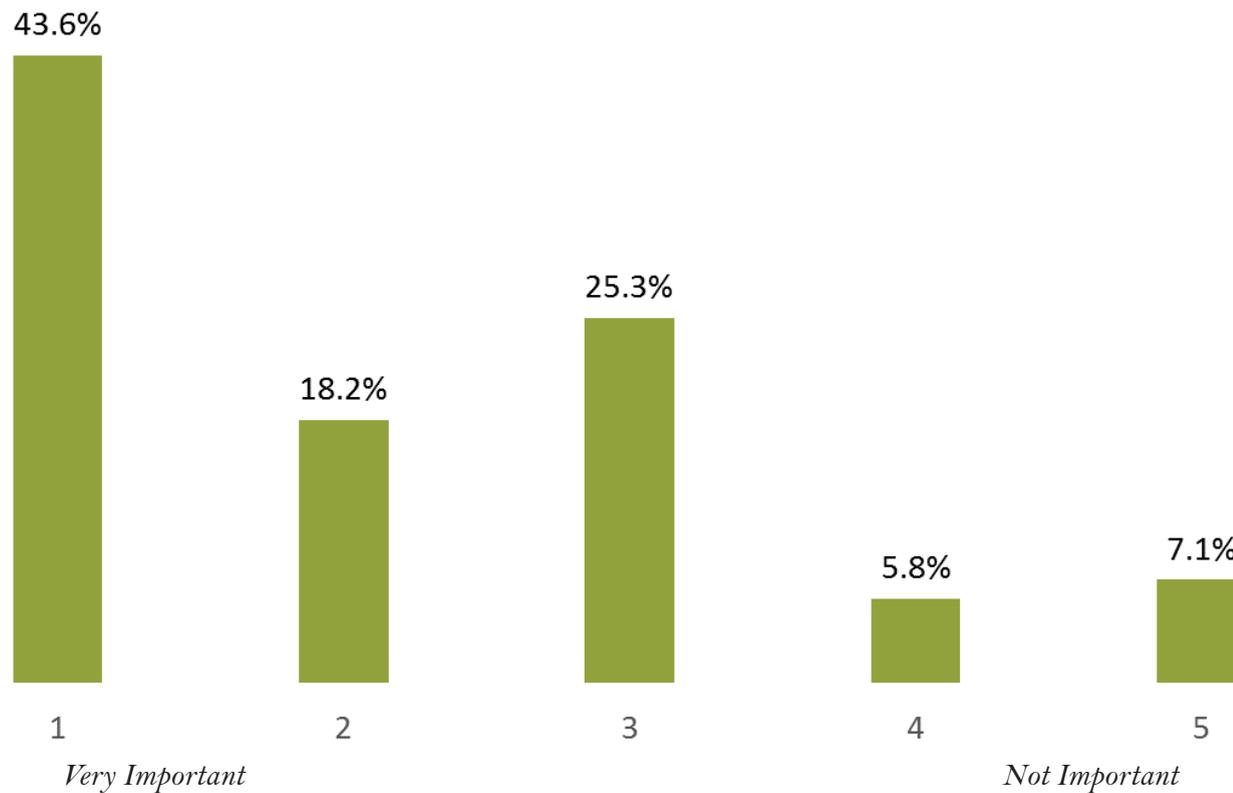


Open Space Acquisition and Preservation



Development of New Trails and Paths

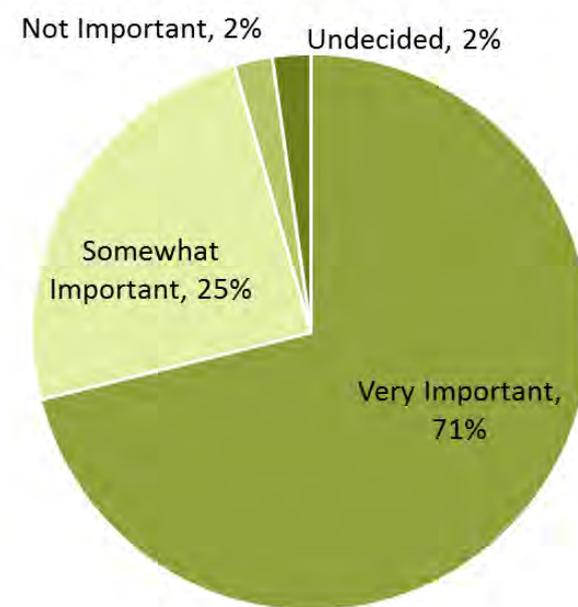




*“How important are greenways (which include trails for walking, biking, and running) that would interconnect neighborhoods, parks schools and other areas within Manvel?”*

When asked about the importance of greenways and trails for walking biking and related activities. A total of 61% of the responses rated the priority of greenways as either “Important” or “Very Important”.

When survey respondents were asked how important new and improved recreation facilities and activities are, a resounding 71% responded that they are “Very Important”.



*How important are new or improved recreation facilities and recreation activities for your community?*

■ Very Important   ■ Somewhat Important   ■ Not Important   ■ Undecided

# Walkability



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# Planning for Walkability

## Pedestrian Paths and Trails

### Defining Walkability

Walkability is defined in many ways, but is almost always based on three principles:

- Physical Access
- Places
- Proximity

“**Physical Access**” refers to the infrastructure available to facilitate safe pedestrian travel to a destination. This can take the form of sidewalks, trails, open space and corridors.

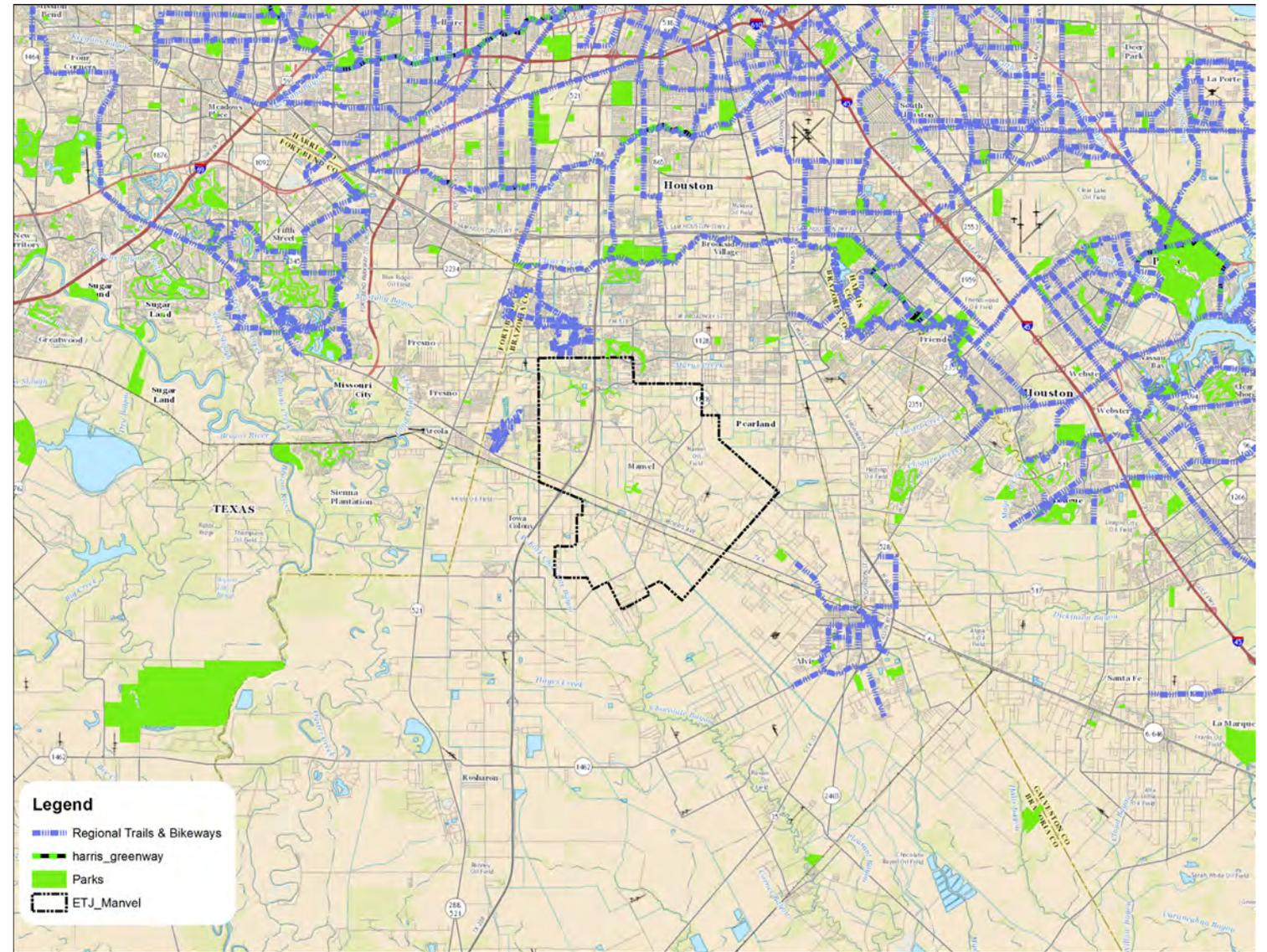
“**Places**” refers to the presence of public destinations such as schools, work, shopping, food service, parks and other recreational activities.

“**Proximity**” refers to the walk-able distance to destinations. An acceptable distance to a variety of destinations would be approximately one mile or 10 to 15 minute walk from a given location.

### The Need

The City of Manvel has very limited area dedicated to pedestrian and other non-vehicular transportation. Currently there are sidewalks within newer residential developments in the community, however no city-wide system of pedestrian facilities exists. The online Parks and Recreation Survey indicated that 56.6% of respondents considered off-street trails and bike paths to be a priority. A total of 76.8% of responses rated development of new trails and paths as a moderate to high priority for funding.

Opportunities for creating trails and sidewalks in Manvel are mostly found in the street rights-of-way. Other areas where trails may be implemented include city-owned land along the bayous and along utility corridors through interlocal agreements.



0 2.5 5 10 Miles

Regional Non-Motorized Transportation  
Greenways, Trails and Bikeways



*Trails and bikeways are a key component of a parks and recreation system in addition to facilitating non-motorized means of transportation. Trails and bikeways are abundant throughout Houston and many surrounding communities but have not been developed in Manvel. Manvel has a great opportunity to capture space for trails prior to becoming a “built out” community.*

## Priority Routes

Developing a non-motorized transportation network is no small task. Cities are limited to working within property that is under their control such as street rights-of-way, drainage corridors and by working with other entities through interlocal agreements.

Prioritization of trail and bike lane development will largely rely on funding, real estate development patterns, and availability of space. For instance, the 2015 Thoroughfare Plan defines the character and type of non-motorized routes for each classification of roadway. The development of proposed trails and bike lanes along these corridors would therefore be coordinated with the construction or reconstruction of associated roadways, rather than a standalone project.

The City has expressed a desire to consider the public rights-of-way as a key component of the parks and recreation system. This concept embraces the design intention of utilizing the entire non-road part of the right-of-way as linear park space, complete with trails and landscaping and, where appropriate other amenities.

## Off-Street Trails

The largest component of the proposed non-motorized transportation network will be off-street trails. As stated above, these will primarily be pedestrian pathways along major roadways throughout the City.

