

Olentangy-Scioto Interceptor Sewer (OSIS) Augmentation & Relief Sewer – OARS

MODIFICATION NO. 3

SCOPE OF SERVICES

Implementation of a Submersible Pump Station, Surge Control Concepts, and Two Phases of Construction Contracts

PURPOSE OF MODIFICATION:

The purpose of this Modification (#3) is to complete final design engineering services associated with implementing significant revisions to the design concept. Modification #1 authorized the completion of a new Design Report to fully evaluate the deep tunnel alternative. Modification #2 authorized the final design of the OARS deep tunnel facilities. Contingency funds were utilized to revise the alignment to the Moler Street Regulator side of the river, to complete the VE Workshop, and to complete the Surge Analysis. This Modification (#3) will allow for revision to the design scope to incorporate the recommendations of the Value Engineering Workshop, design modifications from the Surge Analysis, modifications based upon subsequent reviews, and implementing a two-phased construction contract approach for the project.

1. A Value Engineering Study was completed, reviewing all of the potential construction alternatives, and was submitted in October 2008. DLZ provided the City with recommendations on which VE suggestions should be implemented. It was concluded that the following significant revisions or additions would be made to the design scope:
 - Combine the pump station and flow diversion structure into a single shaft. Eliminate the dry well through the use of submersible pumps.
 - Eliminate Shaft 7 (at Spring Street) will be eliminated from the project.
 - Continue to involve WWTP operational staff and obtain their input for risk reduction.
 - Perform a Monte Carlo Probability Analysis on estimate and schedule.

These proposed design changes were estimated to result in construction cost savings to the City in the amount of \$33,143,426.62 (in 2012 dollars).

2. OARS Surge Analysis recommendations (submitted February 2009) included the following significant revisions and additions to the design scope:
 - Increase the diameter of the OARS tunnel to a 20-foot finished diameter.
 - Incorporate a surge overflow chamber and adequate ventilation at each shaft will.
 - Incorporate two 10-foot by 10-foot gates from each Relief Structure outlet leading to the tangential inlet structures.
 - Modify each Approach Channel and Tangential Inlet structure to eliminate the screens and

provide overflow channels that also lead to the drop shaft without being forced through the tangential inlet.

3. The 60% Plan Review Workshop was held during the week of April 27 through May 1, 2009. It was concluded that the following significant revisions or additions would be made to the design scope:
 - Eliminate the Pump Service Building, which is located above Shaft 1.
 - Combine the East Gate Chamber with the River Outfall Structure.
 - CCTV the OSIS in each of the Relief Structure locations to verify the existing conditions.
 - Evaluate the electrical service needs for both the OARS construction and the OARS pump and screen operation, along with the Jackson Pike service requirements, to determine if new dedicated service lines are required. A technical memorandum will be provided summarizing the findings and providing recommendations.
 - The City requested that DLZ provide a technical memorandum on RTC with recommendations. This modification will incorporate gates, on-site controls, flow/level sensing equipment, and the capability to be upgraded to an RTC system with remote monitoring and controls.
 - In-line gates will be installed within the Relief Structure at Shaft 7 (at Neil Avenue; pending cost confirmation). The capability to install gates within the Relief Structure at Shaft 5 (at Whittier Street) will be incorporated into the design. The Relief Structure at Shaft 6 (at Short Street) will not ever have gates within the structure, so the channels will be eliminated. Subsequently, the structure will be made narrower and shorter.
4. Surge Analysis Update: Each shaft in the 60% submittal was designed to incorporate a surge overflow chamber and adequate ventilation to ensure that the system could handle the 10-year flow event. However, many of the surge facilities are not required to meet the “typical” year flow event mandated in the Consent Order. At the City’s request, additional model alternatives and levels of service were evaluated and summarized in a Technical Memorandum. The following significant revisions or additions will be made to the design:
 - Eliminate Shaft 3. This requires that equipment access be provided upstream of the screens in Shaft 2, which requires minor modifications to the structures and building at the Shaft 2 OSS. The planned ventilation blower (virtual stack) will need to be installed at Shaft 4 instead to ventilate the lower half of the OARS tunnel.
 - Eliminate the surge structure at Shaft 4. The finished shaft will consist of a 10-foot drop shaft that can be used for access. Eliminate the approach channel, isolation gate, and 72-inch stub for the future Moler Street Overflow Interceptor (MSOI).
 - Decrease the size of the surge structure at Shaft 6. The finished shaft will consist of a 16-foot diameter drop shaft that can be used for access, within a 30’ diameter finished surge chamber shaft. However, the surge shaft depth will be decreased. Instead of extending all the way down to the tunnel level, it will only extend down into rock at a finished elevation of approximately 640.0.
5. Site Development Issues / Acquisition Coordination:
 - Developing the sites at Shaft 6 (Short Street) and Shaft 7 (Neil Avenue) requires coordination with the odor control project, the City’s Fleet Management group, public stakeholders, and area commissions. The approval of a Site Compliance Plan will be required. It is anticipated that a

minimum of 8 meetings will be required (for each site – 1 public meeting, 1 stakeholder meeting, and 2 area commission meetings).

- The evaluation of detention and water quality BMPs for the JP site will be required per the City's storm manual.
 - Additional land acquisition coordination has been requested (court ordered deposition, support documentation, tunneling impact information, etc.).
 - The current base mapping data in the Inland Products area are based upon the aerial survey completed in 2005. An area at the Jackson Pike Site encompassing approximately 9.2 acres (1,000' by 400') has been getting filled. Consequently, additional field survey will be required to incorporate the new ground surface contours and elevations into the plans.
6. Berliner Park Sewer Improvements: In order to incorporate recommendations of the City of Columbus, EMH&T provided an updated scope of services. The revised design components include the relocation of the sanitary pump station, selection of new pumps for the stormwater pump station, hydraulic modeling to optimize the operation and sizing of the stormwater pump station, structural design of pump station wet wells for both sanitary and stormwater pump stations, inclusion of a pump station control building, addition of water service to the pump station campus, addition of control gates, and additional geotechnical investigations (DLZ). Additional design coordination activities, including attending meetings, responding to technical questions, a site compliance plan, and hydraulic modeling updates will also be required. EMH&T's draft scope revisions and costs are attached.
7. The City has requested that the OARS project be split into two construction contracts. A meeting was held on August 4, 2009 to discuss several potential options. The agreed upon split generally encompasses the following breakdown:
- Phase #1 will include Shaft 1 up to the top slab above the ODS structure, Shaft 2 up to and including the OSS building and screen equipment, all of the preliminary JP site work, the tunnel, Shaft 6 with the associated tangential inlet and OSIS Relief Structure, and all of the final site work and restoration at both the JP site and the Shaft 6 site.
 - Phase #2 will include the ancillary structures at the JP site (ROS, WGC, FDX); the PEB; the JP site electric; the JP site piping; Shaft 3 with the associated tangential inlet and deaeration chamber; Shaft 4 with the associated tangential inlet, deaeration chamber, and OSIS Relief Structure; Shaft 5 with the associated tangential inlet, deaeration chamber, and OSIS Relief Structure; and all of the site work at each of the shaft sites.

The detailed design scope revisions are noted below:

2.1 GENERAL

Scope Items 2.1.1 through 2.1.7 will continue to be completed in accordance with the original scope of services. Additional contract management and coordination will be required to successfully implement the recommended design revisions.

2.2 DESIGN REPORT

The Final Design Report (FDR), dated July 31, 2008, provides the basis for the design of the OARS tunnel, shafts, flow diversion structures, connector piping, screening structures, interconnections with existing and future facilities, and the outfall structure. A Final Design Report Update has been requested

to fully explain and document all of the revisions that have occurred since the 30% design submittal.

2.3 FIELD SURVEY

The current base mapping data in the Inland Products area are based upon the aerial survey completed in 2005. An area at the Jackson Pike Site encompassing approximately 9.2 acres (1,000' by 400') has been getting filled. Consequently, additional field survey will be required to incorporate the new ground surface contours and elevations into the plans.

2.4 GEOTECHNICAL AND GEOPHYSICAL SERVICES

Additional Borings will be taken for the Berliner Sewer Improvements project.

- Stake the borings in the field and clear utilities
- Drill ten borings to depths of 25' to 80'; boring depths based on depth to bottom of structure plus 10' except at pump station where the boring depth based on depth to bottom of structure plus 30 feet.
- Sample at 2.5-foot borings to the completion depths of the holes.
- Install two monitoring wells at the pump station and perform falling head tests to estimate in situ permeabilities; screens for the wells will be set at elevation 670.
- Perform laboratory testing to determine grain-size distributions of the subsurface materials.
- Prepare report that presents the findings, the results of the laboratory and field testing, and recommendations related to construction and uplift issues.
- DLZ will use the results of the well installations and falling head tests presented in the report to prepare the drawdown curves needed for the dewatering cost estimates.

