RESOLUTION NO. 09-077

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, APPROVING TASK ORDER NUMBER SANCHEZ-ZEINALI 2004-02 FOR THE DESIGN OF A COMPLETE RECONSTRUCTION OF 400 LINEAR FEET OF SOUTH ROOSEVELT BLVD. IN THE AMOUNT OF $96,940.33 TO SANCHEZ-ZEINALI ASSOCIATIONS, INC.; PROVIDING FOR AN EFFECTIVE DATE

NOW THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF KEY WEST, FLORIDA, AS FOLLOWS:

Section 1: That the attached task order number Sanchez-Zeinali 2004-02 for supplemental services on South Roosevelt Boulevard for project number PW-0402 by Sanchez-Zeinali & Associates, Inc. in an amount not to exceed $96,940.33 is hereby approved.

Section 2: That this Resolution shall go into effect immediately upon its passage and adoption and authentication by the signature of the presiding officer and the Clerk of the Commission.

Passed and adopted by the City Commission at a meeting held this 7TH day of April, 2009.

Authenticated by the presiding officer and Clerk of the Commission on April 8, 2009.

Filed with the Clerk April 8, 2009.

MORGAN MCPHERSON, MAYOR

ATTEST:

CHERYL SMITH, CITY CLERK

GENERAL SERVICES DEPARTMENT MEMORANDUM

EXECUTIVE SUMMARY

TO: **Jim Scholl , City Manager**

FROM: **Annalise Mannix, P.E. Manager of Engineering Services and Environmental Programs**

VIA: **David Fernandez, Assistant City Manager**
Gary Bowman, General Services Director

DATE: **February 24, 2009**

RE: **Change Order for Design Services for South Roosevelt Blvd. Reconstruction**

ACTION STATEMENT

A resolution approving task order number Sanchez-Zeinali 2004-02 for the design of a complete reconstruction of 400 linear feet of South Roosevelt Blvd. in the amount of $96,940.33 to Sanchez Zeinali Associates, Inc.

STRATEGIC PLAN INITIATIVES

The maintenance of our public infrastructure in a cost effective manner to serve the needs of our citizens and visitors is one of our seven priorities outlined in the Strategic Plan. This project attempts to improve our sidewalk and the State's roadway.

Another strategic initiative is to provide transportation and land use for all people with an efficient and pleasurable choice for arriving at one's destination. This project will make driving from home or the airport by bike or car or bus more pleasurable.

BACKGROUND

The State of Florida Department of Transportation (FDOT) programmed funding to reconstruct A1A in Key West. The City Commission at the time did not like the design the state had selected. The state agreed to give the city the funding to design and construct what the City wanted. The City Commission entered into an agreement with the state (LAP FM #250548-4) to design a reconstruction project for 4,500 linear feet South Roosevelt Blvd. adjacent to Smathers Beach on December 12, 2004. The design by Sanchez Zeinali Associates, Inc. is 90% complete.

The State and the City determined that it is in the people's interest for the City to design and construct an additional 400 linear feet of roadway because the state roadway reconstruction project was completed 400 feet to the east of the location at which the City's design begins. That additional 400 feet of roadway also has a seawall. The City entered into another LAP agreement (FM 250548-4) with the state to fund the additional

design, it was approved by the City Commission May, 2008 and a Notice to Proceed was received in January. We now need to execute the additional task order with Sanchez and Zeinali to complete the design of the additional 400 feet.

PURPOSE & JUSTIFICATION

The state determined that South Roosevelt Blvd is below acceptable standards for roadway maintenance and therefore has determined it is in the citizen's best interest o reconstruct the roadway. The design and construction and construction Inspection is fully funded by the State, with the exception of city staff time, which is not reimbursable.

OPTIONS

There are three options for this request. The first is to approve the task order for the project, finalize the design and then bid the project when final grant funds are authorized. The second option is to reject the task order and politely let the state know they can perform the work. A third option of selecting a different vendor is not remotely feasible.

Awarding the task order to Sanchez-Zeinali is desirable because they are currently designing the adjacent roadway project. Any other option will not provide the citizens with an complete project.

The cost of engineering for this project is not excessive. It was reviewed by the state and the Federal Highway Administration to ensure the cost estimate met their standards and it does.

FINANCIAL IMPACT

The total design cost for the project will be $592,129.81, which is the original $495,189.48 task order cost for 4,500 linear feet of roadway plus this $96,940.33 task for 400 linear feet. The FDOT will meet the cost of the project.

RECOMMENDATION

Authorize execution of this task order to Sanchez-Zeinali Associates, Inc.

CITY OF KEY WEST

TASK ORDER No. SANCHEZ-ZEINALI 2004-02

ENGINEERING SERVICES PROJECT No. PW 0402

FINANCE DEPARTMENT No. PW 0402
SOUTH ROOSEVELT BOULEVARD
BY
SANCHEZ-ZEINALI & ASSOCIATES, INC.
(CONSULTANT)

A. Scope of Services
Services shall be provided by the Consultant following the terms and conditions in the agreement between the City and Consultant date April 7th, 2004. This Task Order shall become a supplement to and part of the Agreement. The Scope of Services is attached entitled Scope of Supplemental Services for South Roosevelt Blvd.

B. Time of Completion
Work under this Task Order will begin upon written authorization from the City to proceed. The estimated work effort including workdays and expenses is shown in the attached statement entitled TASK ORDER No. SANCHEZ-ZEINALI 2004-02 Scope of Services.

C. Compensation
Professional fees for this task order will be as provided in the Agreement as Lump Sum billed per percentage of completion. The amount will not exceed $96,940.33.

D. Acceptance
By signature each party accepts the terms of this **Task Order Sanchez-Zeinali 2004-02**

Sanchez-Zeinali Associates, INC.

By: Frank Zeinali

Title President

Date: 2-26-09

City of Key West

J. K. Scholl

Jim Scholl, City Manager

Date: 09 APRIL 2009

Task Order No. Sanchez-Zeinali 2004-02
SCOPE OF SUPPLEMENTAL SERVICES
SOUTH ROOSEVELT BOULEVARD
CITY OF KEY WEST
PROJECT NUMBER NO. PW-0402

A. Scope of Services

The City of Key West is proposing to reconstruct South Roosevelt Boulevard (State Road A1A) from Smathers Beach to a distance of approximately 400 feet east where it transitions to an existing reconstructed project that was complete by the Florida Department of Transportation.

