

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

MEMORANDUM

TO: Authority Board Members

FROM: Claude Miller 
Director of Procurement

DATE: October 28, 2014

RE: Approval of Supplemental Agreement No. 3
URS Corporation Southern for
S.R. 408/S.R. 417 Ultimate Interchange Improvements
Project No. 253F; Contract No. 000818

Board approval is requested for the referenced supplemental agreement with URS Corporation Southern in the amount of \$259,048.79.

In June 2013, the design effort for Project No. 253F (S.R. 408/S.R. 417 Ultimate Interchange Improvements) was put on hold at the 100% plans stage awaiting funding to move forward into the construction phase. The FY 2015 to FY 2019 Five-Year Work Plan (adopted in September 2014) includes funding for a phased construction approach for this project.

The scope of work contemplated in this supplemental agreement consists of preparation of a Phase 1 bid set of design documents from the previous 100% set of design plans. The Phase 1 project will include median widening of S.R. 417 from south of Lake Underhill Road to S.R. 408. Phase 1 will also include widening of the S.R. 417 bridges over Lake Underhill Road and Econlockhatchee Trail, construction of the necessary noise walls and stormwater ponds. The Consultant will also review changes in design standards and criteria that have been enacted since the project was put on hold and update the Phase 1 plans accordingly.

This Supplemental Agreement will be a continuation of an agreement previously approved by the Authority for this project.

Original Contract Amount	\$5,000,000.00
Supplemental Agreement No. 1	550,000.00
Supplemental Agreement No. 2	0.00
Amount of Requested Authorized Adjustment	<u>\$ 259,048.79</u>
Total Revised Contract Amount	<u>\$5,809,048.79</u>

cc: Joe Berenis, Deputy Executive Director, Engineering, Operations, Construction and Maintenance
Laura Kelley, Deputy Executive Director, Finance and Administration
Glenn Pressimone, Director of Engineering
Contract File

SUPPLEMENTAL AGREEMENT NO. 3
TO
AGREEMENT FOR PROFESSIONAL SERVICES
FINAL DESIGN
SR 408 / SR 417 ULTIMATE INTERCHANGE IMPROVEMENTS

THIS SUPPLEMENTAL AGREEMENT is made and entered into this _____ day of _____, 2014, by and between the CENTRAL FLORIDA EXPRESSWAY AUTHORITY (F/K/A ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY), an agency of the State of Florida, hereinafter called the "AUTHORITY" and the consulting firm of URS CORPORATION SOUTHERN. of Orlando, Florida, hereinafter called the "CONSULTANT".

WHEREAS, Articles 2.00 and 12.0 of the Agreement for Professional Services between the AUTHORITY and the CONSULTANT, dated the 14th Day of November 2011, provides that in the event that the AUTHORITY shall change the amount of work in Exhibit A of the said Agreement for Professional Services, the fees to be paid to the CONSULTANT shall be subject to adjustment as shall be mutually agreed upon:

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The AUTHORITY hereby authorizes the CONSULTANT to proceed with additional services as outlined in the CONSULTANT'S October 20, 2014 correspondence to the AUTHORITY, which is attached hereto and made a part of this Supplemental Agreement.
2. Exhibit "B", Article 2.00 of the Agreement for Professional Services is amended as follows:
 - a. The Salary related costs are adjusted upwards by \$180,162.66 to \$3,525,929.59.
 - b. Direct Expenses are adjusted upwards by \$1,572.25 to \$108,894.65.
 - c. The Field Survey costs remain unchanged at \$189,434.80.
 - d. The Subcontract Items are adjusted upward by \$77,313.88 to \$1,954,040.83.
 - WBQ \$77,313.88
 - e. The Allowance remains unchanged at \$30,748.92.
 - f. The total Maximum Limiting Amount is increased by \$259,048.79 to \$5,809,048.79.
3. All provisions of said Agreement for Professional Services, or any Supplements thereto, not modified by the above, shall remain in full force and effect, the same as if they had been set forth herein. In the event of a conflict between the provisions of this Supplemental Agreement and of the said Agreement for Professional Services, or any Supplements thereto, the provisions of this

Supplemental Agreement, to the extent such provision is reasonable, shall take precedence.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed, in triplicate, the day and year first above written.

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Attest: _____
Assistant Secretary

By: _____
Director of Procurement

URS CORPORATION SOUTHERN

Attest: _____
Print Name:

By: _____
Title:

Approved as to form and execution only.

General Counsel for the AUTHORITY



October 20, 2014

Mr. Glenn Pressimone, P.E.
CFX Project Manager
Central Florida Expressway Authority
4974 ORL Tower Road
Orlando, FL 32807

**RE: SR 417/SR 408 Ultimate Interchange Improvements
CFX Project # 253F
Contract # 000818
Contract Amendment No. 3 Request – Additional Information**

Dear Glenn:

Per your request, I am providing additional information pertaining to the Contract Amendment No. 3 request.

A summary of the remaining fees on this contract and those being requested for CA No. 3 can be found on the attached CA No. 3 Fee Estimate. In review of the remaining fees to complete the Phase 1 Final plans, URS and WBQ will require addition funds. All other subs will have minor to no additional effort. RS&H does have a moderate amount of work to produce these plans. I have attached their fee estimate to produce the Phase 1 plans which is within their remaining fee.

I have also attached a revised request for Contract Amendment No. 3 Fee estimate which deducts the remaining labor fees for URS and WBQ.

Should you have any questions, please do not hesitate to contact me at (407) 422-0353.

Sincerely,
URS Corporation

A handwritten signature in black ink, appearing to read "Stephen Noppinger".

Stephen Noppinger, P.E.
Project Manager

Enclosures

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Project Number: 253F

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)

Orange County

URS Corporation

CFX Contract No.: 000818

Summary of Remaining Fees and Contract Amendment Fee

Firm	Contract Fee	Invoiced	Fee Remaining	Phase 1 Cost	CA #3 Request	Comment
URS (Labor only without survey)	\$3,376,515.85	\$3,333,940.09	\$42,575.76	\$222,738.42	\$180,162.66	
WBQ	\$685,768.16	\$678,379.36	\$7,388.80	\$84,702.68	\$77,313.88	
RS&H	\$279,304.38	\$252,592.73	\$26,711.65	\$18,322.75	\$0.00	Phase 1 Effort to be completed within remaining fee.
Stantec (C3TS)	\$455,002.80	\$429,247.75	\$25,755.05		\$0.00	Phase 1 Effort to be completed within remaining fee.
Nadic	\$221,049.39	\$208,824.13	\$12,225.26		\$0.00	Phase 1 Effort to be completed within remaining fee.
Southeastern	\$56,963.26	\$50,749.01	\$6,214.25		\$0.00	Phase 1 Effort to be completed within remaining fee.
Ardaman	\$178,638.96	\$177,168.32	\$1,470.64		\$0.00	Phase 1 Effort to be completed within remaining fee.
				Subtotal	\$257,476.54	
Expenses (URS)					\$1,572.25	
				TOTAL	\$259,048.79	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY												URS Corporation		
Project Number: 253F												CFX Contract No.: 000818		
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)														
SUMMARY FEE SHEET														
CONTRACT SECTION	ACTIVITY MANHOURS	Project Manager	Deputy PM	Senior Engineer	Engineer	Sr. Roadway Technician	Roadway Technician	Clerical	Sr. Surveyor & Mapper	Surveyor & Mapper	Survey Technician	Total Manhours	Total Cost	Avg. Rate
402 & 409	Governmental Agencies & Public Meetings	4	3	3	3	1	0	0	0	0	0	14	\$850.69	\$60.76
403	Preliminary Design Report-Review	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
404	Surveys and Mapping	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
405	Geotechnical Investigation	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
406	Contamination Impact Analysis	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
407	Pavement Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
408	Borrow Pits	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
410	Environmental Permits	2	4	9	19	12	12	3	0	0	0	61	\$2,636.06	\$43.21
411	Utilities	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
412	Roadway Design	16	24	60	121	80	80	21	0	0	0	402	\$17,449.20	\$43.41
413	Structures Design	11	71	71	88	106	0	6	0	0	0	353	\$16,266.76	\$46.08
414	Drainage Design	18	27	68	136	90	90	23	0	0	0	452	\$19,633.20	\$43.46
415	Roadway Lighting	11	17	42	83	55	55	14	0	0	0	277	\$12,050.45	\$43.50
416	Traffic Engineering	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
417 & 418	Signal & Pav't Marking Plans	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
419	Right-of-Way Surveys	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
420	Cost Estimates	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
421	Speical Provisions and Specifications	1	2	4	5	3	2	1	0	0	0	18	\$844.97	\$46.94
422	Fiber Optic Network (FON)	17	26	65	129	86	86	22	0	0	0	431	\$18,722.16	\$43.44
423	Toll Plazas	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
424	Post Design Services	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
700	Administration	0	0	0	0	0	0	0	0	0	0	0	\$0.00	

TOTAL MANHOURS	80	174	322	584	433	325	90	0	0	0	2,008			
WAGE RATES	\$86.24	\$55.36	\$61.78	\$41.40	\$30.11	\$37.92	\$27.72	\$52.16	\$30.80	\$30.80	N/A			
TOTAL DIRECT COSTS	\$6,899.20	\$9,632.64	\$19,893.16	\$24,177.60	\$13,037.63	\$12,324.00	\$2,494.80	\$0.00	\$0.00	\$0.00	N/A	\$88,459.03		

Salary Related Costs

Total Activity Salary Costs	\$88,459.03
Overhead Activities	124.82%
Subtotal Salary Related Costs (Limiting Amount)	\$198,873.59

Operating Margin (Fixed Fee)	12.00%	\$23,864.83
------------------------------	--------	-------------

Expenses

Direct Reimbursables (Out-of-Pocket)	\$1,572.25
Permit Fees	\$0.00
Subtotal Expenses (Lump Sum)	\$1,572.25

Subconsultants

WBQ	\$84,702.68
Subtotal Subconsultants (Limiting Amount)	\$84,702.68

Fee Estimate to Complete Phase 1 Plans	\$309,013.35
--	--------------

Remaining Fees

URS	\$42,575.76
WBQ	\$7,388.80
	\$49,964.56

GRAND TOTAL (Maximum Limiting Amount)	\$259,048.79
---------------------------------------	--------------

CENTRAL FLORIDA EXPRESSWAY AUTHORITY
Project Number: 253F
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)
Orange County

URS Corporation
CFX Contract No.: 000818

HIGHWAY TASK LIST

Governmental Agencies & Public Meetings
Section 402 & 409

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Coordination w/ FDOT	LS			N/A	0		
2. Coordination w/ City of Orlando	LS			N/A	0		
3. Coordination w/ Orange County	LS	1	6	N/A	6		New improvements along Econ and Lake Underhill
4. Coordination w/ SJWMD	LS			N/A	0		
5. FDEP	LS			N/A	0		
6. Public Meetings	EA			N/A	0		
7. Neighborhood Assoc. Meetings	EA			N/A	0		
8. Authority Meetings	EA			N/A	0		
9. City of Orlando Meetings	EA			N/A	0		
10. Orange County Meetings	EA			N/A	0		
11. Preparation of Rdway/Bridge Exhibits	EA			N/A	0		
12. Other Agency Coordination & Meeting	LS	1	8	N/A	8		Stantec
TOTAL					14		

Environmental Permits							
Section 410							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Pre-App Coord with CFX & RS&H	LS	1	16	N/A	16		Pre-app meeting and misc coordination
2. Prepare ERP Application	LS	1	40	N/A	40		Permit Modification
3. RAI Response	LS	1	0	N/A	0		
4. Aerial Map	EA			0	0		
5. Prepare Local Permits	LS			N/A	0		
6. Landowner Addresses	LS			N/A	0		
7. Mitigation Plans	Sheet				0		
SUBTOTAL					56	0	
8. Quality Control	5%	1	N/A	N/A	3		
9. Supervision	5%	1	N/A	N/A	3		
10. Preliminary Field Review	EA	1	0	N/A	0		
11. Agency Field Review	EA	1	0	N/A	0		
12. Agency Pre-App Meeting	EA	1	0	N/A	0		
TOTAL					62	0	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY						URS Corporation	
Project Number: 253F						CFX Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)							
Orange County							
HIGHWAY TASK LIST							
Roadway Design							
Section 412							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Typical Section Package	LS			N/A	0		
2. Access Management	LS			N/A	0		
3. Horizontal /Vertical Master Design Files	LS	1	42	N/A	42		Temporary Ramp D1X. Revise to reflect Phase 1 only.
4. Design Variations and Exceptions	LS			N/A	0		
5. Key Map	Sheet	1	2	1	2		Revisions, legend, board members
6. Typical Sections	Sheet	22	1	22	22		Edit, delete, and renumber, new Temp Ramp Section
7. General Notes	Sheet				0		
8. Summary of Quantities	Sheet	9	0.5	9	5		Revise, delete and renumber
9. Project Layout	Sheet	3	2.5	3	8		Edit and renumber, add new temp ramp
10. Roadway Plans	Sheet	43	1.75	43	75		Edit, delete and renumber, new temp ramp to reflect Phase I construction only. Update Econ Trail topo to reflect latest improvements.
11. Roadway Profiles	Sheet	1	8	1	8		New temporary ramp
12. Cross Street Plan-Profile	Sheet				0		
13. Special Profiles	Sheet				0		
14. Interchange Layout	Sheet	3	6	3	18		Revise and renumber, add new temp
15. Intersection Detail	Sheet				0		
16. Ramp Terminal Details	Sheet	10	1.5	10	15		9 edit,delete and renumber @ .5 hrs, 1 new ramp terminal
17. Misc. Construction Details	Sheet	3	0.25	3	1		Non Std Shoulder Transisition-edit & re
18. Cross Section Design Files	LS	1	42	N/A	42		new temporary ramp, modify slopes for phase construction. Update for Phase I
19. Cross Section Pattern	Sheet	2	2	2	4		edit, add new temporary ramp
20. Roadway Soil Survey	Sheet				0		
21. Roadway Cross Sections	EA	176	0.2	176	35		edit, renumber, add new temp ramp.
22. Baseline Control/Curve Data	Sheet	7	2.5	7	18		Edit, delete an renumber
23. Computation Book & Quantities	LS	1	40	N/A	40		Recalculate for phase construction. Revise comp book.
24. Summary of Pay Items	LS	1	8	N/A	8		Revise and delete
SUBTOTAL				280	343	0	
25. Quality Control	5%	1	N/A	N/A	17		
26. Supervision	5%	1	N/A	N/A	18		
27. Field Reviews	EA	1	8	N/A	8		2 people x 4 hrs
28. Technical Meetings	EA	8	2	N/A	16		Bi weekly meetings
TOTAL				280	402	0	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY						URS Corporation	
Project Number: 253F						CFX Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)							
Orange County							
HIGHWAY TASK LIST							
Drainage Design							
Section 414							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Determine Base Clearance Elev	Per Loc.	0	0	N/A	0		
2. Pond Siting Analysis & Report	Per Basin			N/A	0		
3. Design of Cross Drains	EA	2	16	N/A	32		Re-evaluate for phase I construction
4. Design of Roadway Ditches	Ditch/Mile	0.5	24	N/A	12		Estimate 1/2 mile of new ditches for re-routing of phase I condition (Infield areas and SR 417 median).
5. Design of Outfalls	EA	0	12	N/A	0		
6. Design of Pond	EA	1	30	N/A	30		Redefine Pond 13 Basin area based on Phase I Concept and refine pond design for interim condition.
7. Design of Ditch Treatment	Per System	0	0	N/A	0		
8. Design of Flood Plain Comp Area	EA	0	0	N/A	0		
9. Design of Storm Drains	EA	24	3	N/A	72		Modify 14 previously designed structures and estimate 10 new structures or modify existing structures based on Phase I concept
10. Optional Culvert Material	LS	0	0	N/A	0		
11. French Drain Systems	Per 1K Ft	0	0	N/A	0		
12. Drainage Wells	EA	0	0	N/A	0		
13. Drainage Design Doc Report	LS	1	40	N/A	40		Updated drainage report to only include phase I documents. This includes renumbering and adjustments to the report.
14. Bridge Hydraulic Report	EA	0	0	N/A	0		

CENTRAL FLORIDA EXPRESSWAY AUTHORITY						URS Corporation
Project Number: 253F						CFX Contract No.: 000818
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)						
Orange County						
HIGHWAY TASK LIST						
15. Drainage Map	Sheet	4	27.25	4	109	DM(1) Flood data table to be revised @ 1 hr, DM(2) Ramp D1 Rework Required @ 8 hrs, DM(3) Remove, DM(4) Remove, DM(5) Rework Required @ 24 hrs, DM(6) Rework Required @ 24 hrs, DM (7) Rework Required @ 16 hrs, Existing Drainage Structure Sheets 1-6 Rework Required @ 36 hrs total [28 hrs per sheet previously used]
16. Interchange Drainage Map	Sheet	0	0	N/A	0	
17. Summary of Drainage Structures	Sheet	3	6	3	18	Revise all sheets, remove structures not being used.
18. Optional Pipe/Culvert Material	Sheet	0	0	N/A	0	
19. Drainage Structure Sheet	EA	24	3	N/A	72	Assume 24 drainage structures (14 previously designed to be modified and 10 new structures or modifications to existing structures)
20. Misc Drainage Details	Sheet	0	0	N/A	0	
21. Lateral Ditch Plan-Profile	Sheet	0	0	N/A	0	
22. Lateral Ditch Cross Sections	EA	0	0	N/A	0	
23. Retention/Det Pond Details	Sheet	4	0.2	4	1	Re-number sheets
24. Pond Cross Sections	EA	7	0.2	7	1	Re-number sheets
25. Erosion Control Plan	Sheet	0	0	0	0	
26. SWPPP	Sheet	0	0	0	0	
27. Summary of Pipe Desilting	Sheet	1	2	1	2	Update Sheet with Phase 1 quantities
28. Bridge Deck Spread and Downspout De	LS	0	0	0	0	
SUBTOTAL:				19	389	
29. Quality Control	5%	1	N/A	N/A	19	
30. Supervision	5%	1	N/A	N/A	20	
31. Field Reviews	EA	1	8	N/A	8	
32. Technical Meetings	EA	8	2	N/A	16	Bi-weekly meetings
TOTAL				19	452	0

CENTRAL FLORIDA EXPRESSWAY AUTHORITY						URS Corporation	
Project Number: 253F						CFX Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)							
Orange County							
HIGHWAY TASK LIST							
Roadway Lighting							
Section 415							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Lighting Justification Report	EA	0	0	N/A	0		
2. Voltage Drop Calculations	LS	1	48	N/A	48		Analysis and Voltage drop calculations for both feeder and branch circuits for Phase I.
3. Reference & Master Design Files	LS	1	90	N/A	90		Updating master Lighting design file to reflect Phase I design.
4. Temporary Lighting Analysis	LS	1		N/A	0		
5. Design Documentation	LS	1	8	N/A	8		includes compiling all design documentation on a CD ROM and providing with all Cad files for final submittal package. Includes hours for new lighting photometrics and print-outs.
6. Key Sheet	Sheet	1	2	1	2		Revise Key with new sheet numbers remove OOCEA reference, update CFX board members.
7. Summary of Pay Items	Sheet			0	0		
8. Tabulation of Quantities	Sheet	5	4	5	20		Revise and edit
9. General Notes/Pay Item Notes	Sheet	1	4	1	4		Revise and edit
10. Pole Data	Sheet	4	3	4	12		Remove and revise pole data tables to Phase I design.
11. Service Point Details	Sheet	1	4	1	4		Revise per Phase I design plus new detail
12. Project Layout	Sheet			0	0		NA
13. Plan Sheet	Sheet	23	2	23	46		Revise per Phase I design.
14. Special Details	Sheet	1	8	1	8		Ramp Flashing Beacon modification
15. Temporary Lighting Data & Detail	Sheet			0	0		NA
SUBTOTAL				36	242	0	
16. Quality Control	5%	1	N/A	N/A	12		
17. Supervision	5%	1	N/A	N/A	13		
18. Field Review	EA	1	8	N/A	8		1 Field Visit - 1 person/8hrs.
19. Coordination with Utility Company	LS	1	2	N/A	2		
TOTAL				36	277	0	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY
Project Number: 253F
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)
Orange County

