

CAPITAL IMPROVEMENTS PROGRAM
FY2016 - FY2020

CITY OF MANVEL, TEXAS



APRIL 25, 2016

PREPARED FOR:

CITY OF MANVEL
MAYOR AND COUNCIL
20025 MORRIS AVENUE
MANVEL, TEXAS 77578

PREPARED BY:

DANIEL SCOTT
ENGINEERING, LLC

19701 MORRIS AVENUE, MANVEL, TEXAS 77578
TBPE F-9827

Daniel Scott Engineering, LLC has prepared this report based on information provided by our client and information readily available via current ordinances and manuals, provided to us by others, and/or via meetings and conversations with review agencies' staff. We have made an effort to investigate the matters that may arise after the preparation of this report due to policy or rule changes by those entities involved. The information provided in this report is to the best of our knowledge as of April 2016.

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

TABLE OF CONTENTS

I.	INTRODUCTION	
	A.	BACKGROUND 3
	B.	GROWTH 3
	C.	PLANNING 4
	D.	ANNUAL UPDATES 4
II.	PROJECTS	
	A.	IDENTIFICATION 5
	B.	DESCRIPTION 8
	C.	COST ESTIMATES 8
	D.	PRIORITIZATION 9
	E.	FUNDING SOURCES 11
	F.	SCHEDULING 13
III.	PROJECT DATA SHEETS	16

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

I. INTRODUCTION

A. BACKGROUND

Pursuant to Section 8.03 of the City of Manvel's Home Rule Charter, adopted on May 14, 2011, the City Manager is required to submit a five-year Capital Improvements Program (CIP) to City Council.

This CIP is to be updated annually, and shall provide the following items:

- (a) *A summary of proposed programs;*
- (b) *A list of all capital facilities and property improvements that are proposed to be undertaken during the five (5) fiscal years next ensuing, with appropriate supporting information as to the necessity for such improvements;*
- (c) *Cost estimates, method of financing and recommended time schedules for each such improvement with the estimated effect on the tax levy and;*
- (d) *The estimated annual cost of operating and maintaining the facilities to be constructed or acquired over the five-year period.*

A minimum of \$25,000 was established as the threshold for capital projects.

The goal of the CIP is to help maintain the same high quality of life for all citizens of Manvel, through the timely anticipation of the City's needs and the planning of improvement projects - and their funding sources - as the community grows.

In June 2012, the City of Manvel's first CIP was adopted with a total of 22 short-range (5 years or less) projects, 9 long-range (greater than 5 years) projects, and numerous non-capital projects. As of April 2016, 11 of those 22 projects have been completed.

B. GROWTH

According to the United States Census Bureau, the population of Manvel increased by 70% from 2000 (3,046) to 2010 (5,179), and the most recent estimate (2014) is 7,165. All parameters indicate that the City will continue to grow rapidly over the next several years. The Houston Galveston Area Council (HGAC) is projecting 77,171 people in Manvel by the year 2050. The ultimate build-out population of Manvel (including ETJ) is anticipated to be over 150,000 people. It follows that population growth continues to be a primary driving factor in the CIP process.

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

C. PLANNING

On January 28, 2008, the City of Manvel adopted the 2007 Comprehensive Plan in order to “create a framework for making decisions regarding the future of the city.” This Comprehensive Plan is used daily by city staff, decision-makers, citizens, and developers to guide growth and the physical development of Manvel.

As part of the Comprehensive Plan, the following CIP-related goals were identified:

- | | | |
|----|--|-------------|
| 1. | Develop a Capital Improvement Program | COMPLETED |
| 2. | Develop a Comprehensive Public Utilities Plan | IN PROGRESS |
| 3. | Develop a Water and Sewer System for Old Manvel | IN PROGRESS |
| 4. | Expand Water and Sewer System | IN PROGRESS |
| 5. | Develop a Master Drainage Plan | COMPLETED |
| 6. | Develop Drainage Design Criteria and Standards | COMPLETED |
| 7. | Develop a Facilities Construction Plan | |
| 8. | Develop a Public Facilities and Open Space Master Plan | |

The City’s Comprehensive Plan was updated in 2015, narrowing the focus on Land Use, Economic Development, Utilities, and Drainage. The CIP component was (and still is) a major priority identified in the Comprehensive Plan and all of the City’s planning documents.

The 2012 CIP represented the first time that the City had undergone an extensive, prioritized project inventory for future development. This 2016 CIP is the first major update to that original Program.

D. ANNUAL UPDATES

Per the City Charter, the CIP will continue to be reviewed and updated on an annual basis. The expected Annual Updates will consist of both new projects *and* updates to existing projects. Updates may include revised scope, cost, or scheduling, as appropriate.

This 2016 CIP was developed for Fiscal Year 2016 through Fiscal Year 2020. Nomenclature for this document is as follows:

<u>CIP Nomenclature</u>	<u>Fiscal Year</u>	
2015	2015 – 2016	Current CIP Ends
2016	2016 – 2017	New CIP Begins
2017	2017 – 2018	
2018	2018 – 2019	
2019	2019 – 2020	
2020	2020 – 2021	



II. PROJECTS

In order to prepare a comprehensive list of projects for the City's CIP, each Department Head prepared an inventory of Plans, Projects, and Facilities that pertained to their areas of responsibility. Each Department rose to the challenge, and the compiled list contains 30 proposed projects.

A. IDENTIFICATION

Thirty (30) projects have been identified as Short-Term Projects, and zero (0) have been identified as Long-Term Projects. The City's first CIP had several Planning-type projects, but this update identifies more water and sewer projects. Future updates to the CIP will be increasingly concerned with construction projects; but it is vital that the remaining Planning phases be accomplished too.