2.5 DRAWINGS AND SPECIFICATIONS

The detailed design work will be based upon the recommendations of the Final Design Report (FDR) and the updates to the FDR. All of the originally required drawings and specifications scope activities, Items 2.5.1 through 2.5.15, will be followed. The primary components of the design revisions are as follows:

OARS Downstream Flow Diversion Facilities:

1. Shaft 1 (ODS) will include the submersible pump station. The separate dry well pump station in Shaft 1A was eliminated for the 60% submittal.
2. The electrical and instrumentation systems will be included in a separate Pump Electrical Building (PEB), as in the 60% submittal.
3. The Pump Service Building that was designed for the 60% submittal at the request of the City will be eliminated as decided at the Review Workshop.
4. The ROS and EGC will be combined into a single structure.
5. The electrical service for both construction and operation will be revised to come from the poles on the east side of the project site.

OARS Shafts, Inlet Structures, and OSIS Relief Structures:

1. Shaft 1 (ODS) – This shaft will be 52-foot diameter.
2. Shaft 2 (OSS) – This shaft will be 42-foot diameter. Equipment access panels in the roof and floor will now be provided upstream of the screens.
3. Shaft 3 will be eliminated.
4. Shaft at Moler Street (now Shaft 3) - Eliminate the surge structure. The finished shaft will consist of a 10-foot drop shaft that can be used for access. A virtual stack will be provided to maintain

ventilation in the OARS during dry weather. Eliminate the approach channel entrance with the isolation gate. The 72-inch stub will still be provided for the future MSOI. An isolation gate will need to be provided near the Moler Street Regulator structure when the MSOI is designed and constructed.

5. Shaft at WSST (now Shaft 4) - will now have a 16-foot access/drop shaft and a 5-foot vent shaft. These will be located within a 30-foot diameter surge overflow shaft.
6. Shaft at Short Street (now Shaft 5) will now have a 16-foot access/drop shaft and a 5-foot vent shaft. These were designed to be located within a 30-foot diameter surge overflow shaft at the 60% stage. The surge chamber portion of the shaft will now extend to an approximate elevation of 640.
7. Shaft 7 (at Spring Street) was eliminated.
8. Shaft at Neil Avenue (now Shaft 6) - will have a 16-foot access/drop shaft and a 20-foot diameter vent shaft. These will be located within a 48-foot diameter surge overflow shaft.
9. Each Approach Channel and Tangential Inlet structure will be modified to eliminate the screens and provide overflow channels to the drop shaft allowing surcharged flows to bypass the tangential inlet. The inlets at Shafts 4, 5, and 6 are also being upsized to maintain the proper correlation with the drop shaft diameters.
10. The OSIS will be evaluated in order to determine the structural capability where fill and H-20 loads will be required on top of it. The design of the OARS will incorporate protection of the OSIS accordingly.
11. The OSIS Relief Structures will be modified as follows:
 - At WSST (now Shaft 4) – Provisions for 1 set of future gates downstream of the weir will be provided in the relief structure. Two 10' x 10' gates will be provided to the entrance to the tangential inlet approach channel.
 - At Short Street (now Shaft 5) – No gates will be included within the relief structure. The weir gate will be made large enough to isolate the OARS from flow from the OSIS. A 6' x 6' gate is required to isolate the OARS from flows from the Peters Run Regulator Overflow.
 - At Neil Avenue (now Shaft 6) – A pair of gates will be included within the relief structure. The weir gate will be made large enough to isolate the OARS from flow from the OSIS.

Berliner Park Sewer Improvements:

In order to incorporate recommendations of the City of Columbus, EMH&T provided an updated scope of services. The project design will be completed under this contract in conformance with DOSD Standards. All of the originally required drawings and specifications scope activities, Items 2.5.1 through 2.5.15, will be followed.

2.6 EASEMENTS

Additional coordination services will be provided to assist with land acquisition. This includes providing supplemental information to the property owners about the project, depositions, and general coordination.

2.7 SUPPLEMENTAL SERVICES - no revisions

2.8 BID DOCUMENTS / CONSTRUCTION PROCUREMENT

The OARS project will be bid as two separate contracts. The tentative schedule is to bid the OARS Phase #1 Contract in February 2010 and bid the OARS Phase #2 Contract in January 2011.

2.9 STATE OF OHIO PERMITS AND/OR APPLICATIONS

Two separate PTIs will be required from the Ohio EPA since the project is being split into two separate contracts. In order to help the Ohio EPA staff meet the quick permit schedule, additional coordination meetings have been budgeted for.

2.10 OTHER PERMITS, PLANS AND EVALUATIONS - no revisions

2.11 ENGINEERING & CONSTRUCTION MANAGEMENT SERVICES - no revisions

2.12 RECORD PLAN DRAWINGS - no revisions

2.13 Not Used

2.14 Not Used

2.15 Not Used

2.16 COMMUNITY INTERACTION PROGRAM SERVICES

Developing the sites at Short Street (now Shaft 5) and at Neil Avenue (now Shaft 6) requires coordination with the odor control project, the City's Fleet Management group, public stakeholders, and area commissions. The approval of a Site Compliance Plan will be required. It is anticipated that a minimum of 8 meetings will be required. 1 public meeting, 1 stakeholder meeting, and 2 area commission meetings will be required for each site.

**EXHIBIT C
MODIFICATION #3 - COST SUMMARY**

1.	CITY: CITY OF COLUMBUS Dept of Public Utilities	2. CIP NO:	650704	3. VERSION:	3.0
4.	NAME OF CONSULTANT: DLZ, INC.	5. PROJECT TITLE:	OARS - Modification #3		
6.	ADDRESS: 6121 HUNTLEY RD. COLUMBUS, OH 43229	7. TYPE OF CONTRACT:			
8.	DIRECT LABOR (Specify labor categories):	EST. HRS.	HOURLY RATE	EST. COST	TOTALS
	PRINCIPAL	0	\$78.00	\$0.00	
	PROJECT MANAGER	378	\$73.00	\$27,594.00	
	DEPARTMENT MANAGER	426	\$67.50	\$28,755.00	
	ENGINEER III	672	\$47.00	\$31,584.00	
	ENGINEER II	556	\$36.50	\$20,294.00	
	ENGINEER I	1,056	\$31.00	\$32,736.00	
	ENGINEERING TECHNICIAN II	744	\$28.00	\$20,832.00	
	ENGINEERING TECHNICIAN I	0	\$21.00	\$0.00	
	SCIENTIST	0	\$28.00	\$0.00	
	PROFESSIONAL SURVEYOR	16	\$37.50	\$600.00	
	3-MAN FIELD CREW	0	\$56.00	\$0.00	
	2-MAN FIELD CREW	40	\$41.50	\$1,660.00	
	CLERICAL	184	\$18.50	\$3,404.00	
	ADMINISTRATOR	0	\$21.00	\$0.00	
	DIRECT LABOR TOTAL:	4,072			\$167,459.00
9.	INDIRECT COSTS	RATE	X BASE =	EST. COST	
	PAYROLL	0.75	\$167,459.00	\$125,594.25	
	ADMINISTRATIVE	1.00	\$167,459.00	\$167,459.00	
	INDIRECT COSTS TOTAL				\$293,053.25
10.	OTHER DIRECT COSTS			EST. COST	
	a. TRAVEL				
	Transportation ____ mi @ \$ ____ / mile				
	b. EQUIPMENT, MATERIALS, SUPPLIES	QTY.	COST		
	Plan Sheets (Additional 90% Submittal)	1	\$7,000.00		
	Documents / Copies (FDR Update - 25 Vol 1)	1	\$5,000.00		
	Bid Set Distribution	1	\$16,200.00		
	Mylar Plan Sheets	0	\$0.00		
	SUBTOTAL:			\$28,200.00	
	c. SUBCONTRACTS			EST. COST	
				\$0.00	
	CH2M Hill (Submersible Pumping System)			\$311,750.00	
	JEC (Tunnel & Shafts)			\$350,000.00	
	Prime (Structural & Architectural)			\$328,000.00	
	Dynotec (JP Site)			\$134,000.00	
	EMH&T (Berliner Park Sewer Improvements, Modeling) - As Authorized			\$209,000.00	
	Applied Science (60% - 90% TAP model updates)			\$6,000.00	
				\$0.00	
	SUBTOTAL SUBCONTRACTS:			\$1,338,750.00	
	d. OTHER (Specify categories)			EST. COST	
				\$0.00	
	Monte Carlo Evaluation Software			\$5,000.00	
	Square D - JP WWTP Electrical Monitoring System			\$0.00	
	CCTV - OSIS Relief Structure Points			\$31,005.00	
	Geotechnical - Drilling Directs			\$21,375.00	
				\$0.00	
				\$0.00	
	OTHER SUBTOTAL:			\$57,380.00	
	e. OTHER DIRECT COSTS TOTAL:				\$1,424,330.00
11.	TOTAL COST				\$1,884,842.25
12.	FIXED FEE (10%)				\$46,051.23
13.	TOTAL PRICE				\$1,930,893.48
14.	MAXIMUM REIMBURSEMENT FOR STATE OF OHIO PERMIT TO INSTALL (additional PTI)				\$15,100.00
15.	CONTINGENCIES (10%)				\$193,089.35
16.	TOTAL PRICE INCLUDING CONTINGENCIES				\$2,139,082.82