Project Limits – The Project limits will be from Station 44+00 to Station 49+00 or any point that provides for a logical transition. This Project as it is funded by FDOT. The project will improve the existing roadbed, drainage, seawall, lighting and markings.

The project will be implemented as follows:

- Phase I – The Consultant will prepare preliminary plans and submit for City/FDOT approval.

- Phase II, Plans Production – Once the preliminary plans have been approved, SZA will proceed to the production of final construction documents. Phase Reviews at 60%, 90% and 100% completed plans will occur. The review entities will be the City and FDOT per the Local Agency program requirements.

- Phase III, Post Design – Post Design services will be part of the larger project. Work effort will be negotiated after the submittal of the 100% contract documents.

- Phase IV, Construction – The Consultant will provide construction inspection services or construction monitoring for the City. This effort will be separately negotiated with the City as part of the larger project.

LAP Coordination & Funding – The Consultant will provide Local Agency Program coordination between the City and FDOT throughout the design and the construction of this project. The consultant will prepare the necessary forms for FDOT for FDOT approval and programming of the funds in the FDOT system as the project evolves.

Contract Documents

Roadway Plans – Roadway Plans will be prepared in FDOT format at 1"=40'.

Drainage & Permitting – All drainage analysis and plans will be performed per FDOT standards. The Consultant will prepare all permit applications, coordinate with the permitting agencies and if needed submit directly to the agencies. Permitting agencies include:

- South Florida Water Management District
- Department of Environmental & Resource Management
- Army Corps of Engineers
- United States Coast Guard.

All of the agency permitting and plan review fees will be included in the consultant's fee proposal.

Landscaping - Landscaping will be provided only as mitigation for construction impacts to existing landscaping.

Seawall Plans – Roadway plans will include seawall construction plans and coastal analysis.

Lighting – The Consultant will prepare lighting plans per FDOT standards. There are no specific requirements for lighting as long as they are turtle friendly.

Signalization – This work under the LAP agreement does not include any signalization work.

Utility Services – The Consultant will provide total utility coordination services for the City. The Consultant expects to coordinate the effort with eight (8) separate utility companies.

Public Involvement – The Consultant will prepare and execute a Community Awareness Plan (CAP) for this project in accordance with FDOT criteria. It is anticipated that a Level III cap will be required for this project. This may be included in the larger project.

Survey Services –The original Survey will be updated (IF REQUIRED) as well. An estimated fee is included in the proposal for this effort.

Geotechnical Services – This effort includes obtaining soil tests, percolation tests for drainage and borings for the sea walls.

Subsurface Utility Services – Since previous data is available, we estimated that few vacuum excavation locations may be required.

B. Cost Estimates and Reports

The consultant will prepare construction cost estimates, time of completion and cash flow time-lien projections, engineering costs, inspection costs, and permitting costs

C. Deliverables will consist of:

1. Roadway Plans in electronic format (Micro-station & Auto-CADD)
2. Commission presentation in electronic format (Power Point)
3. Project Technical Specifications

Phase reviews- The consultant will provide 20 copies of plans and documents to the City and FDOT for reviews. The Consultant will coordinate the FDOT reviews for the City.

D. Time of Completion

This Task Order is estimated to be completed within 25 weeks from the written Notice to Proceed (NTP) date. It is understood that permitting issues may take longer. The final submittal must be complete by within 245 days unless a revised task is agreed to by the City.

E. Compensation

Compensation will not exceed $96,940.33 based on the attached fee proposal. Since this Task will be preformed with the FDOT LAP funds, the proposed fee has been approved by the FDOT.

Scope of Supplemental Services for South Roosevelt Boulevard

The general scope of the supplemental services for South Roosevelt Boulevard include the addition of the design and plans preparation of a sheet pile wall along the ocean side at the east end of the project (approximately 400 feet). This wall will be connected to the wall which was recently constructed by the FDOT project which began at the east end of our project. In addition, these supplemental services will also include the study, design and plans preparation, if feasible, of a protected pedestrian crossing across South Roosevelt Boulevard. Below is a detailed list of additional services required for the above mentioned modifications, separated by component.

Wave Impact Analysis

- Obtain profiles depicting upland topographic and bathymetric (below water) data extending at least 100 feet seaward of the existing seawall.
- Update expected wave heights and forces on seawall per survey findings
- Calculate depth-limited waves for 1, 2, 5, 10, 20, 25, 50, and 100 year storm surges.
- Estimate local scour seaward of proposed wall.
- Compile report documenting methods, analyses and result of the analyses.

Roadway Plan

- Update typical section sheets to show the new configuration with the sheet pile wall
- Modify the labeling for plan sheets to include the new sheet pile wall
- Update the cross sections to show the proposed sheet pile wall

Environmental Permits

- Determine wetland jurisdictional line
- Coordinate and meet with SFWMD and USACOE for agency verification of wetland data.
- Coordinate with NOAA Fisheries and the Florida Keys National Marine Sanctuary.
- Prepare an Environmental Impact Assessment including benthic survey
- Complete all plans modifications for permit modifications
- Finalize Permit applications including new modifications
- Prepare necessary easement sketches
- Develop mitigation design, including coordination and meetings.
- Attend technical meetings with SFWMD, USACOE, FDOT and local agencies.

Structural Design

- Incorporate report of core borings
- Develop horizontal geometry of proposed sheet pile
- Design sheet pile as a cantilever wall
- Develop vertical geometry for proposed wall
- Prepare construction notes, tables and details

- Complete wall plans and elevations
- Prepare design details for bar lists, bulkhead details and connections to existing wall.
- Update computation book and quantities
- Prepare cost estimate

Signalization

- Collect pedestrian traffic data
- Complete a signal warrant study for pedestrian signal
- Design signalization plans for proposed protected crossing
- Prepare signalization quantities
- Complete signalization notes
- Prepare construction plan for proposed signalization equipment

Name of Consultant

Project Information Sheet

Financial Project Identification Number: 250548-4 **Federal Aid Project Identification Number:** _____

Project Description: State Rd. A1A / South Roosevelt Blvd.

