

ATTACHMENT A

Project Map

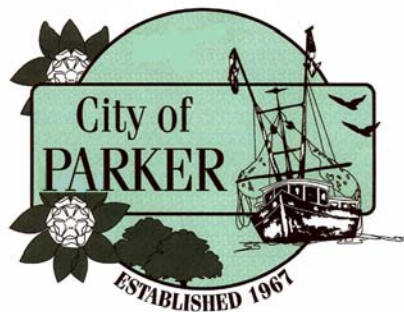
ATTACHMENT B

Design Report

CITY OF PARKER
WASTEWATER SYSTEM IMPROVEMENT
DESIGN REPORT
PRI PROJECT NO.: 248.117

PREPARED FOR:

CITY OF PARKER
101 WEST PARK STREET
PANAMA CITY, FL 32404



PREPARED BY:

PREBLE-RISH, INC.
CONSULTING ENGINEERS & SURVEYORS
203 ABERDEEN PARKWAY
PANAMA CITY, FL 32405



PREBLE-RISH INC
CONSULTING ENGINEERS & SURVEYORS



**CITY OF PARKER, FLORIDA
WASTEWATER IMPROVEMENTS PROJECT
PREBLE-RISH, INC. PROJECT NO.: 248.117**

1.0 INTRODUCTION

The purpose of this project is to continue the process of improving the City's wastewater system in order to fix the deteriorating system and to provide for future growth of the system. The following items will be included in this project:

1. 19 Manholes - Rehabilitated
 - Manholes south of Fleming Street along Highway 98 (assumed 8-foot depth)
2. P-12 Replacement of Forcemain
 - Replace the 8,890 LF of 2-inch forcemain to an 8"
3. P-13 Replacement of Forcemain
 - 602 LF to increase the existing 4" forcemain to a 6"
4. P-16 Replacement of Forcemain (4")
 - 548 LF of 4" forcemain
5. P-16 Pump Station Improvements
 - Two new pumps capable of pumping 15 gpm
6. P-17 Pump Station Improvements (15 HP)
(This item does not include the replacement of the pump station should it be required)
7. P-17 Replacement of Forcemain
 - 488 LF of 4" forcemain

2.0 MANHOLE REHABILITATION

The Manhole and Lift Station Inspection and Evaluation Report, written in 2008 by PRI, suggest that 31 manholes rated poorly and should be rehabilitated with an approved liner system. As a part of this project, the manholes in the areas that qualify for the grant will be included in this project for rehabilitation. The following manholes will be rehabilitated as a part of this project:

Manhole Number	Depth (ft)	Manhole Number	Depth (ft)
492	8'-0"	531	12'-3"
497	7'-10"	532	13'-0"
498	6'-0"	533	10'-0"
506	4'-3"	534	7'-5"
509	6'-0"	541	7' 7.2"
510	8'-0"	543	4'-5"
511	7'-11"	544	3'-3"
512	7'-2"	566	8' 3.24"
520	8' 9"	567	8'-3"
525	6'-2"		



3.0 PUMP STATION REHABILITATION

PRI also analyses the Pump Stations in Parker as a part of the Manhole and Lift Station Inspection and Evaluation Report and in the 2008 Wastewater Master Plan. Based on these reports, Pump Stations P-2, P-11, P-12, P-13, P-14, P-16, and P-17 required upgrading as a result of future growth. The City has made the necessary improvements to P-12 and P-13 as a part of the 2011 CDBG project that is currently in construction. Pump Stations P-16 and P-17 are the next stations that need to be considered for rehabilitation, and will be addressed with this project.

In the P-16 service area, if all contributing area is multi-family dwelling, the maximum density is 193.5 units. At the average household size of 2.32 people, the number of people contributing to the Lift Station is 483 people. Currently, the pumps are pumping 1.4 gpm. The pumps were replaced in the last four years and therefore will not be replaced as a part of this project.

