

# Metro East Sanitary District Authorized Level Project Cost Estimate

Preliminary Design Phase

Prepared for



Prepared by



**August 13, 2015**

## 1. Cost Estimate

### Total Cost

Based primarily of previous bid line items from over a dozen local contractors, preliminary construction cost estimates have been developed for each of the recommended bid packages. For cost estimating purposes, a higher contingency of 10%-20% was applied toward cost line items that experienced higher fluctuations in the previous bid line items. These estimates are preliminary, and represent a planning level estimate. The total construction cost at this time is \$51,247,390.

A total of \$15,613,968 is included in the Amec Foster Wheeler estimate that represents costs associated with land/easements/rights of way, wetland mitigation, any unforeseen cultural/archeological impacts, and relief wells in areas of hazardous waste were not accounted for in the USACE estimate. This total of \$15,613,968 is not included in the work-in-kind limit of \$36,300,000. The Amec Foster Wheeler estimate, less the necessary conveyance systems (\$2,744,500) and the \$15,613,968 not applied to the work-in-kind limit, results in a cost of \$32,888,922 versus the USACE estimated cost of \$36,300,000.

To date, the USACE has not provided a cost for review and oversight of the improvements included in the recommended plan. A revised version of this report will be issued when those costs become available.

### Development of Bid Packages

Amec Foster Wheeler has reviewed the USACE decision segments and has determined that four construction bid packages will appropriately subdivide the decision segments. By splitting the work into four bid packages, the FPD Council has the ability to cancel any one bid package if the remaining bid package(s) approach the work-in-kind credit contribution limit of \$36,300,000. While there is nothing stopping the FPD Council from constructing improvements in excess of \$36,300,000, the USACE will require Section 408 approval for any work over and above the \$36,300,000 limit, whereas any work done as work-in-kind, as agreed upon in the final IDR, which is still in development, does not require Section 408 approval. The four bid packages have been named Bid Package 11, 12, 13, and 14, a continuation of the numbering from Amec Foster Wheeler's Certification Design. The packages were divided mainly by which wells are tributary to which pump station. The resultant bid packages are as follows:

- ▶ Bid Package 11 is comprised of ten USACE decision segments and spans from Levee Station 255+90 to 913+30, minus the Chain of Rocks system. This package includes the construction of 150 relief wells, 144 of which are tributary to existing a/an existing pump station(s) and 5 of which drain naturally.
- ▶ Bid Package 12 is comprised of five USACE decision segments and spans from Levee Station 929+80 to 1051+90. This package includes the construction of a new pump station, between Stations 987+50 to 1018+90, and 50 relief wells, 45 of which are tributary to an existing or newly proposed pump station, and 5 of which drain naturally.
- ▶ Bid Package 13 is comprised of ten USACE decision segments and spans from Levee Station 1065+10 to 1497+40. This package includes the construction of a new lift station, between Stations 1144+30 and 1180+60, and 106 relief wells, 84 of which are tributary to an existing pump station or newly proposed lift station, and 22 of which drain naturally.
- ▶ Bid Package 14 is comprised of eleven USACE decision segments and spans from Levee Station 45+60 to 972+70. This package consists of all earthwork which includes 8 seepage berms, 1 fill area, and a clay cap spanning from Station 824+20 to 860+60.