Available right-of-way space will vary with each roadway, and some existing roadways may be even more limited, therefore the widths of pathways will vary. Ideally, each pedestrian route would be 12' wide, paved, with buffers of landscaping between adjacent roadways. In some areas the maximum width may be limited to 5' sidewalks. The 12' pathways will allow for a striped centerline to designate two-way traffic along the path. Two-way paths are the optimum design for inclusion of bicycle traffic and pedestrian traffic on the same path.

## Routes along Drainage Corridors

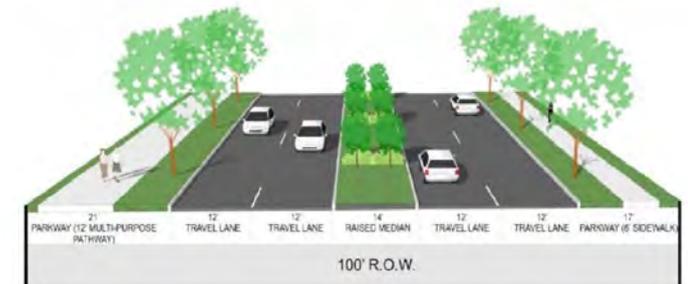
Proposed trail routes along drainage corridors such as Mustang Bayou and Chocolate Bayou are ready for development upon securing the necessary funding. The drainage corridors should be considered as the highest priority routes for new trail development. Right-of-way along drainages is acquired by the City of Manvel upon platting of subdivisions along the waterways. These routes were selected based on the following factors:

- project opportunity is triggered upon availability of rights-of-way along the corridors; (see Right of Way Map on the following pages)
- ability to connect areas of the community;
- opportunity for recreation in more natural environments.

## Equestrian Opportunities

Citizens who participated in the online Parks and Recreation Survey mentioned the desire to include equestrian trails a total of 4 times. Within 2 of the questions, approximately 13 to 17% of responses indicated a desire to make trails a priority. Being relatively rural in character, Manvel has the opportunity to create a equestrian routes alongside proposed trail routes in select areas of the community. The bayous represent the best location for horseback riding, as they have less noise and vehicle traffic and ample space for equestrian trails to coexist with pedestrian trails.

**The rights-of-way in Manvel should be a key component of the City's parks and recreation system.**



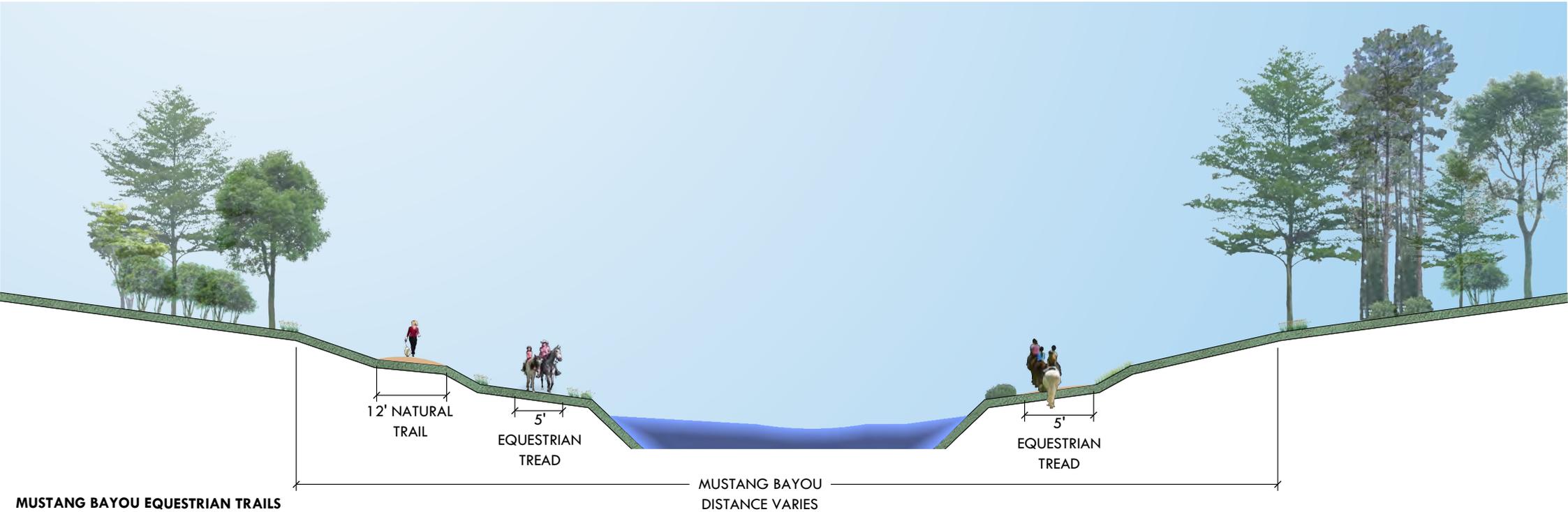
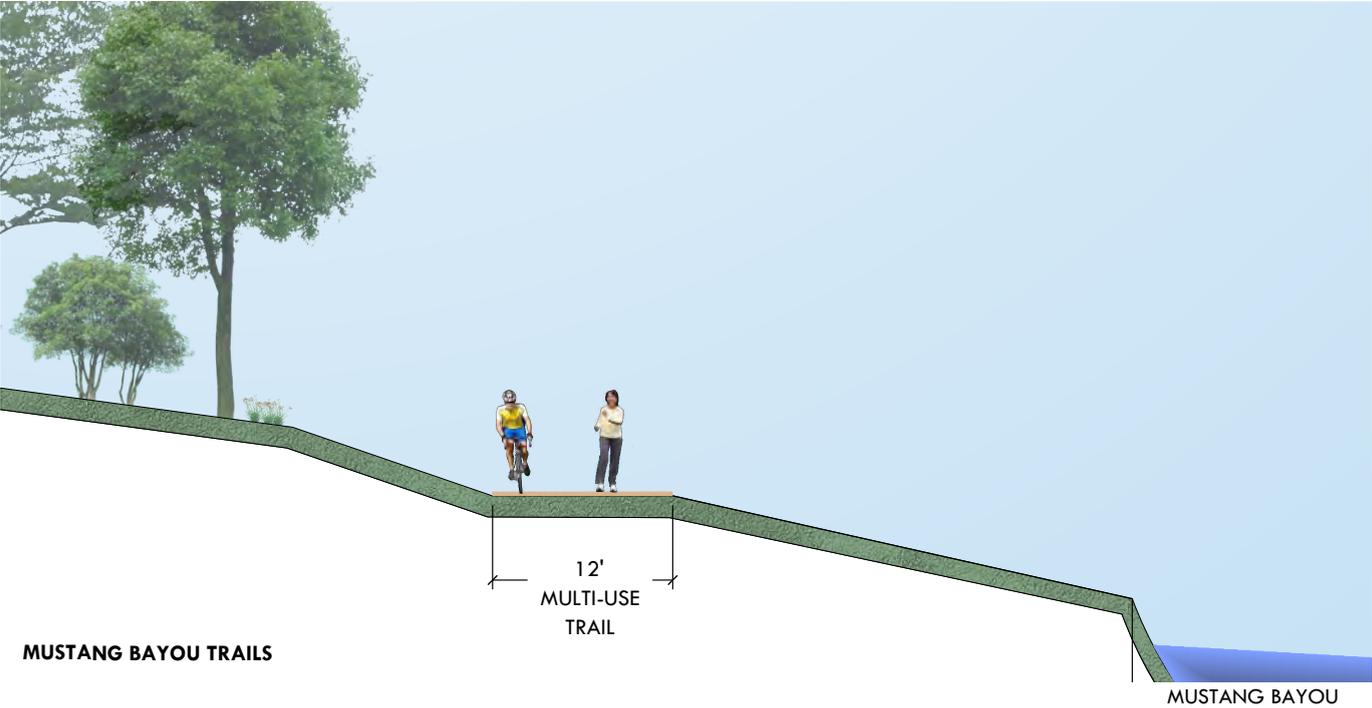
*Proposed street section from the 2015 Thoroughfare Plan. Standards for development of each roadway type illustrate the desired layout of pedestrian facilities within the streetscape.*



*Sidewalks along major arterial and collector roads have already been developed within newer subdivisions. McCoy Road shown above.*

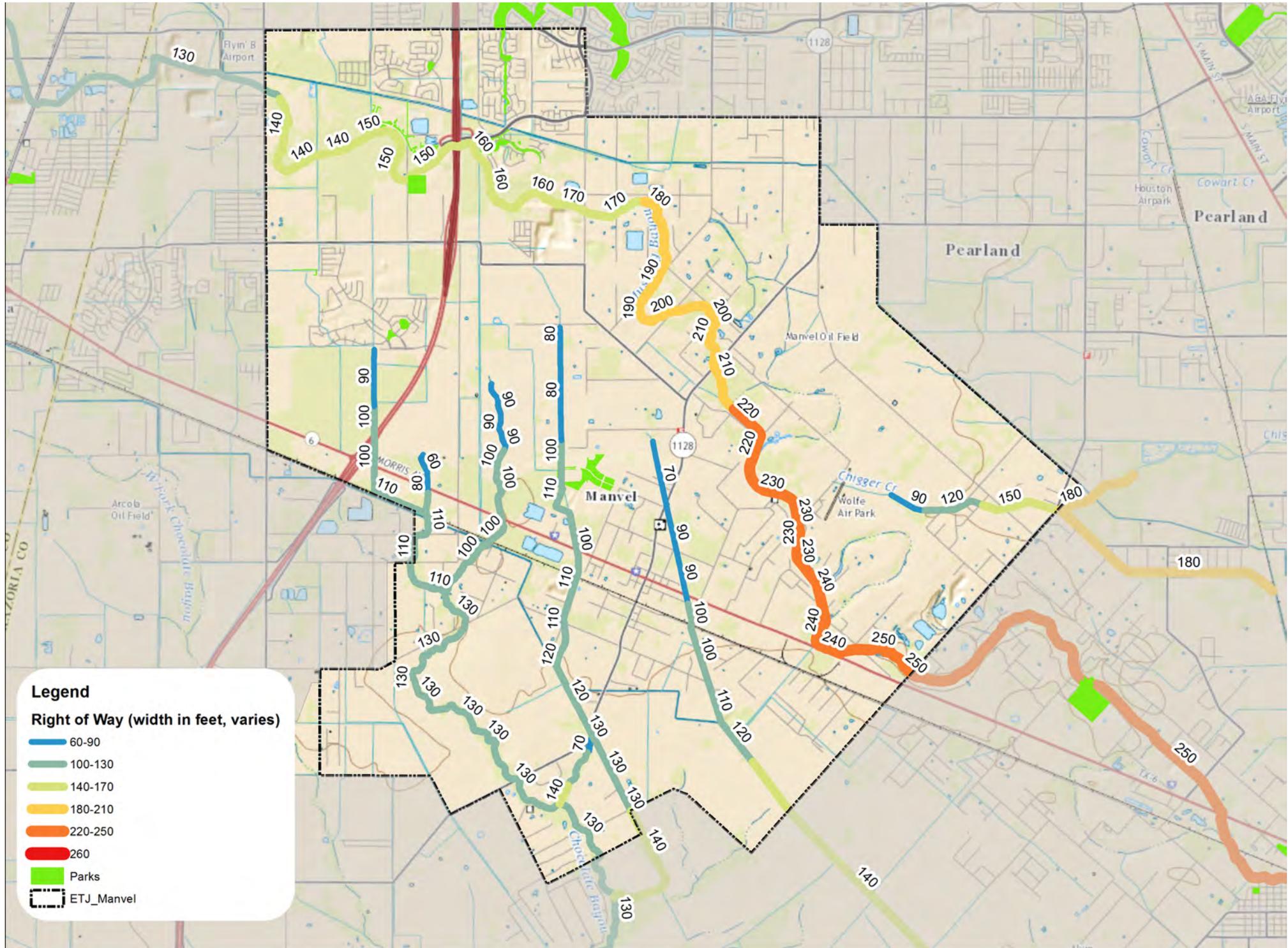
# Planning for Walkability

## Pedestrian Paths and Trails



# Walkability 03

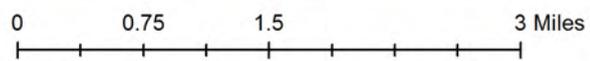
*Manvel's Master Drainage Plan provides for the acquisition of right-of-way along a number of creeks, drainages and bayous within the City Limits and ETJ upon platting of subdivisions that contain these waterways. These corridors offer some of the greatest opportunities for expanding recreation in Manvel and providing for enjoyment of the natural beauty found throughout the community.*