The City's first CIP identified 22 Short-Term Projects and 9 Long-Term Projects. Of those 22 Short-Term Projects, 11 have been completed to date, and 2 more are underway.

The 30 projects identified in this 5-year update have all been designated as Short-Term, meaning that they should be completed within the next 5 years.

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

The 22 Short-Term Projects identified for 2012-2016 were:

Planning Projects

- ~~1. Comprehensive Plan Refresh~~
- ~~2. Equipment Replacement Plan~~
- ~~3. Master Drainage Plan~~
4. Master Parks Plan
5. Staffing and Human Resource Plan
6. Street Maintenance Plan
7. Technology Plan

Water Projects

1. Cemetery Waterline Loop
2. Charlotte Waterline Loop
- ~~3. Lewis Lane Waterline Loop~~
4. Rogers Road East Waterline Loop
5. Rogers Road West Waterline Loop
- ~~6. State Highway 6 Waterline Extension~~

Facilities Projects

1. City Hall Front Parking Lot Improvements
2. Library
- ~~3. City Hall Land Purchase~~
- ~~4. Records Room~~
5. Regional Detention Pond

Wastewater Projects

- ~~1. Lift Station 3 Improvements~~
- ~~2. Lift Station 6 Improvements~~
- ~~3. State Highway 6 Wastewater Extension~~

Streets Projects

- ~~1. Masters Road Rehabilitation Phase 1~~

Eleven (11) of the original 22 projects have been completed, and eleven (11) are being carried over from the 2012 CIP to the 2016 CIP. Two of the projects have just begun (Master Parks Plan and City Hall Front Parking Lot Improvements).

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

The 30 Projects identified for 2016-2020 are:

Planning Projects

1. Master Parks Plan
2. Master Wastewater Plan
3. Master Water Plan
4. Staffing and Human Resource Plan
5. Street Maintenance Plan
6. Technology Plan

Water Projects

1. Cemetery Waterline Loop
2. Charlotte Waterline Loop
3. Del Bello Waterline Extension
4. Elevated Storage Tank
5. FM1128 Waterline Extension
6. Purchase Surface Water Rights
7. Rogers Road East Waterline Loop
8. Rogers Road West Waterline Loop
9. SH6 East Waterline Extension
10. Tankersley Waterline Loop
11. Water Plant Improvements

Facilities Projects

1. City Hall Front Parking Lot Improvements
2. Croix Park Improvements
3. Library
4. Municipal Complex
5. Regional Detention Pond

Wastewater Projects

1. Del Bello Wastewater Extension
2. FM1128 Wastewater Extension
3. Large Road Sanitary Sewer
4. SH6 East Wastewater Extension
5. Wastewater Treatment Plant Improvements

Street Projects

1. Masters Road Rehabilitation Phase 2
2. Large Road Extension (Palmetto to McCoy)
3. Rogers Road Extension (Palmetto to McCoy)

The four (4) projects underlined above were included in the 2015/2016 Annual Operating Budget. These projects are in progress as of April 2016.

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

B. DESCRIPTION

A brief description of each project is provided in the Project Data Sheets later in this document. Since none of the projects have a Preliminary Engineering Report (PER) or similar, the project descriptions include a general scope and justification, as is currently available.

C. COST ESTIMATES

While it is not always feasible to accurately estimate project costs in the future, several things can be done to improve close-term forecasting. Every effort has been made to standardize the estimating procedure itself, to produce a more reliable product. The line item type estimate format is utilized throughout the document.

1. Labor and Material Costs

The Labor and Material costs are typically the largest and most significant portion of the project estimates. Where possible, unit quantities, have been used to estimate labor and materials. However, many of the estimated project costs were simply derived through researching similar project scoped projects in nearby communities.

2. Professional Services

For the purposes of this CIP, “Professional Services” typically consist of Engineering, Surveying, and Analytical Testing. In order to estimate anticipated costs for these Professional Services, we have implemented standard practices identified by the Consulting Engineers Council of Texas, the Texas Society of Professional Engineers, and regional engineering cost curves.

Ultimately, the percentage factor applied to each project for this cost category is based on the level of engineering effort to be provided, as well as factors that will impact the surveying requirements for the project. Typically, horizontal construction will require additional survey effort and the production of easement exhibits. This has been factored into the actual percentage rate as follows:

8%	Engineering
4%	Surveying
<u>3%</u>	<u>Analytical Testing</u>
15%	Professional Services

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

3. Contingency

Although efforts have been made to estimate project costs and professional services; without the benefit of actual proposals, Preliminary Engineering Reports (PERs), contractor bids, etc., a contingency has been added to each project. In short, the “contingency” is simply a financial safety factor. For this CIP, a contingency of 20% has been added to all of the construction projects.

It should be noted that we have NOT INCLUDED Bond Issuance Costs (the cost to sell bonds) in the project cost estimates contained within this document. This document focuses specifically on construction and engineering costs associated with each project. While these costs will need to be taken into account when presenting program information to the voters in the future, they are not considered part of the construction and engineering costs. Actual and final bond sale amounts may vary depending on the number of projects being funded and the timing of the cash requirements. It is therefore impractical for a CIP to estimate bond issuance costs.

Once again, the challenge for the City facing growing needs in nearly all of the categories, increasing construction costs and an aggressive Capital Improvement Plan, remains funding.

D. PRIORITIZATION

In order to present the Projects in an organized, purposeful fashion, Staff has ranked all 30 projects in order of importance. Specifically, departments submitted their individual rankings, and the results were compiled and sorted based on the cumulative total score.

