

APPENDIX H
COLLECTION SYSTEM IMPROVEMENT
COST ESTIMATES

Guild/Robinson Rd. Area Main Line Extension Cost Estimate

Estimated Capital Construction Cost

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Estimated Cost</i>
12" PVC Line	Linear foot	4,800	\$75	\$360,000
Manholes (@ 350' intervals)	Each	14	\$4,000	\$56,000
Pump Station (includes telemetry/alarm add-on)	Each	1	\$115,000	\$115,000
6" Force Main	Linear foot	3,000	\$40	\$120,000
Surface Restoration	Linear foot	7,800	\$40	\$312,000
Subtotal				\$963,000
Construction Contingency @ 15%				\$144,450
Subtotal				\$1,107,450
Sales Tax @ 7.5%				\$83,059
Subtotal				\$1,190,509
Admin., Survey, Design, Construction Man., and Inspection @ 30% of Construction Budget				\$332,235
Total Construction Cost				\$1,522,744

Estimated Operation and Maintenance Cost

<i>Item</i>	<i>Estimated Cost</i>	
Labor to Maintain Line 2 hr/wk*52 wks/yr*\$25/hr	\$2,600	
Materials/Equipment to Maintain Line 2% of Construction Cost/Year	\$14,560	
Labor to Maintain Lift Station 2 hr/day*260days/yr*\$25/hr	\$13,000	
Materials/Equipment to Maintain Lift Station 5% of Construction Cost/Year	\$5,750	
Power Cost @ \$0.025 per KWH .746 KWH/HP*7.5HP/pump*2pumps*2890hrs/yr*\$KWH	\$809	
Total Yearly Operation and Maintenance Cost		\$36,719

N. Pekin Rd. Area Main Line Extension Cost Estimate

Estimated Capital Construction Cost

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Estimated Cost</i>
12" PVC Line	Linear foot	5,000	\$75	\$375,000
Manholes (@ 350' intervals)	Each	15	\$4,000	\$60,000
Surface Restoration	Linear foot	5,300	\$40	\$212,000
Pump Station	Each	1	\$85,000	\$85,000
6" Force Main	Linear foot	300	\$40	\$12,000
			Subtotal	\$744,000
Construction Contingency @ 15%				\$111,600
			Subtotal	\$855,600
			Sales Tax @ 7.5%	\$64,170
			Subtotal	\$919,770
Admin., Survey, Design, Construction Man., and Inspection @ 30% of Construction Budget				\$256,680
			Total Construction Cost	\$1,176,450

Estimated Operation and Maintenance Cost

<i>Item</i>	<i>Estimated Cost</i>
Labor to Maintain Line 2 hr/wk*52 wks/yr*\$25/hr	\$2,600
Materials/Equipment to Maintain Line 2% of Construction Cost/Year	\$12,940
Labor to Maintain Pump Station 2 hr/day*260days/yr*\$25/hr	\$13,000
Materials/Equipment to Maintain Pump Station 5% of Construction Cost/Year	\$4,250
Power Cost @ \$0.025 per KWH .746 KWH/HP*5HP/pump*2pumps*2890hrs/yr*\$KWH	\$539
	Total Yearly Operation and Maintenance Cost
	\$33,329

Goerig Rd. Area Main Line Extension Cost Estimate

Estimated Capital Construction Cost

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Estimated Cost</i>
12" PVC Line	Linear foot	9,200	\$75	\$690,000
Manholes (@ 350' intervals)	Each	27	\$4,000	\$108,000
Lift Station (includes telemetry/alarm add-on)	Each	1	\$140,000	\$140,000
Surface Restoration	Linear foot	9,200	\$40	\$368,000
			Subtotal	\$1,306,000
Construction Contingency @ 15%				\$195,900
			Subtotal	\$1,501,900
			Sales Tax @ 7.5%	\$112,643
			Subtotal	\$1,614,543
Admin., Survey, Design, Construction Man., and Inspection @ 30% of Construction Budget				\$450,570
			Total Construction Cost	\$2,065,113