OARS - MODIFICATION #3

TASK AND SUBTASK DESCRIPTION	PERSONNEL DESIGNATION														TOTAL HOURS	DIRECT LABOR COST	INDIRECT COST	FIXED FEE	DIRECT COSTS	TOTAL FEE	
	PR	PM	DM	EIII	EII	EI	TECHII	TECHI	SCI	PS	FP3	FP2	CL	ADM							
Consultant - DLZ OHIO Inc.																					
General																					
Progress Meetings/Coordination Meetings Schedules		24	24	24												72	\$4,500.00	\$7,875.00	\$1,237.50		\$13,612.50
Additional WWTP Operations Coordination for Risk Reduction Monte Carlo Probability Analysis		8	8	8												24	\$1,500.00	\$2,625.00	\$412.50		\$4,537.50
Additional Administration & Coordination Meetings		12	8	16									4			40	\$2,240.00	\$3,923.50	\$616.55		\$6,782.05
Additional Review Workshop (3-day)		8	16	16	40								4			84	\$3,950.00	\$6,912.50	\$1,086.25	\$5,000.00	\$16,948.75
Administration - Berliner Park Sewer Improvements		40	40	80									40			200	\$10,120.00	\$17,710.00	\$2,783.00		\$30,613.00
SUBTOTAL	0	148	148	224	64	8	0	0	0	0	0	0	72	0	664	\$35,238.00	\$61,666.50	\$9,690.45	\$5,000.00		\$111,594.95
Design Report																					
FDR - Updated Sections, Tables, and Figures (25 copies of Vol. 1)		16	8	40	80		40						24			208	\$8,072.00	\$14,126.00	\$2,219.80	\$5,000.00	\$29,417.80
SUBTOTAL	0	16	8	40	80	0	40	0	0	0	0	0	24	0	208	\$8,072.00	\$14,126.00	\$2,219.80	\$5,000.00		\$29,417.80
Field Survey																					
Inland Products - Fill Area (1,000' x 400')		2	4	4			16									82	\$3,312.00	\$5,796.00	\$910.80	\$0.00	\$10,018.80
SUBTOTAL	0	2	4	4	0	0	16	0	0	0	0	0	0	0	82	\$3,312.00	\$5,796.00	\$910.80	\$0.00		\$10,018.80
Geotechnical and Geophysical Services																					
Berliner Park Area			32		96		24						8			160	\$6,484.00	\$11,347.00	\$1,783.10	\$21,375.00	\$40,989.10
SUBTOTAL	0	0	32	0	96	0	24	0	0	0	0	0	8	0	160	\$6,484.00	\$11,347.00	\$1,783.10	\$21,375.00		\$40,989.10
Drawings, Specifications, Detailed Design Summary Report and Constructability Review																					
Additional TAP Model / SWMM Revisions / Surge Update TM #3		8	8	64	40								4			124	\$5,666.00	\$9,915.50	\$1,558.15		\$17,139.65
60% - 90% TAP Model / SWMM Revisions		2	2	24	40											68	\$2,869.00	\$5,020.75	\$788.98		\$8,678.73
Electrical Service Evaluation TM #4		16	4	8	60								4			92	\$4,078.00	\$7,136.50	\$1,121.45		\$12,335.95
RTC Recommendations TM #5		12	4	24												40	\$2,274.00	\$3,979.50	\$625.35		\$6,878.85
CCTV OSIS at Relief Structure Connection Points		2		4	8											14	\$626.00	\$1,095.50	\$172.15	\$31,005.00	\$32,898.65
Splitting the project into 2 Contracts (Coordination, Schedules, Drawing Lists & Sheet Set Manager, QA/QC)		16	16	24	24	16	80									176	\$6,988.00	\$12,229.00	\$1,921.70		\$21,138.70
2nd 90% Submittal		16	16	40	40	40	100									252	\$9,628.00	\$16,849.00	\$2,647.70	\$7,000.00	\$36,124.70
Design Revisions																					
Shaft 3 Site Plan (Deckebach) - DELETED		-2	-2	-4			-8									-16	-\$693.00	-\$1,212.75	-\$190.58		-\$2,096.33
Moler Street - Shaft 3 (formerly Shaft 4) Site Plan		4	4	8			8									24	\$1,162.00	\$2,033.50	\$319.55		\$3,515.05
Whittier Street - Shaft 4 (formerly Shaft 5) Site Plan		4	4	8			8									24	\$1,162.00	\$2,033.50	\$319.55		\$3,515.05
Short Street - Shaft 5 (formerly Shaft 6) Site Plan		4	4	8			8									24	\$1,162.00	\$2,033.50	\$319.55		\$3,515.05
Shaft 7 Site Plan (ELIMINATED)				-8			-16									-24	-\$824.00	-\$1,442.00	-\$226.60		-\$2,492.60
Neil Avenue - Shaft 6 (previously 8) Site Plan		4	8	16	16		16									60	\$2,616.00	\$4,578.00	\$719.40		\$7,913.40
Plan/Profile Drawings (16 sheets)		4	4	0			0									8	\$562.00	\$983.50	\$154.55		\$1,700.05
S-4 (now S-3) Tangential Inlet Revisions				4		120	40									164	\$5,028.00	\$8,799.00	\$1,382.70		\$15,209.70
S-5 (now S-4) Relief Structure - Outlet Junction Box		4	4	4		40	40									92	\$3,110.00	\$5,442.50	\$855.25		\$9,407.75
S-5 (now S-4) Tangential Inlet Revisions		4	4	8		240	40									296	\$9,498.00	\$16,621.50	\$2,611.95		\$28,731.45
S-5 (now S-4) OSIS Structural Evaluation & Design		4	4	8		120	60									196	\$6,338.00	\$11,091.50	\$1,742.95		\$19,172.45
S-6 (now S-5) Relief Structure - Outlet Junction Box		4	4	4		60	40									132	\$4,350.00	\$7,612.50	\$1,196.25		\$13,158.75
S-6 (now S-5) Tangential Inlet Revisions		4	4	8		240	40									296	\$9,498.00	\$16,621.50	\$2,611.95		\$28,731.45
Shaft 7 Tangential Inlet (deleted)		-2	-2	-4		-160	-16									-184	-\$5,877.00	-\$10,284.75	-\$1,616.18		-\$17,777.93
S-8 (now S-6) Relief Structure - Outlet Junction Box		4	4	4		40	40									92	\$3,110.00	\$5,442.50	\$855.25		\$9,407.75
S-8 (now S-6) Tangential Inlet Revisions		4	4	8		240	40									296	\$9,498.00	\$16,621.50	\$2,611.95		\$28,731.45
Updated Cost Estimate		8	24	8	0	0	0									40	\$2,580.00	\$4,515.00	\$709.50		\$7,804.50
Updated Construction Schedule		4	8	8	0	0	0									20	\$1,208.00	\$2,114.00	\$332.20		\$3,654.20
SUBTOTAL	0	128	130	276	228	1016	520	0	0	0	0	0	8	0	2,306	\$85,617.00	\$149,829.75	\$23,544.68	\$38,005.00		\$296,996.43
SUBCONSULTANTS																					
CH2M Hill																					\$311,750.00
JEC																					\$350,000.00
Prime																					\$328,000.00
Dynotec																					\$134,000.00
EMH&T																					\$209,000.00
Applied Science																					\$6,000.00
Easements																					
Depositions, Support Information, Coordination		24	4	8	0	0	0						8			44	\$2,546.00	\$4,455.50	\$700.15	\$0.00	\$7,701.65
SUBTOTAL	0	24	4	8	0	0	0	0	0	0	0	0	8	0	44	\$2,546.00	\$4,455.50	\$700.15	\$0.00		\$7,701.65
Bid Documents / Construction Procurement Contract #2																					
Prepare Advertisement		4	0	8	0	0	0						4			16	\$742.00	\$1,298.50	\$204.05	\$0.00	\$2,244.55
Prepare / Distribute Bid Documents		4	4	8	8	0	24						24			72	\$2,346.00	\$4,105.50	\$645.15	\$16,200.00	\$23,296.65
Question Responses & Addenda Preparation		8	16	16	24	24	40						16			144	\$5,452.00	\$9,541.00	\$1,499.30	\$0.00	\$16,492.30
Bid Evaluation		4	8	16	8	0	0						2			38	\$1,913.00	\$3,347.75	\$526.08	\$0.00	\$5,786.83
Pre-Bid Meeting & Pre-Construction Meeting		16	16	16	8	8	0						8			72	\$3,688.00	\$6,454.00	\$1,014.20	\$0.00	\$11,156.20
SUBTOTAL	0	36	44	64	48	32	64	0	0	0	0	0	54	0	342	\$14,141.00	\$24,746.75	\$3,888.78	\$16,200.00		\$58,976.53
State of Ohio Permit and/or Applications																					
Prepare PTI Application for Contract #2		0	8	8	0	0	0						8			24	\$1,064.00	\$1,862.00	\$292.60	PTI FEE	\$3,218.60
Coordination with OEPA for Contract #1 (fast review schedule)		0	8	8	0	0	0						2			16	\$953.00	\$1,667.75	\$262.08	\$0.00	\$2,882.83
SUBTOTAL	0	0	16	16	0	0	0	0	0	0	0	0	10	0	42	\$2,017.00	\$3,529.75	\$554.68	\$0.00		\$6,101.43
Community Interaction Program Services																					
Short Street (S-5) Site Development Coordination and 4 Meetings		12	20	20	20	0	40						0			112	\$5,016.00	\$8,778.00	\$1,379.40	\$0.00	\$15,173.40
Neil Avenue (S-6) Site Development Coordination and 4 Meetings		12	20	20	20	0	40						0			112	\$5,016.00	\$8,778.00	\$1,379.40	\$0.00	\$15,173.40
SUBTOTAL	0	24	40	40	40	0	80	0	0	0	0	0	0	0	224	\$10,032.00	\$17,556.00	\$2,758.80	\$0.00		\$30,346.80
TOTAL HOURS FOR FINAL DESIGN																					
HOURLY RATES	\$78.00	\$73.00	\$67.50	\$47.00	\$36.50	\$31.00	\$28.00	\$21.00	\$28.00	\$37.50	\$56.00	\$41.50	\$18.50	\$21.00		4,072	\$167,459.00	\$293,053.25	\$46,051.23	\$85,580.00	\$592,143.48
SUBTOTAL FINAL DESIGN COST																					
																	\$167,459.00	\$293,053.25	\$46,051.23	\$1,424,330.00	\$1,930,893.48
PTI - MAX FEE																					