CITY OF MANVEL CAPITAL IMPROVEMENTS PROGRAM

STAFF PRIORITIZATION

Priority Number	Project	Type	Description	Cumulative Total Points
1	Elevated Storage Tank	Water	Construct an elevated water storage tank	220
2	Water Plant Improvements	Water	Expand City Water Plant	217
3	Master Wastewater Plan	Planning	Develop a Master Wastewater Plan for sanitary sewer	215
4	Master Water Plan	Planning	Develop a Master Water Plan for drinking water and fire protection	211
5	Municipal Complex	Facility	Construct a new City Hall, Police Station, Municipal Court, and Park	211
6	Regional Wastewater Treatment Plant #1	Sewer	Expand capacity of Corporate WWTP to 1MGD Concrete Plant	211
7	Purchase Surface Water Rights	Water	Reserve and purchase surface water rights	186
8	City Hall Parking Lot Improvements	Facility	Expand front parking lot	180
9	Rogers Road East Waterline Loop	Water	Loop new water line on Rogers Road back to SH6	153
10	Staffing and HR Plan	Planning	Develop a Staffing Growth and Human Resources Plan	146
11	Tankersley Waterline Loop	Water	Loop new water line between FM1128 and McCoy	143
12	Rogers Road West Waterline Loop	Water	Replace 4" Water Line on Roger Road west of FM 1128	137
13	Large Road Sanitary Sewer	Sewer	Construct gravity sanitary sewer on Large from C1 Ditch to Spillane	137
14	Cemetery Waterline Loop	Water	Loop 8" line on Lewis to 6" line to 12" on Cemetary	137
15	FM 1128 Waterline Extension Phase 2	Water	Extend 12" water line from Tankersly to Chocolate Bayou	134
16	Regional Detention Pond	Facility	Construct Regional Detention/Mitigation Pond	132
17	Technology Plan	Planning	Develop a Long Term Plan for meeting technology needs	129
18	SH6 East Waterline Extension	Water	Extend water line along SH6 to Eastern City Limits	125
19	SH6 East Wastewater Extension	Sewer	Extend wastewater line along SH6 to Eastern City Limits	123
20	Charlotte Waterline Loop	Water	Loop new water line between FM1128 and McCoy	120
21	Large Road West	Street	Construct asphalt roadway from Palmetto to McCoy	112
22	Street Maintenance Plan	Planning	Develop a Street Repair/Maintenance Plan	111
23	Del Bello Waterline Extension	Water	Extend water line down Del Bello	103
24	Croix Park Improvements	Facility	Construct improvements to Croix Park	96
25	Master Parks Plan	Planning	Develop a Master Parks Plan to identify park areas	94
26	FM 1128 Wastewater Extension	Sewer	Extend wastewater on FM1128 from Lewis to Chocolate Bayou	90
27	Rogers Road West	Street	Construct asphalt road from Palmetto to McCoy	89
28	Masters Road Rehab Phase 2	Street	Reclaim asphalt on Masters Road from SH6 to Jordan	86
29	Del Bello Wastewater Extension	Sewer	Extend wastewater line down Del Bello	69
30	Library	Facility	Construct a City Library	68

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

E. FUNDING SOURCES

With the Projects identified, described, estimated, and prioritized, the next step is to try and determine corresponding funding sources for each. This step must be done prior to the final step of scheduling.

Possible Funding Sources include:

1. Impact Fees
2. Annual Operating Budget
3. City Reserve Funds
4. Bonds
5. Manvel Economic Development Committee (MEDC)
6. Grants

Although the City's Operating Budget should continue to grow as the City develops (through sales tax, ad valorem taxes, permits, plan reviews, and inspection fees, etc.), it is difficult to anticipate the *rate* at which it will grow. With that in mind, alternate funding sources should be used whenever possible. The City has had recent success with Texas Water Development Board grants and Community Development Block Grants, and has long enjoyed a working relationship with the Manvel Economic Development Committee.

Using current City Reserve Funds of approximately \$2.5M and increasing the City's Annual CIP Budget by \$50,000 per year, this CIP proposes that 20 of the 30 projects could be completed within the next 5 years. Page 12 provides the corresponding Budget Schedule and provides a conservative running tally of remaining reserves set aside for CIP projects.

The other 10 projects are each estimated at \$1M or more. In the previous CIP document, these projects may have been identified as "Long-Term Projects," but the City no longer has the luxury of waiting on these projects. Since the City does not currently have \$44,300,000 in Reserves, it appears that Bonds will likely be required for these projects.

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

BUDGET SCHEDULE

Fiscal Year	2015	2016	2017	2018	2019	2020
CIP PROJECTS						
Proposed Projects	4	5	5	3	2	1
Estimated Cost	\$ 190,000	\$ 980,000	\$ 800,000	\$ 980,000	\$ 870,000	\$ 950,000
FUNDING SOURCES						
Accumulated Impact Fees			\$ 210,000			
MEDC		\$ 660,000				
CDBG			\$ 200,000			
Budget	\$ 190,000	\$ 250,000	\$ 300,000	\$ 350,000	\$ 400,000	\$ 450,000
RESERVES						
Available	\$ 2,500,000	\$ 2,500,000	\$ 2,430,000	\$ 2,340,000	\$ 1,710,000	\$ 1,240,000
Used This Year	\$ -	\$ 70,000	\$ 90,000	\$ 630,000	\$ 470,000	\$ 500,000
Remaining	\$ 2,500,000	\$ 2,430,000	\$ 2,340,000	\$ 1,710,000	\$ 1,240,000	\$ 740,000

1. This plan assumes current City reserves at \$2.5M
2. This plan establishes a CIP Budget that increases by \$50,000 per year.
3. This plan does not account for interest.
4. With this option, 20 of the 30 CIP projects identified could be completed in 5 years.
5. The other 10 projects would need to be included in Bonds.