Begin Milepost: 0 **End Milepost:** 0.779 **Project Length:** 0.779 **Miles**

Number of Lanes: 4 **Typical Section:** Urban (Urban / Rural / Int.:) **Lane Configuration:** _____ (Divided / Undivided)

Project Type: Major (Minor / Major) **Access Management Classification:** _____ **Roadway Classification:** _____ (NHS/FIHS/Off Sys.):

CAP Level: _____ **TCP Level:** _____ **Survey Level:** _____

Variances:

1. _____
2. _____
3. _____
4. _____
5. _____

Exceptions:

1. _____
2. _____
3. _____
4. _____
5. _____

Proposed Design Contract Time: _____ months

Project Preliminary Design Specifics:

Roadway	_____	**<===Roadway Plan Type (Plan/Profile, Plan Only, etc.)**
Drainage	_____	**<===Number of Drainage Structures**
Utility coordination	_____	**<===Number of Effected Utilities**
Structures - Bridges	_____	**<=== Bridge Structures? (Y/N, number)**
Structures - Retaining Walls	_____	**<=== Retaining Walls? (Y/N, number)**
Structures - Misc. Structures	_____	**<=== Miscellaneous Structures? (Y/N, number)**
Permits	_____	**<===Permits Required (WMD, ACOE, Local Permits, etc.)**
Signing and PM	_____	**<===Signing & Pavement Marking Plans Required? (Y / N)**
Signalization Intersections	_____	**<===Number of Intersections Requiring Signals:**
Non-Signalized Int.	_____	**<===Number of Non-Signalized Intersections**
Traffic Control	_____	**<===Number of phases requiring detailed phase drawings**
Landscaping	_____	**<===Landscaping Plans Required? (Y / N)**
Right of Way	_____	**<===Right Of Way Plans Required? (Y / N)**
Lighting	_____	**<===Lighting Plans Required? (Y / N)**
Architecture	_____	**<===Architectural Plans Required? (Y / N)**
Geotech	_____	**<===Geotechnical Consultant Services Required? (Y / N)**
Survey	_____	**<===Survey Consultant Services Required? (Y / N)**
JPAs	_____	**<===JPAs Prepared by Consultant? (Y / N, if so how many?)**
Mitigation Plan	_____	**<===Mitigation Plans Required? (Y / N)**
Specifications Package	_____	**<===Specifications Package to be Prepared by Consultant? (Y / N)**

Project Staff Hour Summary

Name of Consultant:

State Rd. A1A / South Roosevelt Blvd.
250548-4

Activity No.	Activity	Project Staff Hours													
		SZA	BCC	CES		Sub 4	Sub 5	Sub 6	Sub 7	Sub 8	Sub 9	Sub 10	Sub 11	Sub 12	**Total Hours**
3	General Task														
4	Roadway Analysis														
5	Roadway Plans	12													12
6	Drainage Analysis														
7	Utility														
8	Permits		120	148											268
9	Structural Analysis Summary	85													85
10	BDR														
11	Temporary Bridge														
12	Short Span Concrete														
13	Medium Span Concrete														
14	Structural Steel														
15	Segmental Concrete														
16	Movable Span														
17	Retaining Walls	186													186
18	Miscellaneous Structures														
19	Signing & Marking Analysis														
20	Signing & Marking Plans														
21	Signalization Analysis	173													173
22	Signalization Plans	25													25
23	Lighting Analysis														
24	Lighting Plans														
25	Landscape Architecture Analysis														
26	Landscape Architecture Plans														
27	Survey - Field and Office Support														
28	Photogrammetry														
29	Mapping														
30	Geotechnical														
31	Architecture														
Project Total		**481**	**120**	**148**											**749**
27	Survey Field Crew Days														

Notes: 1. Staff hours for prime consultant come directly from each discipline's worksheet.
2. Staff hours for subconsultants are to be entered manually into columns D through O.
3. For workbooks prepared by subconsultants, their project hours will be totaled in column C.

ESTIMATE OF WORK EFFORT FOR TECHNICAL PROPOSALS - FIRM TOTAL

Financial Project Number: 250548-4 Project Nam State Rd. A1A / South Roosevelt Blvd.

FAP Number: Date: 2/13/2008 Name of Consultant: Sanchez-Zeinali & Associates

WORK ACTIVITY	Hours from "Summary" sheet	EMPLOYEE CLASSIFICATION												TOTAL STAFF HOURS RANGE		ON CADD
	Firm Total	Project Manager	Project Engineer	Staff Engineer	CADD Specialist	Admin.	Senior Engineerin	Staff Classi-fication 7	Staff Classi-fication 8	Staff Classi-fication 9	Staff Classi-fication 10	Staff Classi-fication 11	Staff Classi-fication 12			
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours			PERCENT
3. Project General Tasks																
4. Roadway Analysis																
5. Roadway Plans	12	1	5	4	2	1								13	14	
6. Drainage Analysis																
7. Utilities																
8. Environmental Permits																
9. Structures - Misc. Tasks, Dwgs, Non-Tech.	85	17	34	17	13	4								85	94	
10. Structures - BDR																
11. Structures - Temporary Bridge																
12. Structures - Short Span Concrete																
13. Structures - Medium Span Concrete																
14. Structures - Structural Steel																
15. Structures - Segmental Concrete																
16. Structures - Movable Span																
17. Structures - Retaining Walls	186	37	74	37	28	9								185	204	
18. Structures - Miscellaneous																
19. Signing & Marking Analysis																
20. Signing & Marking Plans																
21. Signalization Analysis	173	35	69	35	26	9								174	191	
22. Signalization Plans	25	3	10	8	4	1								26	29	
23. Lighting Analysis																
24. Lighting Plans																
25. Landscape Architecture Analysis																
26. Landscape Architecture Plans																
27. Survey (Field & Office Support)																
28. Photogrammetry																
29. Mapping																
30. Geotechnical																
31. Architecture Development																
TOTALS	481	93	192	101	73	24								**483**	**532**	

Notes:
1. This worksheet provides the distribution of a firm's total staff hours for a project.
2. Percentages for staff hour distribution by classification are entered below in rows 56 to 84 of this sheet.
3. Total Staff Hours (column P) may not match staff hours from Summary worksheet (column C) due to rounding. Staff hours calculated for employee classifications are to be adjusted so totals in columns C and P match.
4. Formulas under "Total Staff Hours Range" (columns P &Q) may be adjusted to provide desired range.