Estimated Operation and Maintenance Cost

<i>Item</i>	<i>Estimated Cost</i>
Labor to Maintain Line 2 hr/wk*52 wks/yr*\$25/hr	\$2,600
Materials/Equipment to Maintain Line 2% of Construction Cost/Year	\$23,320
Labor to Maintain Lift Station 2 hr/day*260days/yr*\$25/hr	\$13,000
Materials/Equipment to Maintain Lift Station 5% of Construction Cost/Year	\$7,000
Power Cost @ \$0.025 per KWH .746 KWH/HP*10HP/pump*2pumps*2890hrs/yr*\$KWH	\$1,078
	Total Yearly Operation and Maintenance Cost
	\$46,998

Horse Shoe Lake Area Main Line Extension Cost Estimate

Estimated Capital Construction Cost

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Estimated Cost</i>
12" PVC Line	Linear foot	7,500	\$75	\$562,500
Manholes (@ 350' intervals)	Each	22	\$4,000	\$88,000
Lift Station (includes telemetry/alarm add-on)	Each	1	\$115,000	\$115,000
Surface Restoration	Linear foot	7,500	\$40	\$300,000
			Subtotal	\$1,065,500
Construction Contingency @ 15%				\$159,825
			Subtotal	\$1,225,325
			Sales Tax @ 7.5%	\$91,899
			Subtotal	\$1,317,224
Admin., Survey, Design, Construction Man., and Inspection @ 30% of Construction Budget				\$367,598
			Total Construction Cost	\$1,684,822

Estimated Operation and Maintenance Cost

<i>Item</i>	<i>Estimated Cost</i>
Labor to Maintain Line 2 hr/wk*52 wks/yr*\$25/hr	\$2,600
Materials/Equipment to Maintain Line 2% of Construction Cost/Year	\$19,010
Labor to Maintain Lift Station 2 hr/day*260days/yr*\$25/hr	\$13,000
Materials/Equipment to Maintain Lift Station 5% of Construction Cost/Year	\$5,750
Power Cost @ \$0.025 per KWH .746 KWH/HP*7.5HP/pump*2pumps*2890hrs/yr*\$KWH	\$809
	Total Yearly Operation and Maintenance Cost
	\$41,169

East Woodland Area Main Line Extension Cost Estimate

Estimated Capital Construction Cost

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Estimated Cost</i>
12" PVC Line	Linear foot	1,400	\$75	\$105,000
Manholes (@ 350' intervals)	Each	4	\$4,000	\$16,000
Lift Station (includes telemetry/alarm add-on)	Each	1	\$74,000	\$74,000
Surface Restoration	Linear foot	1,400	\$40	\$56,000
			Subtotal	\$251,000
Construction Contingency @ 15%				\$37,650
			Subtotal	\$288,650
			Sales Tax @ 7.5%	\$21,649
			Subtotal	\$310,299
Admin., Survey, Design, Construction Man., and Inspection @ 30% of Construction Budget				\$86,595
			Total Construction Cost	\$396,894

Estimated Operation and Maintenance Cost

<i>Item</i>	<i>Estimated Cost</i>
Labor to Maintain Line 2 hr/wk*52 wks/yr*\$25/hr	\$2,600
Materials/Equipment to Maintain Line 2% of Construction Cost/Year	\$3,540
Labor to Maintain Lift Station 2 hr/day*260days/yr*\$25/hr	\$13,000
Materials/Equipment to Maintain Lift Station 5% of Construction Cost/Year	\$3,700
Power Cost @ \$0.025 per KWH .746 KWH/HP*5HP/pump*2pumps*2890hrs/yr*\$KWH	\$539
	Total Yearly Operation and Maintenance Cost
	\$23,379