**EXHIBIT C - PRELIMINARY ENGINEERING
COST SUMMARY - MOD #3**

1. CITY: CITY OF COLUMBUS Dept of Public Utilities		2. CIP NO: 650704		3. VERSION: 3	
4. NAME OF CONSULTANT: CH2M HILL		5. PROJECT TITLE: OARS - PRELIMINARY ENGINEERING SERVICES (PARTS 1 & 2)			
6. ADDRESS:		7. TYPE OF CONTRACT:			
8. DIRECT LABOR (Specify labor categories):		EST. HRS.	HOURLY RATE	EST. COST	TOTALS
PRINCIPAL		65	\$84.00	\$5,458.10	
PROJECT MANAGER		28	\$65.00	\$1,820.00	
DEPARTMENT MANAGER		0	\$58.00	\$0.00	
ENGINEER III		369	\$55.00	\$20,277.77	
ENGINEER II		557	\$40.00	\$22,267.86	
ENGINEER I		137	\$31.00	\$4,258.64	
ENGINEERING TECHNICIAN II		235	\$33.00	\$7,741.56	
ENGINEERING TECHNICIAN I		344	\$25.00	\$8,590.95	
SCIENTIST		0	\$0.00	\$0.00	
PROFESSIONAL SURVEYOR		0	\$0.00	\$0.00	
3-MAN FIELD CREW		0	\$0.00	\$0.00	
2-MAN FIELD CREW		0	\$0.00	\$0.00	
CLERICAL		-183	\$27.00	-\$4,952.36	
ADMINISTRATOR		0	\$0.00	\$0.00	
DIRECT LABOR TOTAL:		1,551			\$65,462.51
9. INDIRECT COSTS		RATE	X BASE =	EST. COST	
PAYROLL		0.75	\$65,462.51	\$49,096.88	
ADMINISTRATIVE		1.00	\$65,462.51	\$65,462.51	
INDIRECT COSTS TOTAL					\$114,559.39
10. OTHER DIRECT COSTS				EST. COST	
a. TRAVEL					
Transportation _____ mi @ \$ _____ / mile					
b. EQUIPMENT, MATERIALS, SUPPLIES				EST. COST	
				\$0.00	
SUBTOTAL:				\$0.00	
c. SUBCONTRACTS				EST. COST	
Physical Model				\$113,700.00	
SUBTOTAL SUBCONTRACTS:				\$113,700.00	
d. OTHER (Specify categories)				EST. COST	
				\$0.00	
				\$0.00	
OTHER SUBTOTAL:				\$0.00	
e. OTHER DIRECT COSTS TOTAL:					\$113,700.00
11. TOTAL COST					\$293,721.89
12. FIXED FEE (10%)					\$18,002.19
13. TOTAL PRICE					\$311,724.08
14. MAXIMUM REIMBURSEMENT FOR STATE OF OHIO PERMIT TO INSTALL					\$0.00
15. CONTINGENCIES					
16. TOTAL PRICE INCLUDING CONTINGENCIES					\$311,724.08

CH2M Hill - FINAL DESIGN BUDGET

TASK	TASK AND SUBTASK DESCRIPTION	PERSONNEL DESIGNATION														TOTAL HOURS	DIRECT LABOR COST	INDIRECT COST	FIXED FEE	DIRECT COSTS	TOTAL FEE	
		PR	PM	DM	EIII	EII	EI	TECHII	TECHI	SCI	PS	FP3	FP2	CL	ADM							
ORIGINAL FINAL DESIGN BUDGET																						
	1 - OARS Pump Facility and OARS Screen Structure	400	0	0	337	1,260	1,100	1,005	1,190	0	0	0	0	405	0	5,697	\$210,485.00	\$368,348.75	\$57,883.38	\$0.00	\$636,717.13	
	2 - Electrical and I/C (Complete)	0	0	0	1,000	1,890	1,100	670	790	0	0	0	0	405	0	5,855	\$217,495.00	\$380,616.25	\$59,811.13	\$6,150.00	\$664,072.38	
	3 - WSST Miscellaneous Improvements	0	0	0	0	0	470	0	220	0	0	0	0	202	0	892	\$25,524.00	\$44,667.00	\$7,019.10	\$0.00	\$77,210.10	
	4 - Physical Model	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00	\$0.00	\$0.00	\$75,000.00	\$75,000.00	
	TOTALS	400	0	0	1,337	3,150	2,670	1,675	2,200	0	0	0	0	1,012	0	12,444	\$453,504.00	\$793,632.00	\$124,713.60	\$81,150.00	\$1,452,999.60	
Budget Amount Used as of November 19, 2008																						
		225	0	0	752	1,772	1,502	942	1,238	0	0	0	0	569	0						Spent	\$600,054.68
																					Total Remaining	\$852,944.92
																					Total Labor Budget	\$1,371,849.60
																					Labor Budget Remaining	\$771,794.92
	Remaining Budget Hours (as of November 19, 2008)	56.3%	<== THIS REPRESENTS THE PERCENTAGE OF MONEY/HOURS SPENT TO 11/19/09																			
PERCENTAGES AT LEFT REPRESENT APPROXIMATE SPLIT OF EFFORT BETWEEN TWO STRUCTURES																						
60.0%	1 - Final Design, OARS Pump Facility	135	0	0	114	425	371	339	402	0	0	0	0	137	0	1,923	\$71,050.61	\$124,338.57	\$19,538.92	\$0.00	\$214,928.10	
40.0%	1 - Final Design, OARS Screen Structure	90	0	0	76	284	248	226	268	0	0	0	0	91	0	1,282	\$47,367.07	\$82,892.38	\$13,025.95	\$0.00	\$143,285.40	
60.0%	2 - Electrical and I/C, OARS Pump Facility	0	0	0	338	638	371	226	267	0	0	0	0	137	0	1,976	\$73,416.88	\$128,479.55	\$20,189.64	\$0.00	\$222,086.07	
40.0%	2 - Electrical and I/C, OARS Screen Structure	0	0	0	225	425	248	151	178	0	0	0	0	91	0	1,318	\$48,944.59	\$85,653.03	\$13,459.76	\$0.00	\$148,057.38	
	3 - WSST Miscellaneous Improvements	0	0	0	0	0	264	0	124	0	0	0	0	114	0	502	\$14,359.66	\$25,129.40	\$3,948.91	\$0.00	\$43,437.97	
	4 - Physical Model	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
	TOTALS	225	0	0	752	1,772	1,502	942	1,238	0	0	0	0	569	0	7,001	\$255,138.82	\$446,492.93	\$70,163.17	\$0.00	\$771,794.92	
4	Drawings, Specifications, Detailed Design Summary Report and Constructability Review	MODIFICATION NO. 3																				
HOURS REQUIRED TO FINISH SUBMERSIBLE PUMP STATION ALTERNATIVE																						
	1 - Final Design, OARS Diversion Structure	200	20	0	360	600	400	400	540	0	0	0	0	292	0	2,812	\$108,884.00	\$190,547.00	\$29,943.10	\$0.00	\$329,374.10	
	2 - Electrical and I/C, OARS Diversion Structure	0	0	0	400	1,000	600	400	560	0	0	0	0	0	0	2,960	\$107,800.00	\$188,650.00	\$29,645.00	\$0.00	\$326,095.00	
	2 - Electrical and I/C, Investigate Power Alternatives and Revise Drawings	0	8	0	60	20	0	0	32	0	0	0	0	0	0	120	\$5,420.00	\$9,485.00	\$1,490.50	\$0.00	\$16,395.50	
	4 - Physical Model	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0.00	\$0.00	\$0.00	\$113,700.00	\$113,700.00	
HOURS DEDUCTED TO FINISH ORIGINAL PUMP STATION ALTERNATIVE																						
	1 - Final Design, OARS Pump Facility	-135	0	0	-114	-425	-371	-339	-402	0	0	0	0	-137	0	-1,923	-\$71,050.61	-\$124,338.57	-\$19,538.92	\$0.00	-\$214,928.10	
	2 - Electrical and I/C, OARS Pump Facility	0	0	0	-338	-638	-371	-226	-267	0	0	0	0	-137	0	-1,976	-\$73,416.88	-\$128,479.55	-\$20,189.64	\$0.00	-\$222,086.07	
HOURS DEDUCTED TO FINISH ORIGINAL WSST IMPROVEMENTS																						
	3 - WSST Miscellaneous Improvements	0	0	0	0	0	-120	0	-120	0	0	0	0	-202	0	-442	-\$12,174.00	-\$21,304.50	-\$3,347.85	\$0.00	-\$36,826.35	
	MODIFICATION NO. 3 TOTALS	65	28	0	369	557	137	235	344	0	0	0	0	-183	0	1,551	\$65,462.51	\$114,559.39	\$18,002.19	\$113,700.00	\$311,724.08	
	Hourly Rate	\$84.00	\$65.00	\$58.00	\$55.00	\$40.00	\$31.00	\$33.00	\$25.00	\$0.00	\$0.00	\$0.00	\$0.00	\$27.00	\$0.00							

