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**SEMINOLE COUNTY GOVERNMENT  
AGENDA MEMORANDUM**

**SUBJECT:** Professional Services: PS-2825-07/BHJ - Preliminary Engineering and Final Design Services for SR 434 Intersection Improvements - Rangeline Road to CR 427

**DEPARTMENT:** Administrative Services

**DIVISION:** Purchasing and Contracts

**AUTHORIZED BY:** Frank Raymond

**CONTACT:** David Santiago

**EXT:** 7106

**MOTION/RECOMMENDATION:**

Approve ranking list and authorize staff to negotiate rates for PS-2825-07/BHJ - Preliminary Engineering and Final Design Services for SR 434 Intersection Improvements - Rangeline Road to CR 427 with Horizon Engineering Group, Orlando, Florida (Estimated Usage Amount of \$600,000.00 over the term of the Agreement).

County-wide

Ray Hooper

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**BACKGROUND:**

PS-2825-07/BHJ will provide Preliminary & Final Design Services for the addition of auxiliary lanes to improve the operations of the intersections of SR 434 and Florida Central Parkway and SR 434 and CR 427 (Ronald Reagan Blvd.). These improvements may include, but are not limited to, roadway design, drainage design, utility coordination, signing and marking, signalization design, survey and right-of-way mapping. The project approach will provide for three phases in the Scope of Services, Preliminary Engineering, Final Design & Environmental Permitting, and Post Design Services.

The project was publicly advertised and the County received nineteen (19) submittals (listed alphabetically):

- Balmoral Group, Inc.
- Calvin, Giordano & Associates, Inc.
- Comprehensive Engineering Services, Inc.
- Consul-Tech Transportation, Inc.
- C3TS, PA
- CPH Engineers, Inc.
- DRMP, Inc.
- Eisman & Russo, Inc.
- GAI Consultants, Inc.
- Horizon Engineering Group, Inc.
- Infrastructure Engineering, Inc.
- Johnson, Mirmiran & Thompson (JMT)
- Keith & Schnars, Inc.
- Metric Engineering, Inc.
- Miller Legg
- Moffatt & Nichol
- Pegasus Engineering, LLC

- Volkert & Associates, Inc.
- WBQ Design & Engineering, Inc.

The Evaluation Committee, which consisted of Brett Blackadar, Principal Engineer, Public Works - Engineering; Jerry McCollum, County Engineer, Public Works; and Shad Smith, Principal Engineer, Public Works - Engineering; evaluated the submittals and agreed to shortlist four (4) firms. The Evaluation Committee interviewed these firms giving consideration to the following criteria:

- Project Approach/Understanding of the Project
- Qualifications of the Proposed Team
- Similar Work Experience
- Innovation/Cost Saving Ideas

The attached backup documentation includes the Bid Tabulation, the Presentation Summary & Scoring Sheets, the Evaluation Summary Sheet and the Project Scope. The Evaluation Committee recommends that the Board approve the ranking below and authorize staff to negotiate rates with the top ranked firm in accordance with F.S. 287.055, the Consultants Competitive Negotiation Act (CCNA):

1. C3TS
2. Horizon Engineering Group
3. JMT
4. Moffatt & Nichol

**STAFF RECOMMENDATION:**

Staff recommends that the Board approve ranking list and authorize staff to negotiate rates for PS-2825-07/BHJ - Preliminary Engineering and Final Design Services for SR 434 Intersection Improvements - Rangeline Road to CR 427 with Horizon Engineering Group, Orlando, Florida (Estimated Usage Amount of \$600,000.00 over the term of the Agreement).

**ATTACHMENTS:**

1. PS-2825-07 BHJ Backup Documentation

<b>Additionally Reviewed By:</b> <input checked="" type="checkbox"/> County Attorney Review ( Ann Colby )
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**B.C.C. - SEMINOLE COUNTY, FL  
PS TABULATION SHEET**

ALL SUBMITTALS ACCEPTED BY SEMINOLE COUNTY ARE SUBJECT TO THE COUNTY'S TERMS AND CONDITIONS AND ANY AND ALL ADDITIONAL TERMS AND CONDITIONS SUBMITTED BY THE PROPOSERS ARE REJECTED AND SHALL HAVE NO FORCE AND EFFECT. PS DOCUMENTS FROM THE PROPOSERS LISTED HEREIN ARE THE ONLY SUBMITTALS RECEIVED TIMELY AS OF THE ABOVE OPENING DATE AND TIME. ALL OTHER PS DOCUMENTS SUBMITTED IN RESPONSE TO THIS SOLICITATION, IF ANY, ARE HEREBY REJECTED AS LATE.

PS NUMBER: PS-2825-07/BHJ  
PS TITLE : SR 434 Intersection Improvements Preliminary Engineering and Final Design Services

DATE: December 19, 2007 TIME: 2:00 P.M.

<b>RESPONSE -1-</b>	<b>RESPONSE -2-</b>	<b>RESPONSE -3-</b>	<b>RESPONSE -4-</b>
Balmoral Group 341 North Maitland Ave, Ste 100 Maitland, FL 32751	Calvin, Giordano & Associates, Inc. 390 N. Orange Ave., Ste 2600 Orlando, FL 32801	Comprehensive Engineering Services 201 S. Orange Ave, Ste 100 Orlando, FL 32801	Consul-Tech Transportation, Inc. 2828 Edgewater Drive Orlando, FL 32804
Gregory S. Seidel, P.E. (407) 629-2185 – Phone (407) 629-2183 - Fax	John Downes, P.E. (407) 423-0523 – Phone (407) 926-7761 – Fax	Christopher A. Simoneaux, P.E. (407) 432-1600 – Phone (407) 423-9614 - Fax	Philip Hursh, P.E. (407) 649-8334 – Phone (407) 649-8190 – Fax
<b>RESPONSE -5-</b>	<b>RESPONSE -6-</b>	<b>RESPONSE -7-</b>	<b>RESPONSE -8-</b>
Corzo Castella Carballo Thompson Salmann, PA 11315 Corporate Blvd, Ste 105 Orlando, FL 32817	CPH Engineers, Inc 500 W Fulton St Sanford, FL 32771	DRMP, Inc 941 Lake Baldwin Ln Orlando, FL 32814	Eisman & Russo, Inc 3361 Rouse Rd., Ste 125 Orlando, FL 32817
Robert T. Carballo, P.E. (407) 823-8966 – Phone (407) 823-8826 - Fax	David A. Gierach, P.E. (407) 322-6841 – Phone (407) 330-0639 – Fax	Mark D. Prochak, P.E. (407) 896-0594 – Phone (407) 896-4836 – Fax	Antonio J. Mahfoud, P.E. (407) 382-7774 – Phone (407) 382-7723 - Fax
<b>RESPONSE -9-</b>	<b>RESPONSE -10-</b>	<b>RESPONSE -11-</b>	<b>RESPONSE -12-</b>
GAI Consultants, Inc. 618 E. South St. Orlando, FL 32801	Horizon Engineering Group, Inc. 2500 Maitland Center Pkwy, Ste 300 Maitland, FL 32751	Infrastructure Engineering, Inc. 2121 Old Hickory Tree Road St. Cloud, FL 34772	Johnson, Mirmiran & Thompson 615 Crescent Executive Court, Ste 106 Lake Mary, FL 32746
Richard A. Cima, P.E. (407) 423-8398 – Phone (407) 843-1070 – Fax	Scott P. Seck (407) 644-7755 – Phone (407) 644-7855 - Fax	Gregory Peschong, P.E. (407) 957-1660 – Phone (407) 957-8744 – Fax	Jon Miller (407) 833-9898 – Phone (407) 833-9899 - Fax

RESPONSE -13-	RESPONSE -14-	RESPONSE -15-	RESPONSE -16-
Keith & Schnars, Inc. 6500 North Andrews Ave. Ft. Lauderdale, FL 33309	Metric Engineering, Inc. 615 Crescent Executive Court, Ste 524 Lake Mary, FL 32746	Miller Legg 631 S. Orlando Ave. #200 Winter Park, FL 32789	Moffatt & Nichol 1025 Greenwood Blvd, Ste 371 Lake Mary, FL 32746
Mark J. Moshier, P.E. (954) 776-1616 – Phone (954) 771-7690 – Fax	C. Brian Fuller, P.E. (407) 644-1898 – Phone (407) 644-1921 - Fax	Jon Walls, RLA (407) 629-8880 – Phone (407) 629-7883 – Fax	Rhet L. Schmidt, P.E. (407) 562-2030 – Phone (407) 562-2031 – Fax
RESPONSE -27-	RESPONSE -18-	RESPONSE -19-	RESPONSE -
Pegasus Engineering, LLC 301 W. SR 434, Ste 309 Winter Springs, FL 32708	Volkert & Associates, Inc. 151 S. Wymore Rd., Ste. 550 Altamonte Springs, FL 32714	WBQ Design & Engineering, Inc. 201 N. Magnolia Ave, Ste 200 Orlando, FL 32801	<b>BLANK</b>
Fursan Munjed, P.E. (407) 992-9160 – Phone (407) 358-5155 - Fax	Michael A. Osipov, P.E. (407) 682-2045 – Phone (407) 682-7861 – Fax	Derek C. Burke, P.E. (407) 839-4300 – Phone (407) 839-1621 – Fax	

Tabulated by David R. Santiago, CPPB – Posted December 26, 2007 (1630)

Short-listing Evaluation Committee Meeting: January 29, 2008 at 3:30.

(Updated: December 27, 2007 at 1520) Wekiva Conference Room, 520 W. Lake Mary Blvd, Sanford, Florida 32773.

Evaluation Criteria:

- Approach to Project / Understanding the Project (50%)
- Qualification of the Proposed Personnel and Firm (15%)
- Similar Project Experience (15%)
- Innovative and Cost Saving Ideas (15%)
- Location of the Firm (5%)
  - Regional firms located within the Counties of Brevard, Lake, Orange, Osceola, Seminole and Volusia
  - will receive 5 points.
  - Firms Located with the state of Florida will receive 2 points.

Short listed Firms:

(Updated: January 31, 2008 at 1330)

- Corzo Castella Carballo Thompson Salmann, PA
- Horizon Engineering Group
- Johnson, Mirmiran & Thompson (JMT)
- Moffatt & Nichol

Presentations: February 21, 2008 beginning at 1:30.  
Lake Jesup Room, 520 W. Lake Mary Blvd, Sanford, Florida 32773

Scheduled Time: 1:30 – 2:00 Corzo Castella Carballo Thompson Salmann, PA  
2:15 – 2:45 Horizon Engineering Group  
3:00 – 3:30 JMT  
3:45 – 4:15 Moffatt & Nichol

Criteria: Project Approach (60%)  
Qualification of the Proposed Team/Similar Work Experience (20%)  
Innovation/Cost Saving Ideas (20%)

Presentation Results: Horizon Engineering Group  
(Updated: February 22, 2008 at 1055) C3TS  
JMT  
Moffatt & Nichol

Board of County Commissioners Agenda Date - Request to Approve Ranking and to Negotiate: March 25, 2008 at 0930

Board of County Commissioners Agenda Date – Award: TBD

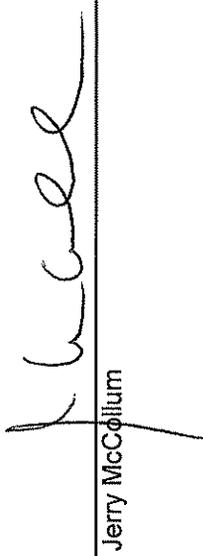
**PRESENTATION RANKINGS - PS-2825-07/BJH**  
**Preliminary Engineering and Final Design Services for SR 434 Intersection Improvements - Rangeline Rd to CR 427**

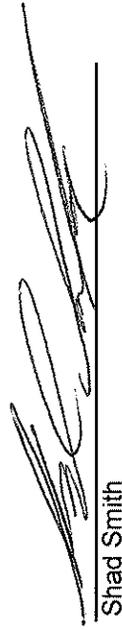
	B. Blackadar	J. McCollum	S. Smith	TOTAL POINTS RANKING
C3TS	2	2	2	6
Horizon Engineering Group	1	1	1	3
JMT	4	3	4	11
Moffatt & Nichol	3	4	3	10

The Evaluation Committee agrees to the following ranking:

Horizon Engineering Group  
 C3TS  
 Moffatt & Nichol  
 JMT

  
 \_\_\_\_\_  
 Brett Blackadar

  
 \_\_\_\_\_  
 Jerry McCollum

  
 \_\_\_\_\_  
 Shad Smith

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: C3TS

QUALIFICATION COMMITTEE MEMBER: Shad Smith

EVALUATION CONSIDERATIONS

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
- Excellent, Very Good, Solid in all respects.
- Good, No major weaknesses, Fully Acceptable as is
- Marginal, Weak, Workable but needs clarifications
- Unacceptable, Needs major help to be acceptable

Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

Project Approach: (60)

KFC issue, Historical Post Army, Talked to Longwood, Variation issues, OIRM Co Contractor Ra  
Shared Path on North side 1/2 .2% Gutter grade  
Alignment options, Detailed discussion on ROW  
Drainage analysis - Pond 4 will work, Permit exemption but Notice General  
TTC plan covered, pedestrians needed to maintain.  
Public Involvement, Multiple typical options.  
Preliminary study part don't think fully understood our intent.  
Did not talk about negging scope

Score 56  
(0-60)

Qualifications of Proposed Team/Similar Work Experience: (20)

Outstanding team, with excellent similar project  
experience. Local office

Score 19  
(0-20)

Innovation/Cost Savings Ideas: (20)

Use Sidewalk easements in front of hospital, possibly No RT turns on Ctl. Flg  
Plewy due to LOS. 22' median width for Approach to 427. FDOT 3R  
Separate intersection projects - 18 mo for Ctl Flg Plewy.  
Maintain exist curb on South side

Score 18  
(0-20)

Ranking 2

Total Score (0-100) 93

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: Horizon Engineering Group

QUALIFICATION COMMITTEE MEMBER: Shad Smith

**EVALUATION CONSIDERATIONS**

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
- Excellent, Very Good, Solid in all respects.
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- Marginal, Weak, Workable but needs clarifications
- Unacceptable, Needs major help to be acceptable

Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

**Project Approach:** (60)

Mention project schedule, local discussion of survey needs and what's available. Propose shift in  
Frestonville (contaminated), transition 14' lanes with adjacent  
Road 2' wide. Discussion of Pavt. Design, New RR crossing.  
Impacts to north on hospital. At 427 impacts on South & North  
LOS can be E for C/F Low for Rt but recommend Rt Turn.  
Signal Details, covered Mast arms needed, showed signs to leads.  
Do not anticipate turn lanes showed estimate const. could break out project.  
Did not show other Alternatives. Score 58  
(0-60)

**Qualifications of Proposed Team/Similar Work Experience:** (20)

Outstanding team. Lots of Spinnale Co. experience.  
Experienced PM with county. Excellent Surveyor, traffic, Geo tech.  
Score 19  
(0-20)

**Innovation/Cost Savings Ideas:** (20)

Save money Survey Computer Rail Survey, 2' traffic separator  
Eliminate split phase timing. Modified pavt. Design  
Minimize RW acquisition, 10' lanes at 427 4' offset  
Inverted Rt turn slope, Begin end shifts of property lines.  
Score 17  
(0-20)

Ranking 1

Total Score (0-100) 94

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: JMT

QUALIFICATION COMMITTEE MEMBER: Shad Smith

**EVALUATION CONSIDERATIONS**

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
- Excellent, Very Good, Solid in all respects.
- Good, No major weaknesses, Fully Acceptable as is
- Marginal, Weak, Workable but needs clarifications
- Unacceptable, Needs major help to be acceptable

Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

**Project Approach:**

(60)

Covered scope well of Prelim, Eng to Design Plan:  
Recommend MTR from CFP to 427, 50' Rad<sup>n</sup>. Proposed split  
of RW at 427. Has a lane shift. Excellent detail on board &  
typical. Good discussion & traffic ops discussion.  
ROW discussion, - impacts & understanding of ROW exist. ORMC  
talked to Bic it discussion of drainage.  
Schedule discussion. Did not coord. with highway well. Did not  
list variations & exceptions, Power Point Plan. Said LAP Project it is not.