**Legend**

**Right of Way (width in feet, varies)**

- 60-90
- 100-130
- 140-170
- 180-210
- 220-250
- 260
- Parks
- ETJ\_Manvel



Manvel Rights-Of-Way  
Drainage, Creeks, and Bayous



# Planning for Walkability



*Mustang Bayou runs along the north end of Croix Memorial Park, offering connections between neighborhoods and the park. State Highway 288 would limit connections to the east due to the low overhead clearance under the bridge. However, connections to Kirby Drive and Croix Parkway will serve a number of neighborhoods.*

# Walkability 03



*Man-made irrigation canals in Manvel could offer additional trail connection opportunities. The Gulf Coast Water Authority (GCWCA) currently manages access to these canals, therefore collaboration between GCWA and the City would be required.*



*The future rights-of-way along major drainage corridors such as Mustang Bayou (shown above) offer ideal opportunities for pedestrian and equestrian connections across the community and a chance to experience recreation in more natural environments.*

 1st Priority Route  
 2nd Priority Route

# Planning for Walkability

## Proposed Off-Street Trails and Bike Lanes

## Proposed Trail System Statement of Probable Costs 12-5-2016

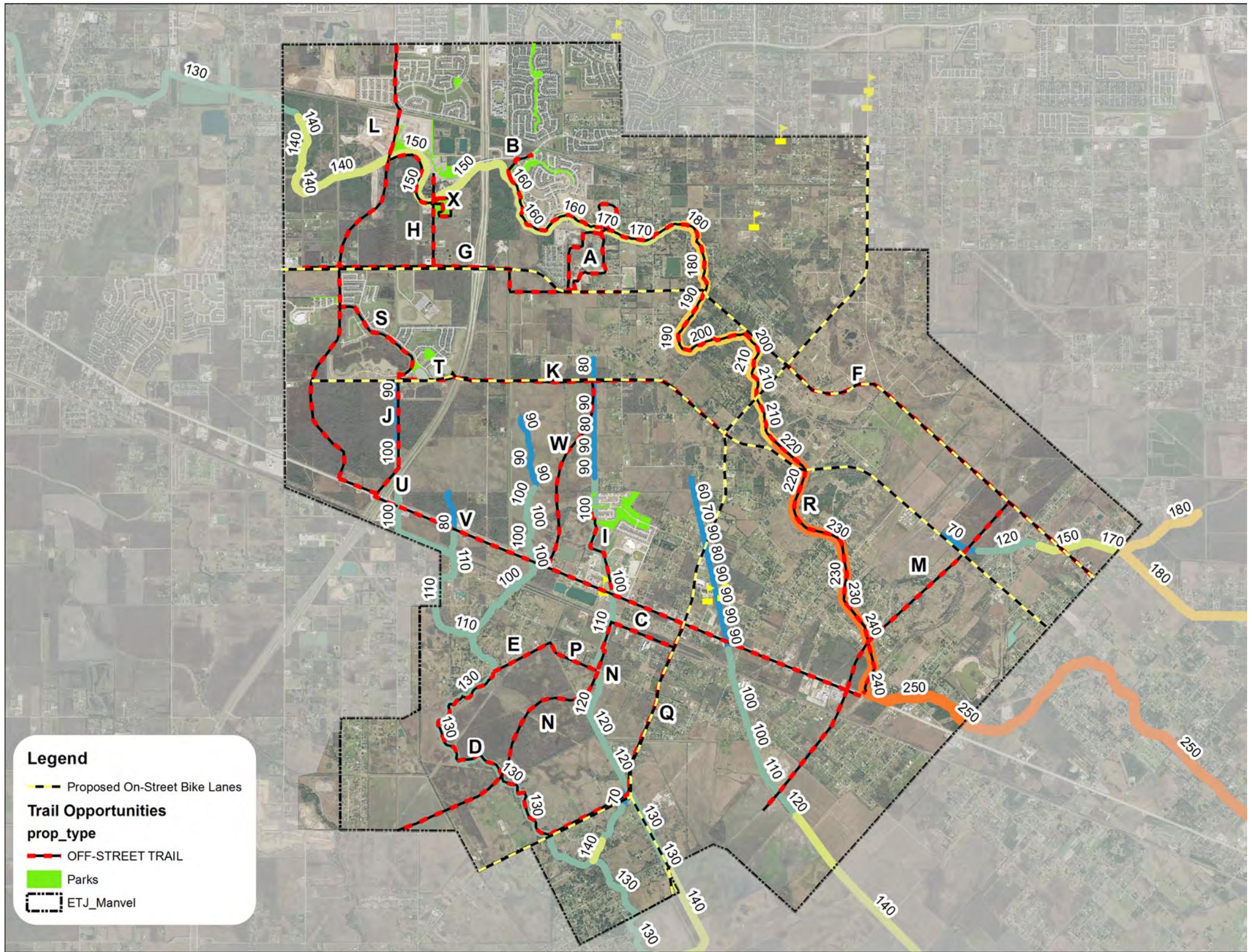
Route	Route Name	Proposed Width	Length (Ft)	Length (Mi)	Square Feet	Unit Cost	Base Cost
A	ALMOST HEAVEN/SAND QUARRY	12	12,219	2.31	146,632	\$4.50	\$659,842
B	BAILEY ROAD	12	1,821	0.34	21,852	\$4.50	\$98,334
C	BISSELL ROAD	12	4,547	0.86	54,563	\$4.50	\$245,532
D	CHOCOLATE BAYOU	12	13,088	2.48	157,061	\$4.50	\$706,774
E	CLARK ROAD	12	3,607	0.68	43,288	\$4.50	\$194,795
F	COUNTY ROAD 98 EXTENDED	12	18,432	3.49	221,180	\$4.50	\$995,312
G	CROIX ROAD	12	22,113	4.19	265,355	\$4.50	\$1,194,097
H	CROIX PARKWAY	6	4,361	0.83	26,168	\$4.50	\$117,758
I	DRAINAGE	12	4,561	0.86	54,731	\$4.50	\$246,291
J	DRAINAGE CANAL WEST	12	4,303	0.81	51,637	\$4.50	\$232,368
K	DEL BELLO BLVD.	12	13,392	2.54	160,709	\$4.50	\$723,190
L	KIRBY DRIVE	12	22,299	4.22	267,592	\$4.50	\$1,204,165
M	MARKHAM ROAD	12	18,800	3.56	225,605	\$4.50	\$1,015,222
N	PETERS ROAD	12	1,049	0.20	12,582	\$4.50	\$56,620
O	PETERS ROAD CONNECT	5	13,134	2.49	65,669	\$4.50	\$295,508
P	JORDAN ROAD	12	2,003	0.38	24,040	\$4.50	\$108,179
Q	MASTERS ROAD	12	12,599	2.39	151,184	\$4.50	\$680,329
R	MUSTANG BAYOU	12	45,710	8.66	548,517	\$4.50	\$2,468,325
S	RODEO PALMS DETENTION	12	5,835	1.11	70,025	\$4.50	\$315,112
T	RODEO PALMS PARKWAY	12	2,412	0.46	28,943	\$4.50	\$130,243
U	STATE HIGHWAY 288	12	1,676	0.32	20,110	\$4.50	\$90,493
V	STATE HIGHWAY 6	12	26,641	5.05	319,691	\$4.50	\$1,438,609
W	UNNAMED THOROUGHFARE PLAN ROUTE	12	9,259	1.75	111,108	\$4.50	\$499,986
X	CROIX PARK TRAIL	12	3,057	0.58	36,685	\$4.50	\$165,081
Subtotal			266,919	50.55	3,084,925		\$13,882,165

5% Contingency	\$694,108
Subtotal	\$14,576,273
15% GC Markup	\$2,186,441
Total Construction Cost	\$16,762,714
8% Professional Design & Mgmt	\$1,341,017
Probable Cost Range	\$18,103,731

Round **\$18,100,000** **\$21,720,000**  
**Low Estimate** **High Estimate**

Most trail segments costs were estimated on a 12' wide pathway. Some economy can be achieved by lessening the width to 8 feet, resulting in a total estimated cost for the trail system of \$14,720,000

# Walkability 03



0 0.5 1 2 Miles

Priority Non-Motorized Transportation  
Off-Street Trails and Bike Lanes



# Programs & **Events**



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# Community Events and Programs

Manvel has a limited number of community-sponsored events each year, The City hosts the annual Christmas Celebration, but other events are generally sponsored by a variety of public and private organization in the area. The following are just a few of the events held in Brazoria County:

- Fall Festival (Church)
- Rodeo Trail Ride
- Independence Day Fireworks
- Food Truck Festival (Pearland)
- Alvin Music Festival
- Pearland International Festival
- Froberg Farms - Corn Maze, Pumpkin Patch and Fall Festival
- Brazoria County Crawfish Festival
- Alvin Rotary Novemberfest

Community events and programs in Manvel are currently limited in large part due to a lack of space for hosting such activities. The City currently has very little public space, with no area that is truly considered a “City Center” for people to gather in.

The stakeholder input gathered from the public meeting and the online survey indicate that citizens want a space for community events. Some of the types of events mentioned include:

- Festivals
- Farmer’s Markets
- Fourth of July Celebration
- Parades
- Concerts
- Food Truck Events



## Creating a City Center

What Manvel needs most is a central gathering place. A place for events to be held, a modern take on a downtown, would provide residents with a true sense of a hometown. By working with developers to reach mutually beneficial agreements for land, infrastructure and other development costs, a public-private venture could allow Manvel to create a new home for its City Hall and other municipal offices as well as provide open space with formal landscapes to host community events. An amphitheatre, water features and other amenities would heighten the experience for visitors.