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

F. SCHEDULING

In an unlimited cash-flow scenario, all proposed projects would be completed in the first year of the CIP; however, that does not represent the current financial landscape of the City.

The 30 projects identified in this CIP have a total estimated cost of \$49,070,000. With an annual Operating Budget of less than \$7M, obviously all \$49M could not be allocated within 5 years without alternate funding sources. As a result, 20 of the 30 projects have been identified as “Budget Projects” and the other 10 have been identified as “Bond Projects.”

The Proposed Schedule for the 20 “Budget Projects” is included on Page 14. The Schedule includes the Priority Number, Project Name, Type, Description, Cost Estimate, Possible Funding Source, and annual breakdown for each of the next 5 years. The total estimate for these 20 projects is \$4,770,000, averaging \$916,000 per year beginning next budget year.

Page 15 provides a summary of the 10 “Bond Projects” including the Priority Number, Project Name, Type, Description, Cost Estimate, Possible Funding Source, and annual breakdown for each of the next 5 years. The total estimate for these 10 projects is \$44,300,000, averaging \$8,860,000 per year beginning next fiscal year.

CITY OF MANVEL CAPITAL IMPROVEMENTS PROGRAM

PROPOSED SCHEDULE - BOND PROJECTS

Priority Number	Project	Type	Description	2016 Estimate	Possible Funding Source					
						2016	2017	2018	2019	2020
1	Elevated Storage Tank	Water	Construct an elevated water storage tank	\$ 1,400,000	Bonds	\$1,400,000				
7	Purchase Surface Water Rights	Water	Reserve and purchase surface water rights	\$ 5,000,000	Bonds	\$5,000,000				
16	Regional Detention Pond	Facility	Construct Regional Detention/Mitigation Pond	\$ 1,400,000	Bonds	\$1,400,000				
6	Regional Wastewater Treatment Plant	Sewer	Expand capacity of Corporate WWTP to 1MGD Concrete Plant	\$ 10,000,000	Bonds		\$ 10,000,000			
5	Municipal Complex	Facility	Construct a new City Hall, Police Station, Municipal Court, and Park	\$ 16,000,000	Bonds			\$8,000,000	\$8,000,000	
30	Library	Facility	Construct a City Library	\$ 1,400,000	Bonds				\$ 1,400,000	
19	SH6 East Wastewater Extension	Sewer	Extend wastewater line along SH6 to Eastern City Limits	\$ 2,600,000	Bonds					\$2,600,000
23	Del Bello Waterline Extension	Water	Extend water line down Del Bello	\$ 1,300,000	Bonds					\$1,300,000
26	FM 1128 Wastewater Extension	Sewer	Extend wastewater on FM1128 from Lewis to Chocolate Bayou	\$ 2,600,000	Bonds					\$2,600,000
29	Del Bello Wastewater Extension	Sewer	Extend wastewater line down Del Bello	\$ 2,600,000	Bonds					\$2,600,000
Total Estimate:				\$ 44,300,000		\$ 7,800,000	\$ 10,000,000	\$ 8,000,000	\$ 9,400,000	\$ 9,100,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

IV. PROJECT DATA SHEETS

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Elevated Storage Tank
Project Type: Water
Project Identified: Mayor
Year Planned: 2016
Possible Funding Sources: Impact Fees, Reserves, Bonds, Grants
Staff Ranking: 1 of 30

Prerequisite Project(s): Water Plant Improvements
Master Water Plan

Project Description: TCEQ regulations require elevated storage capacity of 100 gallons per connection for systems with more than 2,500 connections. Currently, the City of Manvel School Road Water Plant serves approximately 500 connections. With the anticipated growth in Manvel, the trigger of 2,500 connections could be reached as soon as the year 2020.

Anticipating the time required for design, construction, and permitting, this project should get started as soon as the Master Water Plan has been completed. The Master Water Plan will help determine the appropriate location, size, and cost of this elevated storage tank. Some important TCEQ regulations to note are:

- TCEQ defines Elevated Storage Capacity as *“that portion of water which can be stored at least 80 feet above the highest service connection in the pressure plane served by the storage tank.”*
- Regarding the location, TCEQ indicates: *“No elevated storage shall be located within 500 feet of any municipal or industrial sewage treatment plant or any land which is spray irrigated with treated sewage effluent or sludge disposal.”*

Project Estimate:

Construction:	\$1,000,000
Professional Services @ 15%	
Contingency @ 20%	
Total Project Cost:	\$1,400,000



CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Water Plant Improvements
Project Type: Water
Project Identified: City Staff
Year Planned: 2016
Possible Funding Sources: Impact Fees, MEDC
Staff Ranking: 2 of 30

Prerequisite Project(s): None

Project Description: TCEQ regulations identify minimum sizes and capacities for water well pumps, booster pumps, hydro pneumatic tanks, and ground storage tanks. Currently, the City of Manvel School Road Water Plant serves approximately 500 connections and has a capacity to serve 750 connections. With the anticipated growth in Manvel, improvements are needed at the Water Plant in order to expand the available capacity of available City water.

In January 2016, MEDC authorized the design and construction of this project. Anticipated improvements include new booster pumps, an additional ground storage tank, and upgrades to the existing Control Building and Water Well.

