

EIR ALTERNATIVES ANALYSIS  
OPINION OF PROBABLE PROJECT COSTS

Reviewed by:  
Christopher H. Neudeck, P.E.  
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SUMMARY OF ALL THREE ALTERNATIVE ALIGNMENTS

Item	Description	Alternative No. 1 Total Cost	Alternative No. 2 Total Cost	Alternative No. 3 Total Cost
<b>Design Phase</b>				
1.	Preliminary Design	\$375,000	\$375,000	\$375,000
2.	Program Management	\$709,000	\$709,000	\$709,000
3.	Design & Permitting	\$3,655,000	\$6,898,000	\$5,507,000
4.	Independent Review	\$300,000	\$300,000	\$300,000
5.	Financing	\$100,000	\$100,000	\$100,000
	Subtotals:	<b>\$5,139,000</b>	<b>\$8,382,000</b>	<b>\$6,991,000</b>
<b>Construction Phase</b>				
6.	Program Management	\$191,000	\$191,000	\$191,000
7.	Construction	\$18,275,000	\$34,486,000	\$27,535,000
8.	Construction Management	\$1,750,000	\$3,450,000	\$2,760,000
9.	Real Estate Acquisition	\$208,000	\$852,000	\$884,000
10.	Real Estate Contingency	\$121,000	\$426,000	\$442,000
11.	Public Outreach	\$50,000	\$50,000	\$50,000
12.	Environmental Mitigation	\$625,000	\$536,000	\$358,000
	Subtotals:	<b>\$21,220,000</b>	<b>\$39,991,000</b>	<b>\$32,220,000</b>
<b>PROJECT TOTALS:</b>		<b>\$26,359,000</b>	<b>\$48,373,000</b>	<b>\$39,211,000</b>

<b>Potential Water Quality Measures <sup>(1)</sup></b>				
1.	36" Culvert Pipes at Moering Road	\$30,000	\$30,000	\$30,000
2.	Dredging of Atherton Cove	\$1,400,000	\$1,400,000	\$1,400,000
3.	General Requirements	\$177,000	\$177,000	\$177,000
4.	Contingency	\$322,000	\$322,000	\$322,000
5.	Design & Permitting	\$386,000	\$386,000	\$386,000
6.	Construction Management	\$193,000	\$193,000	\$193,000
	Totals:	<b>\$2,508,000</b>	<b>\$2,508,000</b>	<b>\$2,508,000</b>

<b>Annual Expenses <sup>(2)</sup></b>				
1.	Operation & Maintenance	\$325,000 <i>per year</i>	\$400,000 <i>per year</i>	\$475,000 <i>per year</i>
2.	State Lands Lease	\$30,000 <i>per year</i>	\$90,000 <i>per year</i>	\$20,000 <i>per year</i>
	Totals:	<b>\$355,000</b> <i>per year</i>	<b>\$490,000</b> <i>per year</i>	<b>\$495,000</b> <i>per year</i>

Notes:

- (1) In addition to the project capital improvement costs described above, each Alternative also includes potential water quality measures that may be considered, if necessary.
- (2) In addition to the project capital improvement costs described above, each Alternative also includes recurring annual expenses consisting of Operation and Maintenance costs and required State Lands lease costs.
- (3) Additional technical input for this cost estimate has been provided by Peterson Brustad, Moffat and Nichol, ICF, and Power Engineering.