URS Corporation
CFX Contract No.: 000818

HIGHWAY TASK LIST

Cost Estimates
Section 420

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Initial Setup	LS			N/A	0		
2. 30% Construction Cost Est.	LS			N/A	0		
3. 60% Construction Cost Est.	LS			N/A	0		
4. 90% Construction Cost Est.	LS			N/A	0		
5. 100% Construction Cost Est.	LS	1	16	N/A	16		
6. Pre-Bid Construction Cost Est.	LS	1	16	N/A	16		
7. Final Construction Cost Est.	LS	1	16	N/A	16		
SUBTOTAL				0	48	0	
6. Quality Control	5%	1	N/A	N/A	2		
7.. Supervision	5%	1	N/A	N/A	3		
TOTAL				0	53	0	

Special Provisions and Specifications							
Section 421							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Roadway	LS			N/A	0		
2. Drainage	LS			N/A	0		
3. Structures	LS			N/A	0		
4. Signing & Pavement Marking	LS			N/A	0		
5. Signalization/FON	LS	1	16	N/A	16		
SUBTOTAL				0	16	0	
6. Quality Control	5%	1	N/A	N/A	1		
7. Supervision	5%	1	N/A	N/A	1		
TOTAL				0	18	0	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY						URS Corporation	
Project Number: 253F						CFX Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)							
Orange County							
HIGHWAY TASK LIST							
Fiber Optic Network (FON)							
Section 422							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. ITS Analysis	LS	1	8	N/A	8		Review 599-511 TMS site details for new camera location to view under Ramp E and SR 417 bridge.
2. Communications Plan Analysis	LS	1	24	N/A	24		Coordination needed to accommodate additional camera and unexpected roadway impacts.
3. Lightning Protection Analysis	LS			N/A			NA
4. Power Subsystem	LS	1	4	N/A	4		Revise for Phase I
5. Voltage Drop Calculations	LS	1	3	N/A	3		Add an additional CCTV to existing TMS pole (408-17.7EB).
6. Design Documentation	LS	1	4	N/A	4		Update for Phase I
7. Existing ITS System	LS	1	8	N/A	8		2 new detail sheets x 4hrs. Per sheet - one sheet for conduit routing and one for new camera to TMS pole
8. Queue Analysis	LS			N/A	0		NA
9. Reference and Master ITS Design File	LS	1	16	N/A	16		All efforts required to revise master ITS design file to reflect Phase I work.
10. Reference and Master Communications Design File	LS	1	8	N/A	8		Edit and revise for Phase I
11. Pole Elevation Analysis	LS	1	24	N/A	24		Per CFX request provide bucket truck analysis for all camera sites to ensure 100% camera coverage. 3 sites using one bucket truck. Lane closure will be paid for under CFX maintenance contract. 2 people at 12hrs
12. Sign Panel Design Analysis	LS			N/A	0		NA
13. Quantities	LS	23	4	23	92		1 sheet x 4hr + 22 Sheets x 4 hr = 92 hrs. Incorporate new pay items
14. Cost Estimate		1	4	N/A	4		1 Engineer's Cost Estimate
15. Technical Special Provisions		1	8	N/A	8		Revise specs and update per new CFX standards.
16. Other ITS Analysis				N/A	0		
17. Key Sheet	Sheet	1	2	1	2		Revise Key with new sheet numbers remove OOCEA reference, update CFX board members.
19. Tabulation of Quantities	Sheet	4	5	4	20		1 sheet @ 8 hrs plus 3 sheets @ 4 hrs = 20 hours
20. General Notes	Sheet	1	3	1	3		3 hrs. to Review / Modify Standard existing general notes and pay item notes
21. Project Layout	Sheet	2	4	2	8		2 Sheets * 4 hrs./sheet
22. Typical and Special Details	Sheet	31	1	31	31		Revise 31 current details to reflect new CFX standard details. Project Specific Details include: Plan/Elevation Details for CCTV, TMS, & DCS mounting, Typical Cabinet Layout Details & Wiring Diagrams

Staffhours 10-24-14.xlsx

October 10, 2014

CENTRAL FLORIDA EXPRESSWAY AUTHORITY						URS Corporation
Project Number: 253F						CFX Contract No.: 000818
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)						
Orange County						
HIGHWAY TASK LIST						
23. Plan Sheet	Sheet	23	1	23	23	23 Plan Sheets Phase 1 revisions
24. ITS Communications Plans	Sheet	1	8	1	8	100 Allocation Chart and Node Diagrams
25. Fiber Optic Splice Diagrams	EA	10	2	10	20	10 Splice Diagrams
26. Lightning Protection Plans	EA			0	0	NA
27. Cross Sections	EA	3	2	3	6	3 CCTV cross sections at new locations
28. Guide Sign Work Sheet	EA			0	0	NA
29. Speical Service Point Details	EA			0	0	NA
30. Strain Pole Schedule	PI			0	0	NA
31. Overhead / Cantilever Sign Structures	EA			0	0	NA
32. Other Overhead Sign Structures (Long Span, Monotube, etc.)	EA	1	24	1	24	Modify existing TMS pole structure for new CCTV mount.
33. Temporary FON	EA			0	0	NA
34. Interim Standards	LS			0		NA
SUBTOTAL				100	348	
35. Quality Control	5%	1	N/A	N/A	17	
36. Supervision	5%	1	N/A	N/A	18	
37. Power Company Coord.	LS	1	4	N/A	4	
38. Technical Meetings	EA	4	2	N/A	8	
39. Field Review	EA	3	12	N/A	36	TMC, Bucket truck (2 days)
TOTAL				100	431	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

URS Corporation

Project Number: 253F

CFX Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)
Orange County

Structure Design Section 413

Task No.	Task	Units	Design and Production Staff Hours				Comments				
			No. of Units	Hours per Unit	No. of Sheets	Total					
	General Drawings										
1	Index of Drawings	Sheet	9	4	9	36	Edit and update for Phase I				
2	Project Layout	Sheet	1	4	1	4	Edit and update for Phase I				
3	General Notes and Bid Item Notes	Sheet	3	4	3	12	Edit and update for Phase I				
3a	U-Beam General Notes and Bid Item Notes	Sheet				0					
4	Incorporate FDOT Standards	Sheet				0					
4a	Develop U-Beam Standards & Drawings	Sheet				0					
5	Incorporate Report of Core Borings	Sheet	1	4		4	Edit and update for Phase I				
6	Existing Bridge Plans	LS				0					
7	Computation Book and Quantities	LS	1	40	N/A	40	Edit and update for Phase I				
8	Cost Estimates	LS	1	8	N/A	8	Edit and update for Phase I				
9	Miscellaneous Structure Details	Sheet	5	1	5	5	Edit and update for Phase I				
10	Technical Special Provisions	LS	1		N/A	0					
Structures - Miscellaneous Tasks & Drawings Subtotals					18	109					
Task No.	Task	Total	Task 10	Task 11	Task 12	Task 13	Task 14	Task 15	Task 16	Task 17	Task 18
10.1	Bridge 1: SR 417 NB over Lake Underhill	12				12					
10.2	Bridge 2: SR 417 SB over Lake Underhill	12				12					
10.3	Bridge 3: SR 417 NB over Econ Trail										
10.4	Bridge 4: SR 417 SB over Econ Trail										
10.5	Bridge 5: Ramp C over Econ Trail										
10.6	Bridge 6: Ramp E over SR 408	0				0					
10.7	Bridge 7: Ramp C Flyover (Concrete)	0				0					
10.8	Bridge 8: Ramp A Flyover (Concrete)	0				0					
10.9	Bridge 9: Ramp D (Concrete)	0				0					
10.10	Bridge 10: Ramp D1/A (Concrete)	0				0					
10.11	Bridge 11:	0									
10.12	Bridge 12:	0									
10.13a	Retaining Walls @ Bridges	66								66	
10.13b	Retaining Walls along Roadway	28								28	
10.14	Miscellaneous Structures	84									84
10.15	Conceptual Analysis/Study Phase	0									
Structures Technical Subtotals		202	0	0	0	24	0	0	0	94	84
Task No.	Task	Units	No. of Units	Hours per Unit	Total	Comments					
11	Field Reviews	LS									
12	Technical Meetings	LS									
13	Quality Assurance / Quality Control	LS	%	5%	16						
14	Independent Peer Review	LS	%	0%	0						
15	Supervision	LS	%	5%	16						
Structures Non-Technical Subtotals					32						
16	Coordination	LS	%	3%	10						
Structures - Miscellaneous Tasks & Drawings, Non-Technical, & Coordination Totals					353						

CENTRAL FLORIDA EXPRESSWAY AUTHORITY							URS Corporation
Project Number: 253F							CFX Contract No.: 000818
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)							
Orange County							
Structure Design							
Section 413							
Bridge 1: SR 417 NB over Lake Underhill							
Task No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
General Layout Design and Plans							
13.1	Overall Bridge Final Geometry	LS	1			0	
13.2	Expansion/Contraction Analysis	EA Unit	1			0	
13.3	General Plan and Elevation	Sheet	1			0	
13.4	Construction Staging	Sheet	1			0	
13.5	Approach Slab Plan and Details	Sheet	4			0	
13.6	Miscellaneous Details	Sheet	23	0.5	23	12	Revise, edit, renumber all sheets
End Bent Design and Plans							
13.7	End Bent Geometry	EA	2			0	
13.8	Wingwall Design and Geometry	EA Bent				0	
13.9	End Bent Structural Design	EA	2			0	
13.10	End Bent Plan and Elevation	Sheet	4			0	
13.11	End Bent Details	Sheet	3			0	
Intermediate Bent Design and Plans							
13.12	Bent Geometry	EA Bent	0	0		0	
13.13	Bent Stability Analysis	EA Design	0	0		0	
13.14	Bent Structural Design	EA Design	0	0		0	
13.15	Bent Plan and Elevation	Sheet	0	0	0	0	
13.16	Bent Details	Sheet	0	0	0	0	
Pier Design and Plans							
13.17	Pier Geometry	EA Pier	0	0		0	
13.18	Pier Stability Analysis	EA Design	0	0		0	
13.19	Pier Structural Design	EA Design	0	0		0	
13.20	Pier Plan and Elevation	Sheet	0	0	0	0	
13.21	Pier Details	Sheet	0	0	0	0	
Misc. Substructure Design and Plans							
13.22	Foundation Layout	Sheet	1			0	
13.23	Fender System	LS				0	
Superstructure Deck Design and Plans							
13.24	Finish Grade Elevation (FGE) Calculation	LS	1			0	
13.25	Finish Grade Elevations	Sheet	1			0	
13.26	Bridge Deck Design	EA section	1			0	
13.27	Bridge Deck Reinforcing and Concrete Quantities	EA Unit	2			0	
13.28	Superstructure Plan	Sheet	1			0	
13.29	Superstructure Section	Sheet	1			0	
13.30	Miscellaneous Bridge Deck Details	Sheet	1			0	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY**URS Corporation****Project Number: 253F****CFX Contract No.: 000818****DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)****Orange County****Structure Design****Section 413****Bridge 1: SR 417 NB over Lake Underhill**

Task No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
Reinforcing Bar Lists							
13.31	Reinforcing Bar List	Sheet	3			0	
Continuous Concrete Girder Design							
Longitudinal Analysis							
13.33	Section Properties	LS	1	0		0	
13.34	Material Properties	LS	1	0		0	
13.35	Construction Sequence	EA Unit	0	0		0	
13.36	Tendon Layouts	EA Unit	0	0		0	
13.37	Live Load Analysis	EA Unit	0	0		0	
13.38	Temperature Gradient	EA Unit	0	0		0	
13.39	Time Dependent Analysis	EA Unit	0	0		0	
13.40	Stress Summary	EA Unit	0	0		0	
13.41	Ultimate Moments	EA Unit	0	0		0	
13.42	Ultimate Shear	EA Unit	0	0		0	
13.43	Construction Loading	EA Unit	0	0		0	
13.44	Framing Plan	Sheet	0	0	0	0	
13.45	Girder Elevation, including Grouting Plan and Vent Locations	Sheet	0	0	0	0	
13.46	Girder Details	Sheet	0	0	0	0	
13.47	Splice Details	Sheet	0	0	0	0	
13.48	Girder Deflections and Camber	Sheet	0	0	0	0	
Simple Span Concrete Design							
13.49	Prestressed Beam	EA Beam	3			0	
13.50	Prestressed Beam Schedules	Sheet	1			0	
13.51	Framing Plan	Sheet	1			0	
Load Rating							
13.52	Load Rating	EA Unit	5			0	
13. Structures - Mid Span Concrete Totals					23	12	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY**URS Corporation****Project Number: 253F****CFX Contract No.: 000818****DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)****Orange County****Structure Design****Section 413****Bridge 2: SR 417 SB over Lake Underhill**

Task No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
General Layout Design and Plans							
13.1	Overall Bridge Final Geometry	LS	1			0	
13.2	Expansion/Contraction Analysis	EA Unit	1			0	
13.3	General Plan and Elevation	Sheet				0	
13.4	Construction Staging	Sheet	1			0	
13.5	Approach Slab Plan and Details	Sheet	2			0	
13.6	Miscellaneous Details	Sheet	24	0.5	24	12	Revise, edit, renumber all sheets
End Bent Design and Plans							
13.7	End Bent Geometry	EA	2			0	
13.8	Wingwall Design and Geometry	EA Bent				0	
13.9	End Bent Structural Design	EA	2			0	
13.10	End Bent Plan and Elevation	Sheet	2			0	
13.11	End Bent Details	Sheet	2			0	
Intermediate Bent Design and Plans							
13.12	Bent Geometry	EA Bent	0	0		0	
13.13	Bent Stability Analysis	EA Design	0	0		0	
13.14	Bent Structural Design	EA Design	0	0		0	
13.15	Bent Plan and Elevation	Sheet	0	0	0	0	
13.16	Bent Details	Sheet	0	0	0	0	
Pier Design and Plans							
13.17	Pier Geometry	EA Pier	0	0		0	
13.18	Pier Stability Analysis	EA Design	0	0		0	
13.19	Pier Structural Design	EA Design	0	0		0	
13.20	Pier Plan and Elevation	Sheet	0	0	0	0	
13.21	Pier Details	Sheet	0	0	0	0	
Misc. Substructure Design and Plans							
13.22	Foundation Layout	Sheet	0		0	0	
13.23	Fender System	LS				0	
Superstructure Deck Design and Plans							
13.24	Finish Grade Elevation (FGE) Calculation	LS	1			0	
13.25	Finish Grade Elevations	Sheet	1			0	
13.26	Bridge Deck Design	EA section	1			0	
13.27	Bridge Deck Reinforcing and Concrete Quantities	EA Unit	1			0	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY					URS Corporation		
Project Number: 253F					CFX Contract No.: 000818		
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)							
Orange County							
Structure Design							
Section 413			Bridge 2: SR 417 SB over Lake Underhill				
13.28	Superstructure Plan	Sheet	1			0	
13.29	Superstructure Section	Sheet	1			0	
13.30	Miscellaneous Bridge Deck Details	Sheet				0	
Reinforcing Bar Lists							
13.31	Reinforcing Bar List	Sheet	0		0	0	
Continuous Concrete Girder Design							
Longitudinal Analysis							
13.33	Section Properties	LS	1	0		0	
13.34	Material Properties	LS	1	0		0	
13.35	Construction Sequence	EA Unit	0	0		0	
13.36	Tendon Layouts	EA Unit	0	0		0	
13.37	Live Load Analysis	EA Unit	0	0		0	
13.38	Temperature Gradient	EA Unit	0	0		0	
13.39	Time Dependent Analysis	EA Unit	0	0		0	
13.40	Stress Summary	EA Unit	0	0		0	
13.41	Ultimate Moments	EA Unit	0	0		0	
13.42	Ultimate Shear	EA Unit	0	0		0	
13.43	Construction Loading	EA Unit	0	0		0	
13.44	Framing Plan	Sheet	0	0	0	0	
13.45	Girder Elevation, including Grouting Plan and Vent Locations	Sheet	0	0	0	0	
13.46	Girder Details	Sheet	0	0	0	0	
13.47	Splice Details	Sheet	0	0	0	0	
13.48	Girder Deflections and Camber	Sheet	0	0	0	0	
Simple Span Concrete Design							
13.49	Prestressed Beam	EA Beam	2			0	
13.50	Prestressed Beam Schedules	Sheet			0	0	
13.51	Framing Plan	Sheet	0	16	0	0	
Load Rating							
13.52	Load Rating	EA Unit	6			0	
13. Structures-Mid Span Concrete Totals					24	12	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY**URS Corporation**

Project Number: 253F

CFX Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)

Orange County

Structure Design

Section 413

Walls @ Bridge Ends

Task No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
General Layout Design and Plans							
17.1	Key Sheet	Sheet	1			0	
17.2	Horizontal Wall Geometry	EA Wall	41			0	
Permanent Proprietary Walls							
17.3	Vertical Wall Geometry	EA Wall	9			0	
17.4	Semi-Standard Drawings	Sheet	3			0	
17.5	Wall Plan and Elevations (Control Drawings)	Sheet	37			0	
17.6	Details	Sheet	2			0	
Temporary Proprietary Walls							
17.7	Vertical Wall Geometry	EA Wall	32			0	
17.8	Semi-Standard Drawings	Sheet	0			0	
17.9	Wall Plan and Elevations (Control Drawings)	Sheet	7			0	
17.10	Details	Sheet	3			0	
Cast in Place Retaining Walls							
17.11	Design	EA Design	0	0		0	
17.12	Vertical Wall Geometry	EA Wall	0	0		0	
17.13	General Notes	Sheet	0	0	0	0	
17.14	Wall Plan and Elevations (Control Drawings)	Sheet	0	0	0	0	
17.15	Sections and Details	Sheet	0	0	0	0	
17.16	Reinforcing Bar List	Sheet	0	0	0	0	
Other Retaining Walls							
17.17	Design	EA Design	12			0	
17.18	Vertical Wall Geometry	EA Wall				0	
17.19	General Notes, Tables & Misc. Details	Sheet	5	4	5	20	Revise and update for Phase 1
17.20	Wall Plan and Elevations	Sheet	46	1	46	46	Revise and update for Phase 1
17.21	Details	Sheet			0	0	
Credit							
		LS	1	0		0	
17. Structures Retaining Wall Totals					61	66	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Project Number: 253F

URS Corporation

CFX Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)

Orange County

Structure Design

Section 413

Walls @ Roadway Sections

Task No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
General Layout Design and Plans							
17.1	Key Sheet	Sheet	0	0	0	0	
17.2	Horizontal Wall Geometry	EA Wall	0	12		0	
Permanent Proprietary Walls							
17.3	Vertical Wall Geometry	EA Wall	0	16		0	
17.4	Semi-Standard Drawings	Sheet	0	0	0	0	
17.5	Wall Plan and Elevations (Control Drawings)	Sheet	0	10	0	0	
17.6	Details	Sheet	0	0	0	0	
Temporary Proprietary Walls							
17.7	Vertical Wall Geometry	EA Wall	0	4		0	
17.8	Semi-Standard Drawings	Sheet	0	0	0	0	
17.9	Wall Plan and Elevations (Control Drawings)	Sheet	0	12	0	0	
17.10	Details	Sheet	7	4	7	28	Revise, edit and renumber Temp Critical Wall Shts.
Cast in Place Retaining Walls							
17.11	Design	EA Design	0	48		0	
17.12	Vertical Wall Geometry	EA Wall	0	0		0	
17.13	General Notes	Sheet	0	0	0	0	
17.14	Wall Plan and Elevations (Control Drawings)	Sheet		0	0	0	
17.15	Sections and Details	Sheet	0	16	0	0	
17.16	Reinforcing Bar List	Sheet	0	0	0	0	
Other Retaining Walls							
17.17	Design	EA Design	0	12	0	0	
17.18	Vertical Wall Geometry	EA Wall				0	
17.19	General Notes, Tables & Misc. Details	Sheet			0	0	
17.20	Wall Plan and Elevations	Sheet			0	0	
17.21	Details	Sheet			0	0	
17. Roadway Retaining Wall Totals					7	28	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY**URS Corporation**