**OARS MODIFICATION #3
COST SUMMARY**

1.	CITY: CITY OF COLUMBUS Dept of Public Utilities	2. CIP NO:	#REF!	3. VERSION: 3	
4.	NAME OF CONSULTANT: DYNOTEC	5. PROJECT TITLE:	OARS - FINAL DESIGN SERVICES (PARTS 1 & 2)		
6.	ADDRESS:	7. TYPE OF CONTRACT:			
8.	DIRECT LABOR (Specify labor categories):	EST. HRS.	HOURLY RATE	EST. COST	TOTALS
	PRINCIPAL	0	\$67.50	\$0.00	
	PROJECT MANAGER	140	\$62.50	\$8,750.00	
	DEPARTMENT MANAGER	8	\$57.00	\$456.00	
	ENGINEER III	412	\$47.00	\$19,364.00	
	ENGINEER II	0	\$36.50	\$0.00	
	ENGINEER I	24	\$26.00	\$624.00	
	ENGINEERING TECHNICIAN II	528	\$26.00	\$13,728.00	
	ENGINEERING TECHNICIAN I	0	\$21.00	\$0.00	
	SCIENTIST	0	\$26.00	\$0.00	
	PROFESSIONAL SURVEYOR	0	\$31.00	\$0.00	
	3-MAN FIELD CREW	0	\$56.00	\$0.00	
	2-MAN FIELD CREW	24	\$39.50	\$948.00	
	CLERICAL	26	\$16.50	\$427.52	
	ADMINISTRATOR	0	\$21.00	\$0.00	
	DIRECT LABOR TOTAL:	1162			\$44,297.52
9.	INDIRECT COSTS	RATE	X BASE =	EST. COST	
	PAYROLL	0.75	\$44,297.52	\$33,223.14	
	ADMINISTRATIVE	1.00	\$44,297.52	\$44,297.52	
	INDIRECT COSTS TOTAL				\$77,520.66
10.	OTHER DIRECT COSTS			EST. COST	
	a. TRAVEL				
	Transportation _____ mi @ \$ _____ / mile				
	b. EQUIPMENT, MATERIALS, SUPPLIES	QTY.	COST		
	SUBTOTAL:			\$0.00	
	c. SUBCONTRACTS			EST. COST	
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
	SUBTOTAL SUBCONTRACTS:			\$0.00	
	d. OTHER (Specify categories)			EST. COST	
	REPRODUCTIONS			\$0.00	
				\$0.00	
	OTHER SUBTOTAL:			\$0.00	
	e. OTHER DIRECT COSTS TOTAL:				\$0.00
11.	TOTAL COST				\$121,818.18
12.	FIXED FEE (10%)				\$12,181.82
13.	TOTAL PRICE				\$134,000.00
14.	MAXIMUM REIMBURSEMENT FOR STATE OF OHIO PERMIT TO INSTALL				\$0.00
15.	CONTINGENCIES				
16.	TOTAL PRICE INCLUDING CONTINGENCIES				\$134,000.00

**EXHIBIT C - PRELIMINARY ENGINEERING
COST SUMMARY - MOD #3**

1. CITY: CITY OF COLUMBUS Dept of Public Utilities		2. CIP NO: 650704		3. VERSION: 3.3	
4. NAME OF CONSULTANT: EMH&T		5. PROJECT TITLE: OARS - PRELIMINARY ENGINEERING SERVICES (PARTS 1 AND 2)			
6. ADDRESS: 5500 New Albany Road Columbus, Ohio 43054		7. TYPE OF CONTRACT:			
8. DIRECT LABOR (Specify labor categories):		EST. HRS.	HOURLY RATE	EST. COST	TOTALS
PRINCIPAL		7	\$65.98	\$461.86	
PROJECT MANAGER		133	\$54.08	\$7,192.64	
DEPARTMENT MANAGER		130	\$48.67	\$6,327.10	
ENGINEER III		367	\$43.26	\$15,876.42	
ENGINEER II		185	\$37.86	\$7,004.10	
ENGINEER I		220	\$32.45	\$7,139.00	
ENGINEERING TECHNICIAN II		325	\$29.20	\$9,490.00	
ENGINEERING TECHNICIAN I		160	\$24.88	\$3,980.80	
SCIENTIST		0	\$27.04	\$0.00	
PROFESSIONAL SURVEYOR		4	\$45.43	\$181.72	
3-MAN FIELD CREW		18	\$64.90	\$1,168.20	
2-MAN FIELD CREW		0	\$45.43	\$0.00	
CLERICAL		5	\$16.22	\$81.10	
ADMINISTRATOR		0	\$21.63	\$0.00	
DIRECT LABOR TOTAL:		1,554			\$58,902.94
9. INDIRECT COSTS		RATE	X BASE =	EST. COST	
PAYROLL		0.45	\$58,902.94	\$26,506.32	
ADMINISTRATIVE		1.125	\$58,902.94	\$66,265.81	
INDIRECT COSTS TOTAL					\$92,772.13
10. OTHER DIRECT COSTS				EST. COST	
a. TRAVEL					
Transportation _____ mi @ \$ _____ / mile					
b. EQUIPMENT, MATERIALS, SUPPLIES		QTY.	COST		
SUBTOTAL:				\$0.00	
c. SUBCONTRACTS				EST. COST	
Architect for Pump station Control house				\$23,016.00	
Electrical additions for control house				\$19,300.00	
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
SUBTOTAL SUBCONTRACTS:				\$42,316.00	
d. OTHER (Specify categories)				EST. COST	
				\$0.00	
				\$0.00	
OTHER SUBTOTAL:				\$0.00	
e. OTHER DIRECT COSTS TOTAL:					\$42,316.00
11. TOTAL COST					\$193,991.07
12. FIXED FEE (10%)					\$15,167.51
13. TOTAL PRICE					\$209,158.58
14. MAXIMUM REIMBURSEMENT FOR STATE OF OHIO PERMIT TO INSTALL					\$0.00
15. CONTINGENCIES					
16. TOTAL PRICE INCLUDING CONTINGENCIES					\$209,158.58

\$ 63.44
\$ 52.00
\$ 46.80
\$ 41.60
\$ 36.40
\$ 31.20
\$ 28.08
\$ 23.92
\$ 26.00
\$ 43.68
\$ 62.40
\$ 43.68
\$ 15.60
\$ 20.80



June 22, 2009

Mr. Josh Brooks, PE
Project Engineer
DLZ
6121 Huntley Road
Columbus, OH 43223
PH: (614) 888-0040
email: jbrooks@dlz.com

RE: Proposed Fees for Inspection Survey of approximately 2,000 lf of 120"+ Combined Sewer Pipes/Tunnels at Three (3) Locations Requiring Two (2) to Three (3) Days to Complete during One (1) Mobilization

Mr. Brooks:

In response to your request, Infrastructure Evaluation Specialists, LLC (IES) will provide pricing on professional evaluation services for the specified areas of the large diameter combined sewer pipes/tunnels.