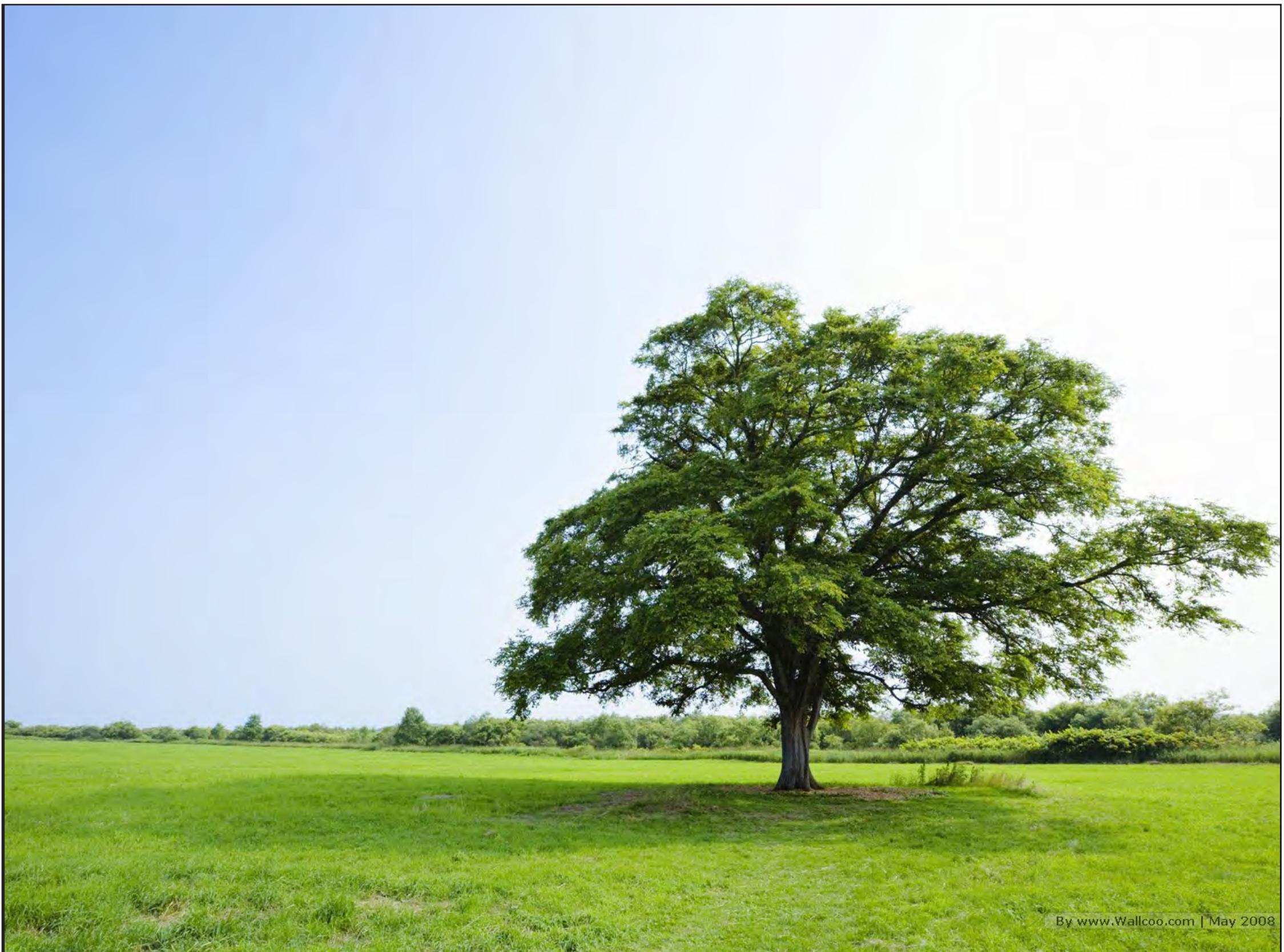


The drawing on the right is a concept of what the event space at a city center development might look like.



*A City Center concept illustrating how such a development could serve as a centralized location for City facilities such as City Hall and the Police Department, but also to provide recreation space for large community events. Citizens have asked for a venue for more formal gatherings that is attractive and flexible for a variety of uses.*

# Natural **Resources**



By [www.Wallcoo.com](http://www.Wallcoo.com) | May 2008

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# Natural Resources

## Low Impact Design

Manvel's history is rooted in agriculture and living in balance with the natural resources available in the coastal plains of Brazoria County. The relatively flat landscape is home to numerous bayous and creeks as well as man-made irrigation canals that continue to serve the still thriving agricultural industry. The land in Manvel is rich in floodplain and wetland ecosystems as well as native grasslands and prairie. It will be important to preserve and enhance these lands as the City continues to develop along with the rest of the region.

### Water Conservation

Manvel experiences an average rainfall of 54 inches per year, but also experiences dry conditions like the rest of the region. Water is likely to be one of the most limiting factors in development in the future and will continue to influence how we manage land in the public realm. It is important to become pro-active in water conservation efforts during the development and management of parks and recreation facilities in Manvel through proactive conservation measures as well as design considerations.

### Low Impact Design (LID)

In a world of ever-decreasing natural resources and increasing development, it becomes important for the City to consider and adopt Low Impact Development (LID) techniques during design and construction of parks and facilities. Issues such as stormwater management, water quality, heat islands, and water conservation can be addressed through sound design principles.

Tools such as bio-retention of stormwater, bio-swales, use of drought-tolerant native plant materials, and rainwater harvesting can effectively be implemented in park and facility designs. Use of

such tools are rapidly becoming a standard practice, and in some cases a requirement, in communities nationwide.

In addition to being a matter of good environmental stewardship, design and implementation of LID techniques in the City's projects can also improve the City's overall rating with the Federal Emergency Management Agency's (FEMA) Community Rating System. Improving the City's score with this system can result in discounted insurance rates city-wide.

### LED Lighting

An important consideration with the replacement or installation of lighting and both parks and facilities is the use of LED lighting. LED light fixtures use remarkably less energy compared to incandescent bulbs and provide costs savings as well as promote sound environmental stewardship.

### Environmental Tourism and Education

A powerful tool for garnering support and appreciation of conservation efforts is education. Each introduction of a LID design component such as rainwater harvesting, bio-swales, and native plantings present opportunities to educate park visitors about the benefits those features provide the environment. Interpretive signage is a simple way to enhance the park experience while educating visitors.

Croix Memorial Park has an Air Quality Monitoring Station located in the heart of the park. This monitoring station was established by the Texas Commission on Environmental Quality (TCEQ) in 2001 to study air pollution levels across the region. Collaboration with TCEQ to create educational signage that explains the purpose and value of the monitoring station will transform the facility from an eyesore into a park feature.



*Use of native plants within landscape areas of parking lots can aid in removal of contaminants and sediments from stormwater prior to drainage into the watershed.*



*Bio-swales, similar to drainage ditches, utilize selected vegetation to filter and slow down stormwater runoff prior to its drainage into the watershed. These bio-swales can be designed using native vegetation adapted to the area, requiring minimal maintenance.*



*The TCEQ Air Quality Monitoring Station at Croix Memorial Park continuously measures the following air quality data and along with camera views:*

- Nitric Oxide, Nitrogen Dioxide, Nitrogen Ozone
- Wind Speed, Wind Direction, Maximum Wind
- Outside Temperature

*Improving the appearance of the monitoring station could easily be accomplished through the use of landscaping and improved fence materials. Incorporating educational signage that explains the importance and purpose of the facility will enhance park user experiences.*



*Rainwater harvesting technologies can be incorporated into the design of park facilities. The pavilion shown above was built at John Burge Park in Conroe, Texas utilizing a design that collects stormwater from the rooftop into a 5,000 gallon storage tank for irrigation of the park's landscaping.*



*LED lighting is available for replacement of existing bulbs in parks or as a complete solution when choosing light standards for new facilities. Cost savings over the long-term are significant given the low energy requirement and long lifespan of the bulbs.*

# Natural Resources

## Preserving Manvel's Natural Heritage

### Urban Wildlife

Wildlife is an important component of the urban/suburban environment. Wildlife, especially songbirds, add color, movement, and sound to the landscape, and thus can contribute much to the human habitability of cities.

Managing habitat protects the ecological values that wildlife provides in maintaining healthy, viable and functioning ecosystems.

Healthy ecosystems support a greater diversity of species populations, which are more stable and more likely to recover when disturbed, whether from humans or natural occurrence. Therefore, preserving and maintaining a variety of habitats in the City for wildlife ensures that ecosystem health is maintained for people, as well as wildlife.

### Backyard Wildlife

Habitat is a combination of food, water, shelter, and space arranged to meet the needs of wildlife. Backyard habitat for smaller parcels can be developed initially, through the ongoing efforts of a community education program.

Even a small backyard can be landscaped to attract birds, butterflies, beneficial insects, and small animals. Planting a variety of native wildflowers, trees, shrubs, vines or cultivated flowers around a yard is an excellent and easy way to attract butterflies, hummingbirds, and songbirds. Concentrate on plants native to the area that produce seeds, nuts, berries, or nectar to supply important food sources. Deciduous plantings generally bear the most fruit, nuts and seeds for wildlife.

Evergreens, which hold their leaves throughout the year, offer a good source of berries and seed-filled cones. In addition, they offer year-round shelter, protection, and breeding sites. Native plants

require less maintenance, since they have a natural resistance to disease and insect damage and require less supplemental water. The more varieties planted, the greater diversity of the habitat.

Provide layered vegetation, from trees to shrubs to ground covers, with as much variety as possible. The plant layers provide food, cover, travel corridors, and possible nesting sites. Wildflowers, which furnish nectar for butterflies while blooming, also provide seed sources for birds, long after the flowers have stopped blooming. Planting Lantana, Phlox, Morning Glories and Butterfly Weed can attract butterflies and hummingbirds.

Many small mammals will also be attracted to the backyard habitat; therefore consideration must be given to the amount and type of wildlife desired. Squirrels will often inhabit a yard with mature hardwood trees such as oaks, elms, pecans, hickories, etc. These particular trees provide excellent nesting and food sources.

Many species of birds can be attracted by a variety of feed in different styles of feeders. There are many styles of bird feeders available, from window-mounted feeders to those that hang from branches and stands. Many birds will readily eat right off the ground. Bird feed comes in a variety of choices; however, sunflower seeds appeal to many birds, as well as small mammals. Woodpeckers, nuthatches, and chickadees are especially attracted to suet. Citrus fruit, chopped apples, bananas, and raisins will be eaten by numerous species, including robins, titmouse, nuthatches, woodpeckers, and mockingbirds.

Attracting hummingbirds is easy and provides viewing pleasure throughout the Spring and Summer months. Unlike many other species of birds, hummingbirds rely on nectar as their source

of food. They are typically attracted to red and yellow tubular flowers, although they frequently visit others.

Plantings of Blue Salvia (*Salvia farinacea*), Autumn Sage (*Salvia greggii*), or other flowers will attract hummingbirds and butterflies as well. Set up liquid, seed and free choice feeding stations for resident and migratory birds. Hummingbird feeders can be purchased and filled with a sugar-water solution, consisting of 1 part sugar to 4 parts water. Erect feeders in late February and early March.

Keep feeders filled throughout the summer months until the first cool weather in late September or early October. During hot weather, feeders should be cleaned out and refilled with fresh liquid every 3 to 4 days to reduce bacterial growth and prevent spoiling which may be harmful to hummingbirds.



Community education programs teach residents how to implement small scale improvements to wildlife habitat. Installation of bird boxes in parks and on private property is an easy way to enhance habitat.

## Using Stormwater Management Facilities for Recreation

As Manvel's growth and development continues, the continued need to manage stormwater runoff will only increase. The City values the idea of maximizing resources through the use of shared or regional stormwater management facilities. Such regional detention and retention facilities can serve dual purposes when used for recreation.