Bozarth/Heights Rd. Area Main Line Extension Cost Estimate

Estimated Capital Construction Cost

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Estimated Cost</i>
12" PVC Line	Linear foot	3,200	\$75	\$240,000
Manholes (@ 350' intervals)	Each	10	\$4,000	\$40,000
Surface Restoration	Linear foot	3,200	\$40	\$128,000
			Subtotal	\$408,000
Construction Contingency @ 15%				\$61,200
			Subtotal	\$469,200
			Sales Tax @ 7.5%	\$35,190
			Subtotal	\$504,390
Admin., Survey, Design, Construction Man., and Inspection @ 30% of Construction Budget				\$140,760
			Total Construction Cost	\$645,150

Estimated Operation and Maintenance Cost

<i>Item</i>	<i>Estimated Cost</i>
Labor to Maintain Line 2 hr/wk*52 wks/yr*\$25/hr	\$2,600
Materials/Equipment to Maintain Line 2% of Construction Cost/Year	\$8,160
Total Yearly Operation and Maintenance Costs	\$10,760

Phase I - Improvements at Pump Station No. 4, and Force Main No. 3 Valve Vault Intertie.

Estimated Capital Construction Cost

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Estimated Cost</i>
<u><i>Pump Station No. 4</i></u>				
Abandon Existing Station	Lump Sum	1	\$7,500	\$7,500
New Pumps 2 @ 1650 gpm each (25HP)	Each	2	\$10,055	\$20,110
Variable Frequency Drives	Each	2	\$34,000	\$68,000
Wetwell Modifications	Lump Sum	1	\$30,000	\$30,000
Enclosure/Electrical Connections	Lump Sum	1	\$27,000	\$27,000
<u><i>Forcemain No. 3 Valve Vault Intertie</i></u>				
8-inch HDPE	Linear foot	170	\$35	\$5,950
Valve Vault	Each	1	\$20,000	\$16,215
Surface Restoration	Linear foot	170	\$35	\$5,950
			Subtotal	\$180,725
Construction Contingency @ 15%				\$27,109
			Subtotal	\$207,834
			Sales Tax @ 7.5%	\$15,588
			Subtotal	\$223,421
Admin., Survey, Design, Construction Man., and Inspection @ 30% of Construction Budget				\$62,350
			Total Construction Cost	\$285,771

Future Recommended Improvements - Pump Station No. 3 and Force Main No. 3 Reroute.

Pump Station No. 3

New Pumps 2 @ 1150 gpm each (25HP)	Each	2	\$10,000	\$20,000
Variable Frequency Drives	Each	2	\$29,000	\$58,000
Enclosure/Electrical Connections	Lump Sum	1	\$30,000	\$30,000

Forcemain No. 3 Re-route

8-inch HDPE	Linear foot	780	\$40	\$31,200
I-5 Bore Crossing	Linear foot	300	\$350	\$105,000
Lake Shore Drive Bore Crossing	Linear foot	60	\$150	\$9,000
Surface Restoration	Linear foot	780	\$40	\$31,200

Subtotal \$284,400

Construction Contingency @ 15% \$42,660

Subtotal \$327,060

Sales Tax @ 7.5% \$24,530

Subtotal \$351,590

Admin., Survey, Design, Construction Man., and
Inspection @ 30% of Construction Budget \$98,118

Total Construction Cost \$449,708

**Future Recommended Improvements - New Pumps for Pump Stations 1, 5, 6, 7,
and 10 Cost Estimate**

Estimated Capital Construction Cost

<i>Item</i>	<i>Unit</i>	<i>Quantity</i>	<i>Unit Price</i>	<i>Estimated Cost (with 15% Construction Contingency)</i>
PS 1 New Pumps (539 gpm, 7.5 HP)	Each	2	\$5,400	\$14,580
PS 5 New Pumps (281 gpm, 5 HP)	Each	2	\$3,000	\$8,100
PS 6 New Pumps (518 gpm, 7.5 HP)	Each	2	\$5,200	\$14,040
PS 7 New Pumps (405 gpm, 7.5 HP)	Each	2	\$4,200	\$11,340
PS 10 New Pumps (365 gpm, 5 HP)	Each	2	\$3,800	\$10,260
			Subtotal	\$58,320
			Sales Tax @ 7.5%	\$4,374
			Total Purchase Cost	\$62,694