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**ALTERNATIVE ALIGNMENT NO. 1  
SINGLE GATE AT DAD'S POINT**

Item	Description	Quantity	Unit	Unit Cost	Total Cost
<b>General Requirements</b>					
1.	Mobilization	1	LS	1.50%	\$210,200
2.	Demobilization	1	LS	0.50%	\$69,400
3.	CPM Schedule and Updates (assume 18 mo. Const.)	1	LS	0.25%	\$34,600
4.	Shop Drawings and Special Conditions	1	LS	0.25%	\$34,600
5.	Temporary Facilities/Fencing/Offices/Site Security	1	LS	0.50%	\$69,400
6.	Record Documents	1	LS	0.10%	\$13,900
7.	Facilities Start-Up & Testing	1	LS	0.75%	\$104,300
8.	Tax (9.0% on materials)	1	LS	9.00%	\$621,100
9.	Bonding & Insurance	1	LS	3.00%	\$415,000
10.	Permitting (incl. SWPPP)	1	LS	1.00%	\$139,500
Subtotal:					<b>\$1,712,000</b>
<b>Site Preparation</b>					
11.	Demolition and Disposal	1	LS	\$50,000	\$50,000
12.	Site Clearing and Grubbing	30,515	SF	\$1	\$22,900
13.	Slope Stabilization and SWPPP Maintenance	1	LS	\$25,000	\$25,000
14.	Rough Grading over Dad's Point	3,391	SY	\$6	\$20,400
15.	8' Wrought Iron Fencing	100	LF	\$100	\$10,000
16.	16' Wide Rolling Gate	2	EA	\$6,600	\$13,200
17.	Import Fill	811	CY	\$17	\$13,800
18.	Engineered Fill (spread and compact)	811	CY	\$6	\$4,900
19.	Control Building Excavation and Benching	1	LS	\$148,500	\$148,500
20.	Trenching	593	CY	\$33	\$19,600
21.	Trench Shoring	1	LS	\$10,000	\$10,000
22.	Trench Backfill Aggregate	222	CY	\$25	\$5,600
23.	Trench Backfill Import Material	370	CY	\$15	\$5,600
24.	Utility Relocations	1	LS	\$120,000	\$120,000
25.	Bollards	4	EA	\$800	\$3,200
26.	Transformer Pad	2	CY	\$880	\$1,800
27.	Riprap (2.5' Thick)	203	CY	\$66	\$13,400
28.	Restore Dad's Point	1	LS	\$50,000	\$50,000
29.	Temporary Boat Launching Facilities	1	LS	\$100,000	\$100,000
30.	Spoils Hauling	4,978	CY	\$18	\$89,700
Subtotal:					<b>\$727,600</b>
<b>Gate Control Structure</b>					
31.	Sheet Pile Cofferdam	18,200	SF	\$60	\$1,092,000
32.	Dewatering	1	LS	\$70,000	\$70,000
33.	Dredging	920	CY	\$65	\$59,800
34.	Base Rock and Scour Protection	1,350	TN	\$51	\$68,900
35.	18" Octagonal Precast Piles	73	EA	\$6,000	\$438,000
36.	Reinforced Concrete	915	CY	\$1,400	\$1,281,000
37.	Hinged Gate	1	LS	\$2,360,000	\$2,360,000
38.	Hinged Gate Installation	1	LS	\$600,000	\$600,000
39.	Stoplogs	1	LS	\$205,000	\$205,000
40.	Mechanical	1	LS	\$180,000	\$180,000
41.	Miscellaneous, Dolphins, Signs	1	LS	\$270,000	\$270,000
Subtotal:					<b>\$6,624,700</b>
<b>Dual Sheet Pile Wall Closure</b>					
42.	Sheet Piling	55,540	SF	\$60	\$3,332,400
43.	Dredging	5,414	CY	\$53	\$287,000
44.	Walers	1,365	LF	\$30	\$41,000
45.	Anchor Rod Connections	35	EA	\$1,250	\$43,200
46.	Granular Fill	15,978	CY	\$75	\$1,198,400
47.	Granular Fill Hauling	15,978	CY	\$18	\$287,700
48.	Concrete Cap	75	CY	\$850	\$63,800
Subtotal:					<b>\$5,253,500</b>

**EIR ALTERNATIVES ANALYSIS  
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**ALTERNATIVE ALIGNMENT NO. 1  
SINGLE GATE AT DAD'S POINT**