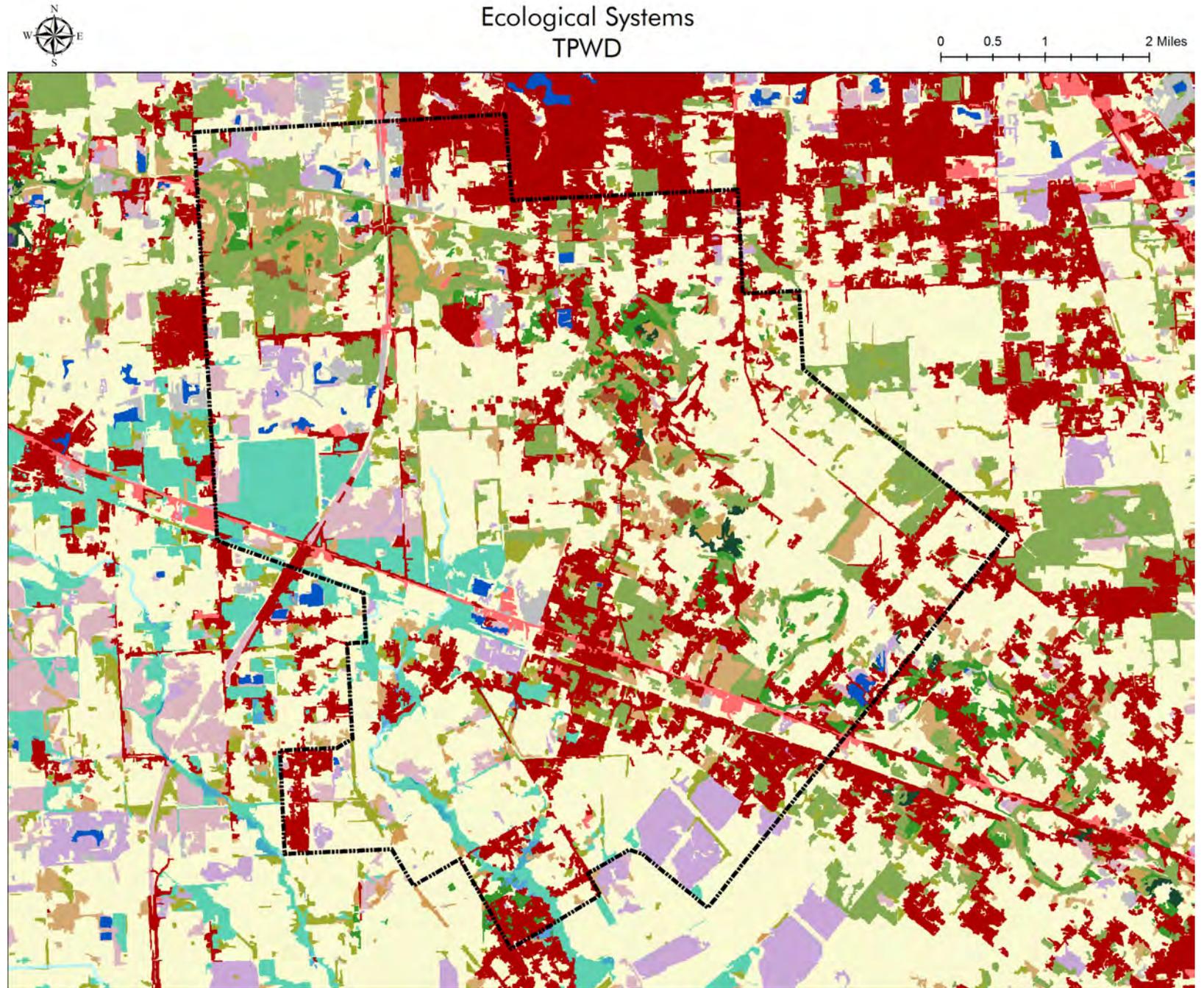
*This Detention pond in northwest Houston serves a second duty as a neighborhood park. The all-weather trails circle the park and cross through a retention pond component by way of pedestrian bridges. The park is well used and prevents a stormwater facility from becoming an eyesore in the landscape.*



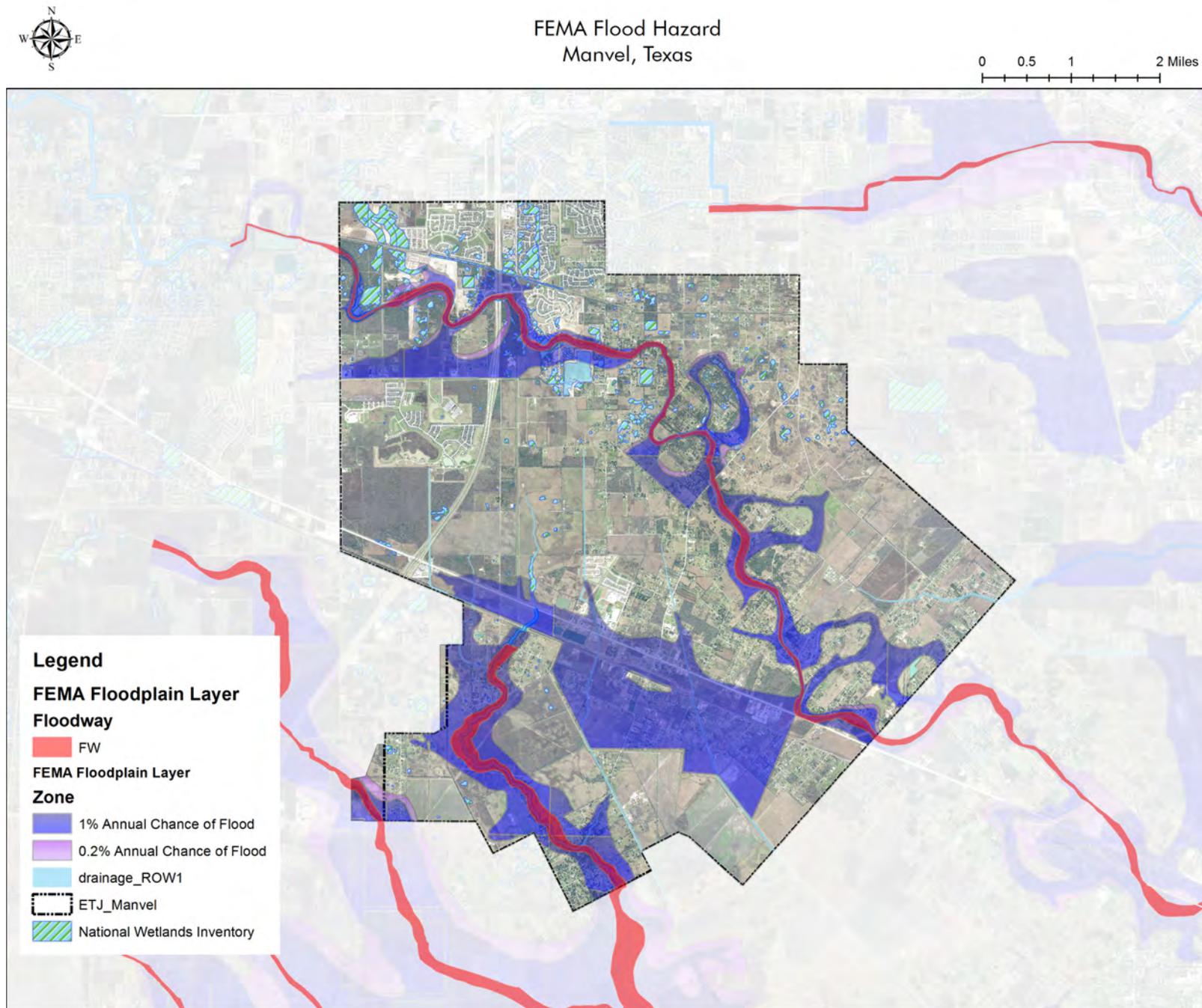
This stormwater management property utilizes dry land detention areas and retention ponds to create a multi-purpose site. Flat areas within the property are used for soccer fields. Additional amenities include parking, trails and picnic areas.



# Natural Resources



Manvel is located in a transition zone between the Pineywoods and Coastal Prairie ecoregions with scattered areas of the Columbia Bottomlands. Additional ecoregions include a variety of floodplain-based areas with plant communities that thrive in the range of soil, climate and topographic conditions found. The core of Manvel has been urbanized, but the many areas are either composed of shrublands, native grasses or improved pasture and agricultural land.



Floodplain areas throughout Brazoria County provide important ecological benefits to the plants, wildlife and people of the area. Primary flood zones identified by the Federal Emergency Management Agency (FEMA) are located along the Mustang and Chocolate Bayous and areas immediately south of the railroad. In addition to being within the floodplain, some areas are in the immediate “Floodway” and may be unavailable to for development. Floodplain areas warrant consideration of the type of constructed features within park properties. Constructed features will need to be tolerant of occasional inundation and mitigation requirements may apply.

# Priority **Projects**



**Almost Heaven Park**  
- Est. 2016

01

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Analysis

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Demand  
Assessment

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Walkability

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Programs &  
Events

05

Natural  
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Priority  
Projects

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Implementation

# Croix Memorial Park Renovation

**Investment Per Household:**  
**\$30 to \$75 per year**  
 (depending on property valuation)

**Project Cost: \$1,480,000 to \$1,780,000)**

**Estimated Annual Maintenance and Operation Costs:**  
 Mowing Fields - \$5,200/yr  
 Mowing Commons - \$6,700/yr  
 Landscape and Irrigation - \$1,500/yr  
 Restrooms, Trash - \$1,500/yr  
**Total Annual Maintenance Costs - \$14,900**

City of Manvel - Croix Park Budget  
 30-Sep-16

Qty.	Unit	Description	Unit Cost	Subtotal
3,600	sf	Pavilion (60' x 60')	\$80	\$288,000
1,125	sf	Restrooms	\$250	\$281,250
12,400	sf	Parking Expansion	\$7	\$86,800
4,000	lf	Decomposed Granite Trails	\$20	\$80,000
1,035	lf	Concrete Walks	\$31.50	\$32,603
1	Allow	Playgrounds	\$150,000	\$150,000
1	Allow	Dog Park	\$40,000	\$40,000
1	Allow	Landscape Improvements	\$45,000	\$45,000
1	Allow	Site Furniture	\$80,000	\$80,000
1	Allow	Site Lighting	\$30,000	\$30,000
1	Allow	Utilities Extension	\$25,000	\$25,000

Subtotal	\$1,138,653
5% Contingency	\$56,933
Subtotal	\$1,195,585
15% GC markup	\$179,338
Total Construction Cost	\$1,374,923
8% Professional Design and Management Fee	\$109,994
PROBABLE COST RANGE	\$1,484,917
Round	<b>\$1,480,000</b>

**\$1,781,900**

**Low Estimate**

**High Estimate**

# Priority Projects 06

Concept drawing for renovations to Croix Memorial Park. The concept retains the existing Azalea Garden, expands parking, and adds a dog park, trail, new restrooms, and other improvements. An alternate location for the dog park to be considered during design development would be at the northwest corner of the property which would provide direct access to the dog park from the parking lot rather than by walking through other activity areas.