Score 52  
(0-60)

**Qualifications of Proposed Team/Similar Work Experience:**

(20)

Excellent team. No county experience by firm but PM has experience.  
Lockhart survey mapping & util coord. LAP experience mentioned.  
Lockhart - CSX surveyor.

Score 19  
(0-20)

**Innovation/Cost Savings Ideas:**

(20)

Protect sign at C/FL Hwy. Reduce R/W. Used turn lane lengths  
to think thru R/W. Easements, & cost to care. Multiple sign listed  
Intersection offsets. MTR thru segments.  
2.8 million Cost Est. No ROW estimate

Score 15  
(0-20)

Ranking 4

Total Score (0-100) 86

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: Moffatt & Nichol

QUALIFICATION COMMITTEE MEMBER: Shad Smith

EVALUATION CONSIDERATIONS

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
- Excellent, Very Good, Solid in all respects.
- Good, No major weaknesses, Fully Acceptable as is
- Marginal, Weak, Workable but needs clarifications
- Unacceptable, Needs major help to be acceptable

Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

Project Approach: (60)

SAID a LAP project (not a liaison). Covered Parts of scope well.  
Shift Alignment to north so not in part. 16' Dedicated strip on KFC.  
Utility concern. 427 do center widening with move to  
north @ 427 Move Gate on North but not on S.

Drainage discussion at basins - pointed out permit issues - SJRWMD } excellent.  
- H+ control structure, concern w/ existing system, Good ROW discussed  
Let Surveyor talk & discussed at advanced schedule. Mentioned lighting  
22 mo. schedule. No estimate for ROW or Const.  
Good presentation but could have more details. Score 55  
(0-60)

Qualifications of Proposed Team/Similar Work Experience: (20)

Excellent Team. PM Limited Seminal co experience.  
Outstanding Surveyor & Geotech. Had Ed Bartfield on team. GMB on team,  
Office is very close.

Score 19  
(0-20)

Innovation/Cost Savings Ideas: (20)

Relocate Sign on CR 427 for left. Eliminate EB R+turn lane. Propose  
11' lane. Innovate cost for use County owned property @ 427 can use  
gravity well on Pong. Use Rail Survey.

Score 15  
(0-20)

Ranking 3

Total Score (0-100) 89

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: C3TS

QUALIFICATION COMMITTEE MEMBER: Brett Blackadar

**EVALUATION CONSIDERATIONS**

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
- Excellent, Very Good, Solid in all respects.
- Good, No major weaknesses, Fully Acceptable as is
- Marginal, Weak, Workable but needs clarifications
- Unacceptable, Needs major help to be acceptable

Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

**Project Approach:** \_\_\_\_\_ (60)

Good discussion of R/L. Good long-term discussion - most aspects. Landscaping notes. Good community input + hospital discussion. Very good traffic/queue analysis. Very good R/W impacts analysis. Very detailed analysis. Very good drainage analysis + permitting discussion. Very detailed utility discussion. Good w/ FDOT on community road crossing. No construction cost analysis. No pavement analysis.

Score 54  
(0-60)

**Qualifications of Proposed Team/Similar Work Experience:** \_\_\_\_\_ (20)

Raw paving sub has lots of FDOT experience. Firm has a good track record w/ FDOT District 5. They have DS similar experience but no San Cty experience. Some of proposed staff is not local.

Score 17  
(0-20)

**Innovation/Cost Savings Ideas:** \_\_\_\_\_ (20)

Separate into 2 projects. Use Shared Path. Maintain curb line on south side. Propose no ROW if we drop EB RT lane @ Ft Central Pkwy + I-75. Return RT lane across ROW impacts. Use @ SR criteria for 11' bus lanes. Brande showed us public. Use existing ponds. Provide Red MOT pots of planting ideas. Should be easement for hospital to help F&R for hospital.

Score 18  
(0-20)

Ranking 2

Total Score (0-100) 89

**PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
Intersection Improvements – Rangeline Road to CR 427**

**SUBMITTAL COMPANY NAME: Horizon Engineering Group**

**QUALIFICATION COMMITTEE MEMBER: Brett Blackadar**

**EVALUATION CONSIDERATIONS**

**INSTRUCTIONS:** Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
- Excellent, Very Good, Solid in all respects.
- Good, No major weaknesses, Fully Acceptable as is
- Marginal, Weak, Workable but needs clarifications
- Unacceptable, Needs major help to be acceptable

**Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.**

**Project Approach: \_\_\_\_\_ (60)**

*Very good intersection analysis. Good discussion of contain. site  
Very good typical sections. Very good R/W analysis. Very  
good pavement discussion. Very good traffic operations  
and pricing analysis. Very good drainage analysis.  
Anticipate S/WMP excavation. Very good construction  
cost analysis. Very good decision overview. Very good  
graphics + presentation. Use 487 R/W for enhancement  
for Longwood. They have already been using real survey. **Score 56**  
**(0-60)***

**Qualifications of Proposed Team/Similar Work Experience: \_\_\_\_\_ (20)**

*Very good S+M sub w/ lots of DS experience. They have  
done a great job w/ several county jobs in the past.  
Lots of DS experience. Use BSA for QA/QC.  
**Score 18**  
**(0-20)***

**Innovation/Cost Savings Ideas: \_\_\_\_\_ (20)**

*Use 487 County remnant property.  
Use concrete rail + access mant surveys to save money. 10' lanes on  
FL Central for trucks. No R/W impacts to Contour Site. Use 10'  
turn lanes to save R/W. Use bleed base for better MAT. Widens  
only to north @ FL Central Phase. Import only Walgreens +  
next CVS. Park @ exclusion dual lifts on FL Central to  
elim split phase. Can remove 2 of 4 mast arms. Put in granite  
work @ hospital. **Score 19**  
**(0-20)***

**Ranking 1**

**Total Score (0-100) 93**

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: JMT

QUALIFICATION COMMITTEE MEMBER: Brett Blackadar

**EVALUATION CONSIDERATIONS**

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

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- Unacceptable, Needs major help to be acceptable

Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

**Project Approach:** \_\_\_\_\_ (60)

*Don't like to say the presenter their board - hard for me to see right side.  
Parapoint graphics were very basic. Said it was a LAP  
project but it is not. Fairly general overview. Very good  
analysis of intersections. Good emergency room discussion  
road IDW analysis. Good coordination in hospital.  
Limited driveway discussion. No pavement analysis. Limited innovative/  
cost saving ideas. Should seem tight for PDOT approval*

Score 48  
(0-60)

**Qualifications of Proposed Team/Similar Work Experience:** \_\_\_\_\_ (20)

*Team has DS experience but has not worked in Seminole  
County. Proposed SM does have good DS experience  
Proposed PM has worked on Sem Co projects*

Score 17  
(0-20)

**Innovation/Cost Savings Ideas:** \_\_\_\_\_ (20)

*Submit 30% plans w/ PF report. Don't want 40% right now  
don't let them do work because money is wasted. Use  
intersection at 7 sets. Limited cost savings/innovative ideas.*

Score 13  
(0-20)

Ranking 4

Total Score (0-100) 78

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: Moffatt & Nichol

QUALIFICATION COMMITTEE MEMBER: Brett Blackadar

EVALUATION CONSIDERATIONS

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
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- Good, No major weaknesses, Fully Acceptable as is
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Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

Project Approach: (60)

Planning presentation handout was roughly done. Paraphrase on  
Serly looked good. Very good KFC comments. Very  
good intersection analysis. Intersection graphics were hard to  
read. Discussed intersection at dead ends w/ RR crossing and  
DS traffic operations. Very good drainage analysis. Very  
good surveying + mapping discussion. Did not have typical  
sections. Good comment on emergency hospital contribution.  
Good contamination comments. Found realistic 24 month schedule.

Score 5  
(0-60)

Qualifications of Proposed Team/Similar Work Experience: (20)

Team has DS experience. S+M sub has good DS experience.  
They do not have County experience. Good RTU sub  
Similar experience @ 434 Municipality.

Score 17  
(0-20)

Innovation/Cost Savings Ideas: (20)

Shifts north only for PL Central intersection. Eliminate EB right  
turn lane @ PL Central Plaza. Minimize EB right turn lane @  
507 to reduce PMV impacts. Land acquisition w/ BCC to regular  
impacted Walgreens pond. Utilize easements to reduce ROW impacts.  
Use grants well at pond. Reduce railroad impacts.

Score 16  
(0-20)

Ranking 3

Total Score (0-100) 85

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
 Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: C3TS

QUALIFICATION COMMITTEE MEMBER: Jerry McCollum

EVALUATION CONSIDERATIONS

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

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Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

Project Approach: (60)

May not need R+@ Hospital. Key issues Review.  
 C-tying-RFC issues / Mast arms / Blwy Red / Landscape - Commuter Ra. 1.  
 ORMC (SW easements) . Various Typically (17.5 - 27.5)  
 27.5 ft. impacts - 21 parcels (Gravity well ext.  
 ROW Details on variant area.  
 Drainage - Pond #4 OK - gutter spread  
 Utilities / MUT / Public Involvement

80

Very good - Detailed in many areas Score 48.0  
(0-60)

Qualifications of Proposed Team/Similar Work Experience: (20)

Good Team / Good S. miles (2 projects shown)

75

Score 15.0  
(0-20)

Innovation/Cost Savings Ideas: (20)

Several areas discussed

76

Good (+) Score 15.2  
(0-20)

Ranking 2

Total Score (0-100) 78.2

Question - Medical with  
 Eminent Domain  
 Ordinance

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
 Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: Horizon Engineering Group

QUALIFICATION COMMITTEE MEMBER: Jerry McCollum

**EVALUATION CONSIDERATIONS**

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
- Excellent, Very Good, Solid in all respects.
- Good, No major weaknesses, Fully Acceptable as is
- Marginal, Weak, Workable but needs clarifications
- Unacceptable, Needs major help to be acceptable

Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

**Project Approach:** (60) *Should get storm P-exemption. GA/QC Program utilities discussed*

*How many total periods*

Design year 2015 - Save money FDOT survey

Hold south shift north, 11' lanes / 14 outside

No bike lanes, 12' lanes at Hospital. Very good detail on pavement design. Commuter rail

MUT / Also emergency for Hospital, 6 Parcel, impact @ CR427 eliminate 8t. lanes, none at Hospital. Maybe save some at the

main arms - Drainage 9 inlets inspected - Very detailed. Score 49.2 on drainage

Very good - Very detailed in critical areas (+)

**Qualifications of Proposed Team/Similar Work Experience:** (20)

Cohesive exp staff / Numerous projects shown.

77

Good (++) Score 15.4  
(0-20)

**Innovation/Cost Savings Ideas:** (20)

Save money FDOT survey, Various ideas covered

76

Good (+) Score 15.2  
(0-20)

Ranking 1      RTOR Pal.      Total Score (0-100) 79.8

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
 Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: JMT

QUALIFICATION COMMITTEE MEMBER: Jerry McCollum

EVALUATION CONSIDERATIONS

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
- Excellent, Very Good, Solid in all respects.
- Good, No major weaknesses, Fully Acceptable as is
- Marginal, Weak, Workable but needs clarifications
- Unacceptable, Needs major help to be acceptable

Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

Project Approach: (60)

Overall general approach. Used ROW Nal.S  
 Good detailed discussion on map  
 board of corridors. Detailed on  
 Thones at 5 lanes. Model all appropriate  
 lengths. Discussions on ROW taking into  
 Little general on drainage. Mentioned PIP  
 mentioned utilities.  
 Good (++) - very detailed on traffic / alignment / row  
 Little general in other areas, (drainage etc.) Score 46.8  
 (0-60) 78

Qualifications of Proposed Team/Similar Work Experience: (20)

Very exp. team exp. FOUT / Several  
 project show 78  
 Good (+++) Score 15.6  
 (0-20)

Innovation/Cost Savings Ideas: (20)

ROW only in general and some  
 traffic. 75  
 Good Score 15.0  
 (0-20)

Ranking 3

Total Score (0-100) 77.4

PS-2825-07/BHJ – Preliminary Engineering and Final Design Services for SR 434  
Intersection Improvements – Rangeline Road to CR 427

SUBMITTAL COMPANY NAME: Moffatt & Nichol

QUALIFICATION COMMITTEE MEMBER: Jerry McCollum

**EVALUATION CONSIDERATIONS**

INSTRUCTIONS: Score each criterion up to the number of points allotted for each. The total number of points for all criterion will equal 100 points based on the following general guidelines:

- Outstanding, out-of-the-box, Innovative, Cost/Time Savings
- Excellent, Very Good, Solid in all respects.
- Good, No major weaknesses, Fully Acceptable as is
- Marginal, Weak, Workable but needs clarifications
- Unacceptable, Needs major help to be acceptable

Please describe any strengths, weaknesses and deficiencies to support your assessment for each of the above stated evaluation criteria.