Project Estimate:

Construction:	\$300,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/>	<hr/>
Total Project Cost:	\$410,000



CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Master Wastewater Plan
Project Type: Planning
Project Identified: Comprehensive Plan
Year Planned: 2015
Possible Funding Sources: Impact Fees, Annual Operating Budget
Staff Ranking: 3 of 30

Prerequisite Project(s): None

Project Description: The purpose of the Master Wastewater Plan is to evaluate the existing sanitary sewer system, make recommendations for improvements, and serve as a guiding document for future capital projects and developer-driven initiatives.

Since its inception, the City of Manvel has primarily existed as a rural community. Large acre homesteads, agricultural, and oilfield uses have typically implemented individual septic systems. However, the City owns and operates a small wastewater plant on Corporate Drive that is being expanded. This wastewater plant primarily receives sanitary sewer from the residents and businesses in the “Old Manvel” area near SH6 and FM1128.

Due to continued urban sprawl from Houston, residential subdivisions and commercial developments are steadily increasing in and around the City of Manvel. The vast majority of these developments implement smaller water plants and package wastewater facilities via Municipal Utility Districts (MUDs).

As the City continues to grow, it is critical to prepare for that growth as it pertains to wastewater.

Project Estimate: \$50,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Master Water Plan
Project Type: Planning
Project Identified: Comprehensive Plan
Year Planned: 2015
Possible Funding Source: Impact Fees, Annual Operating Budget
Staff Ranking: 4 of 30

Prerequisite Project(s): None

Project Description: The purpose of the Master Water Plan is to evaluate the existing water distribution system, make recommendations for improvements, and serve as a guiding document for future capital projects and developer-driven initiatives.

Since its inception, the City of Manvel has primarily existed as a rural community. Large acre homesteads, agricultural, and oilfield uses have typically implemented individual water wells. However, the City owns and operates a small water plant on School Road that is being expanded. This water plant provides water and fire protection to residents and businesses in the “Old Manvel” area near SH6 and FM1128.

Due to continued urban sprawl from Houston, residential subdivisions and commercial developments are steadily increasing in and around the City of Manvel. The vast majority of these developments implement smaller water plants and package wastewater facilities via Municipal Utility Districts (MUDs).

As the City continues to grow, it is critical to prepare for that growth as it pertains to public drinking water and fire protection.

Project Estimate: \$50,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Municipal Complex
Project Type: Facility
Project Identified: City Staff
Year Planned: 2018 and 2019
Possible Funding Source: Bonds
Staff Ranking: 5 of 30

Prerequisite Project(s): None

Project Description: During the 2016 Budget preparation, three individual Facility projects were identified. They included a new City Hall, a Police Department Building, and a Public Works Facility. While these projects were not “budgeted” they were identified as part of the annual CIP update *within* the Budget Document.

In order to minimize land acquisition, maintenance costs, detention, utilities, and parking, the idea of a Municipal Complex was identified as perhaps a better alternative. This complex could include a new City Hall, Police Station, Public Works, Municipal Court, and a City Park. City Departments could still communicate efficiently within this complex, as all would be within walking distance.

At this point, this project is slightly more than a conceptual idea, so cost estimating is difficult to be sure. The aforementioned 2016 Budget document speculated that a new City Hall could cost \$6M, a new Police Station could be \$3M, and a Public Works Facility could be \$1M. If all 3 of these were combined, that estimate translates into \$10M. However, if a City Park and Municipal Court building were added to that, at \$1M each, the overall construction estimate escalates quickly to \$12M.

Project Estimate:

Construction:	\$12,000,000
Professional Services @ 15%	
<u>Contingency @ 20%</u>	
Total Project Cost:	\$16,000,000



CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Regional Wastewater Treatment Plant #1
Project Type: Sewer
Project Identified: City Staff
Year Planned: 2017
Possible Funding Source: Impact Fees, Bonds
Staff Ranking: 6 of 30

Prerequisite Project(s): Master Wastewater Plan

Project Description: The City currently operates a 250,000 Gallon Per Day (GPD) Wastewater Treatment Plant (WWTP) on Corporate Drive. An expansion of that plant is currently in design and will increase the capacity to 500,000 GPD.

The 2007 Comprehensive Plan identified the ultimate buildout of six (6) Regional Wastewater Treatment Plants with a maximum size of 5 MGD each. Once completed, the Master Wastewater Plan will confirm if this is still the best course of action for the City.

The Corporate Drive WWTP is planned to serve as the Region 1 WWTP. The first phase would be to construct a 1 MGD concrete plant. In early 2015, the Lakeland MUD Engineer prepared cost estimates for this approach at \$7,708,610.

Project Estimate:

Construction:	\$ 7,700,000
Professional Services @ 15%	
<u>Contingency @ 10%</u>	
Total Project Cost:	\$10,000,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Purchase Surface Water Rights – Phase 1
Project Type: Water
Project Identified: City Staff
Year Planned: 2016
Possible Funding Source: Impact Fees, Bonds
Staff Ranking: 7 of 30

Prerequisite Project(s): Master Water Plan

Project Description: The 2007 Comprehensive Plan identified an ultimate buildout population of 155,000 people. At 2.8 people per connection, that equates to 55,357 connections. Using 360 GPD per connection, the total buildout demand would be approximately 20 MGD. The Plan identified 5 Regional Water Plants with a capacity of approximately 4 MGD each. Once completed, the Master Water Plan will confirm if this is still the best course of action for the City.

As water demands increase in Manvel, the need to diversify supply sources will also increase. Presently, 100% of the City's and ETJ's drinking water and fire protection water come from groundwater. In addition to individual landowner wells, there are also 5 small plants across the City (School Road, Pomona, Rodeo Palms, Sedona Lakes, and Southfork) that have a total capacity of about 3 MGD.

One of the long term goals is to explore alternate water sources, including the purchase of surface water rights. This project was created to accomplish that task.