Project Number: 253F

CFX Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)

Orange County

Structure Design

Section 413

Item No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
Concrete Box Culvert							
18.1	Concrete Box Culverts	EA	0	0		0	
18.2	Concrete Box Culverts Extensions	EA	0	0		0	
Strain Poles							
18.3	Steel Strain Poles	Initial Config	0	0		0	
		EA Add'l Config	0	0		0	
18.4	Concrete Strain Poles	Initial Config	0	0		0	
		EA Add'l Config	0	0		0	
Mast Arms							
18.5	Mast Arms	EA Pole	0	0		0	
Overhead & Cantilever Sign Structures							
18.6	Cantilever Sign Structures	EA				0	
18.7	Overhead Span Sign Structures	EA				0	
18.8	Special (longspan) Overhead Span Sign Structures	EA	0	0		0	
18.9	Monotube Overhead Sign Structure	EA	0	0		0	
18.10	Bridge Mounted Signs (Attached to Superstr.)	EA	0	0		0	
High Mast Lighting Fixtures							
18.11	High Mast Lighting Structures	EA	0	0		0	
Sound Barrier Walls (Ground Mount)							
18.12	Horizontal Wall Geometry	EA Wall	1	40		40	Special Sound Wall Design
18.13	Vertical Wall Geometry	EA 500 feet of	0	16		0	
18.14	Semi-Standard Drawings	Sheet	0	0	0	0	
18.15	Control Drawings	Sheet	22	2	22	44	Revise, edit and renumber sheets
18.16	Design for Wall Height Covered by Standards	EA Design	0	12		0	
18.17	Design for Wall Height Not Covered by Standards	EA Design	0	0		0	
18.18	Aesthetic Details	LS		12		0	
Special Structures							
18.19	Special Structures	LS	0	0		0	
18. Miscellaneous Structures Totals					22	84	

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Project Number: 253F

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 3)

URS Corporation

CFX Contract No.: 000818

MISCELLANEOUS & OUT-OF-POCKET EXPENSES

MATERIAL (Xerographic Bond)	0 sheets @	\$6.00 /sheet	\$0.00
MATERIAL (Mylar)	0 sheets @	\$14.00 /sheet	\$0.00

REPRODUCTION COST:

	Blueline	Vellum	Copies 11 x 17	Copies 8.5 x 11	
Phase I	0 sheets	0 sheets	0 sheets	0 sheets	
Phase II	0 sheets	0 sheets	0 sheets	0 sheets	
Phase III	0 sheets	0 sheets	0 sheets	0 sheets	
Phase IV	0 sheets	0 sheets	0 sheets	0 sheets	
Final	- sheets	0 sheets	0 sheets	0 sheets	
TOTALS	0 sheets	0 sheets	0 sheets	0 sheets	

Blueline Cost	0 sheets @	=	\$0.00
CADD Color Plots	0 SF @	\$4.00	= \$0.00
11 x 17	0 sheets @	\$0.11	= \$0.00
8.5 x 11	0 sheets @	\$0.07	= \$0.00
Color Copies			
8.5"x11"	0 sheets @	\$0.99	= \$0.00
11"x17"	0 sheets @	\$0.55	= \$0.00
GBC Binding	0 bindings @	\$0.20	= \$0.00
Display Boards	0 each @	\$5.00	= \$0.00
CD	0 each @	\$1.00	= \$0.00
3 Ring Binders	0 each @	\$6.58	= \$0.00
Screw Posts	0 each @	\$2.00	= \$0.00
Report Tabs	0 each @	\$1.75	= \$0.00
Covers (Laminated)	0 each @	\$2.70	= \$0.00
Raster Color Plots	SF @	\$0.00	= \$0.00

TOTAL REPRODUCTION COSTS	\$0.00
---------------------------------	---------------

TRAVEL	From:	Orlando					
<u>To Project:</u>							
Per Diem	0 trips x	0 people x	0 days/trip @	\$0.00	/diem		\$0.00
Comm	0 trips x	0 people @	\$0.00	/trip			\$0.00
POV	5 trips x	10 mi @	\$0.445	/mi			\$22.25
Rental	0 trips x (	0 days/trip @	\$0.00	/day +	mi @	\$0.55 /mi)	\$0.00
<u>To CFX:</u>							
Per Diem	0 trips x	0 people x	0 days/trip @	\$0.00	/diem		\$0.00
Comm	0 trips x	0 people @	\$0.00	/trip			\$0.00
POV	0 trips x	5 mi @	\$0.445	/mi			\$0.00
Rental	0 trips x (	0 days/trip @	\$0.00	/day +	mi @	\$0.55 /mi)	\$0.00
<u>To Project From Tampa:</u>							
Per Diem	0 trips x	0 people x	2 days/trip @	\$0.00	/diem		\$0.00
Comm	0 trips x	0 people @	\$0.00	/trip			\$0.00
POV	0 trips x	100 mi @	\$0.445	/mi			\$0.00
Rental	0 trips x (	0 days/trip @	\$0.00	/day			\$0.00

TOTAL TRAVEL COSTS	\$22.25
---------------------------	----------------

MISCELLANEOUS COSTS

Postage & Telephone	0 months @	\$70.00 /month	\$0.00
Overnight Delivery	0 each @	\$22.31 /each	\$0.00
Same Day Delivery	0 each @	\$17.00 /each	\$0.00
Film & Processing	rolls @	/roll	\$0.00
Bucket Truck	1 week @	\$1,550.00 /week	\$1,550.00

TOTAL EXPENSES (Lump Sum)**\$1,572.25**

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY												WBQ Design & Engineering		
Project Number: 253F												OOCEA Contract No.: 000818		
DESCRIPTION: SR 408/SR 417 Ultimate Interchange - Phase I														
SUMMARY FEE SHEET (SUBCONSULTANT - WBO)														
CONTRACT SECTION	ACTIVITY MANHOURS	Project Manager	Chief Engineer	Senior Engineer	Project Engineer	Engineer		Clerical	Sr. Surveyor & Mapper	Surveyor & Mapper	Survey Technician	Total Manhours	Total Cost	Avg. Rate
402 & 409	Governmental Agencies & Public Meetings	0	0	0	0	0	0	0	0	0	0	0	\$0.00	\$45.25
403	Preliminary Design Report-Review	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
404	Surveys and Mapping	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
405	Geotechnical Investigation	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
406	Contamination Impact Analysis	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
407	Pavement Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
408	Borrow Pits	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
410	Environmental Permits	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
411	Utilities	0	6	40	12	3	0	1	0	0	0	62	\$2,805.76	
412	Roadway Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
413	Structures Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
414	Drainage Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
415	Roadway Lighting	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
416	Traffic Engineering	22	60	163	136	151	0	11	0	0	0	543	\$22,513.39	\$41.46
417 & 418	Signal & Pav't Marking Plans	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
419	Right-of-Way Surveys	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
420	Cost Estimates	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
421	Speical Provisions and Specifications	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
422	Fiber Optic Network (FON)	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
423	Toll Plazas	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
424	Post Design Services	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
700	Administration	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
TOTAL MANHOURS		22	66	203	148	154	0	12	0	0	0	605	\$25,319.15	\$41.85
WAGE RATES		\$86.99	\$63.13	\$48.05	\$33.17	\$27.90	\$0.00	\$23.24	\$0.00	\$0.00	\$0.00	N/A	N/A	
TOTAL DIRECT COSTS		\$1,913.78	\$4,166.58	\$9,754.15	\$4,909.16	\$4,296.60	\$0.00	\$278.88	\$0.00	\$0.00	\$0.00	N/A	\$25,319.15	

Salary Related Costs

Total Activity Salary Costs	\$25,319.15
Overhead Activities	209.04%
Subtotal Salary Related Costs (Limiting Amount)	\$78,246.30

Operating Margin (Fixed Fee)	25.50% **	\$6,456.38
**(Equivalent Lump Sum for Operating Margin 8.26%)		

Expenses

Direct Reimbursables (Out-of-Pocket)	\$0.00
Permit Fees	\$0.00
Subtotal Expenses (Lump Sum)	\$0.00

Subconsultants

Subtotal Subconsultants (Limiting Amount)	\$0.00
---	--------

WBQ TOTAL (Maximum Limiting Amount)	\$84,702.68
-------------------------------------	-------------

Utilities
Section 411

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Additional Contact	EA	1	8	N/A	8		"8 UAO's @ 2 hrs. each x 1 contact"
2. Data Collection	LS	0	0	N/A	0		
3. Utility Adjustment Sheets	Sheet	20	2	20	40		
4. Prepare Utility Reloc. Agreements	EA	0	0	N/A	0		
SUBTOTAL				20	48	0	
5. Quality Control	5%	0	N/A	N/A	2		
6. Supervision	5%	0	N/A	N/A	3		
7. Utility Meetings - 1 Additional	EA	1	9	N/A	9		
8. Coordination with Utility Companies	EA	0	0	N/A	0		
TOTAL				20	62	0	

Traffic Engineering
Section 416

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Traffic Data Collection	LS	0	0	N/A	0		
2. TCP Design Analysis	LS	1	40	N/A	40		Traffic Control Analysis for the revised ramps and includes Ramp D1 Temp for 3 phases
3. Temp Drainage Analysis	LS	1	20	N/A	20		
4. Master TCP Design Files	LS	1	68	N/A	68		Updated Master TCP Design for 3 phases and remove ramps not within Phase I. Also includes Ramp D1 Temp.
4. TCP Cross Sections (x-sections)	Sheet	52	0.25	26	13		Update TCP Cross Sections for Phase I Ramp D1 Temp and remove ramps not currently in Phase I
5. General Notes/Const. Sequence	Sheet	3	4	3	12		Concept Notes, Phasing Notes, and General Notes
6. MOT Details	Sheet	10	3	10	30		SR 408, SR 417, Ramp A, Ramp C, Ramp D1, Ramp E, and Existing Ramps, Econ, Underhill, Bridges, & under Bridges
7. Tabulation of Quantities & Cost Est.	Sheet	0	0	0	0		
8. TCP Plan Sheets	Sheet	76	3.5	76	266		Revised all 3 phase of TCP. Also includes Ramp D1 Temp design and removal of all ramps, callouts, phasing/work zones not in Phase I. Includes a section of Ramp C.
9. Phase Layout Detail	Sheet	9	3	9	27		Updated Layout for Phase I only
10. Temporary Signal	Sheet			0	0		
11. Detour Routing	LS	2	8	2	16		Update Detours
SUBTOTAL				126	492	0	
13. Quality Control	5%	1	N/A	N/A	25		
14. Supervision	5%	1	N/A	N/A	26		
15. Bi-Weekly OOCEA meetings	LS	0	0	N/A	0		
16. Field Review	LS	0	0	N/A	0		
17. Coordination w/ City & County	LS	0	0	N/A	0		

18. Design Documentation		LS		0		0		N/A		0			
TOTAL								126		543			0

Project 253F
Contract 000818

JUL 11 AM 11:16

SUPPLEMENTAL AGREEMENT NO. 2

TO

AGREEMENT FOR PROFESSIONAL SERVICES

FINAL DESIGN

S.R. 408/S.R. 417 ULTIMATE INTERCHANGE IMPROVEMENTS

THIS SUPPLEMENTAL AGREEMENT is made and entered into this 3rd day of July, 2014, by and between the CENTRAL FLORIDA EXPRESSWAY AUTHORITY, a corporate body and agency of the State of Florida, hereinafter called the "AUTHORITY" and the consulting firm of URS CORPORATION SOUTHERN, of Orlando, Florida, hereinafter called the "CONSULTANT".

WHEREAS, the AUTHORITY desires to make changes to Article 3.0 of the Agreement for Professional Services between the AUTHORITY and the CONSULTANT dated the 14th of November, 2011, and;

WHEREAS, the CONSULTANT agrees to the changes with no increase in the contract amount:

NOW THEREFORE BE IT RESOLVED THAT:

1. The title of Article 3.0 is changed to "TERM OF AGREEMENT".
2. The first paragraph of Article 3.0 is deleted and replaced with the following new language:
"Unless otherwise provided herein or by Supplemental Agreement, the provisions of this Agreement will remain in full force and effect for a five-year term from the date of the Notice to Proceed for the required project services as detailed in Exhibit "A". An extension of the five-year term may be approved by the AUTHORITY at its sole discretion."
3. All provisions of said Agreement for Professional Services, or any Supplements thereto, not modified by the above, shall remain in full force and effect, the same as if they had been set forth herein. In the event of a conflict between the provisions of this Supplemental Agreement and of the said Consultant Agreement, or any Supplements thereto, the provisions of this Supplemental Agreement, to the extent such provision is reasonable, shall take precedence.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed, in quadruplicate, the day and year first above written.

CENTRAL FLORIDA
EXPRESSWAY AUTHORITY

Attest:

Barbara Mayall
Assistant Secretary

By:

Chase Miller
Director of Procurement

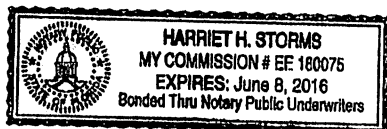
URS CORPORATION SOUTHERN

Attest:

Harriet H. Storms
Secretary or Notary

By:

Robert Rogers
Title: Vice President



Project 253F
Contract No. 000818

SUPPLEMENTAL AGREEMENT NO. 1
TO
AGREEMENT FOR PROFESSIONAL SERVICES
FINAL DESIGN
SR 408 / SR 417 ULTIMATE INTERCHANGE IMPROVEMENTS

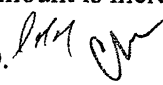
THIS SUPPLEMENTAL AGREEMENT is made and entered into this 7th day of May, 2013, by and between the ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY, an agency of the State of Florida, hereinafter called the "AUTHORITY" and the consulting firm of URS CORPORATION SOUTHERN. of Orlando, Florida, hereinafter called the "CONSULTANT".

WHEREAS, Articles 2.00 and 12.0 of the Agreement for Professional Services between the AUTHORITY and the CONSULTANT, dated the 14th Day of November 2011, provides that in the event that the AUTHORITY shall change the amount of work in Exhibit A of the said Agreement for Professional Services, the fees to be paid to the CONSULTANT shall be subject to adjustment as shall be mutually agreed upon:

RECEIVED
CONTRACTS DEPT
CS 5/23/13
SIGNATURE / DATE

NOW, THEREFORE, BE IT RESOLVED THAT:

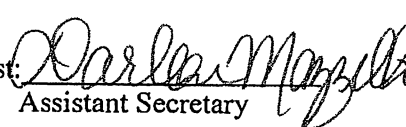
1. The AUTHORITY hereby authorizes the CONSULTANT to proceed with additional services as outlined in the CONSULTANT'S March 6, 2013 correspondence to the AUTHORITY, which is attached hereto and made a part of this Supplemental Agreement.
2. Exhibit "B", Article 2.00 of the Agreement for Professional Services is amended as follows:
 - a. The Salary related costs are adjusted upwards by \$461,007.72 to \$3,345,766.93.
 - b. Direct Expenses remain unchanged at \$107,322.40.
 - c. The Field Survey costs remain unchanged at \$189,434.80.
 - d. The Subcontract Items are adjusted upward by \$88,330.86 to \$1,876,726.95.

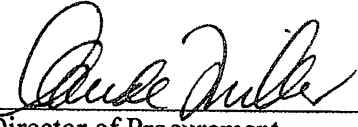
• Ardaman & Associates	\$16,825.00
• Nadic Engineering Sciences	\$22,451.87
• RS&H	\$29,724.74
• WBQ	\$19,329.25
 - e. The Allowance is adjusted upwards by \$661.42 to \$30,748.92.
 - f. The total Maximum Limiting Amount is increased by \$550,000.00 to ~~\$5,500,000.00~~ \$5,550,000.00. 
3. All provisions of said Agreement for Professional Services, or any Supplements thereto, not modified by the above, shall remain in full force and effect, the

same as if they had been set forth herein. In the event of a conflict between the provisions of this Supplemental Agreement and of the said Agreement for Professional Services, or any Supplements thereto, the provisions of this Supplemental Agreement, to the extent such provision is reasonable, shall take precedence.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed, in triplicate, the day and year first above written.


ORLANDO-ORANGE COUNTY
EXPRESSWAY AUTHORITY

Attest: 
Assistant Secretary

By: 
Director of Procurement

URS CORPORATION SOUTHERN

Attest: 
Print Name: Beverly Munoz

By: 
Stephen N. Noppinger, P.E.
Title: Vice President

Approved as to form and execution, only.



General Counsel for the AUTHORITY

Exhibit A

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY

SCOPE OF SERVICES

FOR

S.R. 408/ S.R. 417 ULTIMATE INTERCHANGE IMPROVEMENTS

CONTRACT AMENDMENT NO. 1

PROJECT NO. 253F

IN ORANGE COUNTY, FLORIDA

February 11, 2013

TABLE OF CONTENTS

Description	<u>Page No.</u>
4.0 WORK PERFORMED BY CONSULTANT	
4.01 Design Features Governmental	A-3
4.05 Geotechnical Investigation	A-3
4.10 Environmental Permits	A-4
4.12 Roadway Design	A-4
4.13 Structures Design	A-4
4.14 Drainage Design	A-4
4.16 Traffic Engineering	A-4
4.17 Signing Plans	A-4
4.18 Pavement Marking Plans	A-4
4.19 Right-of-Way Surveys	A-5
4.22 Fiber Optic Network (FON)	A-5
7.0 ADMINISTRATION	
7.06 Schedule	A-5
7.13 Reviews and Submittals	A-5

1.0 GENERAL

1.02 Description

The services to be provided under this contract will include final design and preparation of construction drawings for the S.R. 408 / S.R. 417 ultimate interchange. This Amendment includes: the extension of the projects limits along SR 417 south to station 403+35, the elimination of the embankment section and extension of the bridge structure D1/A over the existing loop ramp, design of drainage ponds, environmental permit modifications, addition of one soundwall, and additional geotechnical investigation to support the above additions.

4.0 WORK PERFORMED BY CONSULTANT

The Consultant shall be responsible for the work outlined in this Section. The work shall conform to the standards, criteria, and requirements of this Scope of Services.

4.01 Design Features

A. Major elements of the work include the following:

The work to be performed under this Amendment will include final design and preparation of construction drawings for the S.R. 408/ S.R. 417 ultimate interchange including the addition of: the extension of the projects limits along SR 417 south to station 403+35, the elimination of the embankment section and extension of the bridge structure D1/A over the existing loop ramp, design of drainage ponds, environmental permit modifications, addition of one soundwall, and additional geotechnical investigation to support the above additions.

Additional elements include: surveying, drainage evaluation and design, permitting, signing and pavement markings, maintenance of traffic, fiber optic network, walls, and geotechnical analysis.

4.05 Geotechnical Investigation

- A. The Consultant shall perform the following additional geotechnical investigations:
 - 1. Geotechnical borings within the expanded Pond 15.
 - 2. Geotechnical borings within the modified Ponds 11 and 16
 - 3. Geotechnical borings along the additional soundwall located south of Lake Underhill Road and east of SR 417.
- B. This Amendment includes the additional cost of MOT associated with obtaining bridge borings within the median of SR 408.

4.10 Environmental Permits

- A. A permit has been issued for Project 253F, however due to required modifications to Ponds 11, 12, 13, 15 and 16, a permit modification will be required. RS&H shall be responsible for all design and permit documents associated with the modification for Ponds 12 and 13. The Consultant will coordinate all permit modifications proposed by RS&H and incorporate these changes into the permit modification permit.

4.12 Roadway Design

- A. The Consultant shall extend the project limits along SR 417 southerly to station 403+35. All design and drawings shall be revised to reflect this change in project limits.

4.13 Structures Design

- A. The Consultant shall remove the embankment section along Ramps A and D1 within the existing loop ramp and extend the bridge structure through this section.
- B. The Consultant shall design and develop drawings for an additional sound wall located south of Lake Underhill Road and east of SR 417.

4.14 Drainage Design

- A. As part of the drainage design requirements, the Consultant shall:
 - 1. Design an expanded Pond 15.
 - 2. Design modifications to Ponds 11 and 16.
 - 3. Coordinate drainage design with RS&H who will modify Ponds 12 and 13.