**Project Approach:** (60) Hosp. Access

Coordination. All ROW to north - Eliminate  
Rt. lane. Limited ROW at CR427 (lot at utilities  
in intersection). Use 11' lanes at CR427 - Very  
good discussion @ SR434/CR427. Drainage good  
ROW discussion. Lighting. MUT Env. issues 77  
Util. by very brief. Addressed below cross generally

Covered some areas in detail. Other  
little general Good (++) Score 46.2  
(0-60)

**Qualifications of Proposed Team/Similar Work Experience:** (20)

Good solid team / Several projects detailed 77

Good (++) Score 15.4  
(0-20)

**Innovation/Cost Savings Ideas:** (20)

Minimize ROW taking. Also use  
RR survey. 76

Good (+) Score 15.2  
(0-20)

Ranking 4 Quest. B. (Kalam) Total Score (0-100) 76.8

19+  
now and  
will maintain

**EVALUATION RANKINGS**

**PS-2825-07/BHJ - SR 434 Intersection Improvements - Rangeline Rd to CR 427**

**DATE 1/29/2008 TIME 3:30 P.M**

- Balmoral Group
- Calvin, Giordano & Associates
- Comprehensive Engineering Services
- Consul-Tech Transportation, Inc.
- Corzo Castella Carballo
- CPH Engineers
- DRMP, Inc.
- Eisman & Russo
- GAI Consultants
- Horizon Engineering Group
- Infrastructure Engineering
- Johnson, Mirmiran & Thompson
- Keith & Schnars
- Metric Engineering
- Miller Legg
- Moffatt & Nichol
- Pegasus Engineering
- Volkert & Associates, Inc.
- WBQ Design & Engineering

B. Blackadar	J. McCollum	S. Smith	Total	Ranking
13	15	12	40	14
18	7	19	44	18
11	11	9	31	10
8	8	15	31	10
2	9	4	15	4
16	6	18	40	14
12	18	5	35	12
9	5	7	21	5
6	17	3	26	6
3	2	2	7	2
10	4	13	27	7
1	1	1	3	1
17	10	11	38	13
4	13	10	27	7
15	12	16	43	16
5	3	6	14	3
7	14	8	29	9
19	19	17	55	19
14	15	14	43	16

The Evaluation Committee agrees to shortlist the following Firms:

1. Johnson, Mirmiran & Thompson
2. Horizon Engineering Group
3. Moffatt & Nichol
4. Corzo, Castella and Carballo

  
Brett Blackadar

Brett Blackadar

  
Jerry McCollum

Jerry McCollum

  
Shad Smith

Shad Smith

**EXHIBIT A-1**

**DRAFT SCOPE OF SERVICES  
PHASE I – PRELIMINARY ENGINEERING**

County Project Number: *PS-2825-07/BHJ*  
County CIP Number: *00205304*  
Financial Project ID: *240233-4*  
Description: *SR 434 from Rangeline Rd to CR 427 in Seminole County*

**EXHIBIT A-2**

1	PURPOSE _____	1
2	PRELIMINARY ENGINEERING ANALYSIS _____	1
2.1	Project Description _____	2
2.2	Review/Update of PD&E Study _____	2
2.3	Roadway Alignment Analysis _____	2
2.4	Preliminary Roadway Design Analysis _____	2
2.5	Preliminary Stormwater Design Analysis _____	2
2.6	Costs Estimates _____	2
2.7	Conceptual Drawings _____	2
2.8	Preliminary Engineering Report _____	2
2.9	Project Schedule _____	3
2.10	Submittals _____	3
3	SURVEY _____	3
3.1	Horizontal Project Network Control (HPNC) _____	3
3.2	Vertical Project Network Control (VPNC) _____	3
3.3	Alignment and/or Existing Right of Way Lines _____	3
3.4	Aerial Targets _____	4
3.5	Reference Points _____	4
3.6	Digital Terrain Model DTM/3D _____	4
3.7	Topography (2D) _____	4
3.8	Roadway Cross Sections/Profiles _____	4
3.9	Side Street Surveys _____	4
3.10	Underground Utilities _____	4
3.11	Outfall Survey _____	4
3.12	Drainage Survey _____	4
3.13	Bridge Survey (Minor/Major) _____	4
3.14	Channel Survey _____	5
3.15	Pond Site Survey _____	5
3.16	Mitigation Survey _____	5
3.17	Jurisdiction Line Survey _____	5
3.18	Geotechnical Support _____	5
3.19	Sectional/Grant Survey _____	5
3.20	Subdivision Location _____	5
3.21	Maintained R/W _____	5
3.22	Boundary Survey _____	5
3.23	Water Boundary Survey _____	5
3.24	Right of Way Staking / Right of Way Line _____	5
3.25	Right of Way Monumentation _____	6
3.26	Line Cutting _____	6
3.27	Work Zone Safety _____	6
3.28	Miscellaneous Surveys _____	6
3.29	Supplemental Surveys _____	6
3.30	Document Research _____	6
3.31	Field Review _____	6
3.32	Technical Meetings _____	6
3.33	Quality Control/Quality Assurance _____	6
3.34	Supervision _____	6
3.35	Coordination _____	6

4	MAPPING	6
4.1	Alignment	7
4.2	Section and 1/4 Section Lines	7
4.3	Subdivisions	7
4.4	Existing Right of Way	7
4.5	Topography	7
4.6	Parent Tract Properties and Existing Easements	7
4.7	Proposed Right of Way Requirements	7
4.8	Limits of Construction	7
4.9	Jurisdictional/Agency Lines	7
4.10	Control Survey Cover Sheet	7
4.11	Control Survey Cover Sheet	7
4.12	Control Survey Key Sheet	7
4.13	Control Survey Detail Sheet	7
4.14	Right of Way Map Cover Sheet	7
4.15	Right of Way Map Key Sheet	7
4.16	Right of Way Map Detail Sheet	7
4.17	Maintenance Map Cover Sheet	7
4.18	Maintenance Map Key Sheet	7
4.19	Maintenance Map Detail Sheet	7
4.20	Reference Point Sheet	8
4.21	Project Network Control Sheet	8
4.22	Table of Ownerships Sheet	8
4.23	Parcel Sketches	8
4.24	TIITF Sketches	8
4.25	Other Specific Purpose Survey(s)	8
4.26	Boundary Survey(s) Map	8
4.27	Right of Way Monumentation Map	8
4.28	Title Search Map	8
4.29	Title Search Report	8
4.30	Legal Descriptions	8
4.31	Final Map/Plans Comparison	8
4.32	Field Reviews	8
4.33	Technical Meetings	8
4.34	Quality Assurance/Quality Control	8
4.35	Supervision	8
4.36	Coordination	8
4.37	Supplemental Mapping	8
5	INVOICING LIMITS	9

**DRAFT SCOPE OF SERVICES FOR CONSULTING ENGINEERING SERVICES  
PRELIMINARY ENGINEERING**

This Exhibit forms an integral part of the agreement between the Seminole County Board of County Commissioners (hereinafter referred to as the COUNTY) and XXXX (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

County Project Number: *PS-2825-07/BHJ*  
County CIP Number: *00205304*  
Financial Project ID: *240233-4*  
Description: *SR 434 from Rangeline Rd to CR 427 in Seminole County*

**1 PURPOSE**

The purpose of this Exhibit is to describe the scope of work and the responsibilities of the CONSULTANT and the COUNTY in connection with preliminary engineering analysis, for:

- Roadway improvements to the transportation facility described herein

The general objective is for the CONSULTANT to prepare a preliminary engineering analysis report for the proposed improvements. The CONSULTANT is also responsible for full Right of Way Mapping for the proposed improvements.

The Scope of Services establishes which items of work described in the Plan Preparation Manual(s) published by the Florida Department of Transportation (hereinafter referred to as the DEPARTMENT) and other pertinent manuals to accomplish the work are specifically included in this contract, and also which of the items of work will be the responsibility of the CONSULTANT or the COUNTY.

All plans and design documents are to be prepared with standard English values in accordance with all applicable COUNTY and DEPARTMENT Manuals and guidelines.

The CONSULTANT shall be aware that as a project is developed, certain modifications and/or improvements to the original recommendation may be required. The CONSULTANT is to incorporate these refinements into the design and will consider this effort to be an anticipated and integral part of the work. This will not be a basis for any supplemental fee request(s).

The CONSULTANT shall demonstrate good project management practices while working on this project. These include communication with the COUNTY and others as necessary, management of time and resources, and documentation. The CONSULTANT shall set up and maintain throughout the design of the project a contract file in accordance to COUNTY procedures. It shall be the CONSULTANT's responsibility to utilize the very best engineering judgment, practices and principles possible during the prosecution of the work commissioned under this contract.

The COUNTY will provide contract administration and management services. Both the COUNTY and the DEPARTMENT will provide technical reviews of all work associated with the development and preparation of the contract plans. The COUNTY will provide job specific information and/or functions as outlined in this contract.

**2 PRELIMINARY ENGINEERING ANALYSIS**

The following descriptions provide a non-exclusive summary of the specific tasks within this Scope-of-Services and are the minimum criteria for project performance and execution. The COUNTY will issue work orders on an as needed basis. The CONSULTANT is responsible to provide the following required professional services as requested:

## **2.1 Project Description**

Scope: Add auxiliary lanes to improve the operations of the intersections of SR 434 and Florida Central Parkway and SR 434 and CR 427 (Ronald Reagan Blvd).

SR 434 and Florida Central Parkway – Add an additional Westbound left turn lane, Eastbound right turn lane and northbound left turn lane.

SR 434 and CR 427 (Ronald Reagan Blvd) – Add additional Eastbound and Westbound left turn lanes and Eastbound and Westbound right turn lanes.

Limits: SR 434 from Rangeline Rd to CR 427 in Seminole County

Variations/Exceptions: None anticipated. If needed, the proper application letters will be developed.

## **2.2 Review/Update of PD&E Study**

The CONSULTANT shall review the existing PD&E study for this corridor and will review the conditions and conclusions from that study. The CONSULTANT will work with the DEPARTMENT to perform any required updates to the PD&E.

## **2.3 Roadway Alignment Analysis**

The CONSULTANT shall perform a roadway alignment analysis to determine the most effective design of the proposed improvements that will result in the most cost effective right-of-way acquisition.

## **2.4 Preliminary Roadway Design Analysis**

The CONSULTANT shall provide a preliminary roadway design analysis to determine any potential design issues related to the proposed improvements.

## **2.5 Preliminary Stormwater Design Analysis**

The CONSULTANT shall review the pond siting report from the PD&E study and shall determine the potential Stormwater design and permitting issues related to the proposed improvements. The CONSULTANT shall have a pre-application meeting with SJRWMD to discuss the proposed permitting requirements.

## **2.6 Costs Estimates**

The CONSULTANT shall prepare preliminary costs estimates for both right-of-way acquisition and construction costs.

## **2.7 Conceptual Drawings**

The CONSULTANT will prepare conceptual drawings of the proposed improvements that will be shown on aerial photography.

## **2.8 Preliminary Engineering Report**

The CONSULTANT will prepare a Preliminary Engineering report to summarize the findings of the Preliminary Engineering analysis. It will document the roadway analysis, Stormwater analysis and will include the cost estimates and conceptual drawings.

**2.9 Project Schedule**

Within ten (10) days after the Notice-To-Proceed, and prior to the CONSULTANT beginning work, the CONSULTANT shall provide a detailed project activity/event schedule for COUNTY and CONSULTANT activities required to meet the current COUNTY Production Date. The schedule shall not exceed one hundred and eighty days (180) to produce the Preliminary Engineering Report. The schedule for Right of Way Mapping shall not exceed two years.

**2.10 Submittals**

The CONSULTANT shall provide copies of the required plans and documents as listed below. Two (2) CD's containing the submittals in Adobe Acrobat electronic format should be provided for each submittal :

- Draft Preliminary Engineering Report . . . . .2
- Final Preliminary Engineering Report. . . . . 5

**3 SURVEY**

The CONSULTANT shall perform survey tasks in accordance with all applicable statutes, manuals, guidelines, standards, handbooks, procedures, and current design memoranda.

The CONSULTANT shall submit all survey notes and computations to document the surveys. All field survey work shall be recorded in approved media and submitted to the DEPARTMENT. Field books submitted to the DEPARTMENT must be of an approved type. The field books shall be certified by the surveyor in responsible charge of work being performed before the final product is submitted.

The survey notes shall include documentation of decisions reached from meetings, telephone conversations or site visits. All like work (such as bench lines, reference points, etc.) shall be recorded contiguously. The DEPARTMENT may not accept field survey radial locations of section corners, platted subdivision lot and block corners, alignment control points, alignment control reference points and certified section corner references. The DEPARTMENT may instead require that these points be surveyed by true line, traverse or parallel offset.

**3.1 Horizontal Project Network Control (HPNC)**

Establish or recover HPNC, for the purpose of establishing horizontal control on the Florida State Plane Coordinate System or datum approved by the District Location Surveyor (DLS); may include primary or secondary control points. Includes analysis and processing of all field collected data, and preparation of forms.

**3.2 Vertical Project Network Control (VPNC)**

Establish or recover VPNC, for the purpose of establishing vertical control on datum approved by the District Location Surveyor (DLS).; may include primary or secondary vertical control points. Includes analysis and processing of all field collected data, and preparation of forms.

**3.3 Alignment and/or Existing Right of Way Lines**

Establish, recover or re-establish project alignment. Also includes analysis and processing of all field collected data, existing maps, and/or reports for identifying mainline, ramp, offset, or secondary alignments. Depict alignment and/or existing R/W lines (in required format) per DEPARTMENT R/W Maps, platted or dedicated rights of way.