Item	Description	Quantity	Unit	Unit Cost	Total Cost
<b>Dad's Point</b>					
49.	Sheet Piling	5,049	SF	\$60	\$303,000
50.	Excavation	167	CY	\$110	\$18,400
51.	Sheet Pile Concrete Cap	20	CY	\$900	\$18,000
52.	Drain Rock	167	CY	\$22	\$3,700
53.	6" PVC Drain Pipe	180	LF	\$22	\$4,000
54.	Cleanouts	5	EA	\$100	\$500
55.	Import Fill	4,500	CY	\$17	\$76,500
56.	Engineered Fill (spread and compact)	4,500	CY	\$6	\$27,000
57.	Concrete Floodwall	1,800	SF	\$15	\$27,000
58.	Parking Lot Repairs	4,000	SF	\$12	\$48,000
59.	Riprap	1,800	CY	\$66	\$118,800
60.	Remove / Abandon Ex. Pipe through Dad's Point	1	LS	\$15,000	\$15,000
Subtotal:					<b>\$659,900</b>
<b>Control Building</b>					
61.	Foundation Excavation	21	CY	\$125	\$2,700
62.	Concrete Slab	10	CY	\$880	\$8,800
63.	Building CMU Walls (10' High)	933	SF	\$50	\$46,700
64.	Roof Framing and Decking	473	SF	\$60	\$28,400
65.	Roofing	473	SF	\$44	\$20,900
66.	3'x8' Exterior Access Door	1	EA	\$1,950	\$2,000
67.	Louver	1	EA	\$1,650	\$1,700
68.	Vent	1	EA	\$1,650	\$1,700
69.	Painting and Protective Coatings (piping and equipment)	1	LS	\$4,500	\$4,500
70.	Building Anti-Graffiti Coating	1	LS	\$3,000	\$3,000
71.	Identification, Stenciling and Tagging System	1	LS	\$4,500	\$4,500
72.	Lighting	1	LS	\$4,500	\$4,500
73.	Misc. Electrical	1	LS	\$10,000	\$10,000
74.	Pipe Supports, Misc. Metal	1	LS	\$3,500	\$3,500
Subtotal:					<b>\$142,900</b>
<b>Equipment</b>					
75.	Electrical Power (480 Volt - 3 Phase)	1	LS	\$100,000	\$100,000
76.	Closed circuit TV security system	1	LS	\$50,000	\$50,000
77.	Scada System	1	LS	\$100,000	\$100,000
78.	Backup power generator	1	LS	\$125,000	\$125,000
79.	Switchboard/MCC	1	LS	\$7,500	\$7,500
80.	Misc. Instrumentation and Controls	1	LS	\$10,000	\$10,000
Subtotal:					<b>\$392,500</b>
CONSTRUCTION (LESS GENERAL REQUIREMENTS) SUBTOTAL:					\$13,802,000
ADD FOR GENERAL REQUIREMENTS:					\$1,712,000
SUBTOTAL:					\$15,514,000
CONTINGENCY (20%):					\$2,761,000
<b>CONSTRUCTION TOTAL:</b>					<b>\$18,275,000</b>

**Notes:**

- (1) This Opinion of Probable Construction Costs is based on the 30% Design plans prepared by HDR Engineering and dated January 29, 2010, with the following modifications: the design of the gate structure is based on a miter gate concept in lieu of the Obermeyer gate; the alignment of the proposed double sheet pile wall has been modified pursuant to Alternative 1A as per the Draft exhibit prepared by Kjeldsen, Sinnock & Neudeck, Inc. and dated May 2014; the proposed single sheet pile wall along east end of Dad's Point has been eliminated in favor of imported engineered fill and a concrete floodwall; and riprap has been added along the riverbank of both sides of Dad's Point.

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**ALTERNATIVE ALIGNMENT NO. 2  
LEVEE IMPROVEMENTS ALONG ATHERTON COVE**