The following documents are attached for your review:

1. Fee Schedule (Lump Sum for total project)
2. IES Project Scope Declarations

Please carefully review these documents. If you are in concurrence, please sign where indicated and return via fax to this office. Upon receipt of your approval, our Operations Manager will schedule your project.

Thank you for the opportunity to submit this quote, and if selected we will provide our services at the highest professional level.

If you have any questions please feel free to contact me by phone (828.545.2122) or e-mail at any time.

IES is your Partner in Wastewater problem solving.



Your signature will serve as **Notice to Proceed** on this project.

Name (Printed) _____

Title _____

Signature _____ Date _____

Respectfully Yours,

Bill Parrott

Bill Parrott
Business Development
bparrott@ies-sses.com
Infrastructure Evaluation Specialists, LLC



ATTACHMENT 1: FEE SCHEDULE

Project: Large Diameter Inspection Survey of Approximately 2,000 lf of 120”+ Combined Sewer Pipes/Tunnels

Date: June 22, 2009

Project Scope

The scope of work includes the inspection survey assessment of approximately 2,000 LF of 120-inch box sewer prior to construction activities at approximately three locations to be performed in one (1) mobilization

DESCRIPTION	APPROX. QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
Mobilization / De-Mobilization of Responder System, Access Insertion Set-up; Deployment & Transport of Multiple Sensors using Robotic system; Post Processing of all Collected Data – CCTV, Sonar, 3D Laser, H2S Gas, Final Report & Software Viewer	1	Lump Sum	\$31,005.00	\$31,005.00

Pricing to Include:

IES will provide either the Responder large diameter pipe inspection system and/or the Raft for flotation, a trained operating crew, analyst, and the necessary appurtenances to access and collect data for the various size sewers utilizing a combination of Sonar technology below the flow line, Digital CCTV, Spinning 3D Laser sensors above the flow as required or needed.



The scope of work includes the inspection survey assessment of approximately 2,000 lf of 120 inch plus of combined sewer. The survey will include three (3) different areas and require two (2) to three (days) to complete. This will be accomplished during one (1) mobilization.

IES will provide the necessary computer hardware and software to analyze and present the inspection data in a format easily understood for analysis.

Not Included in Pricing

Others to assist in providing a minimum of 24-inch clear access opening for each manhole or entry for Responder to access the system including temporary removal of frame/cover if not full 24-inch opening or grinding of castling frame or MH steps as required.

Others will facilitate traffic control and/or permits as required in the designated scope of work areas.

Costs involved for unusual or unique access manholes, vaults or shafts for deployment that require non-standard means/methods and/or equipment for insertion and inspection purposes are not covered.



**APPENDIX
TUNNEL AND SHAFTS REDESIGN (VE AND SURGE ANALYSIS) - JEC
COST SUMMARY**

1. CITY: CITY OF COLUMBUS Dept of Public Utilities	2. CIP NO:		3. VERSION: 2	
4. NAME OF CONSULTANT: JENNY ENGINEERING CORP.	5. PROJECT TITLE: OLENTANGY AUGMENTATION RELIEF SEWER PROJECT			
6. ADDRESS: 2 EDISON PLACE SPRINGFIELD, NJ 07081	7. TYPE OF CONTRACT:			
8. DIRECT LABOR (Specify labor categories):	EST. HRS.	HOURLY RATE	EST. COST	TOTALS
PRINCIPAL	70	\$97.16	\$6,801.20	
PROJECT MANAGER	168	\$90.90	\$15,271.20	
SENIOR DESIGN ENGINEER	420	\$65.11	\$27,346.20	
DESIGN ENGINEER	904	\$47.70	\$43,120.80	
ENGINEERING TECHNICIAN	200	\$26.17	\$5,234.00	
DRAFTER	892	\$21.03	\$18,758.76	
CLERICAL	0	\$24.73	\$0.00	
GEOTECHNICAL ENGINEER	0	\$65.10	\$0.00	
SENIOR SPEC WRITER/ESTIMATOR	132	\$52.31	\$6,904.92	
DIRECT LABOR TOTAL:	2786			\$123,437.08
9. INDIRECT COSTS	RATE	X BASE =	EST. COST	
PAYROLL/ADMINISTRATIVE	1.55	\$123,437.08	\$191,327.47	
INDIRECT COSTS TOTAL				\$191,327.47
10. OTHER DIRECT COSTS			EST. COST	
a. TRAVEL				
Airfare			\$ 2,000.00	
Hotel			\$ 900.00	
Car rental			\$ 600.00	
Subsistence			\$ 400.00	
Parking/tolls			\$ 100.00	
			\$4,000.00	
b. EQUIPMENT, MATERIALS, SUPPLIES	QTY.	COST		
SUBTOTAL:			\$0.00	
c. SUBCONTRACTS			EST. COST	
SUBTOTAL SUBCONTRACTS:			\$0.00	
d. OTHER (Specify categories)			EST. COST	
Telephone communications			\$ -	
Fedex/Mail			\$ -	
Reproductions			\$ -	
OTHER SUBTOTAL:			\$ -	
e. OTHER DIRECT COSTS TOTAL:				\$4,000.00
11. TOTAL COST				\$318,764.55
12. FIXED FEE				\$ 31,476.46
13. TOTAL PRICE				\$350,241.01
14. IF AUTHORIZED COSTS				
15. TOTAL PRICE (INCLUDING IF AUTHORIZED)				\$350,241.01