# Police Station Park Renovation



**Police Park Renovation & Expansion  
Investment Per Household:  
\$81 to \$203 per year  
(depending on property valuation)  
Project Cost: \$3,640,000 to \$4,360,000  
(all phases)**

*Concept drawing for renovation and expansion of the Police Station Park. The concept includes the additional 7 acres of land to the north of the existing park, which significantly increases the recreation opportunities on site.*

*Phasing of construction is the most likely scenario for renovation of the park. The pool and restroom/concession building are likely to be constructed in a second phase. Expanded parking will be primarily to address increased parking needs for the proposed pool, and is therefore shown as a phased expansion with half of the parking lot being developed in each phase.*

City of Manvel - Park at Police Station Budget  
Phase 1 Development

Qty.	Unit	Description	Unit Cost	Subtotal
1	Allow	Group Picnic Pavilion	\$120,000.00	\$120,000
5	Allow	Picnic Pavilion	\$12,000.00	\$60,000
25,000	sf	Existing Parking Expansion & New Parking Lot	\$7.00	\$175,000
2,000	lf	Decomposed Granite Trails	\$20.00	\$40,000
990	lf	Concrete Walks	\$31.50	\$31,185
1	Allow	Playgrounds	\$150,000	\$150,000
1	Allow	Dog Park	\$14,000	\$14,000
1	Allow	Landscape Improvements	\$25,000	\$25,000
1	Allow	Site Furniture	\$25,000	\$25,000
1	Allow	Site Lighting	\$10,000	\$10,000
1	Allow	Utilities Extension	\$10,000	\$10,000

Subtotal	\$660,185
5% Contingency	\$33,009
Subtotal	\$693,194
15% GC markup	\$103,979
Total Construction Cost	\$797,173
8% Professional Design and Management Fee	\$63,774
PROBABLE COST RANGE	\$860,947
Round	<b>\$860,000</b>

**Low Estimate**

**High Estimate**

# Priority Projects 06

**Optional Larger Pavilion**  
(same as proposed at Croix Park)  
60' x 60', 3,600 Square Feet  
Estimated Cost: \$288,000

City of Manvel - Park at Police Station Budget  
Phase 2 Development

Qty.	Unit	Description	Unit Cost	Subtotal
24,380	sf	Existing Parking Expansion & New Parking Lot	\$7.00	\$170,660
1	Allow	Restroom/Concession	\$360,000	\$360,000
1	Allow	Municipal Pool/Splash - high capacity filtration & chlorination & pump, gunite with plaster finish, stainless gutters	\$1,600,000	\$1,600,000

Subtotal	\$2,130,660
5% Contingency	\$106,533
Subtotal	\$2,237,193
15% GC markup	\$335,579
Total Construction Cost	\$2,572,772
8% Professional Design and Management Fee	\$205,822
PROBABLE COST RANGE	\$2,778,594
	<b>\$2,780,000</b>

**Low Estimate**

**High Estimate**

**Estimated Annual Maintenance and Operation Costs:**  
Mowing - \$4,000/yr  
Landscape and Irrigation - \$1,500/yr  
Restrooms, Trash - \$1,500/yr  
Pool Operation - \$12,000/yr  
**Total Annual Maintenance Costs - \$19,000**

# Manvel City Center Concept

## Concept for Creating a City Center In Manvel

Manvel is rapidly developing into a suburban community while hoping to retain the character of a small town. The history of the community is tied to agriculture and open space. Bayous, pastures, and oak trees are some of the most recognizable community features and are some of the things residents call to mind when describing their home. Residents new and old have identified open spaces and “room to breathe” as some of the most desirable traits of the community. The 2015 Comprehensive Plan Vision Statement underscores this commitment to place and identity:

Manvel is “A City on the Rise” located at the strategic crossroads of Brazoria County. Manvel seeks to maintain its rural character and small town values while managing its growth by:

- Benefiting from our strategic location by encouraging well-planned quality retail, commercial, and residential development that reflects and enhances our small town quality of life;
- Preserving our rural characteristics by providing open space for recreation and protecting our natural environment;
- Promoting a strong and diverse economic base that supports efficient high-quality public infrastructure, municipal services, education, and collaborative governance;
- Offering a variety of housing choices that reinforce our small town values;
- Preserving and protecting links to our past; and,
- Establishing our reputation as the ‘home’ of country living in Brazoria County.

The City Center reaffirms this commitment to providing a lifestyle rich with small-town charm and sense of community by offering a place for residents, friends, and neighbors to come together for special events and for day-to-day interactions. The City Center becomes a place that serves as the heart and hub of the community. The City Center is an opportunity for Manvel to set itself apart as a community with identity and sense of place and not just another stereotypical bedroom community.

The City Center can host municipal functions – City Hall, Library, Community Center, alongside a mix of residential, commercial, and retail uses, anchored by a Town Green – greenspace for picnics, special events, and gathering, all connected to the trail network.

### **Chapter 380 Agreements**

Chapters 380 and 381 of the Texas Local Government Code are short, broad statutes that give municipal and county governments the authority to provide a grant of funds to a developer or other entity completing development which supports: development and diversification of the economy of the state, elimination of unemployment or underemployment in the state, or development or expansion of commerce in the state.

By utilizing 380 Agreements, the City can work with developers to build a project that provides for retail and commercial tenants as well as municipal facilities. Items for negotiation include but are not limited to:

1. Land acquisition
2. Utilities and road infrastructure
3. Stormwater and grading

# Priority Projects 06



*Concept drawing for a proposed City Center development. The concept seeks to utilize undeveloped land that is centrally located and adjacent to proposed thoroughfares. Such a development would likely be a public-private partnership that utilizes Chapter 380 agreements with developers towards a mutually beneficial project.*

# Almost Heaven Park

The former site of the Almost Heaven RV Resort has been conveyed as park property to the City of Manvel. This addition to the park system offers amenities to provide for recreation for residents in the new neighborhoods being constructed nearby. The property has a large, beautiful lake that is a true asset to the parks system.

## Sand Quarry

Adjacent property on the south side of Mustang Bayou has also been acquired by the City. The property is the site of a former sand quarry and is in the process of being converted from its former use and is being filled with rainwater and natural spring water from below. The site will have a large lake that comprises the majority of the land.

An additional 107 combined acres will be available for recreation with the development of the Almost Heaven site and the adjacent sand quarry site. A pedestrian bridge would be necessary to link the two properties together.



## City of Manvel - Almost Heaven Park Budget 29-Sep-16

Qty.	Unit	Description	Unit Cost	Subtotal
18,200	sf	Parking Lot	\$7.00	\$127,400
3,500	lf	Decomposed Granite Trails	\$20.00	\$70,000
1	Allow	Landscape Improvements	\$25,000	\$25,000
1	Allow	Site Furniture	\$15,000	\$15,000
1	Allow	Site Lighting	\$30,000	\$30,000
1	Allow	Utilities Extension	\$10,000	\$10,000

Subtotal	\$277,400
5% Contingency	\$13,870
Subtotal	\$291,270
15% GC markup	\$43,691
Total Construction Cost	\$334,961
8% Professional Design and Management Fee	\$26,797
PROBABLE COST RANGE	\$361,757
Round	<b>\$360,000</b>

**Low Estimate**

**High Estimate**

## City of Manvel - Sand Quarry Park Budget February 13, 2017

Qty.	Unit	Description	Unit Cost	Subtotal
1	Allow	Restrooms	\$360,000	\$360,000
2	Allow	Group Picnic Pavilion	\$120,000	\$240,000
6	Allow	Picnic Pavilion	\$12,000	\$72,000
18,200	sf	Parking Lot	\$7.00	\$127,400
8,900	lf	Decomposed Granite Trails	\$20.00	\$178,000
3,500	sf	Concrete Walks	\$5.00	\$17,500
1	Allow	Playgrounds	\$150,000	\$150,000
2	Allow	Sand Volleyball	\$8,000	\$16,000
1	Allow	Landscape Improvements	\$25,000	\$25,000
1	Allow	Site Furniture	\$40,000	\$40,000
1	Allow	Site Lighting	\$30,000	\$30,000
1	Allow	Utilities Extension	\$10,000	\$10,000

Subtotal	\$1,265,900
5% Contingency	\$63,295
Subtotal	\$1,329,195
15% GC markup	\$199,379
Total Construction Cost	\$1,528,574
8% Professional Design and Management Fee	\$122,286
PROBABLE COST RANGE	\$1,650,860
Round	<b>\$1,650,000</b>

**Low Estimate**

**High Estimate**

# Priority Projects 06

Almost Heaven Park & Sand Quarry  
Investment Per Household:  
\$8 to \$20 per year (Almost Heaven)  
\$33 to \$84 per year (Sand Quarry)  
(depending on property valuation)

Project Cost: \$2,010,000 to \$2,410,000

Additional Considerations:  
1. Pedestrian Bridge Needed



Estimated Annual Maintenance and Operation Costs (both properties):  
Mowing - \$20,000/yr  
Landscape and Irrigation - \$1,000/yr  
Restrooms, Trash- \$5,000/yr  
Total Annual Maintenance Costs - \$26,000

*Concept drawing of improvements to the recently acquired Almost Heaven Park and Sand Quarry properties. These projects could be developed independently, or as a single effort. Also for consideration is the need for a pedestrian bridge connecting the two parcels, and additional parking may be needed for the Almost Heaven Park property.*

# New Park Opportunities

## Prototypical Neighborhood Park

**Size:** 1 ½ - 2 acres

**Primary User:** Young children ages 3 – 12

**Secondary User:** Adults

### Development Character:

Strong orientation towards young children with emphasis on the relationship of play equipment and open space to the young user. Minor passive areas are provided for adult use and may include seating areas and picnic and shade structures/gazebos. The landscape character will consist of large, free-play, open turf areas modulated by canopy trees for shade around play equipment. Typically, an architectural element (gazebo) is the focal point of each of these parks.

### Standard Facilities:

- Tot equipment, pre-school (1 – 2)
- Young child play equipment (ages 2 - 5 years old)
- Older child equipment (ages 5 - 12 years old)
- Benches (1 – 2)
- Picnic settings (1 – 2)
- Open turf area (irrigated) 100' X 150' minimum
- Shade structure/gazebo (seating for 4 – 6)
- Bike rack
- Pathway connection
- Parking (3 cars)
- Activities: Day use, general play Supervised group/individual play, neighborhood gathering point

*\*Neighborhood parks typically have little or no off-street parking. Decision related to parking should be made on a per-project basis during the design process.*

1.5 to 2 Acre Park  
Investment Per Household:  
\$9 to \$23 per year  
(depending on property valuation)  
Project Cost: \$450,000 to \$550,000



*Concept drawing of a prototypical neighborhood park.*

# Priority Projects 06

City of Manvel - 1.5-2 Acre Park Budget  
7-Sep-16

Qty.	Unit	Description	Unit Cost	Subtotal
800	sf	Pavilion	\$80	\$64,000
500	sf	Parking Expansion	\$7	\$3,500
4,200	sf	Concrete Walks	\$5	\$21,000
1	Allow	Playgrounds	\$185,000	\$185,000
1	Allow	Landscape Improvements	\$30,000	\$30,000
1	Allow	Site Furniture	\$20,000	\$20,000
1	Allow	Utilities Extension	\$25,000	\$25,000



Subtotal	\$348,500
5% Contingency	\$17,425
Subtotal	\$365,925
15% GC markup	\$54,889
Total Construction Cost	\$420,814
8% Professional Design and Management Fee	\$33,665
PROBABLE COST RANGE	\$454,479
Round	<b>\$450,000</b>

**Low Estimate**

**High Estimate**



**Estimated Annual Maintenance and Operation Costs:**  
 Mowing - \$6,000/yr  
 Landscape and Irrigation - \$1,000/yr  
 Total Annual Maintenance Costs - \$7,000

# New Park Opportunities

## Prototypical Community Park

**Size: 4-6 Acres**

**Primary User: Older children**

**Secondary User: Adults**

### Development Character:

This park's development has a special emphasis on play equipment for older children, including large openings in the landscape to provide opportunities for organized field sport practice. Several areas for court sports and an area for passive recreation, passive picnic, and barbecue areas will be shaded by canopy trees.