Item	Description	Quantity	Unit	Unit Cost	Total Cost
<b>General Requirements</b>					
1.	Mobilization	1	LS	1.50%	\$396,600
2.	Demobilization	1	LS	0.50%	\$130,900
3.	CPM Schedule and Updates (assume 30 mo. Const.)	1	LS	0.25%	\$65,300
4.	Shop Drawings and Special Conditions	1	LS	0.25%	\$65,300
5.	Temporary Facilities/Fencing/Offices/Site Security	1	LS	0.50%	\$130,900
6.	Record Documents	1	LS	0.10%	\$26,100
7.	Facilities Start-Up & Testing	1	LS	0.75%	\$196,900
8.	Tax (9.0% on materials)	1	LS	9.00%	\$1,172,100
9.	Bonding & Insurance	1	LS	3.00%	\$782,000
10.	Permitting (incl. SWPPP)	1	LS	1.00%	\$263,100
Subtotal:					<b>\$3,229,200</b>
<b>Site Preparation</b>					
11.	Demolition and Disposal	1	LS	\$250,000	\$250,000
12.	Site Clearing and Grubbing	76,700	SF	\$1	\$57,600
13.	Slope Stabilization and SWPPP Maintenance	1	LS	\$75,000	\$75,000
14.	Rough Grading	8,520	SY	\$6	\$51,200
15.	16' Wide Rolling Gate	4	EA	\$6,600	\$26,400
16.	Import Fill	1,150	CY	\$17	\$19,600
17.	Engineered Fill (spread and compact)	1,150	CY	\$6	\$6,900
18.	Control Building Excavation and Benching	1	LS	\$74,250	\$74,300
19.	Trenching	240	CY	\$33	\$8,000
20.	Trench Shoring	1	LS	\$5,000	\$5,000
21.	Trench Backfill Aggregate	90	CY	\$25	\$2,300
22.	Trench Backfill Import Material	150	CY	\$15	\$2,300
23.	Utility Relocations	1	LS	\$360,000	\$360,000
24.	Bollards	4	EA	\$800	\$3,200
25.	Transformer Pad	2	CY	\$880	\$1,800
26.	AC Pavement at Moreing Road	75	TN	\$150	\$11,300
27.	Aggregate Base at Moreing Road	250	TN	\$30	\$7,500
28.	Pavement Striping at Moreing Road	420	LF	\$2	\$900
29.	Aggregate Base for Maintenance Access Road	120	TN	\$30	\$3,600
30.	Reconstruct Existing Drainage Discharge Pipes	1	LS	\$80,000	\$80,000
31.	Relocate Existing Dock	5	EA	\$20,000	\$100,000
32.	New Dock	5	EA	\$87,000	\$435,000
33.	Gangway	10	EA	\$15,000	\$150,000
34.	Restoration	1	LS	\$250,000	\$250,000
35.	Spoils Hauling	9,470	CY	\$18	\$170,500
Subtotal:					<b>\$2,152,400</b>
<b>Gate Control Structure</b>					
36.	Sheet Pile Cofferdam	18,200	SF	\$60	\$1,092,000
37.	Dewatering	1	LS	\$70,000	\$70,000
38.	Dredging	920	CY	\$65	\$59,800
39.	Base Rock and Scour Protection	1,350	TN	\$51	\$68,900
40.	18" Octagonal Precast Piles	73	EA	\$6,000	\$438,000
41.	Reinforced Concrete	915	CY	\$1,400	\$1,281,000
42.	Hinged Gate	1	LS	\$2,360,000	\$2,360,000
43.	Hinged Gate Installation	1	LS	\$600,000	\$600,000
44.	Stoplogs	1	LS	\$205,000	\$205,000
45.	Mechanical	1	LS	\$180,000	\$180,000
46.	Miscellaneous, Dolphins, Signs	1	LS	\$270,000	\$270,000
Subtotal:					<b>\$6,624,700</b>

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ALTERNATIVE ALIGNMENT NO. 2  
LEVEE IMPROVEMENTS ALONG ATHERTON COVE