4.16 Traffic Engineering

- A. Maintenance of Traffic Plans
 - 1. The Consultant shall prepare additional maintenance of traffic plans which reflect the change in project limits along SR 417 and phasing for the change in Ramp D1/A from embankment to bridge structure.

4.17 Signing Plans

- A. The CONSULTANT shall include the following signs and sign

structures:

1. 1 new sign panel design and Guide-Sign worksheet for sign at sta. 387+00
2. 1 new sign panel design and Guide-Sign worksheet for sign at sta. 416+00.
3. 1 new sign structure design for truss at station 416+00.

4.18 Pavement Marking Plans

A. The Consultant shall include the following changes to the Pavement Marking Plans:

1. Add 4 Plan Sheets to cover restriping from approximate STA 376+00 to approximate STA 400+60.
2. Revise 3 Plan Sheets – SP00, SP01 and SP02

4.19 Right-of-Way Surveys

A. A right of way survey will be performed for the expansion of Pond 15.

4.22 Fiber Optic Network (FON)

A. Fiber Optic Infrastructure Plans

1. Addition of one TMS site 408-17.3 EB.
2. The FO shall be replaced from Curry Ford Road to SR 408 to eliminate all splices.

7.0 ADMINISTRATION

7.06 Schedule

A.

7.13 Reviews and Submittals

A. Formal submittals for review shall be made to the Authority when the plans have been developed. The following review will be included:

1. Bridge Structures Peer Review – A peer review of the 60% plans for the concrete post-tensioned curved girder bridge structures will be performed by others. The Consultant shall provide plans and other documents as may be necessary for the peer review. The Consultant shall respond to questions during the peer review period.

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY												URS Corporation		
Project Number: 253F												OOCEA Contract No.: 000818		
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT N°														
SUMMARY FEE SHEET														
CONTRACT SECTION	ACTIVITY MANHOURS	Project Manager	Deputy PM	Senior Engineer	Engineer	Sr. Roadway Technician	Roadway Technician	Clerical	Sr. Surveyor & Mapper	Surveyor & Mapper	Survey Technician	Total Manhours	Total Cost	Avg. Rate
402 & 409	Governmental Agencies & Public Meetings	14	10	12	9	2	0	1	0	0	0	48	\$2,962.86	\$61.73
403	Preliminary Design Report-Review	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
404	Surveys and Mapping	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
405	Geotechnical Investigation	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
406	Contamination Impact Analysis	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
407	Pavement Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
408	Borrow Pits	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
410	Environmental Permits	5	8	20	40	26	26	7	0	0	0	132	\$5,728.50	\$43.40
411	Utilities	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
412	Roadway Design	4	5	13	26	18	18	4	0	0	0	88	\$3,836.72	\$43.60
413	Structures Design	95	632	632	790	947	0	62	0	0	0	3,158	\$145,164.09	\$45.97
414	Drainage Design	21	32	80	160	107	107	27	0	0	0	534	\$23,176.61	\$43.40
415	Roadway Lighting	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
416	Traffic Engineering	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
417 & 418	Signal & Pav't Marking Plans	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
419	Right-of-Way Surveys	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
420	Cost Estimates	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
421	Speical Provisions and Specifications	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
422	Fiber Optic Network (FON)	2	3	8	15	10	10	3	0	0	0	51	\$2,217.26	\$43.48
423	Toll Plazas	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
424	Post Design Services	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
700	Administration	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
TOTAL MANHOURS		141	690	765	1,040	1,110	161	104	0	0	0	4,011	\$183,086.04	\$45.65
WAGE RATES		\$86.24	\$55.36	\$61.78	\$41.40	\$30.11	\$37.92	\$27.72	\$52.16	\$30.80	\$30.80	N/A	N/A	
TOTAL DIRECT COSTS		\$12,159.84	\$38,198.40	\$47,261.70	\$43,056.00	\$33,422.10	\$6,105.12	\$2,882.88	\$0.00	\$0.00	\$0.00	N/A	\$183,086.04	

Salary Related Costs

Total Activity Salary Costs	\$183,086.04
Overhead Activities	124.82%
	\$228,528.00
Subtotal Salary Related Costs (Limiting Amount)	\$411,614.04

Operating Margin (Fixed Fee)	12.00%	\$49,393.68
-------------------------------------	---------------	--------------------

Expenses

Direct Reimbursables (Out-of-Pocket)	\$0.00
Permit Fees	\$0.00
Subtotal Expenses (Lump Sum)	\$0.00

Subconsultants

Design Survey (URS)	\$0.00
Ardaman & Associates	\$16,825.00
Nadic Engineering Services	\$22,451.87
RS&H	\$29,724.74
C3TS	\$0.00
WBQ	\$19,329.25
Southeastern Survey	\$0.00
Subtotal Subconsultants (Limiting Amount)	\$88,330.86

GRAND TOTAL (Maximum Limiting Amount)	\$549,338.58
--	---------------------

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY**URS Corporation**

Project Number: 253F

OOCEA Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)

Orange County

HIGHWAY TASK LISTGovernmental Agencies & Public Meetings
Section 402 & 409

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Coordination w/ FDOT	LS			N/A	0		
2. Coordination w/ City of Orlando	LS			N/A	0		
3. Coordination w/ Orange County	LS			N/A	0		
4. Coordination w/ SJWMD	LS	1	40	N/A	40		
5. FDEP	LS			N/A	0		
6. Public Meetings	EA			N/A	0		
7. Neighborhood Assoc. Meetings	EA			N/A	0		
8. Authority Meetings	EA			N/A	0		
9. City of Orlando Meetings	EA			N/A	0		
10. Orange County Meetings	EA			N/A	0		
11. Preparation of Rdway/Bridge Exhibits	EA			N/A	0		
12. Other Agency Coordination & Meetings	LS	1	8	N/A	8		ACOE

TOTAL**48**

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY**URS Corporation**

Project Number: 253F

OOCEA Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)
Orange County**HIGHWAY TASK LIST**

Environmental Permits

Section 410

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Pre-App Coord with OOCEA & RS&H	LS	1	32	N/A	32		Includd in Coordination efforts
2. Prepare ERP Application	LS	1	72	N/A	72		
3. RAI Response	LS	1	0	N/A	0		No RAI's
4. Aerial Map	EA			0	0		
5. Prepare Local Permits	LS			N/A	0		
6. Landowner Addresses	LS			N/A	0		
7. Mitigation Plans	Sheet				0		
SUBTOTAL				0	104	0	
8. Quality Control	5%	1	N/A	N/A	5		
9. Supervision	5%	1	N/A	N/A	5		
10. Preliminary Field Review	EA	1	6	N/A	6		
11. Agency Field Review	EA	1	6	N/A	6		
12. Agency Pre-App Meeting	EA	1	6	N/A	6		
TOTAL				0	132	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY**URS Corporation****Project Number: 253F****OOCEA Contract No.: 000818****DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)****Orange County****HIGHWAY TASK LIST**

Roadway Design

Section 412

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Typical Section Package	LS			N/A	0		
2. Access Management	LS			N/A	0		
3. Horizontal /Vertical Master Design Files	LS	1	20	N/A	20		Project extension to south
4. Design Variations and Exceptions	LS			N/A	0		
5. Key Map	Sheet				0		
6. Typical Sections	Sheet	1	4	1	4		modification due to project extension
7. General Notes	Sheet				0		
8. Summary of Quantities	Sheet				0		
9. Project Layout	Sheet	1	2	1	2		modification
10. Roadway Plans	Sheet	3	6	3	18		additional sheets due to proj extension
11. Roadway Profiles	Sheet	3	6	2	12		additional sheets due to proj extension
12. Cross Street Plan-Profile	Sheet				0		
13. Special Profiles	Sheet				0		
14. Interchange Layout	Sheet	1	3	1	3		modification
15. Intersection Detail	Sheet				0		
16. Ramp Terminal Details	Sheet				0		
17. Misc. Construction Details	Sheet				0		
18. Cross Section Design Files	LS	1	14	N/A	14		project extension
19. Cross Section Pattern	Sheet	1	3	1	3		modification
20. Roadway Soil Survey	Sheet				0		
21. Roadway Cross Sections	EA	5	0.5	4	3		project extension
22. Baseline Control/Curve Data	Sheet	1	1	1	1		modification
23. Computation Book & Quantities	LS			N/A	0		
24. Summary of Pay Items	LS			N/A	0		

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY						URS Corporation	
Project Number: 253F						OOCEA Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)							
Orange County							
HIGHWAY TASK LIST							
SUBTOTAL				14	80	0	
25. Quality Control	5%	1	N/A	N/A	4		
26. Supervision	5%	1	N/A	N/A	4		
27. Field Reviews	EA			N/A	0		
28. Technical Meetings	EA			N/A	0		
TOTAL				14	88	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY**URS Corporation**

Project Number: 253F

OOCEA Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)

Orange County

HIGHWAY TASK LIST

Drainage Design

Section 414

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Determine Base Clearance Elev	Per Loc.	0	0	N/A	0		
2. Pond Siting Analysis & Report	Per Basin	0	0	N/A	0		
3. Design of Cross Drains	EA	2	18	N/A	36		and CD 7 (RS&H). Originally anticipated only 6 cross drain
4. Design of Roadway Ditches	Ditch/Mile	0	0	N/A	0		
5. Design of Outfalls	EA	1	12	N/A	12		Pond 11 will require an updated analysis of the outfall due to the modification. Originally anticipated only 2 outfall designs per Pond(s) 15 and 16.
6. Design of Pond	EA	6	30	N/A	180		Pond 11 was originally anticipated as a partial design at 21 hr. Per the 60% Drainage design, Pond 11 was a full redesign. There have also been 5 pond design alternatives analyzed for Pond 15 (1) and Pond 16 (4). Includes additional checking of Ponds 12 & 13 (RS&H) at 24 hours
7. Design of Ditch Treatment	Per System	0	0	N/A	0		
8. Design of Flood Plain Comp Area	EA	0	0	N/A	0		
9. Design of Storm Drains	EA	15	3	N/A	45		Originally anticipated 125 structures.
10. Optional Culvert Material	LS	0	0	N/A	0		
11. French Drain Systems	Per 1K Ft	0	0	N/A	0		
12. Drainage Wells	EA	0	0	N/A	0		
13. Drainage Design Doc Report	LS	0	0	N/A	0		
14. Bridge Hydraulic Report	EA	0	0	N/A	0		

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY**URS Corporation****Project Number: 253F****OOCEA Contract No.: 000818****DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)****Orange County****HIGHWAY TASK LIST**

15. Drainage Map	Sheet	2	28	2	56		drainage maps. Currently, we have 7 drainage maps per 60% Drainage
16. Interchange Drainage Map	Sheet	1	0	N/A	0		
17. Summary of Drainage Structures	Sheet	1	30	1	30		
18. Optional Pipe/Culvert Material	Sheet	0	0	N/A	0		
19. Drainage Structure Sheet	EA	15	3	N/A	45		Currently, we have 140 structures per 60% Drainage design.
20. Misc Drainage Details	Sheet	0	0	N/A	0		
21. Lateral Ditch Plan-Profile	Sheet	0	0	N/A	0		
22. Lateral Ditch Cross Sections	EA	0	0	N/A	0		
23. Retention/Det Pond Details	Sheet	2	32	2	64		Originally anticipated 4 detail
24. Pond Cross Sections	EA	7	0.5	14	4		
25. Erosion Control Plan	Sheet	0	0	0	0		
26. SWPPP	Sheet	0	0	0	0		
27. Bridge Deck Spread and Downspout Des	LS	0	0	0	0		
SUBTOTAL				19	472		
27. Quality Control	5%	1	N/A	N/A	24		
28. Supervision	5%	1	N/A	N/A	25		
29. Field Reviews	EA	1	8	N/A	8		
30. Technical Meetings	EA	2	2	N/A	4		RS&H
TOTAL				19	533	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY**URS Corporation**

Project Number: 253F

OOCEA Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)**Orange County****HIGHWAY TASK LIST**

Fiber Optic Network (FON)

Section 422

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. ITS Analysis	LS	1	5	N/A	5		Relocate an additional TMS (408-17.3EB).
2. Communications Plan Analysis	LS	2	6	N/A	12		Additional coordination needed to accommodate added soundwall and unexpected drainage impacts.
3. Lightning Protection Analysis	LS			N/A			
4. Power Subsystem	LS	1	3	N/A	3		Relocate an additional TMS (408-17.3EB).
5. Voltage Drop Calculations	LS	1	3	N/A	3		Relocate an additional TMS (408-17.3EB).
6. Design Documentation	LS			N/A	0		
7. Existing ITS System	LS	1	3	N/A	3		Relocate an additional TMS (408-17.3EB).
8. Queue Analysis	LS			N/A	0		
9. Reference and Master ITS Design File	LS			N/A	0		
10. Rference and Master Communications Design File	LS			N/A	0		
11. Pole Elevation Analysis	LS	1	1	N/A	1		Relocate an additional TMS (408-17.3EB).
12. Sign Panel Design Analysis	LS			N/A	0		
13. Quantities	LS			N/A	0		
14. Cost Estimate							
15. Technical Special Provisions							
16. Other ITS Analysis							
17. Key Sheet	Sheet				0		
19. Tabulation of Quantities	Sheet				0		
20. General Notes	Sheet				0		
21. Project Layout	Sheet						
22. Typical and Special Details	Sheet				0		
23. Plan Sheet	Sheet	2	6	2	12		Two additional sheets to accommodate extension of the project limits at the south end.
24. ITS Communications Plans	Sheet				0		

URS Project #: V100000414.00

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY**URS Corporation**

Project Number: 253F

OOCEA Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)

Orange County

HIGHWAY TASK LIST

25. Fiber Optic Spice Diagrams	EA	1	6	1	6	Additional diagrams along SR 408 to accommodate the additional fiber work due to drainage impacts.
26. Lightning Protection Plans	EA				0	
27. Cross Sections	EA	1	2	1	2	Relocate an additional TMS (408-17.3EB).
28. Guide Sign Work Sheet	EA				0	
29. Speical Service Point Details	EA				0	
30. Strain Pole Schedule	PI				0	
31.Overhead / Cantilever Sign Structures	EA				0	
32. Other Overhead Sign Structures (Long Span, Monotube, etc.)	EA				0	
33. Temporary FON	EA				0	
34. Interim Standards	LS					
SUBTOTAL				4	47	
35. Quality Control	5%	1	N/A	N/A	2	
36. Supervision	5%	1	N/A	N/A	2	
37. Power Company Coord.	LS	1		N/A	0	
38. Technical Meetings	EA			N/A	0	
39. Field Review	EA			N/A	0	

TOTAL**4****51**

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY
URS Corporation
Project Number: 253F
OOCEA Contract No.: 000818
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)
Orange County
Structure Design
Section 413

Section 415

Task No.	Task	Units	Design and Production Staff Hours				Comments				
			No. of Units	Hours per Unit	No. of Sheets	Total					
General Drawings											
1	Index of Drawings	Sheet				0					
2	Project Layout	Sheet				0					
3	General Notes and Bid Item Notes	Sheet				0					
3a	U-Beam General Notes and Bid Item Notes	Sheet				0					
4	Incorporate FDOT Standards	Sheet				0					
4a	Develop U-Beam Standards & Drawings	Sheet				0					
5	Incorporate Report of Core Borings	Sheet				0					
6	Existing Bridge Plans	LS				0					
7	Computation Book and Quantities	LS	1	12	N/A	12	Revised from 6 simple-2complicated to 4 simple-3 complicated				
8	Cost Estimates	LS	1	8	N/A	8	Revised from 6 simple-2complicated to 4 simple-3 complicated				
9	Technical Special Provisions	LS	1		N/A	0					
Structures - Miscellaneous Tasks & Drawings Subtotals						20					
Task No.	Task	Total	Task 10	Task 11	Task 12	Task 13	Task 14	Task 15	Task 16	Task 17	Task 18
10.1	Bridge 1: SR 417 NB over Lake Underhill	0				0					
10.2	Bridge 2: SR 417 SB over Lake Underhill	0				0					
10.3	Bridge 3: SR 417 NB over Econ Trail										
10.4	Bridge 4: SR 417 SB over Econ Trail										
10.5	Bridge 5: Ramp C over Econ Trail										
10.6	Bridge 6: Ramp E over SR 408	0				0					
10.7	Bridge 7: Ramp C Flyover (Concrete)	0				0					
10.8	Bridge 8: Ramp A Flyover (Concrete)	0				0					
10.9	Bridge 9: Ramp D (Concrete)	0				0					
10.10	Bridge 10: Ramp D1/A (Concrete)	2,196				2,196					
10.11	Bridge 11:	0									
10.12	Bridge 12:	0									
10.13a	Retaining Walls @ Bridges	230								230	
10.13b	Retaining Walls along Roadway	546								546	
10.14	Miscellaneous Structures	376									376
10.15	Conceptual Analysis/Study Phase	0									
Structures Technical Subtotals		2,768	0	0	0	2,196	0	0	0	230	376
Task No.	Task	Units	No. of Units	Hours per Unit	Total	Comments					
11	Field Reviews	LS									
12	Technical Meetings	LS									
13	Quality Assurance / Quality Control	LS	%	5%	139						
14	Independent Peer Review	LS	%	0%	0						
15	Supervision	LS	%	5%	139						
Structures Non-Technical Subtotals					278						
16	Coordination	LS	%	3%	92						
Structures - Miscellaneous Tasks & Drawings Non-Technical & Coordination Totals					3,158						

URS Corporation

OOCEA Contract No.: 000818

Orange County

Bridge 8: Ramp A Flyover (Concrete)

Section 415 Bridge or Ramp							
ID No.	Task	Unit	No. of Units	Hours Unit	No. of Sheets	Total Hours	(Comment)
General Layout Design and Plans							
13.1	Overall Bridge Final Geometry	LS	1	-120		-120	Credit for overal bridge length reduction.
13.2	Expansion/Contraction Analysis	EA Unit	3			0	
13.3	General Plan and Elevation	Sheet	1			0	
13.4	Construction Staging	Sheet	4			0	
13.5	Approach Slab Plan and Details	Sheet	1			0	
13.6	Miscellaneous Details	Sheet	0			0	
End Bent Design and Plans							
13.7	End Bent Geometry	EA	1			0	
13.8	Wingwall Design and Geometry	EA Bent				0	
13.9	End Bent Structural Design	EA	1			0	
13.10	End Bent Plan and Elevation	Sheet	1			0	
13.11	End Bent Details	Sheet	2			0	
Intermediate Bent Design and Plans							
13.12	Bent Geometry	EA Bent	0	0		0	
13.13	Bent Stability Analysis	EA Design	0	0		0	
13.14	Bent Structural Design	EA Design	0	0		0	
13.15	Bent Plan and Elevation	Sheet	0	0	0	0	
13.16	Bent Details	Sheet	0	0	0	0	
Pier Design and Plans							
13.17	Pier Geometry	EA Pier	8			0	
13.18	Pier Stability Analysis	EA Design	8			0	
13.19	Pier Structural Design	EA Design	8			0	
13.20	Pier Plan and Elevation	Sheet	3			0	
13.21	Pier Details	Sheet	8			0	
Misc. Substructure Design and Plans							
13.22	Foundation Layout	Sheet	3			0	
13.23	Fender System	LS				0	
Superstructure Deck Design and Plans							
13.24	Finish Grade Elevation (FGE) Calculation	LS	1			0	
13.25	Finish Grade Elevations	Sheet	6			0	
13.26	Bridge Deck Design	EA Section	1			0	
13.27	Bridge Deck Reinforcing and Concrete Quantities	EA Unit	3			0	
13.28	Superstructure Plan	Sheet	5			0	
13.29	Superstructure Section	Sheet	1			0	
13.30	Miscellaneous Bridge Deck Details	Sheet	0			0	
Reinforcing Bar Lists							
13.31	Reinforcing Bar List	Sheet	8			0	
Continuous Concrete Girder Design							