### Standard Facilities:

- Tennis courts (2) (unlighted with option to light in the future)
- Basketball (1/2 - 1)
- Open irrigated field (large enough for youth soccer 45 X 75 yards)
- Parking lot (10-15 cars)
- Young child play equipment (geared to ages two to five years old.)
- Older child equipment (geared to ages five to twelve years old )
- Benches
- Drinking fountain
- Bike racks
- Pathway connection
- Picnic settings (3-5)
- Shade structure pavilion (20-30) seats
- Activities: Soccer practice
- Pick-up softball
- Basketball
- Tennis
- Family picnicking
- Day use, general play

City of Manvel - 5-6 Acre Park Budget

30-Sep-16

Qty.	Unit	Description	Unit Cost	Subtotal
3,000	sf	Pavilion	\$80	\$240,000
800	sf	Restrooms	\$250	\$200,000
14,920	sf	Parking	\$7	\$104,440
1,900	lf	Decomposed Granite Trails	\$20	\$38,000
7,500	sf	Concrete Walks	\$5	\$37,500
1	Allow	Playgrounds	\$180,000	\$180,000
2	EA	Tennis Courts	\$42,000	\$84,000
2	EA	Basketball Courts	\$40,000	\$80,000
1	Allow	Soccer Field	\$10,000	\$10,000
1	Allow	Community Garden	\$10,000	\$10,000
1	Allow	Wildflower Meadow/Butterfly Reserve	\$25,000	\$25,000
1	Allow	Educational Signage	\$12,000	\$12,000
1	Allow	Landscape Improvements	\$45,000	\$45,000
1	Allow	Site Furniture	\$40,000	\$40,000
1	Allow	Site Lighting	\$30,000	\$30,000
1	Allow	Utilities Extension	\$25,000	\$25,000

Subtotal		\$1,160,940
5% Contingency		\$58,047
Subtotal		\$1,218,987
15% GC markup		\$182,848
Total Construction Cost		\$1,401,835
8% Professional Design and Management Fee		\$112,147
PROBABLE COST RANGE	\$1,513,982	\$1,816,778
Round	<b>\$1,510,000</b>	<b>\$1,820,000</b>

**Low Estimate**

**High Estimate**

**4 to 6 Acre Community Park  
Investment Per Household:  
\$34 to \$84 per year  
(depending on property valuation)  
Project Cost: \$1,510,000 to \$1,820,000)**

**Estimated Annual Maintenance and  
Operation Costs:  
Mowing Field - \$2,500/yr  
Mowing Commons - \$1,700/yr  
Landscape and Irrigation - \$2,000/yr  
Restrooms, Trash - \$2,000/yr  
Total Annual Maintenance Costs - \$8,200**

# Priority Projects 06



*This illustration shows a layout for a prototypical community park. The key takeaway from this exercise is to show the types of features commonly included, and the amount of space required. Specific details such as number of parking spaces or types of play structures would be determined during the design phase of the project.*

# Shooting Sports Opportunities

## Municipal Gun Range

The online survey of parks and recreation needs showed a total of 30 comments indicating a desire to bring shooting sports into Manvel. The topic of gun ranges was discussed with City officials and the Parks Board for consideration as a potential amenity in Manvel.

### Local Precedent

The City of Texas City, Texas has successfully developed a municipal shooting range that serves residents and visitors alike. The approximate 13 acre site offers 28 rifle and 23 pistol stations, along with skeet and trap fields. The range is available to the public with special pricing for residents and seasonal membership options.

Creating a municipal shooting range could offer a relatively uncommon amenity to the parks systems that provides opportunities for a popular pastime in the area. Such a facility has the potential to be a revenue generator and could be scaled from the moderate to the high-quality in terms of quality of features, buildings and other amenities.

### Considerations

Development of a municipal shooting range will require careful consideration of the appropriate location. The site should be of adequate size to accommodate parking, berms, and the desired range distances.

#### Site Selection

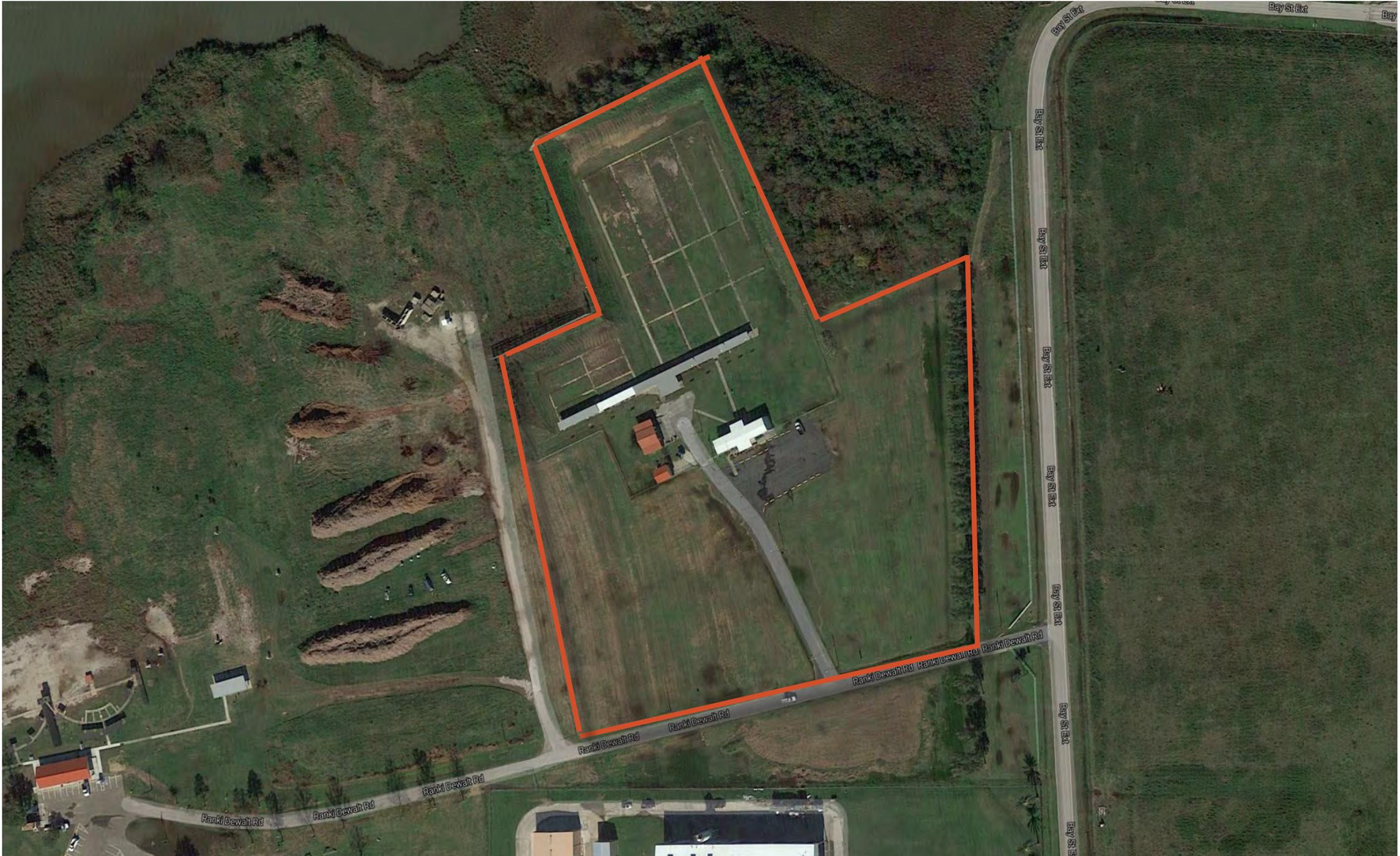
- (1) environmental restrictions; e.g., Endangered Species Act, Wilderness Act, and air and water pollution criteria;
- (2) access; e.g., is it adequate or should a roadway be constructed to the site;
- (3) construction cost; e.g., berms, baffles, barriers, earth moving;
- (4) other restrictive Federal or State statutes and local ordinances; and

(5) community growth, especially in areas where urban growth is rapid. Escalating property values may make it unwise to construct in a particular area.

\* site selection criteria provided by the U.S. Department of Energy. A complete volume on Range Design Criteria is available at the following web address:

[https://energy.gov/sites/prod/files/2013/05/f1/Range\\_Design\\_Criteria.pdf](https://energy.gov/sites/prod/files/2013/05/f1/Range_Design_Criteria.pdf)





The Texas City Municipal Shooting Range is an approximate 13 acre site that offers 28 rifle stations and 23 handgun stations for residents and visitors. Targets are available for rifles out to 100 yards and pistols out to 25 yards. Additionally, shotgun activities are available with 2 regulation skeet fields, and a trap field.

# Implementation



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## Building a Parks and Recreation System

### Developing a Parks Department

As Manvel continues to develop its parks system, the maintenance and operation needs will exceed the capacity of current staff. At this time, the City must consider creating a parks and recreation department to handle not only maintenance, but also the operation of parks, facilities and programs. Some considerations that must be made for a parks department's physical and administrative needs are as follows:

Logistical Requirements:

Physical components needed for a fully functioning parks department include the following:

1. Office space within a future city hall complex
2. A Central Maintenance Facility
3. Equipment
4. Personnel
5. City Hall Office

Eventually, the City will require space to house the Parks Department management, Recreation management, and marketing personnel. Parks Department management will oversee the operation and report to the City Manager. Recreation management will rent and repair fields, and supervise all recreation related activities. Marketing Department will schedule, plan, and hold events.

### A Central Maintenance Facility

- Should be near the geographic center of town, not necessarily near City Hall
- Should be an approximately five-acre site
- Must have enclosed and secure garages for trucks and equipment
- Must have a roll off dumpster
- Must have a secure, lockable, well-ventilated chemical storage room
- Must have a dry holding space for the temporary storage of fertilizers
- Must have a shade cloth covered area for the temporary holding of live plants

- Must have a break room, lockers and a first aid station
- Must have ease of egress and exit. Must have lockable gates and be fenced

### Equipment and Personnel

Equipment and personnel will be added as needed.

### Parks Department Management Responsibilities

- Employee training and development
- Inspect for contract compliance
- Biodiversity / conservation / water management
- Volunteer coordinator
- Waste management / recycling / sustainability programs
- Coordinate with police, park rangers, security officers and EMS

**There should be a Safety Committee. It will do the following:**

- Review accidents or injuries and make corrective recommendations.
- Inspect playgrounds, water features and other equipment.
- Inspections should be performed at regular intervals.
- All inspections are public records.
- Planning for storm damage and other emergencies.
- Mock training or preparedness drills.

### Parks and Recreation Management Philosophy

The parks department will be the keeper of the city's sense of place and the glue that binds a collection of homes and businesses into a vibrant, thriving community. It will maintain the green areas that residents drive through daily. It will maintain public assets that citizens use not just to relax, recreate, and exercise, but also to celebrate, to be entertained, and to learn. It will be the keeper of public art and the promoter of cultural events. It will foster positive childhood experiences and encourage an active lifestyle for the aging members of our community.

### Parks Department Goals

#### 1. Safety First, Safety Always.

This must always be the first goal, to ensure that the parks are safe, clean and attractive places for citizens to enjoy.

#### 2. Sense of Place.

A strong identity can give residents pride in their town: attract better businesses, better retail, and help promote the city at community events. As one travels down State Highway 6, where every town along the way looks just like the last, our goal should be that when you arrive in Manvel you will know you are in a special place with a unique identity.