Item	Description	Quantity	Unit	Unit Cost	Total Cost
<b>Dual Sheet Pile Wall Closure</b>					
47.	Sheet Piling	14,600	SF	\$60	\$876,000
48.	Dredging	1,620	CY	\$53	\$85,900
49.	Walers	354	LF	\$30	\$10,700
50.	Anchor Rod Connections	10	EA	\$1,250	\$12,500
51.	Granular Fill	5,260	CY	\$75	\$394,500
52.	Granular Fill Hauling	5,260	CY	\$18	\$94,700
53.	Concrete Cap	25	CY	\$850	\$21,300
Subtotal:					<b>\$1,495,600</b>
<b>Dual Sheet Pile Flood Wall</b>					
54.	Sheet Piling	172,000	SF	\$60	\$10,320,000
55.	Dredging	7,780	CY	\$53	\$412,400
56.	Walers	4,200	LF	\$30	\$126,000
57.	Anchor Rod Connections	106	EA	\$1,250	\$132,500
58.	Granular Fill	19,300	CY	\$75	\$1,447,500
59.	Granular Fill Hauling	19,300	CY	\$18	\$347,400
60.	Filter Fabric	4,670	SY	\$5	\$23,400
61.	Import Fill	30,200	CY	\$17	\$513,400
62.	Engineered Fill (spread and compact)	30,200	CY	\$6	\$181,200
63.	Concrete Cap	233	CY	\$850	\$198,100
64.	Metal Railing	2,100	LF	\$40	\$84,000
65.	Turf Block All-Weather Road	42,000	SF	\$25	\$1,050,000
66.	Aggregate Base for Turf Block	1,560	TN	\$30	\$46,800
67.	Landscaping	88,700	SF	\$2	\$177,400
68.	Irrigation	88,700	SF	\$2	\$177,400
Subtotal:					<b>\$15,237,500</b>
<b>Control Building</b>					
69.	Foundation Excavation	21	CY	\$125	\$2,700
70.	Concrete Slab	10	CY	\$880	\$8,800
71.	Building CMU Walls (10' High)	933	SF	\$50	\$46,700
72.	Roof Framing and Decking	473	SF	\$60	\$28,400
73.	Roofing	473	SF	\$44	\$20,900
74.	3'x8' Exterior Access Door	1	EA	\$1,950	\$2,000
75.	Louver	1	EA	\$1,650	\$1,700
76.	Vent	1	EA	\$1,650	\$1,700
77.	Painting and Protective Coatings (piping and equipment)	1	LS	\$4,500	\$4,500
78.	Building Anti-Graffiti Coating	1	LS	\$3,000	\$3,000
79.	Identification, Stenciling and Tagging System	1	LS	\$4,500	\$4,500
80.	Lighting	1	LS	\$4,500	\$4,500
81.	Misc. Electrical	1	LS	\$10,000	\$10,000
82.	Pipe Supports, Misc. Metal	1	LS	\$3,500	\$3,500
Subtotal:					<b>\$142,900</b>
<b>Equipment</b>					
83.	Electrical Power (480 Volt - 3 Phase)	1	LS	\$100,000	\$100,000
84.	Closed circuit TV security system	1	LS	\$50,000	\$50,000
85.	Scada System	1	LS	\$100,000	\$100,000
86.	Backup power generator	1	LS	\$125,000	\$125,000
87.	Switchboard/MCC	1	LS	\$7,500	\$7,500
88.	Misc. Instrumentation and Controls	1	LS	\$10,000	\$10,000
Subtotal:					<b>\$392,500</b>
CONSTRUCTION (LESS GENERAL REQUIREMENTS) SUBTOTAL:					\$26,046,000
ADD FOR GENERAL REQUIREMENTS:					\$3,230,000
SUBTOTAL:					\$29,276,000
CONTINGENCY (20%):					\$5,210,000
<b>CONSTRUCTION TOTAL:</b>					<b>\$34,486,000</b>

(1) This Opinion of Probable Construction Costs is based on the Draft EIR Alternatives Analysis prepared by Kjeldsen, Sinnock & Neudeck, Inc. and dated March 2014. The design of the gate structure is based on a miter gate concept in lieu of the Obermeyer gate.

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**ALTERNATIVE ALIGNMENT NO. 3  
TWO GATES ON EACH SIDE OF ATHERTON ISLAND**