Longitudinal Analysis						
13.33	Section Properties	LS	1			0
13.34	Material Properties	LS	1			0
13.35	Construction Sequence	EA Unit	3			0
13.36	Tendon Layouts	EA Unit	3			0
13.37	Live Load Analysis	EA Unit	3			0
13.38	Temperature Gradient	EA Unit	3			0
13.39	Time Dependent Analysis	EA Unit	3			0
13.40	Stress Summary	EA Unit	3			0
13.41	Ultimate Moments	EA Unit	3			0
13.42	Ultimate Shear	EA Unit	3			0
13.43	Construction Loading	EA Unit	3			0
13.44	Framing Plan	Sheet	4			0
13.45	Girder Elevation, including Grouting Plan and Vent Locations	Sheet	6			0
13.46	Girder Details	Sheet	6			0
13.47	Splice Details	Sheet	3			0
13.48	Girder Deflections and Camber	Sheet	6			0
Simple Span Concrete Design						
13.49	Prestressed Beam	EA Beam	0	0		0
13.50	Prestressed Beam Schedules	Sheet	0	0	0	0
13.51	Framing Plan	Sheet	0	0	0	0
Load Rating						
13.52	Load Rating	EA Unit	3			0
13. Structures - Mid-Span Concrete Total				0		170

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY							URS Corporation
Project Number: 253F							OOCEA Contract No.: 000818
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)							
Orange County							
Structure Design							
Section 413							
Bridge 9: Ramp A/D1 (Concrete)							
Task No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
General Layout Design and Plans							
13.1	Overall Bridge Final Geometry	LS	1	110		110	Curved - spiral - no BDR effort
13.2	Expansion/Contraction Analysis	EA Unit	2	8		16	
13.3	General Plan and Elevation	Sheet	3	40	3	120	
13.4	Construction Staging	Sheet	2	40	2	80	
13.5	Approach Slab Plan and Details	Sheet	1	0	1	0	
13.6	Miscellaneous Details	Sheet	1	450	1	450	Box Girder lighting for 3 Ramps (A, C, D1)
End Bent Design and Plans							
13.7	End Bent Geometry	EA	2	12		24	2 units - different widths
13.8	Wingwall Design and Geometry	EA Bent				0	
13.9	End Bent Structural Design	EA				0	
13.10	End Bent Plan and Elevation	Sheet				0	
13.11	End Bent Details	Sheet				0	
Intermediate Bent Design and Plans							
13.12	Bent Geometry	EA Bent	0	0		0	
13.13	Bent Stability Analysis	EA	0	0		0	
13.14	Bent Structural Design	EA	0	0		0	
13.15	Bent Plan and Elevation	Sheet	0	0	0	0	
13.16	Bent Details	Sheet	0	0	0	0	
Pier Design and Plans							
13.17	Pier Geometry	EA Pier	5	24		120	Piers 2-4 similar, 5 - 8 vary
13.18	Pier Stability Analysis	EA	5	12		60	
13.19	Pier Structural Design	EA	5	60		300	
13.20	Pier Plan and Elevation	Sheet	3	32	3	96	combine some of the variables on to same sheet
13.21	Pier Details	Sheet	6	24	6	144	
Misc. Substructure Design and Plans							
13.22	Foundation Layout	Sheet	2	28	2	56	
13.23	Fender System	LS				0	
Superstructure Deck Design and Plans							
13.24	Finish Grade Elevation (FGE) Calculation	LS	1	72		72	
13.25	Finish Grade Elevations	Sheet	3	12	3	36	
13.26	Bridge Deck Design	EA	3	16		48	
13.27	Bridge Deck Reinforcing and Concrete Quantities	EA Unit	4	12		48	
13.28	Superstructure Plan	Sheet	6	20	6	120	
13.29	Superstructure Section	Sheet	5	20	5	100	
13.30	Miscellaneous Bridge Deck Details	Sheet	2	20	2	40	FDOT U-Beam applicable details
Reinforcing Bar Lists							
13.31	Reinforcing Bar List	Sheet	8	12	8	96	
Continuous Concrete Girder Design							
Longitudinal Analysis							
13.33	Section Properties	LS	1	16		16	
13.34	Material Properties	LS	1	20		20	
13.35	Construction Sequence	EA Unit	2	36		72	One Continous Unit and 1 Simple Span Unit (with Straight & Curved)
13.36	Tendon Layouts	EA Unit	2	40		80	
13.37	Live Load Analysis	EA Unit	2	32		64	
13.38	Temperature Gradient	EA Unit	2	40		80	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY					URS Corporation		
Project Number: 253F					OOCEA Contract No.: 000818		
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)							
Orange County							
Structure Design							
Section 413							
Bridge 9: Ramp A/D1 (Concrete)							
Task No.	Task	Unit	No. of Units	Hours/Unit	No. of Sheets	Total Hours	Comments
13.39	Time Dependent Analysis	EA Unit	2	150		300	
13.40	Stress Summary	EA Unit	2	60		120	
13.41	Ultimate Moments	EA Unit	2	40		80	
13.42	Ultimate Shear	EA Unit	2	40		80	
13.43	Construction Loading	EA Unit	2	40		80	
13.44	Framing Plan	Sheet	3	24	3	72	
13.45	Girder Elevation, including Grouting Plan and Vent Locations	Sheet	1	20	1	20	
13.46	Girder Details	Sheet	3	28	3	84	
13.47	Splice Details	Sheet	2	24	2	48	
13.48	Girder Deflections and Camber	Sheet	2	20	2	40	
Simple Span Concrete Design							
13.49	Prestressed Beam	EA Beam	16	10		160	
13.50	Prestressed Beam Schedules	Sheet	1	24	1	24	
13.51	Framing Plan	Sheet	3	20	3	60	
Load Rating							
13.52	Load Rating	EA Unit	16	10		160	1 @ 32, 2 @ 16 & 16 @ 6 = 160
Credit							
	Ramp D	LS	1	-1600		-1600	Simple Span Bridge combined with Ramp A/D1. Simple span bridge converted to to 3 span contginous, 1 simple span post-tensioned and 4 simple spans to eliminate earth plug and MSE wall on approach.
13 Structures Mid-Span Concrete Total					57	2,196	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY							URS Corporation
Project Number: 253F							OOCEA Contract No.: 000818
DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1)							
Orange County							
Structure Design							
Section 413							
Walls @ Bridge Ends							
Task No.	Task	Unit	Est. Days	Draw. Unit	No. of Sheets	Total Hours	Comments
General Layout Design and Plans							
17.1	Key Sheet	Sheet	1			0	
17.2	Horizontal Wall Geometry	EA Wall	41			0	
Permanent Proprietary Walls							
17.3	Vertical Wall Geometry	EA Wall	9			0	
17.4	Semi-Standard Drawings	Sheet	3			0	
17.5	Wall Plan and Elevations (Control Drawings)	Sheet	37			0	
17.6	Details	Sheet	2			0	
Temporary Proprietary Walls							
17.7	Vertical Wall Geometry	EA Wall	32			0	
17.8	Semi-Standard Drawings	Sheet	0			0	
17.9	Wall Plan and Elevations (Control Drawings)	Sheet	7			0	
17.10	Details	Sheet	3			0	
Cast in Place Retaining Walls							
17.11	Design	EA Design	0	0		0	
17.12	Vertical Wall Geometry	EA Wall	0	0		0	
17.13	General Notes	Sheet	0	0	0	0	
17.14	Wall Plan and Elevations (Control Drawings)	Sheet	0	0	0	0	
17.15	Sections and Details	Sheet	0	0	0	0	
17.16	Reinforcing Bar List	Sheet	0	0	0	0	
Other Retaining Walls							
17.17	Design	EA Design	12			0	
17.18	Vertical Wall Geometry	EA Wall				0	
17.19	General Notes, Tables & Misc. Details	Sheet			0	0	
17.20	Wall Plan and Elevations	Sheet			0	0	
17.21	Details	Sheet			0	0	
Credit							
		LS	1	-230		-230	Reduced for earth plug and approach modifications. Revised some of the bridge wall limits to be consistent with addition of new roadway wall limits.
17. Structures-Retaining Wall Totals					0	-230	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY Project Number: 253F DESCRIPTION: SR 408/SR 417 Ultimate Interchange (CONTRACT AMENDMENT NO. 1) Orange County Structure Design Section 413							URS Corporation OOCEA Contract No.: 000818
Walls @ Roadway Sections							
Task No.	Task	Unit	No. of Sheets	Hours/Sheet	No. of Sheets	Total Hours	Comments
General Layout Design and Plans							
17.1	Key Sheet	Sheet	0	0	0	0	
17.2	Horizontal Wall Geometry	EA Wall	7	12		84	
Permanent Proprietary Walls							
17.3	Vertical Wall Geometry	EA Wall	7	16		112	
17.4	Semi-Standard Drawings	Sheet	0	0	0	0	
17.5	Wall Plan and Elevations (Control Drawings)	Sheet	35	10	35	350	
17.6	Details	Sheet	0	0	0	0	
Temporary Proprietary Walls							
17.7	Vertical Wall Geometry	EA Wall	0	4		0	
17.8	Semi-Standard Drawings	Sheet	0	0	0	0	
17.9	Wall Plan and Elevations (Control Drawings)	Sheet	0	12	0	0	
17.10	Details	Sheet	0	24	0	0	
Cast in Place Retaining Walls							
17.11	Design	EA Design	0	0		0	
17.12	Vertical Wall Geometry	EA Wall	0	0		0	
17.13	General Notes	Sheet	0	0	0	0	
17.14	Wall Plan and Elevations (Control Drawings)	Sheet	0	0	0	0	
17.15	Sections and Details	Sheet	0	0	0	0	
17.16	Reinforcing Bar List	Sheet	0	0	0	0	
Other Retaining Walls							
17.17	Design	EA Design	0	12	0	0	
17.18	Vertical Wall Geometry	EA Wall				0	
17.19	General Notes, Tables & Misc. Details	Sheet			0	0	
17.20	Wall Plan and Elevations	Sheet			0	0	
17.21	Details	Sheet			0	0	
Walls @ Roadway Retaining Wall Totals					35	416	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY

Project Number: 253F

DESCRIPTION: SR 408/SR 417 Ultimate Interchange

Orange County

Structure Design

Section 413

URS Corporation

OOCEA Contract No.: 000818

Table No.	Item	Unit	Quantity	Hourly Unit	No. of Sheets	Total Hours	
Concrete Box Culvert							
18.1	Concrete Box Culverts	EA	0	0		0	
18.2	Concrete Box Culverts Extensions	EA	0	0		0	
Strain Poles							
18.3	Steel Strain Poles	Initial Config	0	0		0	
		EA Add'l Config	0	0		0	
18.4	Concrete Strain Poles	Initial Config	0	0		0	
		EA Add'l Config	0	0		0	
Mast Arms							
18.5	Mast Arms	EA Pole	0	0		0	
Overhead & Cantilever Sign Structures							
18.6	Cantilever Sign Structures	EA				0	
18.7	Overhead Span Sign Structures	EA				0	
18.8	Special (longspan) Overhead Span Sign Structures	EA	0	0		0	
18.9	Monotube Overhead Sign Structure	EA	0	0		0	
18.10	Bridge Mounted Signs (Attached to Superstr.)	EA	0	0		0	
High Mast Lighting Fixtures							
18.11	High Mast Lighting Structures	EA	0	0		0	
Sound Barrier Walls (Ground Mount)							
18.12	Horizontal Wall Geometry	EA Wall	2	16		32	
18.13	Vertical Wall Geometry	EA 500 feet of	8	20		160	
18.14	Semi-Standard Drawings	Sheet	0	0	0	0	
18.15	Control Drawings	Sheet	8	20	8	160	500' per sheet max
18.16	Design for Wall Height Covered by Standards	EA Design	1	12		12	
18.17	Design for Wall Height Not Covered by Standards	EA Design	0	0		0	
18.18	Aesthetic Details	LS	1	12	6	12	
Special Structures							
18.19	Special Structures	LS	0	0		0	
18. Miscellaneous Structures Totals					14	376	

Computation of Geotechnical Cost - Ardaman & Associates, Inc.
Bridges

SR 408 / SR 417 Interchange
 Supplemental

Date: 2/8/13

Component/Unit Description	Unit of Measure	Unit Price	Unit Quantity	Component Cost
I. FIELD EXPLORATION:				
1. Crew & Equipment Mobilization:				
a. - Truck-Mounted Equipment	Ea.	\$300.00	0.0	\$0.00
b. - Track/Bombadier	Ea.	\$5,000.00	0.0	\$0.00
c. - Mudbug	Ea.	\$350.00	0.0	\$0.00
d. - Barge	Ea.	\$7,500.00	0.0	\$0.00
2. Standard Penetration Test Borings(ASTM D-1586):				
Land:	0 Borings to	0 ft.	0 Borings to	0.0 ft.
	0 Borings to	0 ft.	0 Borings to	0.0 ft.
	0 Borings to	0 ft.	0 Borings to	0.0 ft.
a. - 0 to 50 ft. depths	LF	\$12.00	0.0	\$0.00
b. - 50 to 100 ft. depths	LF	\$14.00	25.0	\$350.00
c. - 100 to 150 ft. depths	LF	\$17.00	175.0	\$2,975.00
d. - 150 to 200 ft. depths	LF	\$17.00	0.0	\$0.00
e. - 200 to 250 ft. depths	LF	\$0.00	0.0	\$0.00
f. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
g. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
h. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
i. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
j. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00
Barge/	0 Borings to	0 ft.	0 Borings to	0.0 ft.
Track:	0 Borings to	0 ft.	0 Borings to	0.0 ft.
	0 Borings to	0 ft.	0 Borings to	0.0 ft.
k. - 0 to 50 ft. depths	LF	\$18.00	0.0	\$0.00
l. - 50 to 100 ft. depths	LF	\$21.00	0.0	\$0.00
m. - 100 to 150 ft. depths	LF	\$25.50	0.0	\$0.00
n. - 150 to 200 ft. depths	LF	\$25.50	0.0	\$0.00
o. - 200 to 250 ft. depths	LF	\$0.00	0.0	\$0.00
p. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
q. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
r. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
s. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
t. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00
3. Rock Coring - HW Barrel(ASTM D-2113):				
Land:				
a. - 0 to 50 ft. depths	LF	\$35.00	0.0	\$0.00
b. - 50 to 100 ft. depths	LF	\$38.00	0.0	\$0.00
c. - 100 to 150 ft. depths	LF	\$43.00	0.0	\$0.00
d. - 150 to 200 ft. depths	LF	\$49.00	0.0	\$0.00
e. - 200 to 250 ft. depths	LF	\$55.00	0.0	\$0.00
f. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
g. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
h. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
i. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
j. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00
Barge/				

Track:

k. - 0 to 50 ft. depths	LF	\$52.50	0.0	\$0.00
l. - 50 to 100 ft. depths	LF	\$57.00	0.0	\$0.00
m. - 100 to 150 ft. depths	LF	\$64.50	0.0	\$0.00
n. - 150 to 200 ft. depths	LF	\$73.50	0.0	\$0.00
o. - 200 to 250 ft. depths	LF	\$82.50	0.0	\$0.00
p. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
q. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
r. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
s. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
t. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00

4. Grout Seal Boreholes:

Land:	0 Borings to	0 ft.	0 Borings to	0.0 ft.
	0 Borings to	0 ft.	0 Borings to	0.0 ft.
	0 Borings to	0 ft.	0 Borings to	0.0 ft.

a. - 0 to 50 ft. depths	LF	\$3.00	0.0	\$0.00
b. - 50 to 100 ft. depths	LF	\$3.50	0.0	\$0.00
c. - 100 to 150 ft. depths	LF	\$4.00	0.0	\$0.00
d. - 150 to 200 ft. depths	LF	\$5.00	0.0	\$0.00
e. - 200 to 250 ft. depths	LF	\$6.00	0.0	\$0.00
f. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
g. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
h. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
i. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
j. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00

Barge/	0 Borings to	0 ft.	0 Borings to	0.0 ft.
Track:	0 Borings to	0 ft.	0 Borings to	0.0 ft.
	0 Borings to	0 ft.	0 Borings to	0.0 ft.

k. - 0 to 50 ft. depths	LF	\$4.50	0.0	\$0.00
l. - 50 to 100 ft. depths	LF	\$5.25	0.0	\$0.00
m. - 100 to 150 ft. depths	LF	\$6.00	0.0	\$0.00
n. - 150 to 200 ft. depths	LF	\$7.50	0.0	\$0.00
o. - 200 to 250 ft. depths	LF	\$9.00	0.0	\$0.00
p. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
q. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
r. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
s. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
t. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00

5. Casing Allowance:

Land:				
a. - 0 to 50 ft. depths	LF	\$7.50	0.0	\$0.00
b. - 50 to 100 ft. depths	LF	\$9.20	0.0	\$0.00
c. - 100 to 150 ft. depths	LF	\$11.00	0.0	\$0.00
d. - 150 to 200 ft. depths	LF	\$0.00	0.0	\$0.00
e. - 200 to 250 ft. depths	LF	\$0.00	0.0	\$0.00
f. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
g. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
h. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
i. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
j. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00

Barge/

Track:				
k. - 0 to 50 ft. depths	LF	\$11.25	0.0	\$0.00
l. - 50 to 100 ft. depths	LF	\$13.80	0.0	\$0.00

m. - 100 to 150 ft. depths	LF	\$16.50	0.0	\$0.00
n. - 150 to 200 ft. depths	LF	\$0.00	0.0	\$0.00
o. - 200 to 250 ft. depths	LF	\$0.00	0.0	\$0.00
p. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
q. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
r. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
s. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
t. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00

6. Cone Penetration Test Soundings(ASTM D-3441):

Land:	0 Borings to	0 ft.	0 Borings to	0.0 ft.
	0 Borings to	0 ft.	0 Borings to	0.0 ft.
	0 Borings to	0 ft.	0 Borings to	0.0 ft.

a. - 0 to 50 ft. depths	LF	\$13.00	0.0	\$0.00
b. - 50 to 100 ft. depths	LF	\$13.00	0.0	\$0.00
c. - 100 to 150 ft. depths	LF	\$13.00	0.0	\$0.00
d. - 150 to 200 ft. depths	LF	\$13.00	0.0	\$0.00
e. - 200 to 250 ft. depths	LF	\$0.00	0.0	\$0.00
f. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
g. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
h. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
i. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
j. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00

Barge/

Track:	0 Borings to	0 ft	0 Borings to	0.0 ft
	0 Borings to	0 ft	0 Borings to	0.0 ft
	0 Borings to	0 ft	0 Borings to	0.0 ft

k. - 0 to 50 ft. depths	LF	\$0.00	0.0	\$0.00
l. - 50 to 100 ft. depths	LF	\$0.00	0.0	\$0.00
m. - 100 to 150 ft. depths	LF	\$0.00	0.0	\$0.00
n. - 150 to 200 ft. depths	LF	\$0.00	0.0	\$0.00
o. - 200 to 250 ft. depths	LF	\$0.00	0.0	\$0.00
p. - 250 to 300 ft. depths	LF	\$0.00	0.0	\$0.00
q. - 300 to 350 ft. depths	LF	\$0.00	0.0	\$0.00
r. - 350 to 400 ft. depths	LF	\$0.00	0.0	\$0.00
s. - 400 to 450 ft. depths	LF	\$0.00	0.0	\$0.00
t. - 450 to 500 ft. depths	LF	\$0.00	0.0	\$0.00

7. Auger Borings(ASTM D-1452):

0 Borings to	0 ft
0 Borings to	0 ft
0 Borings to	0 ft
0 Borings to	0 ft

a. - 0 to 50 ft. depths	LF	\$9.50	0.0	\$0.00
-------------------------	----	--------	-----	--------

8. Drill Rig and Crew:

Land	Hr	\$180.00	0.0	\$0.00
Amphibious/Barge	Hr	\$270.00	0.0	\$0.00

9. Field Permeability Tests:

Ea.	\$275.00	0.0	\$0.00
-----	----------	-----	--------

10. MOT (5 borings @ 1.5 days/boring)

Hr.	\$225.00	60.0	\$13,500.00
-----	----------	------	-------------

11. Hand Probing/Wash Borings:

a. - 2 person crew	Hr.	\$110.00	0.0	\$0.00
b. - 3 person crew	Hr.	\$160.00	0.0	\$0.00