## Appendix 1 – Preliminary Cost Estimate

## MESD Quantities & Cost Summary

Item #	Cost Item	Unit	Unit Cost	Contingency	Quantity	Total
1	Cultural / Archeological (Unforeseen) Impacts Cost	LS	\$ 50,000.00	20%	4	240,000
2	ROW Acquisition - Uniform Federal Relocation Costs	AC	\$ 30,000.00	20%	160	5,760,000
3	Wetland Mitigation	AC	\$ 35,000.00	20%	25	1,050,000
4	Mobilization (% varies)	LS	\$ 454,000.00	10%	4	1,997,600
5	Clear & Grub - Light Vegetation	AC	\$ 3,840.00	20%	10	46,080
6	Utility Relocation - Miscellaneous Additional Relocation Costs	LS	\$ 150,000.00	20%	4	720,000
7	Dewatering (5 to 15 feet)	LF	\$ 350.00	20%	5,050	2,121,000
8	Manhole - Complete (48-Inch Diameter)	EA	\$ 3,500.00	5%	88	323,400
9	Manhole - Complete (60-Inch Diameter)	EA	\$ 3,750.00	5%	14	55,125
10	Relief Well - Existing - Abandon	EA	\$ 4,000.00	5%	312	1,310,400
11	Relief Well - New - Type "D"	VF	\$ 575.00	5%	26,500	15,999,375
12	Relief Well - New - Type "T"	VF	\$ 600.00	5%	4,000	2,520,000
13	Relief Well - New - Hazardous Waste Premium	EA	\$ 74,340.00	20%	96	8,563,968
14	Pipe - 12-Inch RCP Pipe	LF	\$ 60.00	10%	3,900	257,400
16	Pipe - 18-Inch RCP Pipe	LF	\$ 65.00	10%	600	42,900
18	Pipe - 24-Inch RCP Pipe	LF	\$ 70.00	10%	7,400	569,800
20	Pipe - 36-Inch RCP Pipe	LF	\$ 120.00	10%	7,700	1,016,400
21	Pipe - 14-Inch DI Forcemain Pipe	LF	\$ 260.00	10%	3,000	858,000
22	Air Release Valves	EA	\$ 3,000.00	10%	6	19,800
23	Pump Station (987+50 to 1018+90) - 32 MGD	CY	\$ 1,350,000.00	20%	1	1,620,000
24	Lift Station - (1144+30 to 1080+60) - 4.5 MGD	LS	\$ 750,000.00	20%	1	900,000
25	Clay Cap	CY	\$ 25.00	5%	7,000	183,750
26	Seepage Berm Material	CY	\$ 20.00	20%	201,103	4,826,480
27	Fill Material (Random Fill)	CY	\$ 15.00	5%	11,042	173,912
28	Seeding	AC	\$ 2,000.00	20%	30	72,000
32	Sub-Total					\$ 51,247,390
33	Construction Estimate					\$ 51,247,390

## Bid Package #11

Item #	Cost Item	Unit	Unit Cost	Contingency	Quantity	Total
1	Cultural / Archeological (Unforeseen) Impacts Cost	LS	\$ 50,000.00	20%	1	\$ 60,000
2	ROW Acquisition - Uniform Federal Relocation Costs	AC	\$ 30,000.00	20%	40	\$ 1,440,000
3	Wetland Mitigation	AC	\$ 35,000.00	20%	5	\$ 210,000
4	Mobilization (% varies)	LS	\$ 454,000.00	10%	1	\$ 499,400
6	Utility Relocation - Miscellaneous Additional Relocation Costs	LS	\$ 150,000.00	20%	1	\$ 180,000
7	Dewatering (5 to 15 feet)	LF	\$ 350.00	20%	1,600	\$ 672,000
8	Manhole - Complete (48-Inch Diameter)	EA	\$ 3,500.00	5%	14	\$ 51,450
10	Relief Well - Existing - Abandon	EA	\$ 4,000.00	5%	107	\$ 449,400
11	Relief Well - New - Type "D"	VF	\$ 575.00	5%	13,800	\$ 8,331,750
12	Relief Well - New - Type "T"	VF	\$ 600.00	5%	1,100	\$ 693,000
14	Pipe - 12-Inch RCP Pipe	LF	\$ 60.00	10%	1,100	\$ 72,600
20	Pipe - 36-Inch RCP Pipe	LF	\$ 120.00	10%	5,300	\$ 699,600
28	Seeding	AC	\$ 2,000.00	20%	5	\$ 12,000
32	Sub-Total					\$ 13,371,200
33	Construction Estimate					\$ 13,371,200

## Bid Package #12

Item #	Cost Item	Unit	Unit Cost	Contingency	Quantity	Total
1	Cultural / Archeological (Unforeseen) Impacts Cost	LS	\$ 50,000.00	20%	1	\$ 60,000
2	ROW Acquisition - Uniform Federal Relocation Costs	AC	\$ 30,000.00	20%	40	\$ 1,440,000
3	Wetland Mitigation	AC	\$ 35,000.00	20%	5	\$ 210,000
4	Mobilization (% varies)	LS	\$ 454,000.00	10%	1	\$ 499,400
6	Utility Relocation - Miscellaneous Additional Relocation Costs	LS	\$ 150,000.00	20%	1	\$ 180,000
7	Dewatering (5 to 15 feet)	LF	\$ 350.00	20%	1,625	\$ 682,500
8	Manhole - Complete (48-Inch Diameter)	EA	\$ 3,500.00	5%	53	\$ 194,775
10	Relief Well - Existing - Abandon	EA	\$ 4,000.00	5%	8	\$ 33,600
11	Relief Well - New - Type "D"	VF	\$ 575.00	5%	4,500	\$ 2,716,875
12	Relief Well - New - Type "T"	VF	\$ 600.00	5%	500	\$ 315,000
14	Pipe - 12-Inch RCP Pipe	LF	\$ 60.00	10%	900	\$ 59,400
18	Pipe - 24-Inch RCP Pipe	LF	\$ 70.00	10%	5,600	\$ 431,200
23	Pump Station (987+50 to 1018+90) - 32 MGD	LS	\$ 1,350,000.00	20%	1	\$ 1,620,000
28	Seeding	AC	\$ 2,000.00	20%	5	\$ 12,000
32	Sub-Total					\$ 8,454,750
33	Construction Estimate					\$ 8,454,750