Field Survey Estimate:
_____ 4-man crew days

FIRM TOTAL	483	532	

ESTIMATE OF WORK EFFORT FOR TECHNICAL PROPOSALS - GRAND TOTAL

Financial Project Number: 250548-4 Project Nam State Rd. A1A / South Roosevelt Blvd.

FAP Number: _____ Date: 2/13/2008 Name of Consultant: _____

Staff Hour Distribution Percentages - Firm Total

	Hours from "Summary" sheet Firm Total	Project Manager	Project Engineer	Staff Engineer	CADD Specialist	Admin.	Engineering Technician	Staff Classification 7	Staff Classification 8	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12	Total
3. Project General Tasks														
4. Roadway Analysis														
5. Roadway Plans	12	10.0%	40.0%	30.0%	15.0%	5.0%								100.00%
6. Drainage Analysis														
7. Utilities														
8. Environmental Permits														
9. Structure Summary	85	20.0%	40.0%	20.0%	15.0%	5.0%								100.00%
10. Structures - BDR														
11. Structures - Temporary Bridge														
12. Structures - Short Span Concrete														
13. Structures - Medium Span Concrete														
14. Structures - Structural Steel														
15. Structures - Segmental Concrete														
16. Structures - Movable Span														
17. Structures - Retaining Walls	186	20.0%	40.0%	20.0%	15.0%	5.0%								100.00%
18. Structures - Miscellaneous														
19. Signing & Marking Analysis														
20. Signing & Marking Plans														
21. Signalization Analysis	173	20.0%	40.0%	20.0%	15.0%	5.0%								100.00%
22. Signalization Plans	25	10.0%	40.0%	30.0%	15.0%	5.0%								100.00%
23. Lighting Analysis														
24. Lighting Plans														
25. Landscape Architecture Analysis														
26. Landscape Architecture Plans														
27. Survey (Field & Office Support)														
28. Photogrammetry														
29. Mapping														
30. Geotechnical														
31. Architecture Development														

ESTIMATE OF WORK EFFORT AND COST - PRIME CONSULTANT

Name of Project: State Rd. A1A / South Roosevelt Blvd.
County: Monroe
FPN: 250548-4
FAP No.:

Consult. Name: Sanchez Zeman & Associates
Consult. No. enter consultants proj. number
Date: 2/13/2008
Estimator: E P

Staff Classification	Total Staff Hours From "SH Summary -	Project Manager	Project Engineer	Staff Engineer	CADD Specialist	Admin.	Senior Engineering Technician	Staff Classi-fication 7	Staff Classi-fication 8	Staff Classi-fication 9	Staff Classi- fication 10	Staff Classi-fication 11	Staff Classi-fication 12	SH By Activity	Salary Cost By Activity	Average Rate Per Task
		$145.00	$120.00	$95.00	$86.00	$55.00										
3. Project General Tasks																#DIV/0!
4. Roadway Analysis																#DIV/0!
5. Roadway Plans	12	1	5	4	2	1								13	$1,300	$100.00
6. Drainage Analysis																#DIV/0!
7. Utilities																#DIV/0!
8. Environmental Permits																#DIV/0!
9. Structure Summary	85	17	34	17	13	4								85	$9,055	$106.53
10. Structures - BDR																#DIV/0!
11. Structures - Temporary Bridge																#DIV/0!
12. Structures - Short Span Concrete																#DIV/0!
13. Structures - Medium Span Concrete																#DIV/0!
14. Structures - Structural Steel																#DIV/0!
15. Structures - Segmental Concrete																#DIV/0!
16. Structures - Movable Span																#DIV/0!
17. Structures - Retaining Walls	186	37	74	37	28	9								185	$19,705	$106.51
18. Structures - Miscellaneous																#DIV/0!
19. Signing & Marking Analysis																#DIV/0!
20. Signing & Marking Plans																#DIV/0!
21. Signalization Analysis	173	35	69	35	26	9								174	$18,515	$106.41
22. Signalization Plans	25	3	10	8	4	1								26	$2,680	$103.08
23. Lighting Analysis																#DIV/0!
24. Lighting Plans																#DIV/0!
25. Landscape Architecture Analysis																#DIV/0!
26. Landscape Architecture Plans																#DIV/0!
27. Survey																#DIV/0!
28. Photogrammetry																#DIV/0!
29. Mapping																#DIV/0!
30. Geotechnical																#DIV/0!
31. Architecture Development																#DIV/0!
Total Staff Hours	481	93	192	101	73	24								483		
Total Staff Cost		$12,555.00	$23,040.00	$9,595.00	$4,745.00	$1,320.00									**$51,255.00**	**$106.12**

Check = $51,255.00

Survey Field Days by Subconsultant

Notes:
1. This sheet to be used by Prime Consultant to calculate the Grand Total fee.
2. Manually enter fee from each subconsultant. Unused subconsultant rows may be hidden.
3. Provide backup for the expense calculation in a format acceptable to the Department.

SALARY RELATED COSTS:	$51,255.00
OVERHEAD:	
OPERATING MARGIN:	
FCCM (Facilities Capital Cost Money):	
EXPENSES (Note 3):	
Survey (Field - if by Prime)	$ - / day
SUBTOTAL ESTIMATED FEE:	$51,255.00
Subconsultant: BCC	$42,390.65
Subconsultant: CES	$39,713.13
Subconsultant: Taylor Engineering Inc. (See attached fee Estimate)	$15,562.20
Subconsultant:	
SUBTOTAL ESTIMATED FEE:	**$96,940.33**
Optional Services	
GRAND TOTAL ESTIMATED FEE:	**$96,940.33**

ESTIMATE OF WORK EFFORT FOR TECHNICAL PROPOSALS - FIRM TOTAL

Financial Project Number: 250548-4

Project Nam State Rd. A1A / South Roosevelt Blvd.