12. Per Diem for Drill Crew:				
a. - 2 person crew	Days	\$100.00	0.0	\$0.00
b. - 3 person crew	Days	\$150.00	0.0	\$0.00
13. Thin-Walled Tube Samples(ASTM D-1587):				
Land:				
a. - 0 to 50 ft. depths	Ea.	\$140.00	0.0	\$0.00
b. - 50 to 100 ft. depths	Ea.	\$155.00	0.0	\$0.00
c. - 100 to 150 ft. depths	Ea.	\$260.00	0.0	\$0.00
d. - 150 to 200 ft. depths	Ea.	\$340.00	0.0	\$0.00
Barge/				
Track:				
a. - 0 to 50 ft. depths	Ea.	\$210.00	0.0	\$0.00
b. - 50 to 100 ft. depths	Ea.	\$232.50	0.0	\$0.00
c. - 100 to 150 ft. depths	Ea.	\$390.00	0.0	\$0.00
d. - 150 to 200 ft. depths	Ea.	\$510.00	0.0	\$0.00
14. Site Reconnaissance/Utility Coordination:				
a. - Project Engineer	hrs.	\$106.71	0.0	\$0.00
b. - Engineering Tech.	hrs.	\$62.65	0.0	\$0.00
15. Extra Split Spoon Samples:				
Land:				
a. - 0 to 50 ft. depths	Ea.	\$29.00	0.0	\$0.00
b. - 50 to 100 ft. depths	Ea.	\$32.00	0.0	\$0.00
c. - 100 to 150 ft. depths	Ea.	\$41.50	0.0	\$0.00
d. - 150 to 200 ft. depths	Ea.	\$45.00	0.0	\$0.00
e. - 200 to 250 ft. depths	Ea.	\$50.00	0.0	\$0.00
f. - 250 to 300 ft. depths	Ea.	\$0.00	0.0	\$0.00
g. - 300 to 350 ft. depths	Ea.	\$0.00	0.0	\$0.00
h. - 350 to 400 ft. depths	Ea.	\$0.00	0.0	\$0.00
i. - 400 to 450 ft. depths	Ea.	\$0.00	0.0	\$0.00
j. - 450 to 500 ft. depths	Ea.	\$0.00	0.0	\$0.00
Barge/				
Track:				
k. - 0 to 50 ft. depths	Ea.	\$43.50	0.0	\$0.00
l. - 50 to 100 ft. depths	Ea.	\$48.00	0.0	\$0.00
m. - 100 to 150 ft. depths	Ea.	\$62.25	0.0	\$0.00
n. - 150 to 200 ft. depths	Ea.	\$67.50	0.0	\$0.00
o. - 200 to 250 ft. depths	Ea.	\$75.00	0.0	\$0.00
p. - 250 to 300 ft. depths	Ea.	\$0.00	0.0	\$0.00
q. - 300 to 350 ft. depths	Ea.	\$0.00	0.0	\$0.00
r. - 350 to 400 ft. depths	Ea.	\$0.00	0.0	\$0.00
s. - 400 to 450 ft. depths	Ea.	\$0.00	0.0	\$0.00
t. - 450 to 500 ft. depths	Ea.	\$0.00	0.0	\$0.00
16. Pavement Cores:	Hr.	\$120.00	0.0	\$0.00
17. Double Ring Infil.(ASTM D-3385)	Ea.	\$525.00	0.0	\$0.00
18. Subcontract Earthwork Services:				
a. - Clay Stabilization Matl.	CY	\$0.00	0.0	\$0.00
b. - Clean Sand Fill Material	CY	\$0.00	0.0	\$0.00
c. - Geogrid (Tensar SS2)	SY	\$0.00	0.0	\$0.00
d. - Removal Wetlands Fill	CY	\$0.00	0.0	\$0.00
e. - Silt Barrier	LF	\$0.00	0.0	\$0.00
19. Water Sampling:	Ea.	\$80.00	0.0	\$0.00

20. Field Vane Test(ASTM D-2573):	Ea.	\$450.00	0.0	\$0.00
21. Dilatometer Sounding:	Hr.	\$160.00	0.0	\$0.00
22. Monitor Wells - 2 inch (50mm):				
0 Wells to	0 ft			
0 Wells to	0 ft			
0 Wells to	0 ft			
0 Wells to	0 ft			
a. - 0 to 50 ft. depths	LF	\$35.00	0.0	\$0.00
23. Concrete Pad and Cover:	Ea.	\$275.00	0.0	\$0.00
24. Deco/Development Time:	Hr	\$110.00	0.0	\$0.00
25. OVA Headspace Analysis, Senior Engineering Technician:	Hr	\$80.00	0.0	\$0.00
26. OVA Equipment Charge:	Days	\$0.00	0.0	\$0.00
27. Riser:	LF	\$10.00	0.0	\$0.00
28. Screen:	LF	\$15.00	0.0	\$0.00
29. Water Sampling for Analytical Lab Work (PCA):	Ea.	\$80.00	0.0	\$0.00
Total for Field Exploration				\$16,825.00

II. LABORATORY TESTING:

1. Visual Exam/Stratify(ASTM D-2488):				
- Project Engineer	hrs.	\$106.71	0.0	\$0.00
- Engineering Intern	hrs.	\$76.24	0.0	\$0.00
2. Grain Size Analysis:				
a. - Full Grad.(FM 1-T 88)	Ea.	\$40.00	0.0	\$0.00
b. - Single Sieve(FM 1-T 88)	Ea.	\$25.00	0.0	\$0.00
3. Hydrometer(FM 1-T 88):	Ea.	\$100.00	0.0	\$0.00
4. Organic Content(FM 1-T 267):	Ea.	\$28.00	0.0	\$0.00
5. Atterberg Limits(FM 1-T 89/90):				
a. - Plastic Limit	Ea.	\$45.00	0.0	\$0.00
b. - Liquid Limit	Ea.	\$45.00	0.0	\$0.00
6. Natural Moisture (FM 1-T 265):	Ea.	\$12.00	0.0	\$0.00
7. Unit Weight Determination:	Ea.	\$55.00	0.0	\$0.00
8. Consolidation Test(FM 1-T 216):	Ea.	\$550.00	0.0	\$0.00
9. Permeability(FM 1-T 215/5-513):	Ea.	\$250.00	0.0	\$0.00
10. Corrosion Series: (pH, Sulfate, Chloride, Resistivity)	Ea.	\$140.00	0.0	\$0.00
11. Triaxial/point(FM 1-T 234):	Ea.	\$300.00	0.0	\$0.00
12. Unconfined Comp.(ASTM D-2166):	Ea.	\$60.00	0.0	\$0.00

13. Limerock Bearing Ratio(FM5-515):	Ea.	\$280.00	0.0	\$0.00
14. Specific Gravity(FM 1-T 100):	Ea.	\$75.00	0.0	\$0.00
15. Bitumen Extraction(FM 1-T 164):	Ea.	\$70.00	0.0	\$0.00
16. Bitumen Gradation(FM 1-T 30):	Ea.	\$40.00	0.0	\$0.00
17. Direct Shear(ASTM D-3080):	Ea.	\$180.00	0.0	\$0.00
18. Shrinkage Factor(FM 1-T 092):	Ea.	\$60.00	0.0	\$0.00
19. Swell Potential(ASTM D-4546):	Ea.	\$60.00	0.0	\$0.00
20. Compaction(FM 5-525/521):	Ea.	\$90.00	0.0	\$0.00
21. Min./Max. Den.(ASTM D-4254/53):	Ea.	\$90.00	0.0	\$0.00
22. Unconfined - Rock(ASTM D-2938):	Ea.	\$90.00	0.0	\$0.00
23. Splitting Tensile(ASTM D-3967):	Ea.	\$120.00	0.0	\$0.00
24. Kerosene Analysis Group:	Ea.	\$450.00	0.0	\$0.00
Total for Laboratory Testing				\$0.00

III. ENGINEERING AND TECHNICAL SERVICES:

1. Chief Engineer	hrs.	\$152.43	0.0	\$0.00
2. Senior Engineer:	hrs.	\$145.87	0.0	\$0.00
3. Project Engineer:	hrs.	\$103.04	0.0	\$0.00
4. Engineering Intern:	hrs.	\$73.62	0.0	\$0.00
5. CADD / Computer Technician	hrs.	\$66.26	0.0	\$0.00
6. Secretary/Clerical:	hrs.	\$48.98	0.0	\$0.00

Total for Engineering and Technical Services \$0.00

Grand Total this Proposal \$16,825.00

NES NADIC ENGINEERING SERVICES, INC.
Civil, Environmental, and Geotechnical Consultants

January 17, 2013

URS Corporation
315 E. Robinson St, Suite 245
Orlando, FL 32801-1949

Attention: Mr. Stephen N. Noppinger, P.E.
Vice President

Re: Proposal for Geotechnical Engineering Services – Additional Sound Wall
SR 417 and SR 408 Interchange Improvements
Orange County, Florida
OOCEA Project# 253F
NES Project No.: R11043

Dear Mr. Noppinger:

NES is pleased to submit this Fee Proposal for additional geotechnical engineering services for the additional sound wall requested by OOCEA for the referenced proposed improvements. We understand that this improvement is for the ultimate design of the interchange. We have also included the cost of geotechnical exploration for Ponds 15 and 16 which were included the Roadway Soil Survey report submitted for this project.

Our services for this project will consist of providing geotechnical engineering services in general accordance with the Florida Department of Transportation (FDOT) "Soils and Foundation Manual" and within our understanding of the project. Based on discussions with you and URS, NES will provide the following additional geotechnical services:

- Two Standard Penetration Test borings to a depth of 20 feet for Pond 15 extension (task completed)
- Two Standard Penetration Test borings to a depth of 15 feet at the existing Pond 16 site (task completed)
- Additional 1800 linear foot for sound wall (to be provided).

Field Testing Program

We anticipate the testing program will generally consist of the following services:

1. Perform site reconnaissance and utility clearance coordination
2. Perform a total of 9 SPT borings to a depth of 40 feet for sound walls, and two (2) SPT borings to a depth of 15 feet and 20 feet for Pond 15 and 16, respectively.

NES
601 N. Hart Boulevard
Orlando, FL. 32818

Phone: 407 521 4771
Fax: 407 521 4772
E-Mail: nadic@nadicinc.com

3. Visually examine all recovered soil samples in the laboratory using the Unified Soil Classification System. Perform laboratory tests on selected representative soil samples. The laboratory testing will include grain-size analyses, Atterberg limits, organic content, natural moisture content and corrosion series testing, as appropriate
4. Collect groundwater level measurements and estimate normal wet seasonal high groundwater tables.

The results of the field exploration and laboratory tests will be used in performing engineering evaluations and developing recommendations for design and construction of the proposed roadway improvements. Final reports will incorporate results of the geotechnical information provided by OOCEA on preliminary reports prepared for this project as well as any additional field or laboratory test results and any special provisions for the contract plans.

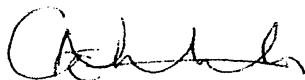
Fee Estimates

In accordance with the proposed scope of services, we estimate the total cost of our services to be **\$22,451.87**.

We sincerely appreciate the opportunity of submitting this fee proposal, and look forward to working with you, RS&H and OOCEA once again. Please do not hesitate to contact the undersigned if you have any questions or if you need additional information.

Sincerely,

NADIC ENGINEERING SERVICES, INC.



Godwin N. Nnadi, Ph.D., P.E.
Principal Engineer

GNN: R11043 (SR417_SR 408). (January 172013) pro

Attachment:

- FDOT Spreadsheet – Estimate of Work Effort and Cost – Sub consultant
- FDOT Spreadsheet – Staff Hours – Geotechnical
- Attachment A – Computation of Geotechnical Field and Laboratory Cost

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project: SR 408/SR417 SYSTEMS INTERCHANGE CONSTRUCTION
 County: Orange
 OCEA Project Number: 253F
 OCEA Contract Number: 000818

Consultant Name: URS/NADIC ENGINEERING SVCS
 Consultant No.: R11033
 Date: 1/17/2013
 Estimator: Godwin Nnadi

Staff Classification	Total Staff Hours From "SH Summary Form"	Project Manager	Chief Engineer	Senior Engineer	Project Engineer	Staff Engineer	Cadd/Computer Tech	Sr. Engineer Tech.	Secretary	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12	SH By Activity	Salary Cost By Activity	Average Rate Per Task
		\$55.71	\$0.00	\$52.08	\$45.19	\$28.94	\$24.42	\$22.15	\$16.58	\$0.00	\$0.00	\$0.00	\$0.00			
3. Project General Tasks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
4. Roadway Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
5. Roadway Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
6. Drainage Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
7. Utilities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
8. Environmental Permits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
9. Structures - Misc. Tasks, Dwgs, Non-Tech	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
10. Structures - BDR	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
11. Structures - Temporary Bridge	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
12. Structures - Short Span Concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
13. Structures - Medium Span Concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
14. Structures - Structural Steel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
15. Structures - Segmental Concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
16. Structures - Movable Span	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
17. Structures - Retaining Walls	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
18. Structures - Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
19. Signing & Marking Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
20. Signing & Marking Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
21. Signalization Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
22. Signalization Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
23. Lighting Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
24. Lighting Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
25. Landscape Architecture Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
26. Landscape Architecture Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
27. Survey (Field & Office Support)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
28. Photogrammetry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
29. Mapping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
30. Geotechnical	79	9	0	0	23	26	10	8	4	0	0	0	0	80	\$2,781	\$34.76
31. Architecture Development	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
32. Noise Wall Analysis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
Total Staff Hours	79	9	0	0	23	26	10	8	4	0	0	0	0	80		
Total Staff Cost		\$501.39	\$0.00	\$0.00	\$1,039.37	\$752.44	\$244.20	\$177.20	\$66.32	\$0.00	\$0.00	\$0.00	\$0.00		\$2,780.92	\$34.76

Check = \$2,780.92

Salary Related Costs

Total Activity Salary Costs		\$2,780.92
Overhead Activities	234.34%	\$6,516.81
Subtotal Salary Related Costs (Limiting Amount)		\$9,297.73

Operating Margin (Fixed Fee)	15.00%	**	\$417.14
**(Equivalent Lump Sum for Operating Margin 4.49%)			

Expenses

Direct Reimbursables (Out-of-Pocket)	0.00%	\$0.00
Survey (Field)	0 4-man crew d. \$ - / day	\$0.00
Geotechnical Field and Lab Testing		\$12,737.00
Subtotal Expenses (Lump Sum)		\$12,737.00

NADIC TOTAL (Maximum Limiting Amount)	\$22,451.87
--	--------------------

Computation of Geotechnical Cost
Sound Walls
SR 408/SR 417 System Interchange Construction

Component/Unit Description	Unit of Measure	Unit Price	Unit Quantity	Component Cost
I. FIELD EXPLORATION:				
1. Crew & Equipment Mobilization:				
a. - Truck-Mounted Equipment	Ea.	\$450.00	2.0	\$900.00
b. - Track/Bombadier	Ea.	\$2,400.00	0.0	\$0.00
c. - Mudbug	Ea.	\$600.00	0.0	\$0.00
d. - Barge	Ea.	\$16,000.00	0.0	\$0.00
2. Standard Penetration Test Borings(ASTM D-1586):				
Land: 9 Borings to 40 ft. Soundwall	2 Borings to	15.0 ft.	Pond 16	
0 Borings to 0 ft.	2 Borings to	20.0 ft.	Pond 15	
0 Borings to 0 ft.	0 Borings to	0.0 ft.		
a. - 0 to 50 ft. depths	LF	\$12.40	430.0	\$5,332.00
b. - 50 to 100 ft. depths	LF	\$15.00	0.0	\$0.00
c. - 100 to 150 ft. depths	LF	\$19.50	0.0	\$0.00
d. - 150 to 200 ft. depths	LF	\$24.00	0.0	\$0.00
e. - 200 to 250 ft. depths	LF	\$30.00	0.0	\$0.00
Barge/ 0 Borings to 0 ft.	0 Borings to	0.0 ft.		
Track: 0 Borings to 0 ft.	0 Borings to	0.0 ft.		
0 Borings to 0 ft.	0 Borings to	0.0 ft.		
k. - 0 to 50 ft. depths	LF	\$18.60	0.0	\$0.00
l. - 50 to 100 ft. depths	LF	\$22.50	0.0	\$0.00
m. - 100 to 150 ft. depths	LF	\$28.50	0.0	\$0.00
n. - 150 to 200 ft. depths	LF	\$36.00	0.0	\$0.00
o. - 200 to 250 ft. depths	LF	\$45.00	0.0	\$0.00
3. Rock Coring - HW Barrel(ASTM D-2113):				
Land:				
a. - 0 to 50 ft. depths	LF	\$30.00	0.0	\$0.00
b. - 50 to 100 ft. depths	LF	\$35.00	0.0	\$0.00
c. - 100 to 150 ft. depths	LF	\$40.00	0.0	\$0.00
d. - 150 to 200 ft. depths	LF	\$50.00	0.0	\$0.00
e. - 200 to 250 ft. depths	LF	\$60.00	0.0	\$0.00
Barge/				
Track:				
k. - 0 to 50 ft. depths	LF	\$45.00	0.0	\$0.00
l. - 50 to 100 ft. depths	LF	\$52.50	0.0	\$0.00
m. - 100 to 150 ft. depths	LF	\$60.00	0.0	\$0.00
n. - 150 to 200 ft. depths	LF	\$75.00	0.0	\$0.00
o. - 200 to 250 ft. depths	LF	\$90.00	0.0	\$0.00
4. Grout Seal Boreholes:				
Land: 0 Borings to 0 ft.	0 Borings to	0.0 ft.		
0 Borings to 0 ft.	0 Borings to	0.0 ft.		
0 Borings to 0 ft.	0 Borings to	0.0 ft.		
a. - 0 to 50 ft. depths	LF	\$5.00	0.0	\$0.00
b. - 50 to 100 ft. depths	LF	\$6.00	0.0	\$0.00
c. - 100 to 150 ft. depths	LF	\$8.00	0.0	\$0.00
d. - 150 to 200 ft. depths	LF	\$10.00	0.0	\$0.00
e. - 200 to 250 ft. depths	LF	\$12.00	0.0	\$0.00

Computation of Geotechnical Cost
Sound Walls
SR 408/SR 417 System Interchange Construction

Barge/	0 Borings to	0 ft.	0 Borings to	0.0 ft.	
Track:	0 Borings to	0 ft.	0 Borings to	0.0 ft.	
	0 Borings to	0 ft.	0 Borings to	0.0 ft.	
k. - 0 to 50 ft. depths			LF	\$7.50	0.0 \$0.00
l. - 50 to 100 ft. depths			LF	\$9.00	0.0 \$0.00
m. - 100 to 150 ft. depths			LF	\$12.00	0.0 \$0.00
n. - 150 to 200 ft. depths			LF	\$15.00	0.0 \$0.00
o. - 200 to 250 ft. depths			LF	\$18.00	0.0 \$0.00

5. Casing Allowance:

Land:

a. - 0 to 50 ft. depths	LF	\$8.00	0.0	\$0.00
b. - 50 to 100 ft. depths	LF	\$10.00	0.0	\$0.00
c. - 100 to 150 ft. depths	LF	\$11.00	0.0	\$0.00
d. - 150 to 200 ft. depths	LF	\$12.50	0.0	\$0.00
e. - 200 to 250 ft. depths	LF	\$15.00	0.0	\$0.00

Barge/

Track:

k. - 0 to 50 ft. depths	LF	\$12.00	0.0	\$0.00
l. - 50 to 100 ft. depths	LF	\$15.00	0.0	\$0.00
m. - 100 to 150 ft. depths	LF	\$16.50	0.0	\$0.00
n. - 150 to 200 ft. depths	LF	\$18.75	0.0	\$0.00
o. - 200 to 250 ft. depths	LF	\$22.50	0.0	\$0.00