In the P-17 service area, if all contributing area is multi family dwelling, except the restaurant property and commercial property which remains a restaurant/commercial, the maximum density is 66.7 units (plus a 100 seat restaurant and 9,168 sf of commercial). The average daily flow is then assumed to be 27,960 gallons, or 78 gpm at peak flow.

Existing Pump Information:

Pump Station	Pumps	Pump Manufacturer	Pump HP	Operating
P-16	Pump #1	EMU	4	No
	Pump #2	EMU	4	Yes
P-17	Pump #1	N/A	N/A	Yes
	Pump #2	N/A	N/A	Yes

The Wastewater Master Plan written in 2008 shows the total future flows anticipated for pump stations 16 and 17.



**CITY OF PARKER, FLORIDA
WASTEWATER IMPROVEMENTS PROJECT
PREBLE-RISH, INC. PROJECT NO.: 248.117**

Pump Station	Actual Measured Flow Rate Summer 2013 (gpm)	Existing Pump's Measured Flow Rate (Per Master Plan) (gpm)	Total Anticipated Flow (gpm)	Percent Capacity
P-16	1.4003	26.4	215	814
p-17	15.39	66	945	1,432

These reports state that P-16 has existing wastewater inflow rates of 75% of the pumps measured flow rate, the future wastewater inflow rate is 814% of the pump's measured flow rate, and one of the pumps is in poor condition. Therefore, it is necessary to replace the pumps to be capable of pumping the greater flow rate.

Pump Station 17 will be required to handle the estimated increase in flow associated with future development.

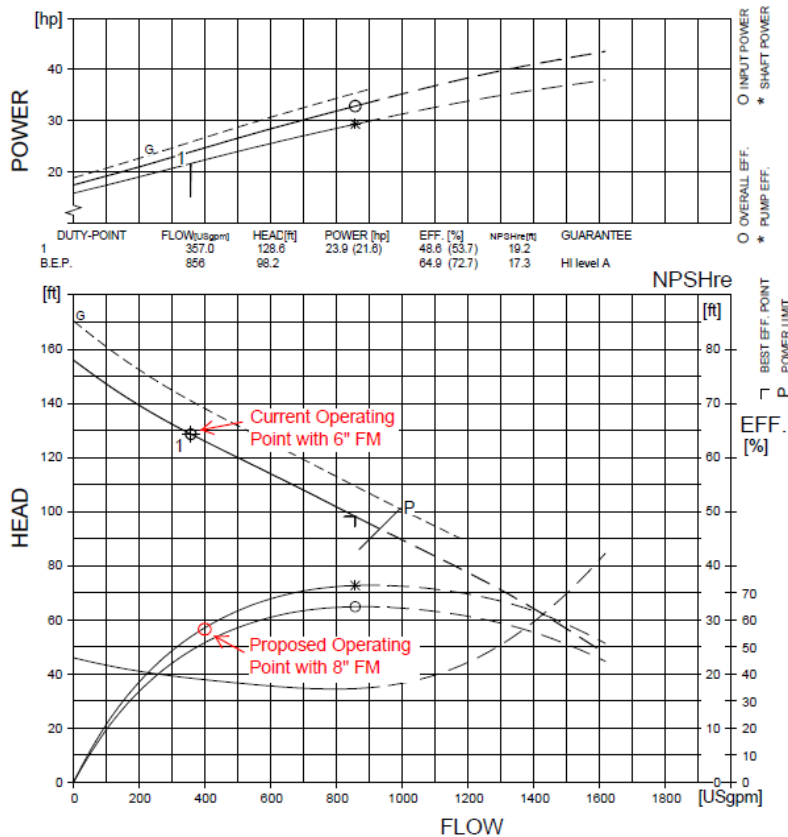
4.0 FORCEMAIN UPGRADING

Pump Station 12 collects wastewater from the P-12 service and flows from the P-13 are directed to P-12 through the P-13 forcemain. The P-12 forcemain directs flow from P-12 down Highway 98 to P-14. Additionally, between P-12 and P-14, flows from the P-16 and P-17 forcemains manifold into the P-12 forcemain. Pump Station P-12 was recently upgraded to house two 30 hp pumps. These pumps will allow for the upsizing of the P-12 forcemain to accommodate from the increased from in each of the pump stations feeding the P-12 forcemain.