FAP Number:

Date: 2/13/2008

Name of Consultant:

WORK ACTIVITY	Hours from "Summary" sheet	EMPLOYEE CLASSIFICATION												TOTAL STAFF HOURS RANGE		ON CADD
	Firm Total	Project Manager	Project Engineer	Staff Engineer	CADD Specialist	Admin.	Senior Engineerin	Staff Classi-fication 7	Staff Classi-fication 8	Staff Classi-fication 9	Staff Classi-fication 10	Staff Classi-fication 11	Staff Classi-fication 12			
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours			PERCENT
3. Project General Tasks																
4. Roadway Analysis																
5. Roadway Plans																
6. Drainage Analysis																
7. Utilities																
8. Environmental Permits	120	30	30	30	24	6								120	132	
9. Structures - Misc. Tasks, Dwgs, Non-Tech.																
10. Structures - BDR																
11. Structures - Temporary Bridge																
12. Structures - Short Span Concrete																
13. Structures - Medium Span Concrete																
14. Structures - Structural Steel																
15. Structures - Segmental Concrete																
16. Structures - Movable Span																
17. Structures - Retaining Walls																
18. Structures - Miscellaneous																
19. Signing & Marking Analysis																
20. Signing & Marking Plans																
21. Signalization Analysis																
22. Signalization Plans																
23. Lighting Analysis																
24. Lighting Plans																
25. Landscape Architecture Analysis																
26. Landscape Architecture Plans																
27. Survey (Field & Office Support)																
28. Photogrammetry																
29. Mapping																
30. Geotechnical																
31. Architecture Development																
TOTALS	120	30	30	30	24	6								**120**	**132**	

Notes:
1. This worksheet provides the distribution of a firm's total staff hours for a project.
2. Percentages for staff hour distribution by classification are entered below in rows 56 to 84 of this sheet.
3. Total Staff Hours (column P) may not match staff hours from Summary worksheet (column C) due to rounding. Staff hours calculated for employee classifications are to be adjusted so totals in columns C and P match.
4. Formulas under "Total Staff Hours Range" (columns P &Q) may be adjusted to provide desired range.

Field Survey Estimate:

_____ 4-man crew days

FIRM TOTAL **120** **132**

ESTIMATE OF WORK EFFORT FOR TECHNICAL PROPOSALS - GRAND TOTAL

Financial Project Number: 250548-4

Project Nam State Rd. A1A / South Roosevelt Blvd.

FAP Number:

Date: 2/13/2008

Name of Consultant:

Staff Hour Distribution Percentages - Firm Total

	Hours from "Summary" sheet Firm Total	Project Manager	Project Engineer	Staff Engineer	CADD Specialist	Admin.	Engineering Technician	Staff Classification 7	Staff Classification 8	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12	Total
3. Project General Tasks														
4. Roadway Analysis														
5. Roadway Plans														
6. Drainage Analysis														
7. Utilities														
8. Environmental Permits	120	25.0%	25.0%	25.0%	20.0%	5.0%								100.00%
9. Structure Summary														
10. Structures - BDR														
11. Structures - Temporary Bridge														
12. Structures - Short Span Concrete														
13. Structures - Medium Span Concrete														
14. Structures - Structural Steel														
15. Structures - Segmental Concrete														
16. Structures - Movable Span														
17. Structures - Retaining Walls														
18. Structures - Miscellaneous														
19. Signing & Marking Analysis														
20. Signing & Marking Plans														
21. Signalization Analysis														
22. Signalization Plans														
23. Lighting Analysis														
24. Lighting Plans														
25. Landscape Architecture Analysis														
26. Landscape Architecture Plans														
27. Survey (Field & Office Support)														
28. Photogrammetry														
29. Mapping														
30. Geotechnical														
31. Architecture Development														

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project: State Rd. A1A / South Roosevelt Blvd.
County: Monroe
FPN: 250548-4
FAP No.:

Consult. Name BCC
Consult. No. 06014
Date: 2/13/2008
Estimator:

Staff Classification	Total Staff Hours From "SH Summary Firm"	Project Manager	Project Engineer	Staff Engineer	CADD Specialist	Admin.	Senior Engineering	Staff Classification 7	Staff Classification 8	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12	SH By Activity	Salary Cost By Activity	Average Rate Per Task
		$135.00	$120.00	395.00	$65.00	$55.00										
3. Project General Tasks																#DIV/0!
4. Roadway Analysis																#DIV/0!
5. Roadway Plans																#DIV/0!
6. Drainage Analysis																#DIV/0!
7. Utilities																#DIV/0!
8. Environmental Permits	120	30	30	30	24	6								120	$12,390	$103.25
9. Structure Summary																#DIV/0!
10. Structures - BDR																#DIV/0!
11. Structures - Temporary Bridge																#DIV/0!
12. Structures - Short Span Concrete																#DIV/0!
13. Structures - Medium Span Concrete																#DIV/0!
14. Structures - Structural Steel																#DIV/0!
15. Structures - Segmental Concrete																#DIV/0!
16. Structures - Movable Span																#DIV/0!
17. Structures - Retaining Walls																#DIV/0!
18. Structures - Miscellaneous																#DIV/0!
19. Signing & Marking Analysis																#DIV/0!
20. Signing & Marking Plans																#DIV/0!
21. Signalization Analysis																#DIV/0!
22. Signalization Plans																#DIV/0!
23. Lighting Analysis																#DIV/0!
24. Lighting Plans																#DIV/0!
25. Landscape Architecture Analysis																#DIV/0!
26. Landscape Architecture Plans																#DIV/0!
27. Survey																#DIV/0!
28. Photogrammetry																#DIV/0!
29. Mapping																#DIV/0!
30. Geotechnical																#DIV/0!
31. Architecture Development																#DIV/0!
Total Staff Hours	120	30	30	30	24	6								120		
Total Staff Cost		$4,050.00	$3,600.00	$2,850.00	$1,560.00	$330.00									$12,390.00	$103.25

Check = $12,390.00

Notes:
1. This sheet to be used by Subconsultant to calculate its fee.
2. Provide backup for the expense calculation in a format acceptable to the Department.

SALARY RELATED COSTS:			$12,390.00
OVERHEAD:			
OPERATING MARGIN:			
FCCM (Facilities Capital Cost Money):			
EXPENSES (Note 2):			
Survey (Field)	4-man crew da	$ - / day	
SUBTOTAL ESTIMATED FEE:			**$12,390.00**
Optional Services			
GRAND TOTAL ESTIMATED FEE:			**$12,390.00**

ESTIMATE OF WORK EFFORT FOR TECHNICAL PROPOSALS - FIRM TOTAL

Financial Project Number: 250548-4

Project Nam State Rd. A1A / South Roosevelt Blvd.