6. Cone Penetration Test Soundings (ASTM D-3441):

Land:	0 Borings to	0 ft	0 Borings to	0.0 ft	
	0 Borings to	0 ft	0 Borings to	0.0 ft	
	0 Borings to	0 ft	0 Borings to	0.0 ft	
a. - 0 to 50 ft. depths	LF	\$9.00	0.0	\$0.00	
b. - 50 to 100 ft. depths	LF	\$11.00	0.0	\$0.00	
c. - 100 to 150 ft. depths	LF	\$13.00	0.0	\$0.00	
d. - 150 to 200 ft. depths	LF	\$15.00	0.0	\$0.00	
e. - 200 to 250 ft. depths	LF	\$17.00	0.0	\$0.00	

Barge/

Track:

	0 Borings to	0 ft		0 Borings to	0.0 ft	
	0 Borings to	0 ft		0 Borings to	0.0 ft	
	0 Borings to	0 ft		0 Borings to	0.0 ft	
k. - 0 to 50 ft. depths			LF	\$13.50	0.0	\$0.00
l. - 50 to 100 ft. depths			LF	\$16.50	0.0	\$0.00
m. - 100 to 150 ft. depths			LF	\$19.50	0.0	\$0.00
n. - 150 to 200 ft. depths			LF	\$22.50	0.0	\$0.00
o. - 200 to 250 ft. depths			LF	\$25.50	0.0	\$0.00

7. Auger Borings (ASTM D-1452):

	0 Borings to	0 ft			
	0 Borings to	0 ft			
	0 Borings to	0 ft			
	0 Borings to	0 ft			
a. - 0 to 50 ft. depths	LF	\$10.00	0.0	\$0.00	

8. Drill Rig and Crew:	Land (creating access to boring locations)	Hr	\$150.00	3.0	\$450.00
------------------------	--	----	----------	-----	----------

SR 408/SR 417 System Interchange Construction				
Amphibious/Barge	Hr	\$250.00	0.0	\$0.00
9. Field Permeability Tests:	Ea.	\$275.00	0.0	\$0.00
10a. MOT -Signs	Hr.	\$180.00	8.0	\$1,440.00
10b. MOT - Flashing Arrow Board/Advance Warning Vehicle	Days	\$120.00	1.0	\$120.00
10c. MOT - Crash Attenuator Truck/Energy Absorption Vehicle	Days	\$1,400.00	1.0	\$1,400.00
10d. MOT - Law office/Trooper	Hr.	\$55.00	8.0	\$440.00
11. Hand Probing/Wash Borings:				
a. - 2 person crew	Hr.	\$950.00	0.0	\$0.00
b. - 3 person crew	Hr.	\$1,300.00	0.0	\$0.00
12. Per Diem for Drill Crew:				
a. - 2 person crew	Days	\$150.00	0.0	\$0.00
b. - 3 person crew	Days	\$200.00	0.0	\$0.00
13. Thin-Walled Tube Samples(ASTM D-1587):				
Land:				
a. - 0 to 50 ft. depths	Ea.	\$150.00	0.0	\$0.00
b. - 50 to 100 ft. depths	Ea.	\$200.00	0.0	\$0.00
c. - 100 to 150 ft. depths	Ea.	\$250.00	0.0	\$0.00
d. - 150 to 200 ft. depths	Ea.	\$300.00	0.0	\$0.00
Barge/				
Track:				
a. - 0 to 50 ft. depths	Ea.	\$225.00	0.0	\$0.00
b. - 50 to 100 ft. depths	Ea.	\$300.00	0.0	\$0.00
c. - 100 to 150 ft. depths	Ea.	\$375.00	0.0	\$0.00
d. - 150 to 200 ft. depths	Ea.	\$450.00	0.0	\$0.00
14. Site Reconnaissance/Utility Coordination:				
a. - Project Engineer	hrs.	\$0.00	1.0	\$0.00
b. - Engineering Tech.	hrs.	\$0.00	5.0	\$0.00
15. Extra Split Spoon Samples:				
Land:				
a. - 0 to 50 ft. depths	Ea.	\$25.00	0.0	\$0.00
b. - 50 to 100 ft. depths	Ea.	\$28.00	0.0	\$0.00
c. - 100 to 150 ft. depths	Ea.	\$32.00	0.0	\$0.00
d. - 150 to 200 ft. depths	Ea.	\$36.00	0.0	\$0.00
e. - 200 to 250 ft. depths	Ea.	\$40.00	0.0	\$0.00
Barge/				
Track:				
k. - 0 to 50 ft. depths	Ea.	\$37.50	0.0	\$0.00
l. - 50 to 100 ft. depths	Ea.	\$42.00	0.0	\$0.00
m. - 100 to 150 ft. depths	Ea.	\$48.00	0.0	\$0.00
n. - 150 to 200 ft. depths	Ea.	\$54.00	0.0	\$0.00
o. - 200 to 250 ft. depths	Ea.	\$60.00	0.0	\$0.00
16. Pavement Cores:	Hr.	\$300.00	0.0	\$0.00
17. Double Ring Infil.(ASTM D-3385)	Ea.	\$500.00	0.0	\$0.00
18. GPS Rental	Days	\$80.00	1.0	\$80.00

**Computation of Geotechnical Cost
Sound Walls
SR 408/SR 417 System Interchange Construction**

19. Water Sampling:	Ea.	\$80.00	0.0	\$0.00
20. Field Vane Test(ASTM D-2573):	Ea.	\$400.00	0.0	\$0.00
21. Dilatometer Sounding:	Hr.	\$160.00	0.0	\$0.00
22. Monitor Wells - 2 inch (50mm):				
0 Wells to	0 ft			
0 Wells to	0 ft			
0 Wells to	0 ft			
0 Wells to	0 ft			
a. - 0 to 50 ft. depths	LF	\$35.09	0.0	\$0.00
23. Concrete Pad and Cover:	Ea.	\$350.00	0.0	\$0.00
24. Deco/Development Time:	Hr	\$180.00	0.0	\$0.00
25. OVA Headspace Analysis, Senior Engineering Technician:	Hr	\$0.00	0.0	\$0.00
26. OVA Equipment Charge:	Days	\$184.60	0.0	\$0.00
27. Riser:	LF	\$25.00	0.0	\$0.00
28. Screen:	LF	\$30.00	0.0	\$0.00
29. Water Sampling for Analytical Lab Work (PCA):	Ea.	\$80.00	0.0	\$0.00
Total for Field Exploration				\$10,162.00

II. LABORATORY TESTING:**1. Visual Exam./Stratify(ASTM D-2488):**

- Project Engineer	hrs.	\$0.00	0.0	\$0.00
- Engineering Intern	hrs.	\$0.00	4.0	\$0.00

2. Grain Size Analysis:

a. - Full Grad.(FM 1-T 88)	Ea.	\$75.00	2.0	\$150.00
b. - Single Sieve(FM 1-T 88)	Ea.	\$40.00	14.0	\$560.00

3. Hydrometer(FM 1-T 88):

Ea.	\$120.00	0.0	\$0.00
-----	----------	-----	--------

4. Organic Content(FM 1-T 267):

Ea.	\$40.00	5.0	\$200.00
-----	---------	-----	----------

5. Atterberg Limits(FM 1-T 89/90):

a. - Plastic Limit	Ea.	\$45.00	6.0	\$270.00
b. - Liquid Limit	Ea.	\$45.00	6.0	\$270.00

6. Natural Moisture (FM 1-T 265):

Ea.	\$15.00	11.0	\$165.00
-----	---------	------	----------

7. Unit Weight Determination:

Ea.	\$42.00	0.0	\$0.00
-----	---------	-----	--------

8. Consolidation Test(FM 1-T 216):

Ea.	\$650.00	0.0	\$0.00
-----	----------	-----	--------

9. Permeability(FM 1-T 215/5-513):

Ea.	\$250.00	0.0	\$0.00
-----	----------	-----	--------

10. Corrosion Series:

Ea.	\$160.00	6.0	\$960.00
-----	----------	-----	----------

(pH, Sulfate, Chloride, Resistivity)

11. Triaxial/point(FM 1-T 234):	Ea.	\$375.00	0.0	\$0.00
12. Unconfined Comp.(ASTM D-2166):	Ea.	\$250.00	0.0	\$0.00
13. Limerock Bearing Ratio(FM5-515):	Ea.	\$300.00	0.0	\$0.00
14. Specific Gravity(FM 1-T 100):	Ea.	\$300.00	0.0	\$0.00
15. Bitumen Extraction(FM 1-T 164):	Ea.	\$75.00	0.0	\$0.00
16. Bitumen Gradation(FM 1-T 30):	Ea.	\$80.00	0.0	\$0.00
17. Direct Shear(ASTM D-3080):	Ea.	\$300.00	0.0	\$0.00
18. Shrinkage Factor(FM 1-T 092):	Ea.	\$75.00	0.0	\$0.00
19. Swell Potential(ASTM D-4546):	Ea.	\$75.00	0.0	\$0.00
20. Compaction(FM 5-525/521):	Ea.	\$130.00	0.0	\$0.00
21. Min./Max. Den.(ASTM D-4254/53):	Ea.	\$200.00	0.0	\$0.00
22. Unconfined - Rock(ASTM D-2938):	Ea.	\$120.00	0.0	\$0.00
23. Splitting Tensile(ASTM D-3967):	Ea.	\$175.00	0.0	\$0.00
24. Kerosene Analysis Group:	Ea.	\$475.00	0.0	\$0.00
Total for Laboratory Testing				\$2,575.00

III. ENGINEERING AND TECHNICAL SERVICES:

1. Chief Engineer/Project Manager	hrs.	\$55.71	0.0	\$0.00
2. Senior Engineer:	hrs.	\$52.08	0.0	\$0.00
3. Project Engineer:	hrs.	\$45.19	0.0	\$0.00
4. Engineer:	hrs.	\$28.94	0.0	\$0.00
5. CADD / Computer Technician	hrs.	\$24.42	0.0	\$0.00
6. Secretary/Clerical:	hrs.	\$16.58	0.0	\$0.00

Total for Engineering and Technical Services \$0.00

Grand Total this Proposal \$12,737.00

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY

Project Number: 253F (SA #1)

DESCRIPTION: SR 408/SR 417 Ultimate Interchange

RS&H

OCEA Contract No.: 000818

SUMMARY FEE SHEET

CONTRACT SECTION	ACTIVITY MANHOURS	Project Manager	Chief Engineer	Senior Engineer	Engineer	Engineering Intern	Roadway Technician	Clerical	Sr. Surveyor & Mapper	Surveyor & Mapper	Survey Technician	Total Manhours	Total Cost	Avg. Rate
402 & 409	Governmental Agencies & Public Meetings	3	1	2	2	0	0	0	0	0	0	8	\$468.87	\$58.61
403	Preliminary Design Report-Review	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
404	Surveys and Mapping	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
405	Geotechnical Investigation	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
406	Contamination Impact Analysis	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
407	Pavement Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
408	Borrow Pits	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
410	Environmental Permits	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
411	Utilities	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
412	Roadway Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
413	Structures Design	3	6	20	52	0	0	6	0	0	0	87	\$3,938.38	\$45.27
414	Drainage Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
415	Roadway Lighting	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
416	Traffic Engineering	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
417 & 418	Signal & Pavt Marking Plans	6	8	18	34	52	0	6	0	0	0	124	\$4,962.10	\$40.02
419	Right-of-Way Surveys	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
420	Cost Estimates	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
421	Speical Provisions and Specifications	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
422	Fiber Optic Network (FON)	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
423	Toll Plazas	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
424	Post Design Services	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
700	Administration	0	0	0	0	0	0	0	0	0	0	0	\$0.00	
TOTAL MANHOURS		12	15	40	88	52	0	12	0	0	0	219	\$9,369.35	\$42.78
WAGE RATES		\$69.32	\$67.37	\$57.44	\$39.33	\$28.92	\$0.00	\$22.04	\$0.00	\$0.00	\$0.00			
TOTAL DIRECT COSTS		\$831.84	\$1,010.55	\$2,297.60	\$3,461.04	\$1,503.84	\$0.00	\$264.48	\$0.00	\$0.00	\$0.00		\$9,369.35	

Salary Related Costs

Total Activity Salary Costs

\$9,369.35

Overhead Activities

187.94%

\$17,608.76

Subtotal Salary Related Costs (Limiting Amount)

\$26,978.11

Operating Margin (Fixed Fee)

28.00%

\$2,623.42

Expenses

Direct Reimbursables (Out-of-Pocket)

\$123.21

Permit Fees

\$0.00

Subtotal Expenses (Lump Sum)

\$123.21

GRAND TOTAL (Maximum Limiting Amount)

\$29,724.74

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY					RS&H		
Project Number: 253F (SA #1)					OOCEA Contract No.: 000818		
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Governmental Agencies & Public Meetings							
Section 402 & 409							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Coordination w/ FDOT	LS			N/A	0		
2. Coordination w/ City of Orlando	LS			N/A	0		
3. Coordination w/ Orange County	LS			N/A	0		
4. Coordination w/ SJWMD	LS			N/A	0		
5. FDEP	LS			N/A	0		
6. Public Meetings	EA			N/A	0		
7. Neighborhood Assoc. Meetings	EA			N/A	0		
8. Authority Meetings	EA			N/A	0		
9. City of Orlando Meetings	EA			N/A	0		
10. Orange County Meetings	EA			N/A	0		
11. Preparation of Rdwy/Bridge Exhibits	EA			N/A	0		
12. Other Agency Coordination & Meetings	LS	1	8	N/A	8		Additional Coordination w/ 417-110
TOTAL					8		

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY Project Number: 253F (SA #1) DESCRIPTION: SR 408/SR 417 Ultimate Interchange Orange County				RS&H OOCEA Contract No.: 000818
HIGHWAY TASK LIST				

Signing & Pavement Marking Plans
Section 417 & 418

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Traffic Data Analysis	LS						
2. Reference & Master Design Files	LS	1	45	N/A	45		90 hrs/mile x 1/2 miles
3. Multi Post Sign Support Calc.	EA						
4. Sign Panel Design Analysis	EA	2	3	N/A	6		
5. Sign Lighting/Electrical Calc.	EA	1	2	N/A	2		
6. Key Sheet	Sheet						
7. Summary of Pay Items	Sheet				0		
8. Tabulation of Quantities	Sheet	1	2	1	2		
9. General Notes/Pay Item Notes	Sheet						
10. Project Layout	Sheet	1	6	1	6		Added Coverage
11. Plan Sheet	Sheet	7	4	7	28		4 New and 3 Revised
12. Typical Details	EA						
13. Guide Sign Work Sheet	EA	2	2	1	4		Arrow per Lane + New Overlay
14. Traffic Monitoring Site	EA				0		
15. Cross Sections	EA	1	8	1	8		1 New Overhead Sign Structure
16. Special Service Point Detail	EA	1	4	1	4		New Sign Structure Location
17. Special Details	LS						
SUBTOTAL				12	105	0	
18. Quality Control	5%	1	N/A	N/A	5		
19. Supervision	5%	1	N/A	N/A	6		
20. Field Review	EA	1	4	N/A	4		2 People x 2 hours
21. Technical Meeting	EA	1	4	N/A	4		2 People x 2 hours
TOTAL				12	124	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY
RS&H
Project Number: 253F (SA #1)
OOCEA Contract No.: 000818
**DESCRIPTION: SR 408/SR 417 Ultimate Interchange
Orange County**
**Structure Design
Section 413**

Task No.	Task	Units	Design and Production Staff Hours				Comments				
			No. of Units	Hours per Unit	No. of Sheets	Total					
	General Drawings										
1	Index of Drawings	Sheet			0	0					
2	Project Layout	Sheet			0	0					
3	General Notes and Bid Item Notes	Sheet			0	0					
4	Incorporate FDOT Standards	Sheet			0	0					
5	Incorporate Report of Core Borings	Sheet			0	0					
6	Existing Bridge Plans	LS			N/A	0					
7	Computation Book and Quantities	LS			N/A	0					
Structures - Miscellaneous Tasks & Drawings Subtotals					0	0					
Task No.	Task	Total	Task 10	Task 11	Task 12	Task 13	Task 14	Task 15	Task 16	Task 17	Task 18
10.1	Bridge 1: SR 417 NB over Lake Underhill	0									
10.2	Bridge 2: SR 417 SB over Lake Underhill	0									
10.3	Bridge 3: SR 417 NB over Econ Trail	0									
10.4	Bridge 4: SR 417 SB over Econ Trail	0									
10.5	Bridge 5: Ramp C over Econ Trail	0									
10.6	Bridge 6: Ramp E over SR 408	0									
10.7	Bridge 7: Ramp C Flyover (Steel)	0									
10.8	Bridge 8: Ramp A Flyover (Steel)	0									
10.9	Bridge 9: Ramp D (Steel)	0									
10.10	Bridge 10:	0									
10.11	Bridge 11:	0									
10.12	Bridge 12:	0									
10.13a	Retaining Walls @ Bridges	0									
10.13b	Retaining Walls along Roadway	0									
10.14	Miscellaneous Structures	76									76
10.15	Conceptual Analysis	0									
Structures Technical Subtotals		76	0	0	0	0	0	0	0	0	76
Task No.	Task	Units	No. of Units	Hours per Unit	Total	Comments					
11	Field Reviews	LS	0	0	0						
12	Technical Meetings	LS	0	0	0						
13	Quality Assurance / Quality Control	LS	%	5%	4						
14	Independent Peer Review	LS	%	0%	0						
15	Supervision	LS	%	5%	4						
Structures Non-Technical Subtotals					8						
16	Coordination	LS	%	3%	3						
Structures - Miscellaneous Tasks & Drawings, Non-Technical, & Coordination Totals					87						