Pump Station 12 has recently been upgraded to include two 30 hp pumps which have increased the velocity in the forcemain leaving P-12. The City can now increase the approximately 8,500 LF forcemain from a 6" to an 8". The pumps that were replaced in 2013 included capacity to upgrade the forcemain as a part of a future project. The current operating condition in P-12 is 350 gpm at 128 feet of head with a 6" forcemain. When the forcemain is upgraded to an 8", the operating conditions will change to 396 gpm (which is the scour flow of an 8" forcemain at 2.5 ft/sec) at 57 feet of head. The pump curve below shows the existing operating point and the proposed operating point of the current pumps with the upsized forcemain.



**CITY OF PARKER, FLORIDA
WASTEWATER IMPROVEMENTS PROJECT
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PERFORMANCE CURVE	
DATE 2011-08-10	PROJECT
POWER FACTOR 0.83	1/1-LOAD 0.83
EFFICIENCY 89.5 %	3/4-LOAD 0.78
MOTOR DATA ---	1/2-LOAD 0.66
COMMENTS	INLET/OUTLET - / 4 inch
	IMP. THROUGHLET ---
	RATED POWER 30 hp
	STARTING CURRENT ... 515 A
	RATED CURRENT ... 75 A
	RATED SPEED ... 1760 rpm
	TOT. MOM. OF INERTIA ... 0.16 kgm2
	NO. OF BLADES 2

PRODUCT NP3171.181	TYPE HT
CURVE NO 63-453-00-4550	ISSUE 4
IMPELLER DIAMETER 286 mm	
MOTOR # 25-17-4AA	STATOR 07Y//
FREQ. 60 Hz	PHASES 3
VOLTAGE 230 V	POLES 4
GEARTYPE ---	RATIO ---

Pump Station 13 has recently been upgraded to include two 7.5 hp pumps which have increased the velocity in the forcemain leaving P-13. The City can now increase the approximately 600 LF forcemain

ATTACHMENT C

Engineers Cost Opinion

**CITY OF PARKER WASTEWATER IMPROVEMENTS
ENGINEERS COST OPINION
PREBLE-RISH, INC.
PROJECT NO. 248.117**

ITEM	DESCRIPTION	QTY	UNIT	UNIT PRICE	EXTENSION
GENERAL CONSTRUCTION					
1	Mobilization (≤ 5% of Base Bid)	1	LS	\$ 37,986.15	\$ 37,986.15
2	Bonds and Insurance (≤ 2.5% of Base Bid)	1	LS	\$ 18,993.08	\$ 18,993.08
3	Testing and Flushing (≥6% of Base Bid)	1	LS	\$ 45,583.38	\$ 45,583.38
4	Silt Fence/Erosion Control (≥2.5% of Base Bid)	1	LS	\$ 18,993.08	\$ 18,993.08
General Construction Subtotal					\$ 121,555.68
SEWER REHABILITATION					
1	Manhole Rehabilitation	145	VF	\$ 275.00	\$ 39,875.00
2	P-12 8" Forcemain Replacement	7,353	LF	\$ 35.00	\$ 257,355.00
3	P-12 8" Forcemain Directional Bores	1,537	LF	\$ 60.00	\$ 92,220.00
4	P-13 6" Forcemain Replacement	419	LF	\$ 30.00	\$ 12,570.00
5	P-13 6" Forcemain Directional Bores	183	LF	\$ 55.00	\$ 10,065.00
6	P-16 and P-17 4" Forcemain Replacement	927	LF	\$ 25.00	\$ 23,175.00
7	P-16 and P-17 4" Forcemain Directional Bores	109	LF	\$ 45.00	\$ 4,905.00
8	Fitting Pertinences (20% of Pipe Cost)	1	LS	\$ 80,058.00	\$ 80,058.00
9	Asphalt Remove and Replace (1.5" Thick)	50	SY	\$ 90.00	\$ 4,500.00
10	Concrete Remove and Replace (6" Thick)	50	SY	\$ 100.00	\$ 5,000.00
11	Concrete Remove and Replace (4" Thick)	50	SY	\$ 100.00	\$ 5,