#### 3. The City should aggressively promote the town, parks, and events.

To encourage a sense of place, build pride in the community, boost attendance at events, and make Manvel a leader in the surrounding community, it should implement a plan to promote our community to spread the word about this special place.

#### 4. Whenever Possible, events should be free to residents.

In order to provide free events the City should aggressively seek grants and corporate sponsorship of events, and use this capital along with funds

generated by popular programs to help provide programs for the elderly or citizens with special needs at no cost.

## 5. Provide programs and offer services for all.

All programs and services the City implements should be offered to all of residents, and everyone should be invited to participate regardless of age, income, background, ability, or mobility.

## 6. Become a recognized leader in the region for parks and activities.

The City should cooperate with other regional parks and recreation entities and foster a win/win attitude within the parks system. The City should work with the county, the school district and others. The City should take care not to hold events that are similar to or competitive with neighboring community's events.

## 7. Be a destination for recreation.

Instead of citizens traveling to other towns to exercise and recreate, the goal should be to reverse the flow so that Manvel is the destination of choice for surrounding communities.

## 8. Anticipate the needs of a changing community and structure programs and activities accordingly.

Keep in touch with demographics and keep a finger on the pulse of what's popular (and what's not). Continue to adapt and think outside the box.

## 9. The Parks Department should be the keeper and promoter of the City's public art.

The City should work to enhance the City's arts, cultural, and historical assets; to promote public art, music and dance; and to enrich the lives of residents and build an inspired creative community.

## 10. Use capital wisely.

Public tax dollars and revenue generated by operations are a precious commodity. The City should use this capital to improve, replace, or phase out aging equipment or infrastructure, and to encourage volunteerism.

## 11. Plan and organize, and whenever possible, encourage family participation.

In order to create positive childhood and family-oriented experiences, the City should offer activities for all ages, including aging members of the community, to promote a healthy and active lifestyle.

## 12. Acquire land in advance of an expanding population

The City should continue to expand recreational, cultural, and athletic activities so that availability is never a problem. The City should aim to have enough land to balance the natural and man-made park environments in Manvel.

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## Project Prioritization

The City has identified the following priority improvements and additions to the parks and recreation system. Improvements to existing parks are listed as the highest priority, under the philosophy that a city should maintain existing facilities prior to building new ones. The trail system will be built over time, with the City choosing individual segments for implementation. Priority trail segments have been identified in the *Walkability* section.

1. Croix Memorial Park Renovation
2. Police Station Park Renovation
3. Multi-Purpose Trail System
4. Almost Heaven Park/Sand Quarry Improvements
5. City Center Concept

City Council will likely use municipal bonds to fund any major improvements to the parks and recreation system. The system-wide goals for improvements include significant expenditures if all proposed

projects were to be implemented. Given that not all items can be reasonably developed at one time, it is important to focus on the highest priority components listed above for implementation. Below is a summary table of probable costs and projected investment by the community. An annual debt service rate was calculated using 2015 taxable property values and City rates for guidance. With an assumption of 15 year bond periods and an annual debt service of 5%, the table below illustrates the level of investment per household projected for key property value categories.

The 5% debt service rate is considered very conservative (safe) considering current rates in the low 2.x% range. This could result in even lower impacts to residents for the life of the bond period. It should be noted that the cost impacts per household are measured using Manvel's current population. As the number of households increases, the cost per household for a project decreases.

## Options and Alternatives

The list of proposed projects for the parks and recreation system offer individual opportunities for addressing current and future demand of recreation facilities. Some projects can be combined into a single effort, such as multiple trail segments or development of Almost Heaven and Sand Quarry improvements. Combining projects helps provide some economy during design, construction and land acquisition. It is expected that some projects will require phasing in order to be completed as funding becomes available. Probable costs outlined in this plan, are shown for complete costs, however individual components can be phased for construction over time.

## Project Design and Construction

When it comes to parks and recreation planning, identifying the needs of residents and developing a vision for the future parks system are important first steps. Once a project has been identified and approved for further study, the process of funding, design and construction can begin.

Project Cost Estimate (avg. low-high)

Annual Cost per Property Valuation

Capital Project	low	high	Annual Debt Svc	I&S Rate per \$100 Value	\$100,000	\$150,000	\$200,000	\$250,000
Croix Memorial Park Renovation	\$1,480,000	\$1,780,000	\$142,587	0.030	\$30	\$45	\$60	\$75
Police Station Park Renovation	\$3,640,000	\$4,360,000	\$385,369	0.081	\$81	\$122	\$162	\$203
Multi-Purpose Trail System	\$18,100,000	\$21,720,000	\$1,743,795	0.367	\$367	\$551	\$735	\$918
Almost Heaven Park Improvements	\$360,000	\$430,000	\$38,055	0.008	\$8	\$12	\$16	\$20
Sand Pit Park Improvements	\$1,650,000	\$1,980,000	\$158,965	0.033	\$33	\$50	\$67	\$84
Neighborhood Park Prototype 1.5 to 2 acres	\$450,000	\$550,000	\$43,354	0.009	\$9	\$14	\$18	\$23
Neighborhood Park Prototype 4 to 6 acres	\$1,510,000	\$1,820,000	\$160,410	0.034	\$34	\$51	\$68	\$84

\*annual cost per valuation based on 2015 City tax rates and total property valuation

\*assumes 5% debt service and 15-year bond

*\*The table above represents probable costs per property valuation (household) for projects identified in this plan. The Multi-Purpose Trail System figure represents the costs if all proposed alignments were implemented at once. See the table of proposed trail alignments for individual trail costs. The Neighborhood Park Prototypes are included for reference as to the general costs, however it is the City's intent to work with developers utilizing the Park Dedication Ordinance to secure future neighborhood park space in Manvel.*

The City has stated that proposed parks projects would likely be funded through a public debt, while also exploring other mechanisms. Following a decision to move forward on a priority project, the City will need to engage a qualified design team to further program the details of the project.

The Design Development Phase of this process will allow the City to further refine the important details that bring the park and recreation project to life. This process will include several iterations of projected costs, revisions and refinements that ultimately will be turned into construction documents. It is important to continue to gather input from stakeholders during this process to ensure that key details are not left out.

Construction documentation, bidding and construction of the project is the phase where it will be important to have the right team for the job. Quality construction documents followed by strict adherence to the drawings during construction administration will ultimately determine the quality of the end result. All too often great projects are turned over to a general contractor to be completed with insufficient supervision, resulting in poor performance, change orders and added costs. The City will need the designer to act as an advocate for the City throughout the construction process to ensure success.

## Getting Started

The Master Parks Plan serves as a guidebook and vision for the future parks system desired by the City; detailing priority projects and probable costs for use in planning of budgets. It is expected that goals for parks will evolve over time and projects described herein may look significantly different once they are designed and constructed. The following considerations are offered for development of park projects:

### 1. Selecting a Project

The obvious first step to moving forward with implementation of the Master Parks Plan seems

simple, however it can be overwhelming to address large construction budgets, politics and myriad other perceived barriers to success. As the saying goes about eating an elephant..."you do it one bite at a time". Some considerations to be made when deciding which project to build include: cost of design and construction, political will to fund a project, and in some cases where to build a project.

### 2. Acquire more Land

Some of the projects in this plan have been developed for existing park properties such as: Croix Park and Police Station Park renovations and development of the Almost Heaven property and Sand Quarry property. However, growth of Manvel is going to require more park land in order to provide sufficient recreation opportunities that residents desire. Land in Texas and generally the entire Country, only gets more valuable thereby creating a need to consider acquisition of additional property sooner rather than later. Some property can be acquired through park land dedication requirements within City Ordinances, but additional land purchases and/or donations will be needed for larger projects in the future.

### 3. Trail Development

The off-street multi-purpose trails alignments identified in this plan take advantage of existing and future rights-of-way within the City. Some alignments, such as the Mustang Bayou Trail, will become feasible upon subdivision and develop of adjacent properties, but right-of-way isn't available at this time. Other trail routes are planned along roadways (e.g.: Kirby Drive) and should be considered during the funding, design, and construction of road improvements projects. Looking at the total cost of all proposed trail alignments is overwhelming and seemingly possible to implement, but the goal of the plan was to identify all trail route opportunities so that one can be implemented when the right combination of factors come together such as: funding, land availability, timing of street reconstruction, and land development.

## Funding of Projects

As the City continues with improvements and additions to the parks system, funding is often the key player in the decision making process. The following are a variety of State and Federal grant programs available to aid cities in the enhancement of parks and recreation facilities and other public space projects.

### Community Development Block Grants

**-potential funding: up to 80% of project cost or maximum of \$200,000**

The Department of Housing and Urban Development (HUD) provides assistance to communities across the nation for a wide range of activities through the Community Development Block Grants Program. These funds are often distributed to individual communities by the state as match-grants to fund projects supporting economic development and improved quality of life. Texas Parks and Wildlife Department awards grants from this program annually to develop and enhance parks and open space.

### Transportation Equity Act (SAFETEA-LU) - Recreation Trails Program

The Transportation Safety Act, also known as the Safe, Accountable, Flexible, Efficient Transportation Act: A Legacy for Users (SAFETEA-LU), provides for the distribution of funds from the Federal Highway Administration (FHWA). The Federal Highway Administration is the largest source of **funding for shared use paths, trails and related projects. The Recreational Trails Program, an assistance program to FHWA, distributes funds for a range of activities including:**

- Maintenance and restoration of existing trails.
- Development and rehabilitation of trail-side and trailhead facilities and trail linkages.
- Purchase and lease of trail construction and maintenance equipment.
- Construction of new trails (with restrictions for

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new trails on Federal lands).

- Acquisition of easements or property for trails.
- Assessment of trail conditions for accessibility and maintenance.
- Development and dissemination of publications and operation of educational programs to promote safety and environmental protection related to trails (including supporting non-law enforcement trail safety and trail use monitoring patrol programs, and providing trail-related training) (limited to 5 percent of a State's funds).
- State administrative costs related to this program (limited to 7 percent of a State's funds).

## TRPA Grants Program

**-potential funding: \$400,000 (match grant)**

The Texas Recreation and Parks Account (TRPA) is funded by a portion of Texas sales tax received on select sporting goods. These grants are awarded to applicants annually at varied levels depending on project type and available resources for the funding cycle. These funds are administered by the Texas Parks and Wildlife Department's Recreation Grants Branch for five programs including the following:

1. Outdoor Recreation
2. Indoor Recreation (facility)
3. Small Community
4. Regional
5. Community Outdoor Outreach Program

## Land and Water Conservation Fund

**-\$2.4 million apportioned to Texas in 2014**

The Land and Water Conservation Fund (LWCF) is a program of the National Park Service that provides matching grants to local governments for acquisition of park **land and development of park facilities**. An example project in Texas is the *Wimberley Blue Hole Regional Park Hays County*, which received \$1,909,500 in funding from the LWCF.

for parks can be applied for online. For example, the Recreation Grants Program through the Texas Recreation and Parks Account offers a variety of different grants that can be applied for each year by visiting their website.

Tips for successful grant writing include:

1. Have a Parks Master Plan (completed)(submit to agency prior/during application process)
2. Have a plan for your project, including estimated costs, proposed funding for City contribution, and schedule for implementation.
3. Apply early and don't be afraid to call your agency representatives to discuss details of the application.

## 80 Applying for Grants

Each grant opportunity has its own unique system

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