### **3.4 Aerial Targets**

Place, locate, and maintain required aerial targets and/or photo identifiable points. Includes analysis and processing of all field collected data, existing maps, and/or reports.

### **3.5 Reference Points**

Reference HPNC points, project alignment, vertical control points, section, ¼ section, center of section corners and G.L.O. corners as required.

### **3.6 Digital Terrain Model DTM/3D**

Locate all above ground features and improvements for the limits of the project by collecting the required data for the purpose of creating a DTM with sufficient density. Shoot all break lines, high and low points. Effort includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

### **3.7 Topography (2D)**

Locate all above ground features and improvements. Deliver in appropriate electronic format. Effort includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

### **3.8 Roadway Cross Sections/Profiles**

Perform field survey check sections or profiles to verify the required accuracy of the digital terrain model and/or to determine existing cross slope. Includes analysis and processing of all field-collected data for comparison with DTM.

### **3.9 Side Street Surveys**

Refer to tasks of this document as applicable.

### **3.10 Underground Utilities**

Designation includes 2-dimensional collection of existing utilities and selected 3-dimensional verification as needed for designation. Location includes non-destructive excavation to determine size, type and location of existing utility, as necessary for final 3-dimensional verification. Survey includes collection of data on points as needed for designates and locates. Includes analysis and processing of all field collected data, and delivery of all appropriate electronic files.

### **3.11 Outfall Survey**

Locate all above ground features and improvements for the limits of the project by collecting the required data for the purpose of a D.T.M. Survey with sufficient density of shots. Shoot all break lines, high and low points. Includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

### **3.12 Drainage Survey**

Locate underground data (XYZ, pipe size, type, condition and flow line) that relates to above ground data. Includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

### **3.13 Bridge Survey (Minor/Major)**

Locate required above ground features and improvements for the limits of the bridge. Includes field edits, analysis and processing of all field collected data, existing maps, and/or reports.

### **3.14 Channel Survey**

Locate all topographic features and improvements for the limits of the project by collecting the required data for the purpose of a D.E.M. Survey with sufficient density of shots. Shoot all break lines, high and low points. Includes field edits, analysis and processing of all field collected data, maps, and/or reports.

### **3.15 Pond Site Survey**

Refer to tasks of this document as applicable.

### **3.16 Mitigation Survey**

Refer to tasks of this document as applicable.

### **3.17 Jurisdiction Line Survey**

Perform field location (2-dimensional) of jurisdiction limits as defined by respective authorities, also includes field edits, analysis and processing of all field collected data, preparation of reports.

### **3.18 Geotechnical Support**

Perform 3-dimensional (X,Y,Z) field location, or stakeout, of boring sites established by geotechnical engineer. Includes field edits, analysis and processing of all field collected data and/or reports.

### **3.19 Sectional/Grant Survey**

Perform field location/placement of section corners, 1/4 section corners, and fractional corners where pertinent. Includes analysis and processing of all field-collected data and/or reports.

### **3.20 Subdivision Location**

Survey all existing recorded subdivision/condominium boundaries, tracts, units, phases, blocks, street R/W lines, common areas. Includes analysis and processing of all field collected data and/or reports. If unrecorded subdivision is on file in the public records of the subject county, tie existing monumentation of the beginning and end of unrecorded subdivision.

### **3.21 Maintained R/W**

Perform field location (2-dimensional) of maintained R/W limits as defined by respective authorities, if needed. Also includes field edits, analysis and processing of all field collected data, preparation of reports.

### **3.22 Boundary Survey**

Perform boundary survey as defined by DEPARTMENT standards. Includes analysis and processing of all field-collected data, preparation of reports.

### **3.23 Water Boundary Survey**

Perform Mean High Water, Ordinary High Water and Safe Upland Line surveys as required by DEPARTMENT standards.

### **3.24 Right of Way Staking / Right of Way Line**

Perform field staking and calculations of existing/proposed R/W lines for on-site review purposes.

### **3.25 Right of Way Monumentation**

Set R/W monumentation as depicted on final R/W maps for corridor and water retention areas.

### **3.26 Line Cutting**

Perform all efforts required to clear vegetation from the line of sight.

### **3.27 Work Zone Safety**

Provide work zone as required by DEPARTMENT standards.

### **3.28 Miscellaneous Surveys**

Refer to tasks of this document, as applicable, to perform surveys not described herein.

### **3.29 Supplemental Surveys**

Supplemental survey days and hours are to be approved in advance by DLS. Refer to tasks of this document, as applicable, to perform surveys not described herein.

### **3.30 Document Research**

Perform research of documentation to support field and office efforts involving surveying and mapping.

### **3.31 Field Review**

Perform verification of the field conditions as related to the collected survey data.

### **3.32 Technical Meetings**

Attend meetings as required and negotiated by the Surveying and Mapping Department.

### **3.33 Quality Control/Quality Assurance**

Establish and implement a QAQC plan. Also includes subconsultant review, response to comments and any resolution meetings if required, preparation of submittals for review, etc.

### **3.34 Supervision**

Perform all activities required to supervise and coordinate project. These activities must be performed by the project supervisor, a Florida Professional Surveyor.

### **3.35 Coordination**

## **4 MAPPING**

The CONSULTANT will be responsible for the preparation of control survey maps, right of way maps, maintenance maps, sketches, other miscellaneous survey maps, and legal descriptions as required for this project in accordance with all applicable DEPARTMENT Manuals, Procedures, Handbooks, and Florida Statutes. All maps, surveys and legal descriptions will be prepared under the direction of a Florida Professional Surveyor and Mapper (PSM) to DEPARTMENT size and format requirements utilizing DEPARTMENT approved software, and will be designed to provide a high degree of uniformity and maximum readability. The CONSULTANT will submit maps, legal descriptions, quality assurance check prints, checklists, electronic

media files and any other documents as required for this project to the DEPARTMENT for review at stages of completion as negotiated.

Master CADD File

- 4.1 Alignment**
- 4.2 Section and 1/4 Section Lines**
- 4.3 Subdivisions**
- 4.4 Existing Right of Way**
- 4.5 Topography**
- 4.6 Parent Tract Properties and Existing Easements**
- 4.7 Proposed Right of Way Requirements**

The ENGINEER OF RECORD (EOR) will provide the proposed requirements. The PSM is responsible for calculating the final geometry.

**4.8 Limits of Construction**

The limits of construction DGN file as provided by the EOR will be imported or referenced to the master CADD file. Additional labeling will be added as required. The PSM is required to advise the EOR of any noted discrepancies between the limits of construction line and the existing/proposed right of way lines, and for making adjustments as needed when a resolution is determined.

**4.9 Jurisdictional/Agency Lines**

These lines may include, but are not limited to, jurisdictional, wetland, water boundaries, and city/county limit lines.

Sheet Files

- 4.10 Control Survey Cover Sheet**
- 4.11 Control Survey Cover Sheet**
- 4.12 Control Survey Key Sheet**
- 4.13 Control Survey Detail Sheet**
- 4.14 Right of Way Map Cover Sheet**
- 4.15 Right of Way Map Key Sheet**
- 4.16 Right of Way Map Detail Sheet**
- 4.17 Maintenance Map Cover Sheet**
- 4.18 Maintenance Map Key Sheet**
- 4.19 Maintenance Map Detail Sheet**

**4.20 Reference Point Sheet**

This sheet(s) will be included with the Control Survey Map, Right of Way Map and Maintenance Map.

**4.21 Project Network Control Sheet**

This sheet depicts the baseline, the benchmarks, the primary and secondary control points and their reference points including the type of material used for each point, their XYZ coordinates, scale factors and convergence angles. This sheet(s) may be included with the Control Survey Map, Right of Way Map and Maintenance Map.

**4.22 Table of Ownerships Sheet**

Miscellaneous Surveys and Sketches

**4.23 Parcel Sketches**

**4.24 TITF Sketches**

**4.25 Other Specific Purpose Survey(s)**

**4.26 Boundary Survey(s) Map**

**4.27 Right of Way Monumentation Map**

**4.28 Title Search Map**

**4.29 Title Search Report**

**4.30 Legal Descriptions**

**4.31 Final Map/Plans Comparison**

The PSM will perform a comparison of the final right of way maps with the available construction plans to review the correctness of the type of parcel to be acquired and the stations/offsets to the required right of way. The PSM will coordinate with the EOR to resolve any conflicts or discrepancies and provide documentation of the review.

**4.32 Field Reviews**

**4.33 Technical Meetings**

**4.34 Quality Assurance/Quality Control**

**4.35 Supervision**

**4.36 Coordination**

**4.37 Supplemental Mapping**

This task is to cover efforts resulting from major design changes after 60% and 90% map development and may include any number of tasks. The house negotiated under this task may or may not be utilized, at the Department's option, on this project. Request and approval to utilize Supplemental Mapping hours will be in writing.

## **5 INVOICING LIMITS**

Payment for the work accomplished will be in accordance with Method of Compensation of this contract. Invoices shall be submitted to the COUNTY, in a format prescribed by the COUNTY. The COUNTY Project Manager and the CONSULTANT shall monitor the cumulative invoiced billings to insure the reasonableness of the billings compared to the project schedule and the work accomplished and accepted by the COUNTY.

The CONSULTANT will provide a list of key events and the associated total percentage of work considered to be complete at each event. This list will be used to control invoicing. Payments will not be made that exceed the percentage of work for any event until those events have actually occurred and the results are acceptable to the COUNTY.

**EXHIBIT A-2**

**DRAFT SCOPE OF SERVICES  
PHASE II - HIGHWAY FINAL DESIGN & PERMITTING**

County Project Number: *PS-2825-07/BHJ*  
County CIP Number: *00205304*  
Financial Project ID: *240233-4*  
Description: *SR 434 from Rangeline Rd to CR 427 in Seminole County*

<b>1</b>	<b>PURPOSE</b>	<b>9</b>
<b>2</b>	<b>PROJECT DESCRIPTION</b>	<b>10</b>
2.1	Roadway	10
2.2	Drainage	10
2.3	Utilities Coordination	10
2.4	Environmental Permits	11
2.5	Structures (N/A)	11
2.6	Signing and Pavement Markings	11
2.7	Signals	11
2.8	Lighting (N/A)	11
2.9	Landscape Architecture	11
2.10	Survey	11
2.11	Photogrammetry (N/A)	11
2.12	Mapping	11
2.13	Geotechnical	11
2.14	Architecture (N/A)	11
2.15	Project Schedule	11
2.16	Submittals	13
2.17	Provisions for Work	15
2.18	Services to be Performed by the DEPARTMENT	19
<b>3</b>	<b>PROJECT COMMON and PROJECT GENERAL TASKS</b>	<b>20</b>
	<b>Project Common Tasks</b>	<b>20</b>
	<b>Project General Tasks</b>	<b>22</b>
3.1	Public Involvement	22
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**DRAFT SCOPE OF SERVICES FOR CONSULTING ENGINEERING SERVICES  
HIGHWAY AND BRIDGE FINAL DESIGN & PERMITTING**

This Exhibit forms an integral part of the agreement between the Seminole County Board of County Commissioners (hereinafter referred to as the COUNTY) and ???? (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

County Project Number:	<i>PS-2825-07/BHJ</i>
County CIP Number:	<i>00205304</i>
Financial Project ID:	<i>240233-4</i>
Description:	<i>SR 434 from Rangeline Rd to CR 427 in Seminole County</i>

**1 PURPOSE**

The purpose of this Exhibit is to describe the scope of work and the responsibilities of the CONSULTANT and the COUNTY in connection with the design and preparation of a complete set of construction contract plans and special provisions, if necessary, for:

- Roadway improvements to the transportation facility described herein

The general objective is for the CONSULTANT to prepare a set of plans to be used by the contractor to build the project, and by the COUNTY to ensure the project is built as designed and to specifications. Elements of work shall include roadways, structures, intersections, geotechnical activities, surveys, drainage, signing and pavement markings, signalization, utility relocation, landscaping right-of-way maps and legal descriptions, maintenance of traffic, cost estimates, environmental permits, environmental mitigation plans, quantity computation books, and all necessary incidental items for a complete project.

The Scope of Services establishes which items of work described in the Plan Preparation Manual(s) published by the Florida Department of Transportation (hereinafter referred to as the DEPARTMENT) and other pertinent manuals to accomplish the work are specifically included in this contract, and also which of the items of work will be the responsibility of the CONSULTANT or the COUNTY.

All plans and design documents are to be prepared with standard English values in accordance with all applicable COUNTY and DEPARTMENT Manuals and guidelines.

The CONSULTANT shall be aware that as a project is developed, certain modifications and/or improvements to the original recommendation may be required. The CONSULTANT is to incorporate these refinements into the design and will consider this effort to be an anticipated and integral part of the work. This will not be a basis for any supplemental fee request(s).

The CONSULTANT shall demonstrate good project management practices while working on this project. These include communication with the COUNTY and others as necessary, management of time and resources, and documentation. The CONSULTANT shall set up and maintain throughout the design of the project a contract file in accordance to COUNTY procedures. It shall be the CONSULTANT's responsibility to utilize the very best engineering judgment, practices and principles possible during the prosecution of the work commissioned under this contract.

The COUNTY will provide contract administration and management services. Both the COUNTY and the DEPARTMENT will provide technical reviews of all work associated with the development and preparation of the contract plans. The COUNTY will provide job specific information and/or functions as outlined in this contract.

## **2 PROJECT DESCRIPTION**

The CONSULTANT shall investigate the status of the projects and become familiar with concepts and commitments (typical sections, alignments, etc.) developed from prior studies. The CONSULTANT shall use the approved concepts from the review as a basis for the design unless otherwise directed by the COUNTY.

The CONSULTANT shall incorporate the following into the design of this facility:

### **2.1 Roadway**

Scope: Add auxiliary lanes to improve the operations of the intersections of SR 434 and Florida Central Parkway and SR 434 and CR 427 (Ronald Reagan Blvd).

SR 434 and Florida Central Parkway – Add an additional Westbound left turn lane, Eastbound right turn lane and northbound left turn lane.

SR 434 and CR 427 (Ronald Reagan Blvd) – Add additional Eastbound and Westbound left turn lanes and Eastbound and Westbound right turn lanes.