## Bid Package #13

Item #	Cost Item	Unit	Unit Cost	Contingency	Quantity	Total
1	Cultural / Archeological (Unforeseen) Impacts Cost	LS	\$ 50,000.00	20%	1	\$ 60,000
2	ROW Acquisition - Uniform Federal Relocation Costs	AC	\$ 30,000.00	20%	40	\$ 1,440,000
3	Wetland Mitigation	AC	\$ 35,000.00	20%	5	\$ 210,000
4	Mobilization (% varies)	LS	\$ 454,000.00	10%	1	\$ 499,400
6	Utility Relocation - Miscellaneous Additional Relocation Costs	LS	\$ 150,000.00	20%	1	\$ 180,000
7	Dewatering (5 to 15 feet)	LF	\$ 350.00	20%	1,825	\$ 766,500
8	Manhole - Complete (48-Inch Diameter)	EA	\$ 3,500.00	5%	21	\$ 77,175
9	Manhole - Complete (60-Inch Diameter)	EA	\$ 3,750.00	5%	14	\$ 55,125
10	Relief Well - Existing - Abandon	EA	\$ 4,000.00	5%	197	\$ 827,400
11	Relief Well - New - Type "D"	VF	\$ 575.00	5%	8,200	\$ 4,950,750
12	Relief Well - New - Type "T"	VF	\$ 600.00	5%	2,400	\$ 1,512,000
13	Relief Well - New - Hazardous Waste Premium	EA	\$ 74,340.00	20%	96	\$ 8,563,968
14	Pipe - 12-Inch RCP Pipe	LF	\$ 60.00	10%	1,900	\$ 125,400
16	Pipe - 18-Inch RCP Pipe	LF	\$ 65.00	10%	600	\$ 42,900
18	Pipe - 24-Inch RCP Pipe	LF	\$ 70.00	10%	1,800	\$ 138,600
20	Pipe - 36-Inch RCP Pipe	LF	\$ 120.00	10%	2,400	\$ 316,800
21	Pipe - 14-Inch DI FORCEMAIN PIPE	LF	\$ 260.00	10%	3,000	\$ 858,000
22	Air Release Valves	EA	\$ 3,000.00	10%	6	\$ 19,800
24	Lift Station - (1144+30 to 1080+60) - 4.5 MGD	LS	\$ 750,000.00	20%	1	\$ 900,000
28	Seeding	AC	\$ 2,000.00	20%	5	\$ 12,000
32	Sub-Total					\$ 21,555,818
33	Construction Estimate					\$ 21,555,818

## Bid Package #14

Item #	Cost Item	Unit	Unit Cost	Contingency	Quantity	Total
1	Cultural / Archeological (Unforeseen) Impacts Cost	LS	\$ 50,000.00	20%	1	\$ 60,000
2	ROW Acquisition - Uniform Federal Relocation Costs	AC	\$ 30,000.00	20%	40	\$ 1,440,000
3	Wetland Mitigation	AC	\$ 35,000.00	20%	10	\$ 420,000
4	Mobilization (% varies)	LS	\$ 454,000.00	10%	1	\$ 499,400
5	Clear & Grub - Light Vegetation	AC	\$ 3,840.00	20%	10	\$ 46,080
6	Utility Relocation - Miscellaneous Additional Relocation Costs	LS	\$ 150,000.00	20%	1	\$ 180,000
25	Clay Cap	CY	\$ 25.00	5%	7,000	\$ 183,750
26	Seepage Berm Material	CY	\$ 20.00	20%	201,103	\$ 4,826,480
27	Fill Material (Random Fill)	CY	\$ 15.00	5%	11,042	\$ 173,912
28	Seeding	AC	\$ 2,000.00	20%	15	\$ 36,000
32	Sub-Total					\$ 7,865,622
33	Construction Estimate					\$ 7,865,622