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY**RS&H**

Project Number: 253F

OOCEA Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange

Orange County

Structure Design

Section 413

Task No.	Task	Unit	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
Concrete Box Culvert							
18.1	Concrete Box Culverts	EA	0	0		0	
18.2	Concrete Box Culverts Extensions	EA	0	0		0	
Strain Poles							
18.3	Steel Strain Poles	Initial Config	0	0		0	
		EA Add'l Config	0	0		0	
18.4	Concrete Strain Poles	Initial Config	0	0		0	
		EA Add'l Config	0	0		0	
Mast Arms							
18.5	Mast Arms	EA Pole	0	0		0	
Overhead & Cantilever Sign Structures							
18.6	Cantilever Sign Structures	EA	0	0	0	0	
18.7	Overhead Span Sign Structures	EA	0	0	0	0	
18.8	Special Overhead Span Sign Structures and Analysis of Existing Structures	EA	1	100	3	76	Special designs for span sign structure with large panel sizes which exceeds the standard sign program capacity. Credit of 24 hrs included from prior overhead cantilever.
18.8.1	Analyze Existing Sign Structures	EA	0	0		0	
18.9	Monotube Overhead Sign Structure	EA	0	0		0	
18.10	Special Mount Signs (Attached to Superstructure or Wall.)	EA	0	0		0	Special single post sign design and details, for non-standard locations.
High Mast Lighting Fixtures							
18.11	High Mast Lighting Structures	EA	0	0		0	
Sound Barrier Walls (Ground Mount)							
18.12	Horizontal Wall Geometry	EA Wall	0	0		0	
18.13	Vertical Wall Geometry	EA 300 feet of wall	0	0		0	
18.14	Semi-Standard Drawings	Sheet	0	0	0	0	
18.15	Control Drawings	Sheet	0	0	0	0	
18.16	Design for Wall Height Covered by Standards	EA Design	0	0		0	
18.17	Design for Wall Height Not Covered by Standards	EA Design	0	0		0	
18.18	Aesthetic Details	EA	0	0		0	
Special Structures							
18.19	Special Structures	LS	0	0		0	
18. Miscellaneous Structures Totals					3	76	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY						RS&H	
Project Number: 253F						OOCEA Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
MISCELLANEOUS & OUT-OF-POCKET EXPENSES							
MATERIAL (Xerographic Bond)		0 sheets @	\$0.00 /sheet			\$0.00	
MATERIAL (Mylar)		0 sheets @	\$0.00 /sheet			\$0.00	
REPRODUCTION COST:							
	BlueLine	Vellum	Copies 11 x 17	Copies 8.5 x 11			
Phase I	sheets	sheets		sheets	sheets		
Phase II	sheets	sheets		sheets	sheets		
Phase III	0 sheets	0 sheets	300	200	sheets		
Phase IV	0 sheets	0 sheets	300	200	sheets		
Final	- sheets	0 sheets	300	200	sheets		
TOTALS	0 sheets	0 sheets	900	600	sheets		
BlueLine Cost		0 sheets @		=	\$0.00		
CADD Color Plots		0 SF @	\$0.28	=	\$0.00		
11 x 17		720 sheets @	\$0.09	=	\$64.80		
8.5 x 11		600 sheets @	\$0.05	=	\$30.00		
Color Copies							
8.5"x11"		0 sheets @	\$0.18	=	\$0.00		
11"x17"		27 sheets @	\$0.36	=	\$9.72		
GBC Binding		0 bindings @	\$0.00	=	\$0.00		
Display Boards		0 each @	\$0.00	=	\$0.00		
CD/DVD		0 each @	\$1.75	=	\$0.00		
3 Ring Binders		0 each @	\$24.50	=	\$0.00		
Screw Posts		each @	\$0.00	=	\$0.00		
Report Tabs		each @	\$0.00	=	\$0.00		
Covers (Laminated)		each @	\$0.00	=	\$0.00		
Raster Color Plots		SF @	\$0.00	=	\$0.00		
TOTAL REPRODUCTION COSTS						\$104.52	
TRAVEL							
From:		Orlando					
<u>To Project:</u>							
Per Diem	0 trips x	0 people x	0 days/trip @	\$0.00 /diem		\$0.00	
Comm	0 trips x	0 people @	\$0.00 /trip			\$0.00	
POV	1 trips x	30 mi @	\$0.445 /mi			\$13.35	
Rental	0 trips x (	2 days/trip @	\$0.00 /day +	15 mi @	\$0.00 /mi)	\$0.00	
<u>To URS:</u>							
Per Diem	0 trips x	0 people x	0 days/trip @	\$0.00 /diem		\$0.00	
Comm	0 trips x	0 people @	\$0.00 /trip			\$0.00	
POV	1 trips x	12 mi @	\$0.445 /mi			\$5.34	
Rental	0 trips x (	0 days/trip @	\$0.00 /day +	0 mi @	\$0.00 /mi)	\$0.00	
<u>To Project From Tampa:</u>							
Per Diem	0 trips x	2 people x	1 days/trip @	\$21.00 /diem		\$0.00	
Comm	0 trips x	2 people @	\$0.00 /trip			\$0.00	
POV	0 trips x	100 mi @	\$0.445 /mi			\$0.00	
Rental	0 trips x (	1 days/trip @	\$43.59 /day			\$0.00	
TOTAL TRAVEL COSTS						\$18.69	
MISCELLANEOUS COSTS							
Postage & Telephone		months @	\$10.00 /month			\$0.00	
Overnight Delivery		each @	\$10.00 /each			\$0.00	
Same Day Delivery		each @	\$25.00 /each			\$0.00	
Film & Processing		rolls @	/roll			\$0.00	
TOTAL EXPENSES (Lump Sum)						\$123.21	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY												WBQ Design & Engineering OOCEA Contract No.: 000818			
Project Number: 253F															
DESCRIPTION: SR 408/SR 417 Ultimate Interchange															
SUMMARY FEE SHEET (SUBCONSULTANT - WBQ)															
CONTRACT SECTION	ACTIVITY MANHOURS	Project Manager	Chief Engineer	Senior Engineer	Project Engineer	Engineer		Clerical	Sr. Surveyor & Mapper	Surveyor & Mapper	Survey Technician	Total Manhours	Total Cost	Avg. Rate	
402 & 409	Governmental Agencies & Public Meetings	0	0	0	0	0	0	0	0	0	0	0	\$0.00	\$41.57	
403	Preliminary Design Report-Review	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
404	Surveys and Mapping	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
405	Geotechnical Investigation	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
406	Contamination Impact Analysis	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
407	Pavement Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
408	Borrow Pits	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
410	Environmental Permits	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
411	Utilities	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
412	Roadway Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
413	Structures Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
414	Drainage Design	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
415	Roadway Lighting	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
416	Traffic Engineering	6	15	42	35	38	0	3	0	0	0	139	\$5,777.86		
417 & 418	Signal & Pav't Marking Plans	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
419	Right-of-Way Surveys	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
420	Cost Estimates	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
421	Speical Provisions and Specifications	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
422	Fiber Optic Network (FON)	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
423	Toll Plazas	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
424	Post Design Services	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
700	Administration	0	0	0	0	0	0	0	0	0	0	0	\$0.00		
TOTAL MANHOURS		6	15	42	35	38	0	3	0	0	0	139	\$5,777.86		
WAGE RATES		\$86.99	\$63.13	\$48.05	\$33.17	\$27.90	\$0.00	\$23.24	\$0.00	\$0.00	\$0.00	N/A	N/A		
TOTAL DIRECT COSTS		\$521.94	\$946.95	\$2,018.10	\$1,160.95	\$1,060.20	\$0.00	\$69.72	\$0.00	\$0.00	\$0.00	N/A	\$5,777.86		

Salary Related Costs		
Total Activity Salary Costs		\$5,777.86
Overhead Activities	209.04%	\$12,078.04
Subtotal Salary Related Costs (Limiting Amount)		\$17,855.90
Operating Margin (Fixed Fee)	25.50% **	\$1,473.35
**(Equivalent Lump Sum for Operating Margin 8.26% 8.2513343%)		
Expenses		
Direct Reimbursables (Out-of-Pocket)		\$0.00
Permit Fees		\$0.00
Subtotal Expenses (Lump Sum)		\$0.00
Subconsultants		\$0.00
Subtotal Subconsultants (Limiting Amount)		\$0.00
WBQ TOTAL (Maximum Limiting Amount)		\$19,329.25

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY						WBQ Design & Engineering	
Project Number: 253F						OOCEA Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Governmental Agencies & Public Meetings							
Section 402 & 409							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Coordination w/ OOCEA	LS	0	0	N/A	0		
2. Coordination w/ City of Orlando	LS	0	0	N/A	0		
3. Coordination w/ Orange County	LS	0	0	N/A	0		By URS
4. Coordination w/ SJWMD	LS			N/A	0		
5. FDEP	LS			N/A	0		
6. Public Meetings	EA			N/A	0		
7. Neighborhood Assoc. Meetings	EA			N/A	0		
8. Authority Meetings	EA			N/A	0		
9. Orange County Permits/Permit Package	EA	0	0	N/A	0		By URS
10. Orange County Meetings	EA	0	0	N/A	0		
11. Preparation of Rdway/Bridge Exhibits	EA	0	0	N/A	0		By URS
12. Other Agency Coordination & Meetings	LS			N/A	0		
TOTAL					0		

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY						WBQ Design & Engineering	
Project Number: 253F						OOCEA Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Preliminary Design Report-Review							
Section 403							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Review PD&E Reevaluation	LS			N/A	0		
2. Design Criteria	LS	0	0	N/A	0	0	
3. Preliminary Roadway Geometry	LS			N/A	0		
4. Alternative Evaluations	EA	0	0	N/A	0		
5. Technical Memorandum	LS			N/A	0		
6. 15% MOT Concept Constructability	LS	0	0	N/A	0		
7. Technical Memorandum	LS	0	0	N/A	0		
8. 15% Signing/Marking Plans - for MOT	LS	0	0	N/A	0		
SUBTOTAL				0	0	0	
9. Quality Control	5%	1	N/A	N/A	0		
10. Supervision	5%	1	N/A	N/A	0		
11. Technical Meetings	EA			N/A	0		
TOTAL				0	0	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY						WBQ Design & Engineering	
Project Number: 253F						OOCEA Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Pavement Design							
Section 407							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Review Flexible Pav't Design	LS			N/A	0		
2. Data Collection	LS			N/A	0		
3. ESALS	LS			N/A	0		
4. Cross Road Pavement Design	LS			N/A	0		
5. Pavement Design Summary	LS			N/A	0		
SUB-TOTAL				0	0	0	
6. Quality Control	5%	1	N/A	N/A	0		
7. Supervision	5%	1	N/A	N/A	0		
8. Technical Meetings	EA			N/A	0		
TOTAL				0	0	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY						WBQ Design & Engineering	
Project Number: 253F						OOCEA Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Environmental Permits							
Section 410							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Pre-App Coord with OOCEA	LS			N/A	0		
2. Prepare ERP Application	LS			N/A	0		
3. RAI Response	LS			N/A	0		
4. Aerial Map	EA			0	0		
5. Prepare Local Permits	LS			N/A	0		
6. Landowner Addresses	LS			N/A	0		
7. Mitigation Plans	Sheet				0		
SUBTOTAL					0	0	
8. Quality Control	5%	1	N/A	N/A	0		
9. Supervision	5%	1	N/A	N/A	0		
10. Preliminary Field Review	EA	1		N/A	0		
11. Agency Field Review	EA	1		N/A	0		
12. Agency Pre-App Meeting	EA	1		N/A	0		
TOTAL					0	0	0

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY							WBQ Design & Engineering	
Project Number: 253F							OOCEA Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange								
Orange County								
HIGHWAY TASK LIST								
Utilities								
Section 411								
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks	
1. Initial Contact	EA	0	0	N/A	0			
2. Data Collection	LS	0	0	N/A	0			
3. Utility Adjustment Sheets	Sheet	0	0	0	0			
4. Prepare Utility Reloc. Agreements	EA	0	0	N/A	0			
SUBTOTAL				0	0	0		
5. Quality Control	5%	0	N/A	N/A	0			
6. Supervision	5%	0	N/A	N/A	0			
7. Utility Meetings	EA	0	0	N/A	0			
8. Coordination with Utility Companies	EA	0	0	N/A	0			
TOTAL				0	0	0		

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY						WBQ Design & Engineering	
Project Number: 253F						OOCEA Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Roadway Design							
Section 412							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Typical Section Package	LS			N/A	0		
2. Access Management	LS			N/A	0		
3. Horizontal /Vertical Master Design Files	LS			N/A	0		
4. Design Variations and Exceptions	LS			N/A	0		
5. Key Map	Sheet				0		
6. Typical Sections	Sheet				0		
7. General Notes	Sheet				0		
8. Summary of Quantities	Sheet				0		
9. Project Layout	Sheet				0		
10. Roadway Plans	Sheet				0		
11. Roadway Profiles	Sheet				0		
12. Cross Street Plan-Profile	Sheet				0		
13. Special Profiles	Sheet				0		
14. Interchange Layout	Sheet				0		
15. Intersection Detail	Sheet				0		
16. Ramp Terminal Details	Sheet				0		
17. Misc. Construction Details	Sheet				0		
18. Cross Section Design Files	LS			N/A	0		
19. Cross Section Pattern	Sheet				0		
20. Roadway Soil Survey	Sheet				0		
21. Roadway Cross Sections	EA				0		
22. Baseline Control/Curve Data	Sheet				0		
23. Computation Book & Quantities	LS			N/A	0		
24. Summary of Pay Items	LS			N/A	0		
SUBTOTAL					0	0	
25. Quality Control	5%	1	N/A	N/A	0		
26. Supervision	5%	1	N/A	N/A	0		
27. Field Reviews	EA			N/A	0		
28. Technical Meetings	EA			N/A	0		
TOTAL					0	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY**WBQ Design & Engineering**

Project Number: 253F

OOCEA Contract No.: 000818

DESCRIPTION: SR 408/SR 417 Ultimate Interchange
Orange County**HIGHWAY TASK LIST**Drainage Design
Section 414

Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Determine Base Clearance Elev	Per Loc.			N/A	0		
2. Pond Siting Analysis & Report	Per Basin			N/A	0		
3. Design of Cross Drains	EA			N/A	0		
4. Design of Roadway Ditches	Ditch/Mile			N/A	0		
5. Design of Outfalls	EA			N/A	0		
6. Design of Pond	EA			N/A	0		
7. Design of Ditch Treatment	Per System			N/A	0		
8. Design of Flood Plain Comp Area	EA			N/A	0		
9. Design of Storm Drains	EA			N/A	0		
10. Optional Culvert Material	LS			N/A	0		
11. French Drain Systems	Per 1K Ft			N/A	0		
12. Drainage Wells	EA			N/A	0		
13. Drainage Design Doc Report	LS			N/A	0		
14. Bridge Hydraulic Report	EA			N/A	0		
15. Drainage Map	Sheet				0		
16. Interchange Drainage Map	Sheet				0		
17. Summary of Drainage Structures	Sheet				0		
18. Optional Pipe/Culvert Material	Sheet				0		
19. Drainage Structure Sheet	EA				0		
20. Misc Drainage Details	Sheet				0		
21. Lateral Ditch Plan-Profile	Sheet				0		
22. Lateral Ditch Cross Sections	EA				0		
23. Retention/Det Pond Details	Sheet				0		
24. Pond Cross Sections	EA				0		
25. Erosion Control Plan	Sheet	0	0	0	0		
26. SWPPP	Sheet	0	0	0	0		
SUB-TOTAL				0	0		
27. Quality Control	5%	1	N/A	N/A	0		
28. Supervision	5%	1	N/A	N/A	0		
29. Field Reviews	EA			N/A	0		
30. Technical Meetings	EA			N/A	0		
TOTAL				0	0	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY					WBQ Design & Engineering		
Project Number: 253F					OOCEA Contract No.: 000818		
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Roadway Lighting							
Section 415							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Lighting Justification Report	EA			N/A	0		
2. Voltage Drop Calculations	LS			N/A	0		
3. Reference & Master Design Files	LS			N/A	0		
4. Temporary Lighting Analysis	LS			N/A	0		
5. Design Documentation	LS			N/A	0		
6. Key Sheet	Sheet				0		
7. Summary of Pay Items	Sheet				0		
8. Tabulation of Quantities	Sheet				0		
9. General Notes/Pay Item Notes	Sheet				0		
10. Pole Data	Sheet				0		
11. Service Point Details	Sheet				0		
12. Project Layout	Sheet				0		
13. Plan Sheet	Sheet				0		
14. Special Details	Sheet				0		
15. Temporary Lighting Data & Detail	Sheet				0		
SUBTOTAL					0	0	
16. Quality Control	5%	1	N/A	N/A	0		
17. Supervision	5%	1	N/A	N/A	0		
18. Field Review	EA			N/A	0		
19. Coordination with Utility Company	LS			N/A	0		
TOTAL					0	0	0

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY						WBQ Design & Engineering	
Project Number: 253F						OOCEA Contract No.: 000818	
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Traffic Engineering							
Section 416							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Traffic Data Collection	LS	0	0	N/A	0		
2. TCP Design Analysis	LS	1	26	N/A	26		(Per FDOT 4.6) Traffic Control Analysis - 8 hours + Cross Section Analysis and Development - 20 hrs per mile per phase x (9 main/sub phases) x 0.1 miles = 18 hours = 8 + 18 = 38
3. Temp Drainage Analysis	LS	1	4	N/A	4		
4. Master TCP Design Files	LS	1	18	N/A	18		(Per FDOT 4.7) Master TCP Design - 20 hrs per mile per phase x (9 main/sub phases) x 0.1 miles = 18 hours
4. TCP Cross Sections (x-sections)	Sheet	6	0.25	6	2		
5. General Notes/Const. Sequence	Sheet	0	0	0	0		
6. Typical Details	Sheet	2	2	2	4		
7. Tabulation of Quantities & Cost Est.	Sheet	0	0	0	0		
8. TCP Plan Sheets	Sheet	36	1	36	36		4 TCP Plan Sheets x (9 main/sub phases) = 36 Sheets
9. Pavement Marking/Signing Detail	Sheet	9	4	9	36		SPM MOT Roll Plans for each Main and Sub Phases
10. Temporary Signal	Sheet			0	0		By URS
11. Detour Routing	LS	0	0	0	0		
SUBTOTAL:				59	126	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY				WBQ Design & Engineering OOCEA Contract No.: 000818			
Project Number: 253F							
DESCRIPTION: SR 408/SR 417 Ultimate Interchange Orange County							
HIGHWAY TASK LIST							
13. Quality Control	5%	1	N/A	N/A	6		
14. Supervision	5%	1	N/A	N/A	7		
15. Bi-Weekly OOCEA meetings	LS	0	0	N/A	0		
16. Field Review	LS	0	0	N/A	0		
17. Coordination w/ City & County	LS	0	0	N/A	0		
18. Design Documentation	LS	0	0	N/A	0		
TOTAL				53	139	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY					WBQ Design & Engineering		
Project Number: 253F					OOCEA Contract No.: 000818		
DESCRIPTION: SR 408/SR 417 Ultimate Interchange Orange County							
HIGHWAY TASK LIST							
Signing & Pavement Marking Plans Section 417 & 418							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Traffic Data Analysis	LS			N/A	0		
2. Reference & Master Design Files	LS			N/A	0		
3. Multi Post Sign Support Calc.	EA			N/A	0		
4. Sign Panel Design Analsysis	EA			N/A	0		
5. Sign Lighting/Electrical Calc.	EA			N/A	0		
6. Key Sheet	Sheet				0		
7. Summary of Pay Items	Sheet				0		
8. Tabulation of Quantities	Sheet				0		
9. General Notes/Pay Item Notes	Sheet				0		
10. Project Layout	Sheet				0		
11. Plan Sheet	Sheet				0		
12. Typical Details	EA				0		
13. Guide Sign Work Sheet	EA				0		
14. Traffic Monitoring Site	EA				0		
15. Cross Sections	EA				0		
16. Special Service Point Detail	EA				0		
17. Special Details	LS				0		
SUBTOTAL				0	0	0	
18. Quality Control	5%	1	N/A	N/A	0		
19. Supervision	5%	1	N/A	N/A	0		
20. Field Review	EA			N/A	0		
21. Technical Meeting	EA			N/A	0		
TOTAL				0	0	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY					WBQ Design & Engineering OOCEA Contract No.: 000818		
Project Number: 253F							
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Cost Estimates							
Section 420							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Initial Setup	LS	0	0	N/A	0		
2. 30% Construction Cost Est.	LS	0	0	N/A	0		
3. 60% Construction Cost Est.	LS	0	0	N/A	0		
4. 90% Construction Cost Est.	LS	0	0	N/A	0		
5. Final Construction Cost Est.	LS	0	0	N/A	0		
SUBTOTAL					0	0	
6. Quality Control	5%	1	N/A	N/A	0		
7.. Supervision	5%	1	N/A	N/A	0		
TOTAL				0	0	0	

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY WBQ Design & Engineering OOCEA Contract No.: 000818									
Project Number: 253F DESCRIPTION: SR 408/SR 417 Ultimate Interchange Orange County									
HIGHWAY TASK LIST									
Special Provisions and Specifications									
Section 421									
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks		
1. Roadway	LS			N/A	0				
2. Drainage	LS			N/A	0				
3. Structures	LS			N/A	0				
4. Signing & Pavement Marking	LS			N/A	0				
5. Signalization/FON	LS			N/A	0				
SUBTOTAL					0	0			
6. Quality Control	5%	1	N/A	N/A	0				
7. Supervision	5%	1	N/A	N/A	0				
TOTAL				0	0	0			

ORLANDO-ORANGE COUNTY EXPRESSWAY AUTHORITY						WBQ Design & Engineering OOCEA Contract No.: 000818	
Project Number: 253F							
DESCRIPTION: SR 408/SR 417 Ultimate Interchange							
Orange County							
HIGHWAY TASK LIST							
Fiber Optic Network (FON)							
Section 422							
Task	Basis of Estimate	Number of Units	Hours per Unit	Number of Sheets	Total Hours	CADD Hours %	Remarks
1. Data Collection	LS			N/A	0		
2. FON Concept	LS			N/A	0		
3. Key Sheet	Sheet				0		
4. Tabulation of Quantities	Sheet				0		
5. General Notes	Sheet				0		
6. FON Plan	Sheet				0		
7. Conduit Installation Detail	Sheet				0		
8. Route Marker Detail	Sheet				0		
9. Cable Allocation	Sheet				0		
10. FON Phasing Detail/Plan	Sheet				0		
SUBTOTAL:					0	0	
11. Quality Control	5%	1	N/A	N/A	0		
12. Supervision	5%	1	N/A	N/A	0		
13. Power Company Coord.	LS	1		N/A	0		
14. Technical Meetings	EA			N/A	0		
15. Field Review	EA			N/A	0		
TOTAL					0	0	