Limits: SR 434 from Rangeline Rd to CR 427 in Seminole County

Variations/Exceptions: None anticipated. If needed, the proper application letters will be developed.

### **2.2 Drainage**

Refer to the Preliminary Engineering Report dated November 2001 prepared for the PD&E study for SR 434 from Montgomery Road to US 17/92.

### **2.3 Utilities Coordination**

Refer to the Preliminary Engineering Report dated November 2001 prepared for the PD&E study for SR 434 from Montgomery Road to US 17/92.

## **2.4 Environmental Permits**

Refer to the Preliminary Engineering Report dated November 2001 prepared for the PD&E study for SR 434 from Montgomery Road to US 17/92.

## **2.5 Structures (N/A)**

## **2.6 Signing and Pavement Markings**

Striping and ground signs within project limits. No overhead or cantilever signs anticipated.

## **2.7 Signals**

Intersections: New Mast Arm signals at the intersections of Florida Central Parkway and CR 427 that adhere to the City of Longwood Mast Arm Standards.

## **2.8 Lighting (N/A)**

## **2.9 Landscape Architecture**

Planting Plans: Xeriscape landscaping in median and areas behind the sidewalk on State Road 434 from Interstate 4 to Rangeline Rd.

## **2.10 Survey**

Design Survey: Full topographic survey for roadway corridor and pond sites

## **2.11 Photogrammetry (N/A)**

Provide limits and description. Describe type.

## **2.12 Mapping**

Right of Way Survey: Right of way maps according to FDOT procedures for the project corridor

## **2.13 Geotechnical**

Standard Penetration Test Borings, Auger borings, field permeability tests and associated lab testing.

## **2.14 Architecture (N/A)**

## **2.15 Project Schedule**

Within ten (10) days after the Notice-To-Proceed, and prior to the CONSULTANT beginning work, the CONSULTANT shall provide a detailed project activity/event schedule for DEPARTMENT and CONSULTANT activities required to meet the

current DEPARTMENT Production Date. ***The current production date is June, 2013.*** The schedule shall be accompanied by an anticipated payout and fiscal progress curve.

The schedule shall indicate all required submittals.

For purposes of scheduling, the CONSULTANT shall allow for the following DEPARTMENT work activity and submittal review times, when applicable:

<b>Work Activity/Submittal Review</b> (to be determined by DEPARTMENT)	<b>Time (weeks)</b> (to be determined by DEPARTMENT)
Roadway Plans Review	4
Right of Way Maps Review	
(Phase I, Phase II)	8
(Phase IV)	4
Alternative Drainage Design Concept Report Review	4
Pond Siting Report	4
Environmental Permitting Packages Review	4
Environmental Mitigation Plan Review	4
Jurisdictional Determination Report Review	4
Preparation of Right-of-Way Documents Activity	10
Acquisition of Right-of-Way Activity	104
Prepare/Execute Utility Agreements Activity	16

Periodically, throughout the life of the project, the schedule and curves shall be reviewed and, with the approval of the DEPARTMENT, adjusted as necessary to incorporate changes in the work concept and progress to date.

The approved schedule and schedule status report, along with progress and payout curves, shall be submitted with the monthly progress report.

The schedule shall be submitted in Suretrak, Primavera, or system-compatible format.

**2.16 Submittals**

The CONSULTANT shall furnish plans and documents as required by the DEPARTMENT to adequately control, coordinate, and approve the plans. The CONSULTANT shall distribute phase submittals as directed by the DEPARTMENT.

The CONSULTANT shall provide copies of the required plans and documents as listed below. These are the anticipated printing requirements for the project. This tabulation will be used for estimating purposes. The Project Manager will determine the specific number of copies required prior to each submittal.

**Plans Distribution Chart**

(District to input number of copies required for each phase submittal and footnotes, if desired.)

<b>Department</b>	<b>Phase</b>			
	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
Access Management				
Preliminary Estimates (TRNS*PORT)				
Design Services				
Drainage				
Environmental Management				
Environmental Permits				
Traffic Operations				
Traffic Signals				
Signing and Marking				
Geotechnical				
Structures				
Construction				
Maintenance				
Value Engineering				

**Plans Distribution Chart**

(District to input number of copies required for each phase submittal and footnotes, if desired.)

<b>Department</b>	<b>Phase</b>			
	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
Utilities (3 sets for DEPARTMENT and 2 sets for each Utility Company)				
Preliminary Right-of-Way Review				
District Land Surveyor				
District Modal Development Manager				
District Design Engineer				
District Right-of-Way Manager				
District Project Management Engineer				
District Drainage Engineer				
District Value Engineer				
District Utility Administrator				
Applicable City and/or County Engineering Dept.				
Mass Transit				
Contamination Reviews/Assessments				

**Engineering Documents**

(Documents and number of copies to be determined by DEPARTMENT preference.)

<b>Document</b>	<b>No. of Copies Required</b>
<b>Roadway Design</b>	
Typical Section Package	1
Pavement Type Selection Report	1
Pavement Design Report	1
Design Documentation	1
Computation Book	3
CES Input	2
Technical Special Provisions	2
Access Management Reports	3
Lane Closure Analysis Worksheets	3
3 R Reports	2
<b>Drainage</b>	
Preliminary Pond Siting Report	7

## **Engineering Documents**

(Documents and number of copies to be determined by DEPARTMENT preference.)

<b>Document</b>	<b>No. of Copies Required</b>
Final Pond Siting Report	3
Drainage Design Documentation Report	2
<b>Environmental Items</b>	
Environmental Resource Permit Application Package	2
Mitigation Plan	2
Jurisdictional Determination Report	2
Coast Guard Navigation Permit Application Package (if applicable)	2
National Pollutant Discharge Elimination System (NPDES) Permit Application Package	5
<b>Design/Right-of-Way Surveys</b>	
Map and Plat Copies	2
Certified Right-of-Way Control Survey Drawings	2
Aerial Photograph Original Negatives	1
Rectified Aerial Raster Image (HMR Format)	1
24"x36" Aerial Mylars (R/W Format)	1
<b>Geotechnical</b>	
Roadway Report – Preliminary	2
Roadway Report – Final	2
<b>Final Electronic Submittals</b>	
Project CD(s)/DVD(s)	1
Plans and Specifications CD(s)/DVD(s)	1
<b>Other</b>	
Critical Path Method (CPM) Schedule	1

### **2.17 Provisions for Work**

All maps, plans and designs are to be prepared with English values in accordance with all applicable current DEPARTMENT manuals, memorandums, guidelines and other documents listed below:.

#### **General**

- Florida Statutes
- Florida Administrative Codes
- Florida Department of Transportation Project Development and Environmental Manual

- Florida Department of Transportation Plans Preparation Manual
- Florida Department of Transportation Standard Specifications for Road and Bridge Construction
- Florida Department of Transportation Handbook for Preparation of Specifications Package
- Florida Department of Transportation Design Standards for Design, Construction, Maintenance, and Utility Operations on the State Highway System
- Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways
- Bicycle Facilities Planning and Design Manual, Rev. Ed. 1982
- CADD Production Criteria Handbook
- CADD Manual
- Florida's Level of Service Standards and Guidelines Manual for Planning
- Equivalent Single Axle Load Guidelines
- Design Traffic Procedure
- K-Factor Estimation Process
- Project Traffic Forecasting Guidelines
- Florida Department of Transportation Basis of Estimates Manual
- Quality Assurance Guidelines
- Safety Standards
- Rule 61G17-6, F.A.C., Minimum Technical Standards for Professional Surveyors and Mappers
- Department of Environmental Protection Rules Governing Mean High Water and Jurisdictional Line Surveys
- Any special instructions from the DEPARTMENT
- Utility Accommodations Guidelines
- Policy for Geometric Design of Highways and Streets
- Florida Department of Transportation Materials Manual
- Americans with Disabilities Act Accessibility Guidelines (ADAAG)
- 40 CFR, Part 61, Subpart M - National Emission Standard for Hazardous Air Pollutants (NESHAP), Environmental Protection Agency (EPA)
- 40 CFR, Part 763, Subpart E – Asbestos-Containing Materials in Schools, EPA
- 40 CFR, Part 763, Subpart G – Asbestos Worker Protection, EPA
- 29 CFR, Part 1910.1101 – Asbestos Standard for Industry, U.S. Occupational Safety and Health Administration (OSHA)
- 29 CFR, Part 1926, 1101 – Asbestos Standard for Construction, OSHA
- Ch. 62257, F.A.C. – Asbestos Program, Florida Department of Environmental Protection (DEP)
- Ch. 469, F.S. – Asbestos Abatement, Florida Department of Business and Professional Regulation (DBPR)
- Model Guide Specifications – Asbestos Abatement and Management in Buildings, National Institute for Building Sciences (NIBS)

## Permits

- Chapter 373, F.S.
- Bridge Permit Application Guide, COMDT PUB P16591.3B
- Building Permit

## Drainage

- Drainage Manual
- Drainage Handbooks
- Storm Drain
- Optional Pipe Materials
- Stormwater Management Facility
- Cross Drain
- Erosion and Sediment Control
- Hydrology
- Temporary Drainage Handbook

## Survey

- Location Survey Manual
- Highway Field Survey Specifications
- Automated Survey Data Gathering
- Outline Specifications for Aerial Surveys and Photogrammetry for Transportation Projects
- Standards for Consultant-Submitted G.P.S. Static Control Projects
- EFB User Guide
- Chapter 472, F.S.
- Chapter 177, F.S.
- FDEP Bureau of Surveying and Mapping

## Traffic Operation Manuals

- American Disabilities Act
- AASHTO - Guide for Development of Bicycle Facilities
- Federal Highway Administration Standard Highway Signs Manual
- Florida Department of Transportation Traffic Engineering Manual
- Florida Department of Transportation Manual on Uniform Traffic Studies (MUTS)
- National Electrical Code
- National Electric Safety Code
- Federal Highway Administration Manual on Uniform Traffic Control Devices (MUTCD)
- Minimum Specifications for Traffic Control Signal Devices
- Florida Department of Transportation - Florida Roundabout Guide
- FHWA - Roundabouts: An Informational Guide

- Florida Department of Transportation Median Handbook
- AASHTO - An Information Guide for Highway Lighting

### Mapping

- Right-of-Way Mapping
- Florida Department of Transportation Right-of-Way Handbook
- Florida Department of Transportation Right-of-Way Manual

### Geotechnical

- Soils and Foundation Handbook
- Manual of Florida Sampling and Testing Methods

These documents are revised periodically by the responsible agencies and adopted by authorities having jurisdiction on building projects. The design consultant and the project manager are advised to obtain applicable versions of these documents from the responsible agency prior to use.

- American Concrete Institute
- American Institute of Architects - Architect's Handbook of Professional Practice
- American Society for Testing and Materials - ASTM Standards
- Southern Building Code Congress International - Standard Building Codes
- Brick Institute of America
- DMS - Standards for Design of State Facilities
- Florida Concrete Products Association
- Florida Department of Transportation - Standard Specifications for Road and Bridge Construction
- Florida Department of Transportation - Plans Preparation Manual
- Florida Department of Transportation - Roadway and Traffic Design Standards
- Florida Department of Transportation - Structures Design Guidelines
- Florida Department of Transportation - Structures Detailing Manual
- Florida Department of Transportation - Structures Standard Drawings
- Florida Department of Transportation - ADA/Accessibility Procedure
- Florida Department of Transportation - Fixed Capital Outlay Program
- Florida Department of Transportation - Building Code Compliance Procedure
- Florida Department of Transportation - Asbestos Management Program Procedure
- Florida Department of Transportation - Design Build Procurement and Administration
- National Concrete Masonry Association
- National Electrical Code (current edition)
- National Fire Protection Association - Life Safety Code (current edition)

- Portland Cement Association - Concrete Masonry Handbook
- South Florida Building Code

## **2.18 Services to be Performed by the DEPARTMENT**

When appropriate the DEPARTMENT will provide those services and materials as set forth below:

- Provide pre-numbered survey books in which to record field data.
- Furnish standard DEPARTMENT monuments for the bench line.
- Regarding Environmental Permitting Services:
  - Approve all contacts with environmental agencies.
  - Provide general philosophies and guidelines of the DEPARTMENT to be used in the fulfillment of this contract. Objectives, constraints, budgetary limitations, and time constraints will be completely defined by the Project Manager.
  - Provide the appropriate signatures on application forms.
- Provide letters of authorization designating the CONSULTANT as an agent of the DEPARTMENT in accordance with F.S. 327.274.
- Provide phase reviews of roadway plans.
- Permit the CONSULTANT to utilize the DEPARTMENT's Data Processing and Computer Services for programs requested by the CONSULTANT and approved by the DEPARTMENT.
- Furnish an approved Environmental Document when available.
- Furnish all future information that may come to the DEPARTMENT during the term of the CONSULTANT's Agreement, which in the opinion of the DEPARTMENT is necessary for the prosecution of the work.
- Furnish available traffic and planning data.
- Furnish all approved utility relocations.
- Provide project utility certification to the DEPARTMENT's Central Office.
- Provide acquisition of any necessary title searches.
- Provide project data currently on file.
- Provide engineering standards and review services.
- Provide all available information in the possession of the DEPARTMENT pertaining to utility companies whose facilities may be affected by the proposed construction.
- Provide all future information that may come to the DEPARTMENT pertaining to subdivision plans so that the CONSULTANT may take advantage of additional areas that can be utilized as part of the existing right-of-way.
- Provide systems traffic for Projected Design Year, with K, D, and T factors.
- Provide existing right-of-way maps.
- PD&E documents.
- Design Reports

### **3 PROJECT COMMON and PROJECT GENERAL TASKS**

#### **Project Common Tasks**

Project Common Tasks, as listed below, are work efforts that are applicable to many project activities, 4.0 Roadway Analysis through 32.0 Noise Impact Design Assessment. These tasks are to be included in the project scope in each applicable activity when the described work is to be performed by the CONSULTANT.

Cost Estimates: The CONSULTANT shall be responsible for producing a construction cost estimate and reviewing and updating the cost estimate when scope changes occur and/or at milestones of the project. Prior to 60% plans and completion of quantities, the DEPARTMENT's Long Range Estimate (L.R.E.) system will be used to produce a conceptual estimate, according to District policy. Once the quantities have been developed (beginning at 60% plans and no later than 90% plans) the CONSULTANT shall be responsible for inputting the pay items and quantities into TRNS\*PORT PES (Proposal Estimating System) through the use of the DEPARTMENT's Designer Interface. A Summary of Pay Items sheet shall be prepared with all required Phase II, III, and IV Plans submittals.