FAP Number:

Date: 2/13/2008

Name of Consultant: CES

WORK ACTIVITY	Hours from "Summary" sheet	EMPLOYEE CLASSIFICATION												TOTAL STAFF HOURS RANGE		ON CADD
	Firm Total	Project Manager	Senior Environme	Survey Technician	Cadd Tech	Senior Specialist	Senior Engineerin	Staff Classification 7	Staff Classification 8	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12			
	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours	Hours			PERCENT
3. Project General Tasks																
4. Roadway Analysis																
5. Roadway Plans																
6. Drainage Analysis																
7. Utilities																
8. Environmental Permits	148	30	118											148	163	
9. Structures - Misc. Tasks, Dwgs, Non-Tech.																
10. Structures - BDR																
11. Structures - Temporary Bridge																
12. Structures - Short Span Concrete																
13. Structures - Medium Span Concrete																
14. Structures - Structural Steel																
15. Structures - Segmental Concrete																
16. Structures - Movable Span																
17. Structures - Retaining Walls																
18. Structures - Miscellaneous																
19. Signing & Marking Analysis																
20. Signing & Marking Plans																
21. Signalization Analysis																
22. Signalization Plans																
23. Lighting Analysis																
24. Lighting Plans																
25. Landscape Architecture Analysis																
26. Landscape Architecture Plans																
27. Survey (Field & Office Support)																
28. Photogrammetry																
29. Mapping																
30. Geotechnical																
31. Architecture Development																
TOTALS	148	30	118											**148**	**163**	

Notes:
1. This worksheet provides the distribution of a firm's total staff hours for a project.
2. Percentages for staff hour distribution by classification are entered below in rows 56 to 84 of this sheet.
3. Total Staff Hours (column P) may not match staff hours from Summary worksheet (column C) due to rounding. Staff hours calculated for employee classifications are to be adjusted so totals in columns C and P match.
4. Formulas under "Total Staff Hours Range" (columns P &Q) may be adjusted to provide desired range.

Field Survey Estimate:

_____ 4-man crew days

FIRM TOTAL **148** **163**

ESTIMATE OF WORK EFFORT FOR TECHNICAL PROPOSALS - GRAND TOTAL

Financial Project Number: 250548-4

Project Nam State Rd. A1A / South Roosevelt Blvd.

FAP Number:

Date: 2/13/2008

Name of Consultant:

Staff Hour Distribution Percentages - Firm Total

	Hours from "Summary" sheet Firm Total	Project Manager	Environmental Scientist	Survey Technician	Cadd Tech	Senior Specialist	Engineering Technician	Staff Classification 7	Staff Classification 8	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12	Total
3. Project General Tasks														
4. Roadway Analysis														
5. Roadway Plans														
6. Drainage Analysis														
7. Utilities														
8. Environmental Permits	148	20.0%	80.0%											100.00%
9. Structure Summary														
10. Structures - BDR														
11. Structures - Temporary Bridge														
12. Structures - Short Span Concrete														
13. Structures - Medium Span Concrete														
14. Structures - Structural Steel														
15. Structures - Segmental Concrete														
16. Structures - Movable Span														
17. Structures - Retaining Walls														
18. Structures - Miscellaneous														
19. Signing & Marking Analysis														
20. Signing & Marking Plans														
21. Signalization Analysis														
22. Signalization Plans														
23. Lighting Analysis														
24. Lighting Plans														
25. Landscape Architecture Analysis														
26. Landscape Architecture Plans														
27. Survey (Field & Office Support)														
28. Photogrammetry														
29. Mapping														
30. Geotechnical														
31. Architecture Development														

ESTIMATE OF WORK EFFORT AND COST - SUBCONSULTANT

Name of Project: State Rd. A1A / South Roosevelt Blvd.
County: Monroe
FPN: 250548-4
FAP No.:

Consult. Name: CES
Consult. No. 06014
Date: 2/13/2008
Estimator:

Staff Classification	Total Staff Hours From "SH Summary Firm"	Project Manager	Senior Environmental Scientist			Senior Specialist	Senior Engineering Technician	Staff Classification 7	Staff Classification 8	Staff Classification 9	Staff Classification 10	Staff Classification 11	Staff Classification 12	SH By Activity	Salary Cost By Activity	Average Rate Per Task
		$72.12	$40.97													
3. Project General Tasks																#DIV/0!
4. Roadway Analysis																#DIV/0!
5. Roadway Plans																#DIV/0!
6. Drainage Analysis																#DIV/0!
7. Utilities																#DIV/0!
8. Environmental Permits	148	30	118											148	$6,986	$47.20
9. Structure Summary																#DIV/0!
10. Structures - BDR																#DIV/0!
11. Structures - Temporary Bridge																#DIV/0!
12. Structures - Short Span Concrete																#DIV/0!
13. Structures - Medium Span Concrete																#DIV/0!
14. Structures - Structural Steel																#DIV/0!
15. Structures - Segmental Concrete																#DIV/0!
16. Structures - Movable Span																#DIV/0!
17. Structures - Retaining Walls																#DIV/0!
18. Structures - Miscellaneous																#DIV/0!
19. Signing & Marking Analysis																#DIV/0!
20. Signing & Marking Plans																#DIV/0!
21. Signalization Analysis																#DIV/0!
22. Signalization Plans																#DIV/0!
23. Lighting Analysis																#DIV/0!
24. Lighting Plans																#DIV/0!
25. Landscape Architecture Analysis																#DIV/0!
26. Landscape Architecture Plans																#DIV/0!
27. Survey																#DIV/0!
28. Photogrammetry																#DIV/0!
29. Mapping																#DIV/0!
30. Geotechnical																#DIV/0!
31. Architecture Development																#DIV/0!
Total Staff Hours	148	30	118											148		
Total Staff Cost		$2,163.60	$4,822.66												$6,986.26	$47.20

Check = $6,986.26

SALARY RELATED COSTS:			$6,986.26
OVERHEAD:	158.00%		$11,038.29
OPERATING MARGIN:	12%		$838.35
FCCM (Facilities Capital Cost Money):	0.170%		$11.88
EXPENSES (Note 2):	12.00%		$838.35
Survey (Field - if by Prime)	3-person crew hours @	/ hour	
SUBTOTAL ESTIMATED FEE:			**$19,713.13**
Optional Services			
GRAND TOTAL ESTIMATED FEE:			**$19,713.13**

Notes:

1. This sheet to be used by Subconsultant to calculate its fee.

2. Provide backup for the expense calculation in a format acceptable to the Department.

Project Activity 5: Roadway Plans

Estimator:

State Rd. A1A / South Roosevelt Blvd.
250548-4

Task No.	Task	Scale	Units	No. of Units	Hours / Unit	No. of Sheets	Total Hours	Comments
5.1	Key Sheet		Sheet					
5.2	Summary of Pay Items-including Quantity Input		Sheet					
5.3	Drainage Map	100	Sheet					
5.4	Interchange Drainage Map		Sheet					
5.5	Typical Section Sheets		Sheet	1	4	1	4	Update details
5.6	General Notes/Pay Item notes		Sheet					
5.7	Summary of Quantities		Sheet					
5.8	Box Culvert Data Sheet		Sheet					
5.9	Bridge Hydraulics Recommendation Sheets		Sheet					
5.10	Summary of Drainage Structures		Sheet					
5.11	Optional Pipe/ Culvert Material		Sheet					
5.12	Project Layout		Sheet					
5.13	Plan/Profile Sheet		Sheet					
5.14	Profile Sheet		Sheet					
5.15	Plan Sheet		Sheet	1	2	1	2	Update labeling
5.16	Special Profile		Sheet					
5.17	Back of Sidewalk Profile Sheet		Sheet					
5.18	Interchange Layout Sheet		Sheet					
5.19	Ramp Terminal Details (Plan View)		Sheet					
5.20	Intersection Layout Details		Sheet					
5.21	Miscellaneous Detail Sheets		Sheet					
5.22	Drainage Structure Sheet (per Structure)		EA					
5.23	Miscellaneous Drainage Detail Sheets		Sheet					

Project Activity 5: Roadway Plans

Task No.	Task	Scale	Units	No. of Units	Hours / Unit	No. of Sheets	Total Hours	Comments
5.24	Lateral Ditch Plan/Profile		Sheet					
5.25	Lateral Ditch Cross sections		EA					
5.26	Retention/Detention Ponds Detail Sheet		Sheet					
5.27	Retention Pond Cross Sections		EA					
5.28	Cross-section Pattern Sheet		Sheet					
5.29	Roadway Soil Survey Sheet		Sheet					
5.30	Cross Sections		EA	7	0.5		4	
5.31	Traffic Control Plan Sheets		Sheet					
5.32	Traffic Control Cross Section Sheets		EA					
5.33	Traffic Control Detail Sheets		Sheet					
5.34	Utility Adjustment Sheets		Sheet					
5.35	Selective Clearing and Grubbing		Sheet					
5.36	Erosion Control Plan		Sheet					
5.37	SWPPP		Sheet					
5.38	Project Control Network Sheet		Sheet					
5.39	Interim Standards		LS	1				
5.40	Utility Verification Sheet (SUE data)		Sheet					
Roadway Plans Technical Subtotal						**2**	**10**	
5.41	Quality Assurance/Quality Control		LS	%	5%		1	
5.42	Supervision		LS	%	5%		1	
5. Roadway Plans Total						**2**	**12**	

Project Activity 8: Environmental Permits

Estimator:

State Rd. A1A / South Roosevelt Blvd.
250548-4

Task No.	Task	Units	No. of Units	Hours/ Units	Total Hours	Comments
8.1	Preliminary Project Research	LS	1			
8.2	Complete Permit Involvement Form	LS	1			
8.3	Establish Wetland Jurisdictional Lines	LS	1	36	36	8 hours for BCC to Transfer information to CAD format + 28 hours for CES for an Environmental Impact Assessment that will include a benthic survey, functional analysis and assessment of impact. The deliverable will be a report that can accompany the permit application.
8.4	Agency Verification of Wetland Data	LS	1	24	24	CES - Coordination and site visit with SFWMD and the USACOE. NOAA Fisheries and the Florida Keys National Marine Sanctuary will also need to be included.
8.5	Complete And Submit All Required Permit Applications	LS	1	56	56	16 hours for BCC to modify permit application and complete additional section to include added scope for seawall + 40 hours for CES to assist with permit applications, provide input for RAI responses and coordination with agencies for T&E species.
8.6	Prepare Dredge and Fill Sketches	LS	1	27	27	BCC - Setup 6 Hrs.; 5 X-Sect (Assume 300' to 400' of wall with X-Sect @ 100') * 3 Hr./Ea = 15 Hrs. ; 1 Plan Sheet @ 6 Hrs. = 6 Hrs. Grand Total = 6+15+6 = 27 Hrs.
8.7	Prepare USCG Permit Sketches	LS	1			Not needed
8.8	Prepare Easement Sketches	LS	1	12	12	BCC - Modify items prepared on 8.6. Assume 2 Hr per item * 6 = 12 Hrs.
8.9	Prepare R/W Occupancy Sketches	LS	1			
8.10	Prepare Coastal Construction Control Line (CCCL) Permit Sketches	LS	1			
8.11	Prepare Tree Permit Information	LS	1			
8.12	Mitigation Coordination and Meetings	LS	1	12	12	BCC - Assume 2 meetings @ 6 Hrs/Each = 12 Hrs.
8.13	Mitigation Design	LS	1	40	40	CES - 40 hours to develop plan and obtain agency approval
8.14	Environmental Clearances	LS	1			
	Environmental Permits Technical Subtotal				**207**	
8.15	Technical Meetings	LS	1	36	36	Meetings are listed below - BCC
8.16	Quality Assurance/Quality Control	LS	%	5%	10	BCC
8.17	Supervision	LS	%	5%	10	BCC
	Environmental Permits Nontechnical SubTotal				**56**	
8.18	Coordination	LS	%	2%	5	BCC
	8. Environmental Permits Total				**268**	

Technical Meetings

					PM Attendance at Meeting Required? Yes / No
WMD	EA	2	8	16	no
ACOE	EA	1	4	4	no
USCG	EA				no
USFWS	EA				no
FFWCC	EA				no
FDOT	EA	2	4	8	no
Other meetings	EA	2	4	8	no
Subtotal technical meetings				**36**	
Progress Meetings	EA				
Phase Review Meetings	EA				
Total Meetings				**36**	

Carries to 8.16

Project manager meetings =

Project Activity 9: Structures Summary and Miscellaneous Tasks and Drawings

Estimator:

State Rd. A1A / South Roosevelt Blvd.
250548-4

Task No.	Task	Units	Design and Production Staffhours				Comments
			No. of Units	Hours per Unit	No. of Sheets	Total	
	General Drawings						
9.1	Index of Drawings	sheet					
9.2	Project Layout	sheet					
9.3	General Notes and Bid Item Notes	sheet					
9.4	Incorporate FDOT Standards	sheet					
9.5	Incorporate Report of Core Borings	sheet	2	1	2	2	
9.6	Existing Bridge Plans	LS	1				
9.7	Computation Book and Quantities	LS	1	12		12	
9.8	Cost Estimate	LS	1	6		6	
9.9	Technical Special Provisions	LS	1				
Structures - Miscellaneous Tasks & Drawings Subtotal					2	20	

Task No.	Task	Total	Task 10	Task 11	Task 12	Task 13	Task 14	Task 15	Task 16	Task 17	Task 18
10-16	Bridge 1										
10-16	Bridge 2										
10-16	Bridge 3										
17	Retaining Walls	186								186	
18	Miscellaneous Structures										
Structures Technical Subtotals		186								186	

Task No.	Task	Units	No. of Units	Hours per Unit	Total	Comments
9.10	Field Reviews	EA	2	10	20	
9.11	Technical Meetings	EA	2	10	20	With FDOT and the City, 1 people @ 10 hours each
9.12	Quality Assurance / Quality Control	LS	%	5%	10	
9.13	Independent Peer Review	LS	%			
9.14	Supervison	LS	%	5%	10	
Structures Non-Technical Subtotal					60	
9.15	Coordination	LS	%	2%	5	
9. Structures - Miscellaneous Tasks & Drawings, Non-Technical, & Coordination Total					85	

Project Activity 17: Retaining Walls

Estimator:

State Rd. A1A / South Roosevelt Blvd.
250548-4

Task No.	Task	Unit	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
General Requirements							
17.1	Key Sheet	Sheet	1		1		
17.2	Horizontal Wall Geometry	Per Wall	1	8		8	Curved Alignment
Permanent Proprietary Walls							
17.3	Vertical Wall Geometry	Per Wall					
17.4	Semi-Standard Drawings	Sheet					
17.5	Wall Plan and Elevations (Control Drawings)	Sheet					
17.6	Details	Sheet					
Temporary Proprietary Walls							
17.7	Vertical Wall Geometry	Per Wall					
17.8	Semi-Standard Drawings	Sheet					
17.9	Wall Plan and Elevations (Control Drawings)	Sheet					
17.10	Details	Sheet					
Cast in Place Retaining Walls							
17.11	Design	EA Design					
17.12	Vertical Wall Geometry	EA Wall					
17.13	General Notes	Sheet					
17.14	Wall Plan and Elevations (Control Drawings)	Sheet					
17.15	Sections and Details	Sheet					
17.16	Reinforcing Bar List	Sheet					

Project Activity 17: Retaining Walls

Task No.	Task	Unit	No. of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
Other Retaining Walls							
17.17	Design	EA Design	1	32		32	Includes 32 hours for design of cantilever wall.
17.18	Vertical Wall Geometry	EA Wall	1	16		16	Constant offset and constant cross-slope
17.19	General Notes, Tables & Misc. Details	Sheet	1	24	1	24	Notes and details for Steel Sheet piles
17.20	Wall Plan and Elevations	Sheet	1	28	1	28	Includes Index and Bid item notes
17.21	Details	Sheet	3	26	3	78	Barlists, Bulkhead Details, Connect to existing wall
17. Retaining Walls Total					**6**	**186**	

Project Activity 21: Signalization Analysis

Estimator:

State Rd. A1A / South Roosevelt Blvd.
250548-4

Task No.	Task	Units	No. of	Hours/ Units	Total Hours	Comments
21.1	Traffic Data Collection	LS	1	20	20	12 hours count plus 8 hours traveling
21.2	Traffic Data Analysis	PI	2			
21.3	Signal Warrant Study	LS	1	60	60	
21.4	System Timings	LS	1			
21.5	Reference and Master Signalization Design File	PI	1	36	36	
21.6	Reference and Master Interconnect Communication Design File	LS	1			
21.7	Overhead Street Name Sign Design	EA				
21.8	Pole Elevation Analysis	LS	1			
21.9	Traffic Signal Operation Report	LS	1			
21.10	Quantities	LS	1	6	6	
21.11	Cost Estimate	LS	1	3	3	
21.12	Technical Special Provisions	LS	1			
Signalization Analysis Technical Subtotal					**125**	
21.13	Field Reviews	LS	1	20	20	2 meetings at 10 hours traveling plus 2 hours meeting each
21.14	Technical Meetings	LS	1	13	13	1 meeting at Key West @ 10 hours and one at FDOT at 3 hours
21.15	Quality Assurance/Quality Control	LS	%	5%	6	
21.16	Independent Peer Review	LS	%	5%	6	
21.17	Supervision	LS	%			
Signalization Analysis Nontechnical Subtotal					**45**	
21.18	Coordination	LS	%	2%	3	
19. Signalization Analysis Total					**173**	

Project Activity 22: Signalization Plans

Estimator:

State Rd. A1A / South Roosevelt Blvd.
250548-4

Task No.	Task	Scale	Units	No of Units	Hours/ Unit	No. of Sheets	Total Hours	Comments
22.1	Key Sheet		Sheet	1	4	1	4	
22.2	Summary of Pay Items-including CES Input		Sheet					
22.3	Tabulation of Quantities		Sheet	1	8	1	8	
22.4	General Notes/Pay Item notes		Sheet	1	4	1	4	
22.5	Plan Sheet		Sheet	1	4	1	4	
22.6	Interconnect Plans		Sheet					
22.7	Traffic Monitoring Site		EA					
22.8	Guide Sign Work Sheet		EA					
22.9	Special Details		Sheet					
22.10	Special Service Point Details		EA					
22.11	Mast Arm / Monotube Tabulation Sheet		PI	1	3		3	
22.12	Strain Pole Schedule		PI					
22.13	TCP Signal (Temporary)		EA					
22.14	Temporary Detection Sheet		PI					
22.15	Utility Conflict Sheet		Sheet					
22.16	Interim Standards		LS	1				
Signalization Plans Technical Subtotal						**4**	**23**	
22.17	Quality Assurance/Quality Control		LS	%	5.00%		1	
22.18	Supervision		LS	%	5.00%		1	
22. Signalization Plans Total						**4**	**25**	