Task No.	Task	Staff Manhours										TOTAL	DIRECT LABOR	INDIRECT LABOR	DIRECT COSTS	FIXED FEE	OTHER DIRECT COST - TRAVEL	SUBTASK SUBTOTAL	SUBTASK PERCENT	TASK SUBTOTAL
		PR	PM	SDE	DE	ET	D1	CL	GE	SE										
1	Tunnel redesign to 20 ft dia																			
	Design Analysis	4	8	16	40	8						76	\$4,274.96	\$6,626.19		\$1,090.11		\$11,991.26		
	Revise Drawings		8	8	20		48					84	\$3,211.52	\$4,977.86		\$818.94		\$9,008.31		
	Revise Construction Cost Estimate			8		8					8	24	\$1,148.72	\$1,780.52		\$292.92		\$3,222.16		
	Supplemental Specifications																			
	SUBTOTAL TASK 1																			\$24,221.74
2	OPD - Design Pump Shaft to the trough level EI 675 approx.																			
	Design Analysis	4	8	48	120	40						220	\$11,011.92	\$17,068.48		\$2,808.04		\$30,888.44		
	Revise Drawings	4	16	32	120	24	160					356	\$13,643.44	\$21,147.33		\$3,479.08		\$38,269.85		
	Revise Construction Cost Estimate			8		32					32	72	\$3,032.24	\$4,699.97		\$773.22		\$8,505.43		
	Supplemental Specifications																			
	SUBTOTAL TASK 2																			\$77,663.72
3	Shaft 2 - Screen Shaft																			
	Design Analysis	4	8	8	24	8						52	\$2,990.88	\$4,635.86		\$762.67		\$8,389.42		
	Revise Drawings	4	8	16	32		40					100	\$4,525.20	\$7,014.06		\$1,153.93		\$12,693.19		
	Revise Construction Cost Estimate			8		8					16	32	\$1,567.20	\$2,429.16		\$399.64		\$4,396.00		
	Supplemental Specifications											0	\$0.00	\$0.00		\$0.00		\$0.00		
												0	\$0.00	\$0.00		\$0.00		\$0.00		
	SUBTOTAL TASK 3																			\$25,478.60
4	Shaft 3 - 10 ft Access Shaft, 27 ft Surge Chamber																			
	Design Analysis	4	8	32	60	16						120	\$6,480.08	\$10,044.12		\$1,652.42		\$18,176.62		
	Revise Drawings	4	8	24	40		80					156	\$6,268.88	\$9,716.76		\$1,598.56		\$17,584.21		
	Revise Construction Cost Estimate			8		16					24	48	\$2,195.04	\$3,402.31		\$559.74		\$6,157.09		
	Supplemental Specifications											0	\$0.00	\$0.00		\$0.00		\$0.00		
												0	\$0.00	\$0.00		\$0.00		\$0.00		
	SUBTOTAL TASK 4																			\$41,917.92
5	Shaft 4 (Moler St) - 10 ft Drop Shaft, 27 ft Surge Chamber																			
	Design Analysis	2	4	8	16							30	\$1,842.00	\$2,855.10		\$469.71		\$5,166.81		
	Revise Drawings		4	4	8		24					40	\$1,510.36	\$2,341.06		\$385.14		\$4,236.56		
	Revise Construction Cost Estimate										4	4	\$209.24	\$324.32		\$53.36		\$586.92		
	Supplemental Specifications											0	\$0.00	\$0.00		\$0.00		\$0.00		
												0	\$0.00	\$0.00		\$0.00		\$0.00		
	SUBTOTAL TASK 5																			\$9,990.29
6	Shaft 5 (Whittier Street) - 16 ft Drop Shaft, 27 ft Surge Chamber																			
	Design Analysis	4	16	40	80	16						156	\$8,682.16	\$13,457.35		\$2,213.95		\$24,353.46		
	Revise Drawings	4	12	24	48		120					208	\$7,855.28	\$12,175.68		\$2,003.10		\$22,034.06		
	Revise Construction Cost Estimate			8		16					24	48	\$2,195.04	\$3,402.31		\$559.74		\$6,157.09		
	Supplemental Specifications											0	\$0.00	\$0.00		\$0.00		\$0.00		
												0	\$0.00	\$0.00		\$0.00		\$0.00		
	SUBTOTAL TASK 6																			\$52,544.61
7	Shaft 6 (Short Street) - 16 ft Drop Shaft, 27 ft Surge Chamber																			
	Design Analysis	4	16	40	80	16						156	\$8,682.16	\$13,457.35		\$2,213.95		\$24,353.46		
	Revise Drawings	4	12	24	48		120					208	\$7,855.28	\$12,175.68		\$2,003.10		\$22,034.06		
	Revise Construction Cost Estimate			8		16					24	48	\$2,195.04	\$3,402.31		\$559.74		\$6,157.09		
	Supplemental Specifications											0	\$0.00	\$0.00		\$0.00		\$0.00		
												0	\$0.00	\$0.00		\$0.00		\$0.00		
	SUBTOTAL TASK 7																			\$52,544.61
8	Shaft 8 (Henry Street) - 16 ft Drop Shaft, 48 ft Surge Chamber, 20 ft Vent Shaft																			
	Design Analysis	8	24	48	120	40						240	\$12,854.96	\$19,925.19		\$3,278.01		\$36,058.16		
	Revise Drawings	8	24	48	120	40	160					400	\$16,219.76	\$25,140.63		\$4,136.04		\$45,496.43		
	Revise Construction Cost Estimate			8		32					32	72	\$3,032.24	\$4,699.97		\$773.22		\$8,505.43		
	Supplemental Specifications											0	\$0.00	\$0.00		\$0.00		\$0.00		
	SUBTOTAL TASK 8																			\$90,060.02
9	Subsequent Revisions																			
	Coordination, Meetings	16	16	8								40	\$3,529.84	\$5,471.25	\$4,000.00	\$900.11		\$13,901.20		
	Surge Update Revisions (S-4, S-6)	4	16	24	80	40	80					244	\$9,950.88	\$15,423.86		\$2,537.47		\$27,912.22		
	Contract Splitting Coordination	4	16	24	40	40	60					184	\$7,622.28	\$11,814.53		\$1,943.68		\$21,380.50		
												0	\$0.00	\$0.00		\$0.00		\$0.00		
	SUBTOTAL TASK 9																			\$63,193.92
10	Elimination of PS-Shaft 9 and Shaft 7																			
	Credit for Elimination of Pump Station Shaft	-8	-32	-48	-96	-96					-16	-296	-\$14,739.84	-\$22,846.75	\$0.00	-\$3,758.66		-\$41,345.25		
	Credit for Elimination of Shaft 7	-4	-16	-32	-48	-60					-8	-168	-\$8,204.84	-\$12,717.50	\$0.00	-\$2,092.23		-\$23,014.58		
	Credit for Elimination of Shaft 3	-4	-16	-32	-48	-60					-8	-168	-\$8,204.84	-\$12,717.50	\$0.00	-\$2,092.23		-\$23,014.58		
	SUBTOTAL TASK 10																			-\$87,374.40
	SUBTOTALS	70	168	420	904	200	892	0	0	132	2786	\$123,437.08	\$191,327.47	\$4,000.00	\$31,476.46	\$0.00	\$350,241.01		\$350,241.01	

**EXHIBIT C - FINAL DESIGN
MODIFICATION #3**

1.	CITY: CITY OF COLUMBUS Dept of Public Utilities	2. CIP NO:	650704	3. VERSION:	2
4.	NAME OF CONSULTANT: PRIME ENGINEERING	5. PROJECT TITLE:	OARS - MOD #3		
6.	ADDRESS:	7. TYPE OF CONTRACT:			
8.	DIRECT LABOR (Specify labor categories):	EST. HRS.	HOURLY RATE	EST. COST	TOTALS
	PRINCIPAL	22	\$62.01	\$1,364.22	
	PROJECT MANAGER	368	\$50.60	\$18,620.80	
	DEPARTMENT MANAGER	80	\$47.33	\$3,786.40	
	ENGINEER III	570	\$38.00	\$21,660.00	
	ENGINEER II	379	\$34.00	\$12,886.00	
	ENGINEER I	0	\$0.00	\$0.00	
	ENGINEERING TECHNICIAN II	200	\$26.00	\$5,200.00	
	ENGINEERING TECHNICIAN I	419	\$24.00	\$10,056.00	
	SCIENTIST	0	\$0.00	\$0.00	
	ARCHITECT II	288	\$48.25	\$13,896.00	
	ARCHITECT I	344	\$37.15	\$12,779.60	
	DESIGN TECHNICIAN	284	\$27.55	\$7,824.20	
	CLERICAL	10	\$17.95	\$179.50	
	ADMINISTRATOR	9	\$20.12	\$190.62	
	DIRECT LABOR TOTAL:	2,973			\$108,443.34
9.	INDIRECT COSTS	RATE	X BASE =	EST. COST	
	PAYROLL	0.75	\$108,443.34	\$81,332.50	
	ADMINISTRATIVE	1.00	\$108,443.34	\$108,443.34	
	INDIRECT COSTS TOTAL				\$189,775.84
10.	OTHER DIRECT COSTS			EST. COST	
	a. TRAVEL				
	Transportation _____ mi @ \$ _____ / mile				
	b. EQUIPMENT, MATERIALS, SUPPLIES	QTY.	COST		
	SUBTOTAL:			\$0.00	
	c. SUBCONTRACTS			EST. COST	
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
				\$0.00	
	SUBTOTAL SUBCONTRACTS:			\$0.00	
	d. OTHER (Specify categories)			EST. COST	
	REPRODUCTIONS			\$0.00	
				\$0.00	
	OTHER SUBTOTAL:			\$0.00	
	e. OTHER DIRECT COSTS TOTAL:				\$0.00
11.	TOTAL COST				\$298,219.18
12.	FIXED FEE (10%)				\$29,821.92
13.	TOTAL PRICE				\$328,041.09
14.	MAXIMUM REIMBURSEMENT FOR STATE OF OHIO PERMIT TO INSTALL				\$0.00
15.	CONTINGENCIES				
16.	TOTAL PRICE INCLUDING CONTINGENCIES				\$328,041.09



PRIME

ENGINEERING & ARCHITECTURE, INC.

SHEET	1	OF	1
BY	AFM	DATE	8/216/09
PROJECT	OARS		
PROJECT NO.	C06015		
CHECKED BY		DATE	

MOD REQUEST FOR 2 CONTRACTS

RESTART INEFFICIENCY ON FDX, PEB, ROS AND WGC	40 HOURS
TIME NEEDED TO MAKE A SECOND SUBMITTAL	16
SHOW SPECIAL EMBEDS AT ODS, DESIGN FOR EXTRA ADJUSTABILITY	24
DELINEATE PHASE FOR SOME ITEMS ON THE DRAWINGS	16
ADDITIONAL DRAWING MANAGEMENT	16
ADDITIONAL PROJECT MANAGEMENT	16
 TOTAL	 128 HOURS
 AVEAGE HOURLY RATE	 \$109.48
 MOD REQUEST	 \$14,013