Technical Special Provisions: The CONSULTANT shall provide Technical Special Provisions for all items of work not covered by the Standard Specifications for Road and Bridge Construction and the workbook of implemented modifications.

A Technical Special Provision shall not modify the first nine sections of the Standard Specifications and implemented modifications in any way. All modifications to other sections must be justified to the appropriate District Specifications Office to be included in the project's specifications package, typically as special provisions and not as Technical Special Provisions.

The Technical Special Provisions shall be technical in nature and shall provide a description of work, materials, equipment and specific requirements, method of measurement and basis of payment. Proposed Technical Special Provisions will be submitted to the District Specifications Office for initial review at the time of the Phase III plans review submission to the DEPARTMENT's Project Manager. This timing will allow for adequate processing time prior to final submittal. The Technical Special Provisions will be reviewed for suitability in accordance with the Handbook for Preparation of Specification Package. The District Specifications Office will forward the Technical Special Provisions to the District Legal Office for their review and comment. All comments will be returned to the CONSULTANT for correction and resolution. Final Technical Special Provisions shall be electronically signed and sealed in accordance with applicable Florida Statutes.

The CONSULTANT shall contact the appropriate District Specifications Office for details of the current format to be used before starting preparations of Technical Special Provisions.

Field Reviews: Includes all trips required to obtain necessary data for all elements of the

project.

Technical Meetings: Includes meetings with DEPARTMENT and/or Agency staff, between disciplines and subconsultants, such as access management meetings, pavement design meetings, local governments, railroad companies, progress review meetings (phase review), and miscellaneous meetings.

Quality Assurance/Quality Control: It is the intention of the DEPARTMENT that design CONSULTANTS are held responsible for their work, including plans review. Detailed checking of CONSULTANT plans or assisting in designing portions of the project for the CONSULTANT is not the intent of having external design consultants. The purpose of CONSULTANT plan reviews is to ensure that CONSULTANT plans follow the plan preparation procedures outlined in the Plans Preparation Manual, that state and federal design criteria are followed with the DEPARTMENT concept, and that the CONSULTANT submittals are complete.

The CONSULTANT shall be responsible for the professional quality, technical accuracy and coordination of all surveys, designs, drawings, specifications and other services furnished by the CONSULTANT under this contract.

The CONSULTANT shall provide a Quality Control Plan that describes the procedures to be utilized to verify, independently check, and review all maps, design drawings, specifications, and other documentation prepared as a part of the contract. The CONSULTANT shall describe how the checking and review processes are to be documented to verify that the required procedures were followed. The Quality Control Plan may be one utilized by the CONSULTANT as part of their normal operation or it may be one specifically designed for this project. The CONSULTANT shall submit a Quality Control Plan for approval within 20 (twenty) calendar days of the written Notice to Proceed. A marked up set of prints from a Quality Control Review indicating the reviewers for each component (structures, roadway, drainage, signals, geotechnical, signing and marking, lighting, surveys, etc.) and a written resolution of comments on a point-by-point basis will be required with each phase submittal. The responsible Professional Engineer, Landscape Architect, or Professional Surveyor that performed the Quality Control review will sign a statement certifying that the review was conducted.

The CONSULTANT shall, without additional compensation, correct all errors or deficiencies in the designs, maps, drawings, specifications and/or other services.

Independent Peer Review: When directed by the DEPARTMENT, a subconsultant shall perform Independent Peer Reviews.

Supervision: Includes all efforts required to supervise all technical design activities.

Coordination: Includes all efforts to coordinate with all disciplines of the project to produce a final set of construction documents.

## **Project General Tasks**

Project General Tasks, described in Sections 3.1 through 3.7 below, represent work efforts that are applicable to the project as a whole and not to any one or more specific project activity. The work described in these tasks shall be performed by the CONSULTANT when included in the project scope.

### **3.1 Public Involvement**

Public involvement is an important aspect of the project development process. Public involvement includes communicating to all interested persons, groups, and government organizations information regarding the development of the project. The CONSULTANT shall continue the public involvement begun in previous studies through implementing the DEPARTMENT's Community Awareness Plan. Property owners adjacent to the project, including those not subject to right-of-way acquisition shall be informed about the project.

### **3.2 Joint Project Agreements**

The CONSULTANT services shall include all coordination, meetings, etc., required to include Joint Project Agreement (JPA) plans (prepared by others) in contract plans package including all necessary revisions/modifications to contract documents to ensure plans compatibility.

### **3.3 Specifications Package Preparation**

The CONSULTANT shall prepare and provide a complete specifications package, including applicable Technical Special Provisions, for all items and areas of work.

The DEPARTMENT will provide the necessary workbook and electronic files, in Microsoft Word 2000 format, for proper completion of the specifications package. The actual work effort will entail utilization of the supplied electronic files, including updates of new files that may be issued from time to time as mandatory specifications changes, and assembling the package in accordance with the DEPARTMENT's Specification Package Preparation Training. The DEPARTMENT may also require inclusion of special provisions necessary to convey particular DEPARTMENT needs.

The Standard Specifications, for Road and Bridge Construction and, Special Provisions or Supplemental Specifications from the applicable workbook of implemented modifications may not be modified unless absolutely necessary to control project-specific requirements. Proposed modifications to these listed documents must be drafted in redline strikethrough format along with justification of the project specific need, and coordinated with the District Specifications Office, who will obtain District Legal input, and approval by the State Specifications Engineer, prior to inclusion in the final project specifications package.

The specifications package must be submitted for initial review to the District Specifications Office at least 30 days prior to the contract package to Tallahassee due date, or sooner if required by the District Specifications Office. This submittal does not require signing and sealing and shall be coordinated through the District's Project Manager. Submittal material shall consist of (1) the complete specifications package, (2) a copy of the marked-up workbook used to compile package, and (3) a copy of the final project plans.

Final submittal of the complete specifications package must occur at least 10 working days prior to the contract package to Tallahassee due date. This submittal shall be electronically signed, dated, and sealed in accordance with applicable Florida Statutes.

### **3.4 Contract Maintenance**

Contract maintenance includes project management effort for complete setup and maintenance of files, developing monthly progress reports, schedule updates, work effort to develop and execute subconsultant agreements, etc.

### **3.5 Value Engineering (Multi-Discipline Team) Review**

The Consultant shall develop the design and contract documents using sound value engineering practices to the fullest extent possible, in order to support appropriate design decisions in producing the contract plans for the most efficient and economical design.

The design for this project will be subjected to a Value Engineering (VE) review. The VE review will be conducted by a multi-disciplined independent team of Department and Consultant personnel for the purpose of the improving the value of the project.

Value Engineering is an event-related activity and should occur at a time when it will provide the greatest opportunity for value improvement, as determined by the Department Project Manager and Value Engineering Coordinator. This opportune time during the design phase of a project will generally fall between completion of Phase I design plans and completion of Phase II design plans, but may occur at anytime during the development of a project.

Activities required by the Consultant in support of the VE team are:

Providing Materials and Information: The Consultant shall allow ample time for the appropriate knowledgeable members of their staff to present current design documentation and data to the VE team, as deemed necessary for an effective project review.

The Consultant Project Manager and other key members of the design team shall meet with the VE team to explain the development of design features and how and why they were selected. The information will be provided in the form of a personal

verbal presentation and the submittal of a package containing current plans and other documentation. This presentation will take place at the location of the VE study and may be followed up with additional meetings, written communications and phone enquiries.

The plans and document packages to be provided shall include at a minimum:

- One copy of all environmental documents
- One copy of the Preliminary Engineering Report
- Three copies of all plan drawings
- One copy of the Drainage Alternatives Report
- One copy of Bridge Development Reports
- One copy of other miscellaneous reports
- Project Cost Estimate

The Project Cost Estimate shall include a tabulation of estimated construction costs for the proposed design. This list shall, at a minimum, contain a breakdown of costs for each major element of the design.

The Consultant shall provide, in the form of a matrix, all criteria and weighted impacts used in arriving at decisions for the selection of specific design features. These criteria must include Safety, Operation, Maintenance and Public Acceptance.

All reports provided by the Consultant will be returned after the VE review has been completed. However copies of plans and drawings may be kept by the VE team.

### **3.6 Prime Consultant Project Manager Meetings**

Includes only the Prime Project Manager's time for travel and attendance at Activity Technical Meetings and other meetings listed in the meeting summary for Task 3.6 on tab 3.0 Project General Task of the staff hour forms. Staff hours for other personnel attending Activity Technical Meetings are included in the meeting task for that specific Activity.

### **3.7 Post Design Services**

Identifying the effort needed for post design services will vary significantly from project to project depending on size and complexity of the project. The approach described herein assists the Department in determining an initial estimate of the work effort needed for the Engineer of Record (EOR) to support the Department in the construction of a project.

With regards to post design services the EOR will be required to respond to any request from the Contractor within 24 hours. This does not mean that the issue will be resolved; it simply means that the EOR has received the request, states an immediate course of action, and begins the communication process.

The activities associated with Post Design Services can be characterized as the following:

**Meetings:** The EOR is expected to attend all pre-construction meetings as well as those regularly scheduled meetings throughout the construction phase when deemed necessary by the Construction Project Manager.

**Construction Assistance:** This includes responses to Requests for Information (RFI), interpretation of construction plans and documents, and engineering solutions to changed conditions encountered in the field. Site visits shall be made by the EOR consultant when agreed upon with the Department's Construction Project Manager.

**Plan Updates/Changes:** This includes effort required to provide revised plan sheets reflecting any changes made during the Right-of-Way Acquisition or Construction phases of a project. During Right-of-Way or Construction phases, the Consultant may be requested by the Department to review proposed field changes or to respond with a recommended solution to remedy particular field situations not covered by the plans and specifications.

**Shop Drawing Review:** This includes review of shop drawings and erection plans for all components supplied by the contractor and required by the bid documents. For all independently supported sign structures of which the contractor is responsible, the consultant will review and check all the foundation, sign structure design, and shop drawings submitted by the contractor.

**Load Ratings:** Projects involving bridges typically have the load rating done during the design phase work. If the as-built bridge complies with the bid documents, the EOR should be willing to certify the load rating performed during design is adequate for the as-built condition of the bridge. However, if the as-built bridge was built in a modified or altered condition from the bid documents an updated load rating may be required. Therefore, during construction the EOR may be asked to perform an updated load rating based on the as-built condition of the bridge. As an aid in the negotiations the Structures Design Office has established guidelines for the development of staff-hours for load rating various bridge types.

*Note: All services will be agreed upon by the Department's Construction Project Manager and approved by the Department's Design Project Manager.*

### **3.8 Other Project General Tasks**

List Tasks.

## **4 ROADWAY ANALYSIS**

The CONSULTANT shall analyze and document Roadway Tasks in accordance with all

applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

#### **4.1 Typical Section Package**

The CONSULTANT shall provide an approved Typical Section Package prior to the Phase I plans submittal date.

#### **4.2 Pavement Design Package**

The CONSULTANT shall provide an approved Pavement Design Package in accordance with applicable FDOT pavement design manuals prior to the Phase II plans submittal date. If required, provide an approved Pavement Type Selection Report in accordance with the FDOT Pavement Type Selection Manual and preliminary asphalt and concrete alternative designs.

#### **4.3 Access Management**

The CONSULTANT shall incorporate access management standards for each project in coordination with DEPARTMENT staff. The CONSULTANT shall review adopted access management standards and the existing access conditions (interchange spacing, signalized intersection spacing, median opening spacing, and connection spacing). Median openings that will be closed, relocated, or substantially altered shall be shown on plan sheets and submitted with supporting documentation for review with the Phase I plans submittal.

The DEPARTMENT shall provide access management classification information and information derived from PD&E studies and public hearings to be used by the CONSULTANT.

#### **4.4 Horizontal/Vertical Master Design Files**

The CONSULTANT shall design the geometrics using the design standards that are most appropriate with proper consideration given to the design traffic volumes, design speed, capacity and levels of service, functional classification, adjacent land use, design consistency and driver expectancy, aesthetics, pedestrian and bicycle concerns, ADA requirements, elder road user policy, access management, PD&E documents and scope of work.

#### **4.5 Cross Section Design Files**

The CONSULTANT shall establish and develop cross section design files in accordance with the CADD manual.

#### **4.6 Traffic Control Analysis**

The CONSULTANT shall design a safe and effective Traffic Control Plan to move vehicular and pedestrian traffic during all phases of construction. The design shall include construction phasing of roadways ingress and egress to existing property owners and businesses, routing, signing and pavement markings, and detour quantity tabulations. Special consideration shall be given to the construction of the drainage system when developing the construction phases. Positive drainage must be maintained at all times. The design shall include construction phasing of roadways to accommodate the construction of utilities when the contract includes Joint Project Agreements (JPAs).

The CONSULTANT shall investigate the need for temporary traffic signals, temporary lighting, alternate detour roads, and the use of materials such as sheet piling in the analysis. The Traffic Control Plan shall be prepared by a certified designer who has completed training as required by the DEPARTMENT. Prior to proceeding with the Traffic Control Plan, the CONSULTANT shall meet with the appropriate DEPARTMENT personnel. The purpose of this meeting is to provide information to the CONSULTANT that will better coordinate the Preliminary and Final Traffic Control Plan efforts.

#### **4.7 Master TCP Design Files**

The CONSULTANT shall develop master Traffic Control Plan (TCP) files (for Level II and Level III only) showing each phase of the Traffic Control Plan.

#### **4.8 Design Variations and Exceptions**

If available, the DEPARTMENT shall furnish the Variation/Exception Report. The CONSULTANT shall prepare the documentation necessary to gain DEPARTMENT approval of all appropriate Design Variations and/or Design Exceptions.

#### **4.9 Design Report**

The CONSULTANT shall prepare all applicable report(s) as listed in the Project Description section of this scope.

The CONSULTANT shall submit to the DEPARTMENT design notes, data, and calculations to document the design conclusions reached during the development of the contract plans.