Project Estimate: \$5,000,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: City Hall Parking Lot Improvements
Project Type: Facility
Project Identified: City Staff
Year Planned: 2015
Possible Funding Source: Annual Operating Budget
Staff Ranking: 8 of 30

Prerequisite Project(s): None

Project Description: In order to improve parking availability at City Hall, this project includes the addition of 10-13 parking spots to the front parking lot. Additionally, to minimize conflict points and potential vehicle accidents, this project will include a TXDOT application for the connection of the second driveway on SH6. By completion of this project, motorists would be able to enter one drive and exit a second one, as well as have ingress/egress to the adjacent Stripes convenience store.

Project Estimate:

Construction:	\$50,000
Professional Services @ 15%	
Contingency @ 10%	
<hr/>	
Total Project Cost:	\$65,000



CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Rogers Road East Waterline Loop
Project Type: Water
Project Identified: City Staff
Year Planned: 2017
Possible Funding Sources: Impact Fees, Annual Operating Budget, Reserves, MEDC
Staff Ranking: 9 of 30

Prerequisite Project(s): None

Project Description: As the next phase of the Rogers Road waterline improvements, this project continues where the 2012 CDBG project ends. That project improved the existing 4-inch water line on Rogers Road to an 8-inch water line located in the ROW. This project includes extending 8-inch water line approximately 1,500 linear feet from the C1 ditch to Cemetery, and then to the 12" water line at Large Road.

In cooperation with the Cemetery Waterline Loop, this will provide a significant waterline loop to the City's mains in this area greatly improving water quality, flow, fire protection, and possibly economic development.

Project Estimate:

Construction:	\$94,850
Professional Services @ 15%	
Contingency @ 20%	
<hr/> Total Project Cost:	<hr/> \$130,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Staffing and Human Resource Plan
Project Type: Planning
Project Identified: City Staff
Year Planned: 2016
Possible Funding Source: Annual Operating Budget
Staff Ranking: 10 of 30

Prerequisite Project(s): None

Project Description: The purpose of this Staffing and Human Resource Plan would be to develop both short-term and long-term requirements for current and future staffing needs. The ratio of Police Officers to the City's population, Community Development Director, Director of Human Resources, Building Official, and Building Inspectors are just a few examples of what this plan will address.

Project Estimate: \$25,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Tankersley Waterline Loop
Project Type: Water
Project Identified: City Staff
Year Planned: 2018
Possible Funding Sources: Impact Fees, Annual Operating Budget, Reserves
Staff Ranking: 11 of 30

Prerequisite Project(s): None

Project Description: Implementing assistance from MEDC in 2011, the City extended a 12” water line on FM1128 to the intersection of Charlotte. In 2015, Lakeland Section 3 extended a 12” water line down McCoy to the intersection at Charlotte.

In 2016, it is anticipated that Lakeland Section 4 will further extend the 12” on McCoy from Charlotte to Tankersley.

The Tankersley Waterline Loop Project would then extend a 12” waterline along FM1128 from Charlotte to Tankersley, down Tankersley to McCoy. This project consists of approximately 3,000 linear feet of 12” water line and will provide a significant waterline loop to the City’s mains in this area, greatly improving water quality, flow, fire protection, and possibly economic development.

Project Estimate:

Construction:	\$226,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/> Total Project Cost:	<hr/> \$310,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Rogers Road West Waterline Loop
Project Type: Water
Project Identified: City Staff
Year Planned: 2016
Possible Funding Source: Impact Fees, Annual Operating Budget, Reserves, MEDC
Staff Ranking: 12 of 30

Prerequisite Project(s): None

Project Description: This project replaces an existing 4-inch water line with approximately 3,300 linear feet of 8-inch water line, fire hydrants, and shut off valves. Extending from Masters (west to McCoy) this line would loop back into the 16" water line at SH6 and McCoy. This will provide an additional waterline loop to the City's mains in this area greatly improving water quality, water pressure and flow, fire protection, and economic development.

Project Estimate:

Construction:	\$193,350
Professional Services @ 15%	
Contingency @ 20%	
<hr/>	
Total Project Cost:	\$270,000



CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Large Road Sanitary Sewer
Project Type: Sewer
Project Identified: MEDC
Year Planned: 2016
Possible Funding Sources: Impact Fees, MEDC
Staff Ranking: 13 of 30

Prerequisite Project(s): None

Project Description: This project consists of approximately 2,300 linear feet of new gravity sanitary sewer on Large Road from the C1 ditch to the Lift Station behind City Hall. This project also includes improvements to the existing lift station including fencing, upgraded pumps and wet well.

Project Estimate:

Construction:	\$181,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/> Total Project Cost:	<hr/> \$250,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Cemetery Waterline Loop
Project Type: Water
Project Identified: City Staff
Year Planned: 2017
Possible Funding Sources: Impact Fees, Annual Operating Budget, CDBG
Staff Ranking: 14 of 30

Prerequisite Project(s): None

Project Description: The Cemetery Waterline Loop connects the existing 12-inch water line on Cemetery to the existing 8-inch water line on Lewis Lane. As such, this project consists of approximately 2,500 linear feet of 8-inch water line. This will provide an additional waterline loop to the City's mains in this area greatly improving water quality, water pressure and flow, and fire protection.