Item	Description	Quantity	Unit	Unit Cost	Total Cost
<b>General Requirements</b>					
1.	Mobilization	1	LS	1.50%	\$316,700
2.	Demobilization	1	LS	0.50%	\$104,500
3.	CPM Schedule and Updates (assume 18 mo. Const.)	1	LS	0.25%	\$52,200
4.	Shop Drawings and Special Conditions	1	LS	0.25%	\$52,200
5.	Temporary Facilities/Fencing/Offices/Site Security	1	LS	0.50%	\$104,500
6.	Record Documents	1	LS	0.10%	\$20,900
7.	Facilities Start-Up & Testing	1	LS	0.75%	\$157,200
8.	Tax (9.0% on materials)	1	LS	9.00%	\$935,900
9.	Bonding & Insurance	1	LS	3.00%	\$624,000
10.	Permitting (incl. SWPPP)	1	LS	1.00%	\$210,100
Subtotal:					<b>\$2,578,200</b>
<b>Site Preparation</b>					
11.	Demolition and Disposal	1	LS	\$50,000	\$50,000
12.	Site Clearing and Grubbing	59,800	SF	\$1	\$44,900
13.	Slope Stabilization and SWPPP Maintenance	1	LS	\$25,000	\$25,000
14.	Rough Grading	6,650	SY	\$6	\$39,900
15.	16' Wide Rolling Gate	4	EA	\$6,600	\$26,400
16.	Import Fill	240	CY	\$17	\$4,100
17.	Engineered Fill (spread and compact)	240	CY	\$6	\$1,500
18.	Control Building Excavation and Benching	1	LS	\$148,500	\$148,500
19.	Trenching	680	CY	\$33	\$22,500
20.	Trench Shoring	1	LS	\$10,000	\$10,000
21.	Trench Backfill Aggregate	260	CY	\$25	\$6,500
22.	Trench Backfill Import Material	420	CY	\$15	\$6,300
23.	Utility Relocations	1	LS	\$120,000	\$120,000
24.	Bollards	8	EA	\$800	\$6,400
25.	Transformer Pad	4	CY	\$880	\$3,600
26.	Aggregate Base for Maintenance Access Road	280	TN	\$30	\$8,400
27.	Restoration	1	LS	\$50,000	\$50,000
28.	Spoils Hauling	5,290	CY	\$18	\$95,300
Subtotal:					<b>\$669,300</b>
<b>Gate Control Structure</b>					
29.	Sheet Pile Cofferdam	36,400	SF	\$60	\$2,184,000
30.	Dewatering	1	LS	\$140,000	\$140,000
31.	Dredging	1,840	CY	\$65	\$119,600
32.	Base Rock and Scour Protection	2,700	TN	\$51	\$137,700
33.	18" Octagonal Precast Piles	146	EA	\$6,000	\$876,000
34.	Reinforced Concrete	1,830	CY	\$1,400	\$2,562,000
40.	Hinged Gate	1	LS	\$4,720,000	\$4,720,000
41.	Hinged Gate Installation	1	LS	\$1,200,000	\$1,200,000
42.	Stoplogs	1	LS	\$410,000	\$410,000
43.	Mechanical	1	LS	\$360,000	\$360,000
44.	Miscellaneous, Dolphins, Signs	1	LS	\$540,000	\$540,000
Subtotal:					<b>\$13,249,300</b>
<b>Dual Sheet Pile Wall Closure</b>					
45.	Sheet Piling	34,800	SF	\$60	\$2,088,000
46.	Dredging	3,490	CY	\$53	\$185,000
47.	Walers	848	LF	\$30	\$25,500
48.	Anchor Rod Connections	22	EA	\$1,250	\$27,500
49.	Granular Fill	11,100	CY	\$75	\$832,500
50.	Granular Fill Hauling	11,100	CY	\$18	\$199,800
51.	Concrete Cap	52	CY	\$850	\$44,200
Subtotal:					<b>\$3,402,500</b>

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**ALTERNATIVE ALIGNMENT NO. 3  
TWO GATES ON EACH SIDE OF ATHERTON ISLAND**