The design notes, data, and computations shall be recorded on size 8½"x11" sheets, fully titled, numbered, dated, indexed and signed by the designer and the checker. Computer output forms and other oversized sheets shall be folded to 8½"x11" size. The data shall be in a hardback folder for submittal to the DEPARTMENT.

#### **4.10 Computation Book and Quantities**

The CONSULTANT shall prepare the Computation Book and various summary of quantities sheets. This includes all efforts required to develop the Computation Book and the supporting documentation, including construction days when required.

#### **4.11 Cost Estimate**

#### **4.12 Technical Special Provisions**

#### **4.13 Other Roadway Analysis**

#### **4.14 Field Reviews**

#### **4.15 Technical Meetings**

#### **4.16 Quality Assurance/Quality Control**

#### **4.17 Independent Peer Review**

#### **4.18 Supervision**

#### **4.19 Coordination**

### **5 ROADWAY PLANS**

The CONSULTANT shall prepare Roadway, Drainage, Traffic Control, Utility Adjustment Sheets, plan sheets, notes, and details. The plans shall include the following sheets necessary to convey the intent and scope of the project for the purposes of construction.

#### **5.1 Key Sheet**

#### **5.2 Summary of Pay Items Including Quantity Input**

#### **5.3 Drainage Map**

#### **5.4 Interchange Drainage Map**

#### **5.5 Typical Section Sheets**

#### **5.6 General Notes/Pay Item Notes**

#### **5.7 Summary of Quantities**

#### **5.8 Box Culvert Data Sheet**

#### **5.9 Bridge Hydraulics Recommendation Sheets**

- 5.10 Summary of Drainage Structures**
- 5.11 Optional Pipe/Culvert Material**
- 5.12 Project Layout**
- 5.13 Plan/Profile Sheet**
- 5.14 Profile Sheet**
- 5.15 Plan Sheet**
- 5.16 Special Profile**
- 5.17 Back of Sidewalk Profile Sheet**
- 5.18 Interchange Layout Sheet**
- 5.19 Ramp Terminal Details (Plan View)**
- 5.20 Intersection Layout Details**
- 5.21 Miscellaneous Detail Sheets**
- 5.22 Drainage Structure Sheet (Per Structure)**
- 5.23 Miscellaneous Drainage Detail Sheets**
- 5.24 Lateral Ditch Plan/Profile**
- 5.25 Lateral Ditch Cross Sections**
- 5.26 Retention/Detention Ponds Detail Sheet**
- 5.27 Retention Pond Cross Sections**
- 5.28 Cross-Section Pattern Sheet**
- 5.29 Roadway Soil Survey Sheet**
- 5.30 Cross Sections**
- 5.31 Traffic Control Plan Sheets**
- 5.32 Traffic Control Cross Section Sheets**
- 5.33 Traffic Control Detail Sheets**

- 5.34 Utility Adjustment Sheets**
- 5.35 Selective Clearing and Grubbing**
- 5.36 Erosion Control Plan**
- 5.37 SWPPP**
- 5.38 Project Control Network Sheet**
- 5.39 Interim Standards**
- 5.40 Utility Verification Sheet (SUE Data)**
- 5.41 Quality Assurance/Quality Control**
- 5.42 Supervision**

## **6 DRAINAGE ANALYSIS**

The CONSULTANT shall analyze and document Drainage Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

The CONSULTANT shall be responsible for designing a drainage and stormwater management system. All design work shall comply with the requirements of the appropriate regulatory agencies and the DEPARTMENT's Drainage Manual.

The CONSULTANT shall coordinate fully with the appropriate permitting agencies and the DEPARTMENT's staff. All activities and submittals should be coordinated through the DEPARTMENT's Project Manager. The work will include the engineering analyses for any or all of the following:

### **6.1 Determine Base Clearance Water Elevation**

Analyze, determine, and document high water elevations which will be used to set roadway profile grade. Determine surface water elevations at cross drains, floodplains, outfalls and adjacent stormwater ponds. Determine groundwater elevations at intervals between the above-mentioned surface waters.

### **6.2 Pond Siting Analysis and Report**

Evaluate pond sites using a preliminary hydrologic analysis. Document the results and coordination for all of the project's pond site analyses. The Drainage Manual provides specific documentation requirements.

### **6.3 Design of Cross Drains**

Analyze the hydraulic design of cross drains. Check existing cross drains to determine if they are structurally sound and can be extended. Document the design as required. Determine and provide flood data as required.

### **6.4 Design of Roadway Ditches**

Design roadway conveyance ditches. This includes determining ditch cross sections, grades, selecting suitable channel lining, designing the side drain pipes, and documentation.

### **6.5 Design of Outfalls**

Analyze and document the design of ditch or piped outfalls. (Pond outlet structure included in task 6.6)

### **6.6 Design of Stormwater Management Facility (Offsite Pond)**

Design stormwater management facilities to meet requirements for stormwater quality treatment and attenuation. Develop proposed pond layout (shape, contours, slopes, etc.), perform routing calculations, and design the outlet control structure.

### **6.7 Design of Stormwater Management Facility (Roadside Ditch as Linear Pond or Infield Pond)**

Design stormwater management facilities to meet requirements for stormwater quality treatment and attenuation. Develop proposed pond layout (shape, contours, slopes, etc.), perform routing calculations, and design the outlet control structure.

### **6.8 Design of Flood Plain Compensation Area**

Determine flood plain encroachments, coordinate with regulatory agencies, and develop proposed compensation area layout (shape, contours, slopes, etc.). Document the design following the requirements of the regulatory agency.

### **6.9 Design of Storm Drains**

Develop a “working drainage map”, determine runoff, inlet locations, and spread. Calculate hydraulic losses (friction, utility conflict and, if necessary, minor losses). Determine Design Tailwater and, if necessary, outlet scour protection.

### **6.10 Optional Culvert Material**

Determine acceptable options for pipe materials.

### **6.11 French Drain Design**

Design French Drain Systems to provide stormwater treatment and attenuation. Identify location for percolation tests and review these, determine the size and length of French Drains, design the control structure/weir, and model the system of inlets, conveyances, French Drains, and other outfalls using a routing program such as ICPR.

### **6.12 Drainage Wells**

Design the discharge into deep wells to comply with regulatory requirements. Identify the location of the well, design the control structure/weir, and model the system using a routing program such as ICPR.

### **6.13 Drainage Design Documentation Report**

Compile drainage design documentation into report format. Include documentation for all the drainage design tasks and associated meetings and decisions, except the Pond Siting Analysis Report and Bridge Hydraulics Report.

### **6.14 Bridge Hydraulic Report**

Calculate hydrology, hydraulics, scour, and deck drainage. Prepare report and the information for the Bridge Hydraulics Recommendation Sheet.

### **6.15 Temporary Drainage Analysis**

Evaluate and address drainage to adequately drain the road and maintain existing offsite drainage during all construction phases. Provide documentation.

### **6.16 Cost Estimate**

### **6.17 Technical Special Provisions**

### **6.18 Other Drainage Analysis**

### **6.19 Field Reviews**

### **6.20 Technical Meetings**

### **6.21 Quality Assurance/Quality Control**

### **6.22 Independent Peer Review**

### **6.23 Supervision**

### **6.24 Coordination**

## 7 UTILITIES

The CONSULTANT shall identify utility facilities and secure agreements, utility work schedules, and plans from the Utility Agency Owners (UAO) ensuring no conflicts exist between utility facilities and the DEPARTMENT's construction project. The CONSULTANT shall certify all utility negotiations have been completed with arrangements made for utility work to be undertaken.

### 7.1 Kickoff Meeting

Prior to any contact with the UAO(s), the CONSULTANT shall meet with the District Utility Office (DUO) to receive guidance, as may be required, to assure that all necessary coordination will be accomplished in accordance with DEPARTMENT procedures. CONSULTANT shall bring a copy of the design project work schedule reflecting utility activities.

### 7.2 Identify Existing UAO(s)

Identify all utilities in the corridor; check with Maintenance for Permits, Sunshine State One Call, Subsurface Utility Engineering (SUE) Report, Design Location Survey, and Existing Plans.

### 7.3 Make Utility Contacts

First Contact: Send letters and two sets of plans to each utility, one set for the utility office, one set each to construction and maintenance if required. Includes contact by phone for meeting coordination. Request type, size, location, easements, cost for compensable relocation, and justification for any utility exceptions. Include the meeting schedule (if applicable) and the design schedule. Include typical meeting agenda.

Second Contact: At a minimum of 4 weeks prior to the meeting, the CONSULTANT shall transmit two complete sets of Phase II plans to each UAO having facilities located within the project limits, and one set to the DEPARTMENT Offices as required by the District.

Third Contact: Identify agreements and assemble packages. Send agreements, letters and two sets of plans to the UAO(s) including all component sets, one set for the utility office, one set to construction and maintenance if required. Include the design schedule. Not all projects will have all contacts as described above.

### 7.4 Exception Coordination

The CONSULTANT shall be responsible for transmitting/coordinating the appropriate design reports including, but not limited to, the Resurfacing, Restoration and Rehabilitation (RRR) report, Project Scope and/or the Concept Report (if applicable) to each UAO in order to identify any condition that may require a Utility Exception. The CONSULTANT shall coordinate the processing of design exceptions

involving Utilities with the UAO and the DEPARTMENT. Coordinate and process per the UAM.

#### **7.5 Preliminary Utility Meeting**

The CONSULTANT shall schedule (time and place), notify participants, and conduct a preliminary utility meeting with all affected UAO(s) for the purpose of presenting the project, review the current design schedule, evaluate the utility information collected, provide follow-up information on compensable interest requests, discuss the utility work by highway contractor option with each utility, and discuss any future design issues that may impact utilities. This is also an opportunity for the UAO(s) to present proposed facilities. The CONSULTANT shall keep accurate minutes and distribute a copy to all attendees.

#### **7.6 Individual/Field Meetings**

The CONSULTANT shall meet with each UAO separately throughout the project design duration to provide guidance in the interpretation of plans, review changes to the plans and schedules, optional clearing and grubbing work, and assist in the development of the UAO(s) plans and work schedules. The CONSULTANT is responsible for motivating the UAO to complete and return the necessary documents after each Utility Contact or Meeting.

#### **7.7 Collect and Review Plans and Data from UAO(s)**

Make Determinations (Compensable Interest, Easements, Coordinate, Analyze). Ensure information (utility type, material and size) is sent to the designer for inclusion in the plans. Coordinate programming of funds.

#### **7.8 Subordination of Easements Coordination**

The CONSULTANT, if requested by the DEPARTMENT, shall transmit to and secure from the UAO the executed subordination agreements prepared by the appropriate DEPARTMENT office. The CONSULTANT shall coordinate with the DUO the programming of the necessary work program funds to compensate the UAO.

#### **7.9 Utility Design Meeting**

At a minimum of 3 weeks prior to the meeting, the CONSULTANT shall transmit two complete sets of Phase II plans to each UAO having facilities located within the project limits, and one set to the DEPARTMENT Offices as required by the District. The CONSULTANT shall schedule (time and place), notify participants, and conduct a Utility meeting with all affected UAO(s). The CONSULTANT shall be prepared to discuss drainage, traffic signalization, maintenance of traffic (construction phasing), review the current design schedule and letting date, evaluate the utility information collected, provide follow-up information on compensable interest requests, discuss the utility work by highway contractor option with each

utility, discuss any future design issues that may impact utilities, etc., to the extent that they may have an effect on existing or proposed utility facilities with particular emphasis on drainage and maintenance of traffic with each UAO. The intent of this meeting shall be to identify and resolve conflicts between utilities and proposed construction prior to completion of the plans, including utility adjustment details. Also recommend resolution between known utility conflicts with proposed construction plans as practical. The CONSULTANT shall keep accurate minutes of all meetings and distribute a copy to all attendees.

#### **7.10 Review Utility Markups and Work Schedules and Processing of Schedules and Agreements**

Review utility marked up plans individually as they are received for content and coordinate review with the designer. Send color markups and schedules to the appropriate DEPARTMENT office(s) for review and comment if required by the District. Coordinate with the District for execution. Distribute Executed Final Documents. Prepare Work Order for UAO(s). Coordinate programming of funds.

#### **7.11 Utility Coordination/Followup**

This includes follow-up, interpreting plans, and assisting and the completion of the UAO(s) work schedule and agreements. Includes phone calls, face-to-face meetings, etc., to motivate and ensure the UAO(s) complete and return the required documents in accordance with the project schedule. Ensure the resolution of all known conflicts. This task can be applied to all phases of the project.

#### **7.12 Utility Constructability Review**

Review utility schedules against construction contract time, and phasing for compatibility. Coordinate with and obtain written concurrence from the construction office.

#### **7.13 Additional Utility Services**

Preparation and coordination of Utility Design Plans when the DEPARTMENT participates in cost of utility work. This item is not usually included in the scope at the time of negotiation. It is normally added as a supplemental agreement when the need is identified.

#### **7.14 Processing Utility Work by Highway Contractor (UWHC)**

Formerly called Utility Joint Participation Agreement (JPA). This includes coordination of utility design effort between the DEPARTMENT and the UAO(s). Determine the DEPARTMENT's cost participation, additional coordination meetings, prepare, negotiate, and process the agreements, review tabulation of quantities, prepare Summary of Pay Items (TRNS\*PORT) - UWHC, perform UWHC constructability and bidability review, Technical Special Provisions (TSP) review. This does not include utility design effort. This item is not usually included

in the scope at the time of negotiation. It is normally added as a supplemental agreement when the need is identified.

#### **7.15 Contract Plans to UAO(s)**

This includes transmittal of the contract plans as processed for letting. Transmittals to UAO(s) are by certified mail, return receipt requested.

#### **7.16 Certification/Close-Out**

This includes hours for transmitting utility files to the DUO and preparation of the Utility Certification Letter. The CONSULTANT shall certify to the appropriate DEPARTMENT representative the following:

All utility negotiations (Full execution of each agreement, approved Utility Work Schedules, technical special provisions written, etc.) have been completed with arrangements made for utility work to be undertaken and completed as required for proper coordination with the physical construction schedule.

OR

An on-site inspection was made and no utility work will be involved.

OR

Plans were sent to the Utility Companies/Agencies and no utility work is required.