Project Estimate:

Construction:	\$144,250
Professional Services @ 15%	
Contingency @ 20%	
<hr/> Total Project Cost:	<hr/> \$200,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: FM1128 Waterline Extension Phase 2
Project Type: Water
Project Identified: City Staff
Year Planned: 2020
Possible Funding Sources: Impact Fees, Annual Operating Budget, Reserves, Bonds, MEDC
Staff Ranking: 15 of 30

Prerequisite Project(s): Master Water Plan
Tankersley Waterline Loop

Project Description: Implementing assistance from MEDC in 2011, the City extended a 12” water line on FM1128 to the intersection of Charlotte. The Tankersley Waterline Loop Project will extend the 12” waterline along FM1128 from Charlotte to Tankersley, and down Tankersley to McCoy.

This FM1128 Waterline Extension Phase 2 project consists of approximately 9,000 linear feet of 12” water line along FM1128 from Tankersley to Chocolate Bayou. This project will provide a significant extension to the northern reaches of FM 1128 providing drinking water and fire protection, and possibly improving economic development.

Project Estimate:

Construction:	\$693,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/> Total Project Cost:	<hr/> \$950,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Regional Detention Pond
Project Type: Facility
Project Identified: City Staff
Year Planned: 2016
Possible Funding Source: Reserves, Bonds, TWDB
Staff Ranking: 16 of 30

Prerequisite Project(s): None

Project Description: In order to help with detention and floodplain mitigation, a site has been identified for a Regional Detention Pond in the northern part of the City. As both Chocolate Bayou and Mustang Bayou flow from north to south across the City, this site is strategically located to capture runoff upstream of the City.

The land has been purchased, but engineered drawings need to be prepared prior to this project going on-line.

Project Estimate:

Construction:	\$1,000,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/>	
Total Project Cost:	\$1,400,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Technology Plan
Project Type: Planning
Project Identified: City Staff
Year Planned: 2016
Possible Funding Source: Annual Operating Budget
Staff Ranking: 17 of 30

Prerequisite Project(s): None

Project Description: The purpose of this Technology Plan would be to develop both short-term and long-term needs for technology-based items used by staff, PD&Z, and Council. Computers, hand-held radios, satellite phones, billing software, meter reading equipment, and credit card readers are just a few examples of what this plan will address.

Project Estimate: \$25,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: SH6 East Waterline Extension
Project Type: Water
Project Identified: City Staff
Year Planned: 2019
Possible Funding Sources: Impact Fees, MEDC, Developer
Staff Ranking: 18 of 30

Prerequisite Project(s): None

Project Description: In order improve fire protection and promote economic development along SH6 to the eastern City Limits, this project identifies a new water main to extend from the current termination point (near ProBuild Lumber) to the eastern City Limits. It is anticipated that a 12-inch waterline extended approximately 6,000 linear feet will be the ultimate design for this project. There is currently no City water in this general vicinity, so fire protection is inadequate and future development is strained.

Project Estimate:

Construction:	\$485,000
Professional Services @ 15%	
Contingency @ 20%	
Total Project Cost:	<hr/> \$670,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: SH6 East Wastewater Extension
Project Type: Wastewater
Project Identified: City Staff
Year Planned: 2020
Possible Funding Sources: Impact Fees, Bonds, MEDC, Developer
Staff Ranking: 19 of 30

Prerequisite Project(s): Master Wastewater Plan

Project Description: In order to provide wastewater and promote economic development along SH6 to the eastern City Limits, this project identifies a new sanitary sewer to extend from FM 1128 to CR 99.

It is anticipated that a 24-inch sanitary sewer extended approximately 12,000 linear feet will be the ultimate design for this project. Due to the overall length of this line, a lift station will likely be required and is included in this estimate. There is currently no City wastewater in this general vicinity, so future development is strained.

Project Estimate:

Construction:	\$1,895,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/> Total Project Cost:	<hr/> \$2,600,000



CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Charlotte Waterline Loop
Project Type: Water
Project Identified: City Staff
Year Planned: 2017
Possible Funding Sources: Impact Fees, Annual Operating Budget, Reserves
Staff Ranking: 20 of 30

Prerequisite Project(s): None

Project Description: Implementing assistance from MEDC in 2011, the City extended a 12" water line on FM1128 to the intersection of Charlotte. In 2015, the Lakeland subdivision extended a 12" water line down McCoy to the intersection at Charlotte. The Charlotte Waterline Loop Project would connect those two lines with approximately 2,500 linear feet of 8" water line.

Project Estimate:

Construction:	\$153,000
Professional Services @ 15%	
Contingency @ 20%	
Total Project Cost:	\$210,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Large Road West
Project Type: Street
Project Identified: City Staff
Year Planned: 2019
Possible Funding Source: Annual Operating Budget, Reserves
Staff Ranking: 21 of 30

Prerequisite Project(s): None

Project Description: This project consists of constructing a new asphalt roadway with open ditch drainage along Large Road from Palmetto to McCoy. It is anticipated that this connection will improve mobility for emergency vehicles, school traffic, and also allow for a backage road to SH6.

Project Estimate:

Construction:	\$140,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/>	
Total Project Cost:	\$200,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Street Maintenance Plan
Project Type: Planning
Project Identified: City Staff
Year Planned: 2017
Possible Funding Source: Annual Operating Budget
Staff Ranking: 22 of 30

Prerequisite Project(s): None

Project Description: The purpose of this Street Maintenance Plan would be to develop a comprehensive inventory of all streets maintained by the City of Manvel in order to determine the appropriate maintenance schedule for each segment. This inventory would include traffic counts, thickness of base material, presence of lime, recurrence of potholes, number of repairs, drainage issues, and ride condition.