Item	Description	Quantity	Unit	Unit Cost	Total Cost
<b>Dual Sheet Pile Wall for Maintenance Access</b>					
52.	Sheet Piling	26,200	SF	\$60	\$1,572,000
53.	Dredging	1,730	CY	\$53	\$91,700
54.	Walers	640	LF	\$30	\$19,200
55.	Anchor Rod Connections	16	EA	\$1,250	\$20,000
56.	Granular Fill	4,180	CY	\$75	\$313,500
57.	Granular Fill Hauling	4,180	CY	\$18	\$75,300
58.	Filter Fabric	710	SY	\$5	\$3,600
59.	Import Fill	3,540	CY	\$17	\$60,200
60.	Engineered Fill (spread and compact)	3,540	CY	\$6	\$21,300
61.	Concrete Cap	36	CY	\$850	\$30,600
62.	Metal Railing	320	LF	\$40	\$12,800
63.	Turf Block All-Weather Road	6,300	SF	\$25	\$157,500
64.	Aggregate Base for Turf Block	240	TN	\$30	\$7,200
65.	Landscaping	4,770	SF	\$2	\$9,600
66.	Irrigation	4,770	SF	\$2	\$9,600
Subtotal:					<b>\$2,404,100</b>
<b>Control Building</b>					
67.	Foundation Excavation	42	CY	\$125	\$5,300
68.	Concrete Slab	20	CY	\$880	\$17,600
69.	Building CMU Walls (10' High)	1,866	SF	\$50	\$93,300
70.	Roof Framing and Decking	946	SF	\$60	\$56,800
71.	Roofing	946	SF	\$44	\$41,700
72.	3'x8' Exterior Access Door	2	EA	\$1,950	\$3,900
73.	Louver	2	EA	\$1,650	\$3,300
74.	Vent	2	EA	\$1,650	\$3,300
75.	Painting and Protective Coatings (piping and equipment)	1	LS	\$9,000	\$9,000
76.	Building Anti-Graffiti Coating	1	LS	\$6,000	\$6,000
77.	Identification, Stenciling and Tagging System	1	LS	\$9,000	\$9,000
78.	Lighting	1	LS	\$9,000	\$9,000
79.	Misc. Electrical	1	LS	\$20,000	\$20,000
80.	Pipe Supports, Misc. Metal	1	LS	\$7,000	\$7,000
Subtotal:					<b>\$285,200</b>
<b>Equipment</b>					
81.	Electrical Power (480 Volt - 3 Phase)	1	LS	\$200,000	\$200,000
85.	Closed circuit TV security system	1	LS	\$100,000	\$100,000
86.	Scada System	1	LS	\$200,000	\$200,000
87.	Backup power generator	1	LS	\$250,000	\$250,000
88.	Switchboard/MCC	1	LS	\$15,000	\$15,000
91.	Misc. Instrumentation and Controls	1	LS	\$20,000	\$20,000
Subtotal:					<b>\$785,000</b>
CONSTRUCTION (LESS GENERAL REQUIREMENTS) SUBTOTAL:					\$20,796,000
ADD FOR GENERAL REQUIREMENTS:					\$2,579,000
SUBTOTAL:					\$23,375,000
CONTINGENCY (20%):					\$4,160,000
<b>CONSTRUCTION TOTAL:</b>					<b>\$27,535,000</b>

- (1) This Opinion of Probable Construction Costs is based on the Draft EIR Alternatives Analysis prepared by Kjeldsen, Sinnock & Neudeck, Inc. and dated March 2014. The design of the gate structure is based on a miter gate concept in lieu of the Obermeyer gate.

EIR ALTERNATIVES ANALYSIS  
 OPINION OF PROBABLE REAL ESTATE ACQUISITION COSTS

Item	Description	Unit	Unit Cost	Alternative No. 1		Alternative No. 2		Alternative No. 3	
				Qty	Total Cost	Qty	Total Cost	Qty	Total Cost
<b>Real Estate Acquisition</b>									
1.	Easement Acquisition (privately-owned parcels)	AC	\$400,000	0.17	\$68,000	0.75	\$300,000	1.16	\$464,000
2.	Easement Acquisition (City-owned parcels)	AC	\$5,000	2.46	\$12,300	0.95	\$4,800	1.12	\$5,600
3.	Real Estate Planning and Preparation of maps, plats, legal descriptions, etc.	EA	\$15,000	5	\$75,000	22	\$330,000	10	\$150,000
4.	Legal Fees (% of privately-owned parcels)	LS	25.00%	1	\$17,000	1	\$75,000	1	\$116,000
				Subtotals:	<b>\$172,300</b>		<b>\$709,800</b>		<b>\$735,600</b>
SUBTOTALS:					\$173,000		\$710,000		\$736,000
CONTINGENCY (20%):					\$35,000		\$142,000		\$148,000
<b>REAL ESTATE ACQUISITION TOTALS:</b>					<b>\$208,000</b>		<b>\$852,000</b>		<b>\$884,000</b>