TASK	SUBTASK	TASK AND SUBTASK DESCRIPTION	POSITION DESCRIPTION													TOTALS			FIXED FEE	DIRECT COSTS	TOTAL FEE	
			PR	PM	DM	EIII	EII	EI	TECHII	TECHI	SCI	Arc II	Arc I	D. Tech	CL	ADM	HOURS	DIRECT LABOR COST				INDIRECT COST
DESIGNS		PRIME Engineering & Architecture Inc.															0	\$0.00	\$0.00	\$0.00		\$0.00
	1	OARS Flow Diversion Structure (ODS)	-4	-40	-8				-7								-59.407	-\$2,843.26	-\$4,975.71	-\$781.90		-\$8,600.87
	2	Design of Diversion Structure				-24	-42										-90	-\$2,916.00	-\$5,103.00	-\$801.90		-\$8,820.90
	3	Design of Over flow structure				-24	-42										-90	-\$2,916.00	-\$5,103.00	-\$801.90		-\$8,820.90
	4	Enlarged Partial plans				-6	-8										-30	-\$884.00	-\$1,547.00	-\$243.10		-\$2,674.10
	5	Sections/Reinforcement				-5	-16										-29	-\$926.00	-\$1,620.50	-\$254.65		-\$2,801.15
	6	Structural Details				-4	-16										-28	-\$888.00	-\$1,554.00	-\$244.20		-\$2,686.20
	7	OARS Pump Service Building	-8	-112	-22												-177	-\$8,114.54	-\$14,200.45	-\$2,231.50		-\$24,546.48
	8	Design of Pump station				-35	-84										-119	-\$4,186.00	-\$7,325.50	-\$1,151.15		-\$12,662.65
	9	Enlarged Partial plans				-6	-13										-47	-\$1,342.00	-\$2,348.50	-\$369.05		-\$4,059.55
	10	Sections/Reinforcement	-8			-6	-28										-70	-\$2,348.00	-\$4,109.14	-\$645.72		-\$7,102.94
	11	Structural Details				-6	-17										-39	-\$1,190.00	-\$2,082.50	-\$327.25		-\$3,599.75
	12	Monorail Details				-14	-17										-47	-\$1,494.00	-\$2,614.50	-\$410.85		-\$4,519.35
	13	Arc. Floor Plan/Roof plan										-6	-20	-32			-58	-\$1,914.10	-\$3,349.68	-\$526.38		-\$5,790.15
	14	Arch. Elevations										-6	-20	-32			-58	-\$1,914.10	-\$3,349.68	-\$526.38		-\$5,790.15
	15	Arch. Sections / Details										-6	-20	-32			-58	-\$1,914.10	-\$3,349.68	-\$526.38		-\$5,790.15
	16	Arch. Doors & Window Schedule / Details										-6	-20	-32			-58	-\$1,914.10	-\$3,349.68	-\$526.38		-\$5,790.15
	17	Architectural Details										-6	-24	-24			-54	-\$1,842.30	-\$3,224.03	-\$506.63		-\$5,572.96
	18																0	\$0.00	\$0.00	\$0.00		\$0.00
	19																0	\$0.00	\$0.00	\$0.00		\$0.00
	20																0	\$0.00	\$0.00	\$0.00		\$0.00
21																0	\$0.00	\$0.00	\$0.00		\$0.00	
22																0	\$0.00	\$0.00	\$0.00		\$0.00	
23																0	\$0.00	\$0.00	\$0.00		\$0.00	
24																0	\$0.00	\$0.00	\$0.00		\$0.00	
25																0	\$0.00	\$0.00	\$0.00		\$0.00	
26																0	\$0.00	\$0.00	\$0.00		\$0.00	
27																0	\$0.00	\$0.00	\$0.00		\$0.00	
28																0	\$0.00	\$0.00	\$0.00		\$0.00	
ADDERS	29	General	4	66	14											102	\$4,718.26	\$8,256.96	\$1,297.52		\$14,272.74	
	30	New Pump Electrical Building	8	88	18											140	\$6,476.82	\$11,334.44	\$1,781.13		\$19,592.38	
	31	Pile Plan				26	28									63	\$2,156.00	\$3,773.00	\$592.90		\$6,521.90	
	32	Ground Floor plan				26	28						18	26	28	140	\$4,881.80	\$8,543.15	\$1,342.50		\$14,767.45	
	33	Roof Plan				26	28					18	26	28	140	\$4,881.80	\$8,543.15	\$1,342.50		\$14,767.45		
	34	Elevations				26	28					18	26	28	140	\$4,881.80	\$8,543.15	\$1,342.50		\$14,767.45		
	35	Sections				26	28					18	26	28	180	\$5,841.80	\$10,223.15	\$1,606.50		\$17,671.45		
	36	Details				26	28					18	26	28	180	\$5,841.80	\$10,223.15	\$1,606.50		\$17,671.45		
	37	Schedules										18	26	28	126	\$3,901.80	\$6,828.15	\$1,073.00		\$11,802.95		
	38	New ODS / Pump Building with a Bridge Crane	12	134	28											236	\$10,461.76	\$18,308.08	\$2,876.98		\$31,646.82	
	39	Floor Plan (2 sheets)				30	32					24	36	34	182	\$6,284.10	\$10,997.18	\$1,728.13		\$19,009.40		
	40	Crane Runway Plan (2 sheets)				30	32					24	36	34	182	\$6,284.10	\$10,997.18	\$1,728.13		\$19,009.40		
	41	Roof Plan (2 sheets)				30	32					24	36	34	182	\$6,284.10	\$10,997.18	\$1,728.13		\$19,009.40		
	42	Elevations				30	32					24	36	34	182	\$6,284.10	\$10,997.18	\$1,728.13		\$19,009.40		
	43	Sections				30	32					24	36	34	182	\$6,284.10	\$10,997.18	\$1,728.13		\$19,009.40		
	44	Details				30	32					24	36	34	182	\$6,284.10	\$10,997.18	\$1,728.13		\$19,009.40		
	45	Schedules										24	36	34	120	\$4,056.10	\$7,098.18	\$1,115.43		\$12,269.70		
	46	New ODS / Below Grade Concrete Structure	12	90	26											192	\$8,192.70	\$14,337.23	\$2,252.99		\$24,782.92	
	47	Plan at Shaft Interface (2 sheets)				36	34					26				96	\$3,148.00	\$5,509.00	\$865.70		\$9,522.70	
	48	Plan at Lower Level (2 sheets)				36	34					26				96	\$3,148.00	\$5,509.00	\$865.70		\$9,522.70	
	49	Plan at upper level (2 sheets)				36	34					26				96	\$3,148.00	\$5,509.00	\$865.70		\$9,522.70	
	50	Elevations				36	34					26				96	\$3,148.00	\$5,509.00	\$865.70		\$9,522.70	
	51	Sections				36	34					26				96	\$3,148.00	\$5,509.00	\$865.70		\$9,522.70	
	52	Details				36	34					26				96	\$3,148.00	\$5,509.00	\$865.70		\$9,522.70	
	53															0	\$0.00	\$0.00	\$0.00		\$0.00	
	54	New Miscellaneous	6	48	14											68	\$3,463.48	\$6,061.09	\$952.46		\$10,477.03	
55	Meetings		26		28	26					26				106	\$4,518.10	\$7,906.68	\$1,242.48		\$13,667.25		
56	Project Coordination				28	26							10		90	\$2,943.50	\$5,151.13	\$809.46		\$8,904.09		
57	Site visit														0	\$0.00	\$0.00	\$0.00		\$0.00		
58	Specifications				10	10									20	\$720.00	\$1,260.00	\$198.00		\$2,178.00		
59	Cost Estimate				28	26					6	20	20		100	\$3,531.50	\$6,180.13	\$971.16		\$10,682.79		
60	QA / QC				28										28	\$1,064.00	\$1,862.00	\$292.60		\$3,218.60		
61	Submittals		26	10	10	10					10	10	10	10	116	\$4,259.10	\$7,453.43	\$1,171.25		\$12,883.78		
62		22	326	80	554	379	0	128	419	0	288	344	284	10	10	2843.59	\$103,838.14	\$181,716.74	\$28,555.49	\$0.00	\$314,110.37	
63		\$62.01	\$50.60	\$47.33	\$38.00	\$34.00	\$0.00	\$26.00	\$24.00	\$0.00	\$48.25	\$37.15	\$27.55	\$17.95	\$20.12							
64																						

PR - PRINCIPAL
 PM - PROJECT MANAGER
 DM - DIVISION MANAGER
 EIII - ENGINEER III

\$62.01 /HR	EII - ENGINEER II	\$34.00 /HR	Arc II - Architect II	\$48.25 /HR
\$50.60 /HR	EI - ENGINEER I	\$0.00 /HR	Arc I - Architect I	\$37.15 /HR
\$47.33 /HR	TECH II - TECHNICIAN II	\$26.00 /HR	D.Tech - Design Technician	\$27.55 /HR
\$38.00 /HR	TECH I - TECHNICIAN I	\$24.00 /HR	CL - CLERICAL	\$17.95 /HR
	SCI - SCIENTIST	\$0.00 /HR	ADM - ADMINISTRATOR	\$20.12 /HR

Indirect Cost Multiplier
 Fixed Fee

1.75
 0.10

2843.59 \$103,838.14 \$181,716.74 \$28,555.49 \$0.00 \$314,110.37