ATTACHMENT D

Design Plans

September 27, 2013 (10:39:37 EST)
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MANHOLE REHABILITATION

- 1. THE UNIT PRICE FOR THIS BID ITEM SHALL INCLUDE, BUT IS NOT LIMITED TO, ALL LABOR, MATERIAL, EQUIPMENT, AND SUPPLIES INCIDENTAL TO SUPPLYING AND INSTALLING EITHER THE POLYTRIPLEX, SPECTRASHIELD, PERPETUWALL OR APPROVED EQUAL MANHOLE REHABILITATION AS SHOWN IN THE DRAWINGS AND ACCORDING TO THE SPECIFICATIONS.
- 2. THIS BID ITEM SHALL INCLUDE, BUT IS NOT LIMITED TO, ANY REQUIRED CLEANING, BYPASS PUMPING, PUBLIC NOTIFICATIONS, MAINTENANCE OF TRAFFIC, AND USE OF A VACUUM TRUCK.
- 3. PAYMENT FOR THIS BID ITEM SHALL BE MADE PER VERTICAL FOOT OF COMPLETED, INSPECTED, AND APPROVED REHABILITATED MANHOLE.

ROADWAY RESTORATION

- 1. THE UNIT PRICE FOR THIS ITEM SHALL INCLUDE ALL THE ADDITIONAL LABOR, MATERIAL, EQUIPMENT, AND APPURTENANCES REQUIRED FOR ROADWAY REPAIRS ASSOCIATED WITH THE REPLACEMENT OF SEWER FORCEMAIN AND MANHOLE REHABILITATION.
- 2. THIS BID ITEM SHALL INCLUDE EXCAVATION AND ASPHALT PAVEMENT REPLACEMENT PER CONSTRUCTION PLAN DETAILS AND SPECIFICATIONS. THIS BID ITEM SHALL NOT INCLUDE SIDEWALKS, CURBS, AND GUTTERS REPLACEMENT COST.
- 3. THIS BID ITEM SHALL INCLUDE ANY COSTS ASSOCIATED WITH THE NPDES PERMIT AND MAINTENANCE OF TRAFFIC.
- 4. THIS BID ITEMS SHALL INCLUDE, BUT IS NOT LIMITED TO, ANY REQUIRED ASPHALT, CONCRETE OR OTHER ROADWAY SURFACE, ROAD BASE, STABILIZED SUBGRADE, AND EARTHWORK.
- 5. ALL ROADWAY REPAIRS SHALL BE APPROVED IN WRITING BY THE OWNER'S REPRESENTATIVE PRIOR TO THE COMMENCEMENT OF WORK AND SHALL BE CONSIDERED AS A SEPARATE PAY ITEM.
- 6. PAYMENT WILL BE MADE PER SQUARE YARD OF INSTALLED, INSPECTED, AND APPROVED ROADWAY REPAIR.

NO	DATE	APPR	REVISION:
1			
2			
3			
4			
5			



PREBLE-RISH, INC.

CONSULTING ENGINEERS

CIVIL • SURVEYING • SITE PLANNING

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(850) 522-0644

GENERAL NOTES
2013 CDBG SEWER REHABILITATION
CITY OF PARKER
BAY COUNTY, FLORIDA

DATE: SEPT 2013	PROJECT NO. 248.117
SCALE: AS SHOWN	
DRAWN: J. FOY	SHEET G1
CHECKED: B. TRUMBULL	

EB# 0006155

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September

ATTACHMENT E

Approved FDEP and FDOT Permits



ATTACHMENT E (I)

Approved FDEP Permit