Project Estimate: \$25,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Del Bello Waterline Extension
Project Type: Water
Project Identified: City Staff
Year Planned: 2020
Possible Funding Sources: Impact Fees, Bonds
Staff Ranking: 23 of 30

Prerequisite Project(s): Master Water Plan
Tankersley Waterline Loop
FM 1128 Waterline Extension Phase 2

Project Description: The Del Bello Waterline Extension will connect the City's future Surface Water Plant on Croix Road to the 12" water line on FM 1128. This project consists of approximately 12,000 linear feet of 12" water line. Several other projects (Tankersley Waterline Loop, FM 1128 Waterline Extension Phase 2, and the completion of the Master Water Plan) need to be completed prior to this project. However, once completed, this will provide an interconnect between the City's northern and central areas.

Project Estimate:

Construction:	\$ 950,000
Professional Services @ 15%	
Contingency @ 20%	
Total Project Cost:	<hr/> \$1,300,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Croix Park Improvements
Project Type: Facility
Project Identified: Parks Board
Year Planned: 2018
Possible Funding Source: Annual Operating Budget, Reserves
Staff Ranking: 24 of 30

Prerequisite Project(s): Master Parks Plan

Project Description: The City owns Croix Park on Croix Road near the new Pomona Subdivision. The Parks Board is working to identify improvements to this park including amenities and security. The Master Parks Plan will better determine the scope and budget for this project.

Project Estimate: \$100,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Master Parks Plan
Project Type: Planning
Project Identified: Comprehensive Plan
Year Planned: 2015
Possible Funding Source: Annual Operating Budget
Staff Ranking: 25 of 30

Prerequisite Project(s): None

Project Description: The purpose of the Master Parks Plan is to evaluate the existing park facilities, make recommendations for improvements, and serve as a guiding document for future capital projects and developer-driven initiatives.

Since its inception, the City of Manvel has primarily existed as a rural community. Large acre homesteads, agricultural, and oilfield uses have been the norm. The City owns and operates 2 small parks and is actively looking at (at least) 2 other potential park sites.

Due to continued urban sprawl from Houston, residential subdivisions and commercial developments are steadily increasing in and around the City of Manvel. The vast majority of these developments implement no park space or only pocket and neighborhood parks.

As the City continues to grow, it is City Council's desire to prepare for that growth as it pertains to parks.

Project Estimate: \$25,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: FM 1128 Wastewater Extension
Project Type: Wastewater
Project Identified: City Staff
Year Planned: 2020
Possible Funding Sources: Impact Fees, Bonds
Staff Ranking: 26 of 30

Prerequisite Project(s): Master Wastewater Plan

Project Description: In order to provide wastewater and promote economic development along FM1128, this project identifies a new sanitary sewer from Lewis Lane to Chocolate Bayou.

It is anticipated that a 24-inch sanitary sewer extended approximately 12,000 linear feet will be the ultimate design for this project. Due to the overall length of the project, a lift station will likely be required and is included in this estimate. There is currently no City wastewater in this general vicinity, so future development is strained.

Project Estimate:

Construction:	\$1,895,000
Professional Services @ 15%	
Contingency @ 20%	
Total Project Cost:	\$2,600,000



CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Rogers Road West
Project Type: Street
Project Identified: City Staff
Year Planned: 2017
Possible Funding Source: Annual Operating Budget
Staff Ranking: 27 of 30

Prerequisite Project(s): None

Project Description: This project consists of constructing a new asphalt roadway with open ditch drainage along Rogers Road from Palmetto to McCoy and from McCoy to SH6. It is anticipated that this connection will improve mobility for emergency vehicles and school traffic, and also allow for a backage road to SH6. It is also likely to assist economic development in this area.

Project Estimate:

Construction:	\$170,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/> Total Project Cost:	<hr/> \$235,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Masters Road Rehab Phase 2
Project Type: Street
Project Identified: City Staff
Year Planned: 2018
Possible Funding Source: Annual Operating Budget
Staff Ranking: 28 of 30

Prerequisite Project(s): None

Project Description: Masters Road south of SH6 is maintained by the City of Manvel and was overlaid in 2015. This Phase 2 project consists of reclaiming the asphalt roadway from SH6 to Jordan. There are considerable obstacles under the pavement and the overall width of the road needs to be widened to allow for a safety shoulder.

Project Estimate:

Construction:	\$410,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/>	
Total Project Cost:	\$570,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Del Bello Wastewater Extension
Project Type: Wastewater
Project Identified: City Staff
Year Planned: 2020
Possible Funding Sources: Impact Fees, Bonds
Staff Ranking: 29 of 30

Prerequisite Project(s): Master Wastewater Plan

Project Description: In order to provide wastewater and promote economic development along Del Bello, this project identifies a new sanitary sewer from FM 1128 to Croix Road.

It is anticipated that a 24-inch sanitary sewer extended approximately 12,000 linear feet will be the ultimate design for this project. Due to the overall length of the project, a lift station will likely be required and is included in this estimate. There is currently no City wastewater in this general vicinity, so future development is strained.

Project Estimate:

Construction:	\$1,895,000
Professional Services @ 15%	
Contingency @ 20%	
Total Project Cost:	\$2,600,000

CITY OF MANVEL
CAPITAL IMPROVEMENTS PROGRAM

PROJECT DATA SHEET

Project Name: Library
Project Type: Facility
Project Identified: Mayor
Year Planned: 2019
Possible Funding Source: Bonds
Staff Ranking: 30 of 30

Prerequisite Project(s): None

Project Description: The City has long struggled with a permanent location for a City-owned Library. This project consists of designing and building a permanent Library facility on existing City-owned property. At this point in time, it appears that Bonds would likely need to be secured for this project due to the overall cost.

Project Estimate:

Construction:	\$1,000,000
Professional Services @ 15%	
Contingency @ 20%	
<hr/> Total Project Cost:	<hr/> \$1,400,000