#### **7.17 Other Utilites**

### **8 ENVIRONMENTAL PERMITS**

The CONSULTANT shall notify the DEPARTMENT Project Manager, Environmental Permit Coordinator and other appropriate personnel in advance of all scheduled meetings with the regulatory agencies to allow a DEPARTMENT representative to attend. The CONSULTANT shall copy in the Project Manager and the Environmental Permit Coordinator on all permit related correspondence and meetings.

#### **8.1 Preliminary Project Research**

The CONSULTANT shall perform preliminary project research and shall be responsible for early identification of and coordination with the appropriate regulatory agencies to assure that design efforts are properly directed toward permit requirements.

## **8.2 Complete Permit Involvement Form**

The CONSULTANT shall document permit involvement in coordination with the District Permit Coordinator and DEPARTMENT Project Manager. This is to be done upon completion of preliminary project research.

## **8.3 Establish Wetland Jurisdictional Lines**

The CONSULTANT shall collect all data and information necessary to determine the boundaries of wetlands and surface waters defined by the rules or regulations of each agency processing or reviewing a permit application necessary to construct a DEPARTMENT project.

The CONSULTANT shall be responsible for, but not limited to, the following activities:

Determine landward extent of state waters as defined in Chapter 62-340 FAC as ratified in Section 373.4211 FS

- Determine the jurisdictional boundaries of wetlands and surface waters as defined by rules or regulations of any other permitting authority that is processing a DEPARTMENT permit application.
- Prepare aerial maps showing the jurisdictional boundaries of wetlands and surface waters. Aerial maps shall be reproducible, of a scale no greater than 1"=200' and be recent photography. The maps shall show the jurisdictional limits of each agency. Xerox copies of aerials are not acceptable. All jurisdictional boundaries are to be tied to the project's baseline of survey. When necessary, jurisdictional maps shall be signed and sealed by either a Registered Professional Engineer or a Registered Land Surveyor.
- Acquire written verification of jurisdictional lines from the appropriate environmental agencies.

Prepare a written assessment of the current condition and relative value of the function being performed by wetlands and surface waters. Prepare data in tabular form which includes the ID number for each wetland impacted, size of wetland to be impacted, type of impact and identify any wetland within the project limits that will not be impacted by the project.

## **8.4 Agency Verification of Wetland Data**

The CONSULTANT shall be responsible for verification of wetland data identified in Section 8.3 and coordinating regulatory agency field reviews, including finalization of wetland assessments with applicable agencies.

## **8.5 Complete and Submit All Required Permit Applications**

The CONSULTANT shall prepare permit packages as identified in the Project Description section.

The CONSULTANT shall collect all of the data and information necessary to obtain the environmental permits required to construct a project.

The CONSULTANT shall prepare each permit application for DEPARTMENT approval in accordance with the rules and/or regulations of the environmental agency responsible for issuing a specific permit and/or authorization to perform work.

**8.6 Prepare Dredge and Fill Sketches**

**8.7 Prepare USCG Permit Sketches**

**8.8 Prepare Easement Sketches**

**8.9 Prepare Right-of-Way Occupancy Sketches**

**8.10 Prepare Coastal Construction Control Line (CCCL) Permit Sketches**

**8.11 Prepare Tree Permit Information**

**8.12 Mitigation Coordination and Meetings**

The CONSULTANT shall coordinate with DEPARTMENT personnel prior to approaching any environmental permitting or reviewing agencies. Once a mitigation plan has been reviewed and approved by the DEPARTMENT, the CONSULTANT will be responsible for coordinating the proposed mitigation plan with the environmental agencies.

**8.13 Mitigation Design**

If wetland impacts cannot be avoided, the CONSULTANT shall prepare a mitigation plan to be included as a part of the Environmental Resource or Wetlands Resource Permit applications.

Prior to the development of alternatives, the CONSULTANT shall meet with the Project Manager to determine the DEPARTMENT's policies in proposing mitigation. The CONSULTANT shall proceed in the development of a mitigation plan based upon the general guidelines provided by the DEPARTMENT.

The CONSULTANT will be directed by the DEPARTMENT to investigate the following methods of mitigation:

Payment to DEP/WMD per acre of wetlands impacted as defined in CH 373.4137 FS

- Monetary participation in offsite regional mitigation plans
- Monetary participation in a private mitigation bank
- Creation/restoration on public lands
- Creation/restoration on right-of-way purchased by the DEPARTMENT
- Creation/restoration on existing DEPARTMENT right-of-way

In the event that physical creation or restoration is the only feasible alternative to offset wetland impacts, the CONSULTANT shall collect all of the data and information necessary to prepare alternative mitigation plans that may be acceptable to all permitting agencies and commenting agencies who are processing or reviewing a permit application for a DEPARTMENT project.

Prior to selection of a final mitigation site, the CONSULTANT will provide the following services in the development of alternative mitigation plans:

Preliminary jurisdictional determination for each proposed site

- Selection of alternative sites
- Coordination of alternative sites with the DEPARTMENT/all environmental agencies

Written narrative listing potential sites with justifications for both non-recommended

#### **8.14 Environmental Clearances**

The CONSULTANT shall prepare clearances for all pond and/or mitigation sites identified after the PD&E was completed.

Archaeological and Historical Features: The CONSULTANT shall collect data necessary to completely analyze the impacts to all cultural and historic resources by the pond and/or mitigation sites and prepare a Cultural Resource Assessment Request Package.

Wetland Impact Analysis: The CONSULTANT shall analyze the impacts to wetlands for the pond and/or mitigation sites and complete the Wetlands Evaluation Report.

Wildlife and Habitat Impact Analysis: The CONSULTANT shall collect data necessary to perform an Endangered Species Biological Assessment, and analyze the impacts to wildlife and habitat by the pond and/or mitigation sites.

Contamination Impact Analysis: The CONSULTANT shall perform the necessary analysis to complete the Contamination Screening Evaluation for the pond and/or mitigation sites and complete the Contamination Screening Evaluation Report.

#### **8.15 Other Environmental Permits**

#### **8.16 Technical Meetings**

#### **8.17 Quality Assurance/Quality Control**

#### **8.18 Supervision**

#### **8.19 Coordination**

## **18 STRUCTURES - MISCELLANEOUS**

The CONSULTANT shall prepare plans for Miscellaneous Structure(s) as specified in Section 2.5.

### **Mast Arms**

#### **18.5 Mast Arms**

## **19 SIGNING AND PAVEMENT MARKING ANALYSIS**

The CONSULTANT shall analyze and document Signing and Pavement Markings Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

### **19.1 Traffic Data Analysis**

The CONSULTANT shall review the approved preliminary engineering report, typical section package, traffic technical memorandum and proposed geometric design alignment to identify proposed sign placements and roadway markings. Perform queue analysis.

### **19.2 No Passing Zone Study**

### **19.3 Reference and Master Design File**

The CONSULTANT shall prepare the Signing & Marking Design file to include all necessary design elements and all associated reference files.

### **19.4 Multi-Post Sign Support Calculations**

The CONSULTANT shall determine the appropriate column size from the DEPARTMENT's Multi-Post Sign Program(s).

### **19.5 Sign Panel Design Analysis**

Establish sign layout, letter size and series for non-standard signs.

### **19.6 Sign Lighting/Electrical Calculations**

Includes the verification of photometrics on lighted, load center and voltage drop calculations.

### **19.7 Quantities**

### **19.8 Computation Book**

- 19.9 Cost Estimates**
- 19.10 Technical Special Provisions**
- 19.11 Other Signing and Pavement Marking Analysis**
- 19.12 Field Reviews**
- 19.13 Technical Meetings**
- 19.14 Quality Assurance/Quality Control**
- 19.15 Independent Peer Review**
- 19.16 Supervision**
- 19.17 Coordination**

## **20 SIGNING AND PAVEMENT MARKING PLANS**

The CONSULTANT shall prepare a set of Signing and Pavement Marking Plans in accordance with the Plans Preparation Manual that includes the following.

- 20.1 Key Sheet**
- 20.2 Summary of Pay Items Including CES Input**
- 20.3 Tabulation of Quantities**
- 20.4 General Notes/Pay Item Notes**
- 20.5 Project Layout**
- 20.6 Plan Sheet**
- 20.7 Typical Details**
- 20.8 Guide Sign Work Sheet(s)**
- 20.9 Traffic Monitoring Site**
- 20.10 Cross Sections**
- 20.11 Special Service Point Details**
- 20.12 Special Details**

### **20.13 Interim Standards**

### **20.14 Quality Assurance/Quality Control**

### **20.15 Supervision**

## **21 SIGNALIZATION ANALYSIS**

The CONSULTANT shall analyze and document Signalization Analysis Tasks in accordance with all applicable manuals, guidelines, standards, handbooks, procedures, and current design memorandums.

### **21.1 Traffic Data Collection**

The CONSULTANT shall perform all effort required for traffic data collection, including crash reports, 24 hr. machine counts, 8 hr. turning movement counts, 7 day machine counts, and speed & delay studies.

### **21.2 Traffic Data Analysis**

The CONSULTANT shall determine signal operation plan, intersection geometry, local signal timings, pre-emption phasing & timings, forecasting traffic, and intersection analysis run.

### **21.3 Signal Warrant Study**

### **21.4 Systems Timings**

The CONSULTANT shall determine proper coordination timing plans including splits, force offs, offsets, and preparation of Time Space Diagram.

### **21.5 Reference and Master Signalization Design File**

The CONSULTANT shall prepare the Signalization Design file to include all necessary design elements and all associated reference files.

### **21.6 Reference and Master Interconnect Communication Design File**

The CONSULTANT shall prepare the Interconnect Communication Design file to include all necessary design elements and all associated reference files.

### **21.7 Overhead Street Name Sign Design**

The CONSULTANT shall design Signal Mounted Overhead Street Name signs.

### **21.8 Pole Elevation Analysis**

## **21.9 Traffic Signal Operation Report**

(As defined by the District)

## **21.10 Quantities**

## **21.11 Cost Estimate**

## **21.12 Technical Special Provisions**

## **21.13 Other Signalization Analysis**

## **21.14 Field Reviews**

The CONSULTANT shall collect information from the maintaining agencies and conduct a field review. The review should include, but is not limited to, the following:

Existing Signal and Pedestrian Phasing

- Controller Make, Model, Capabilities and Condition/Age
- Condition of Signal Structure(s)
- Type of Detection as Compared With Current District Standards
- Interconnect Media

Controller Timing Data

## **21.15 Technical Meetings**

## **21.16 Quality Assurance/Quality Control**

## **21.17 Independent Peer Review**

## **21.18 Supervision**

## **21.19 Coordination**

## **22 SIGNALIZATION PLANS**

The CONSULTANT shall prepare a set of Signalization Plans in accordance with the Plans Preparation Manual, which includes the following.

### **22.1 Key Sheet**

### **22.2 Summary of Pay Items Including CES Input**

### **22.3 Tabulation of Quantities**

### **22.4 General Notes/Pay Item Notes**

- 22.5 Plan Sheet**
- 22.6 Interconnect Plans**
- 22.7 Traffic Monitoring Site**
- 22.8 Guide Sign Worksheet**
- 22.9 Special Details**
- 22.10 Special Service Point Details**
- 22.11 Mast Arm/Monotube Tabulation Sheet**
- 22.12 Strain Pole Schedule**
- 22.13 TCP Signal (Temporary)**
- 22.14 Temporary Detection Sheet**
- 22.15 Utility Conflict Sheet**
- 22.16 Interim Standards**
- 22.17 Quality Assurance/Quality Control**
- 22.18 Supervision**

### **30 GEOTECHNICAL**

The CONSULTANT shall, for each project, be responsible for a complete geotechnical investigation. All work performed by the CONSULTANT shall be in accordance with DEPARTMENT standards, or as otherwise directed by the District Geotechnical Engineer. The District Geotechnical Engineer will make interpretations and changes regarding geotechnical standards, policies and procedures and provide guidance to the CONSULTANT.

Prior to beginning each phase of investigation and after the Notice to Proceed is given, the CONSULTANT shall submit investigation plan for approval and meet with the DEPARTMENT's Geotechnical Engineer or representative to review the project scope and DEPARTMENT requirements. The investigation plan shall include, but not be limited to, the proposed boring locations and depths, and all existing geotechnical information from available sources to generally describe the surface and subsurface conditions of the project site. Additional meetings may be required to plan any additional field efforts, review plans, resolve plans/report comments, resolve responses to comments, and/or any other meetings necessary to facilitate the project.

The CONSULTANT shall notify the DEPARTMENT in adequate time to schedule a representative to attend all related meetings and field activities.

### **30.1 Document Collection and Review**

CONSULTANT will review printed literature including topographic maps, county agricultural maps, aerial photography (including historic photos), ground water resources, geology bulletins, potentiometric maps, pile driving records, historic construction records and other geotechnical related resources. Prior to field reconnaissance, CONSULTANT shall review U.S.G.S., S.C.S. and potentiometric maps, and identify areas with problematic soil and groundwater conditions.

### **Roadway**

The CONSULTANT shall be responsible for coordination of all geotechnical related fieldwork activities. The CONSULTANT shall retain all samples until acceptance of Phase IV plans. Rock cores shall be retained as directed in writing by the District Geotechnical Engineer.

Obtain pavement cores as directed in writing by the District Geotechnical Engineer.

If required by the District Geotechnical Engineer, a preliminary roadway exploration shall be performed before the Phase I plans submittal. The preliminary roadway exploration will be performed and results provided to the Engineer of Record to assist in setting roadway grades and locating potential problem areas. The preliminary roadway exploration shall be performed as directed in writing by the District Geotechnical Engineer.

CONSULTANT shall perform specialized field-testing as required by project needs and as directed in writing by the District Geotechnical Engineer.

All laboratory testing and classification will be performed in accordance with applicable DEPARTMENT standards, ASTM Standards or AASHTO Standards, unless otherwise specified in the Contract Documents.

### **30.2 Detailed Boring Location Plan**

Develop a detailed boring location plan. Meet with DEPARTMENT Geotechnical Project Manager for boring plan approval. If the drilling program expects to encounter artesian conditions, the CONSULTANT shall submit a methodology(s) for plugging the borehole to the DEPARTMENT for approval prior to commencing with the boring program.

### **30.3 Stake Borings/Utility Clearance**

Stake borings and obtain utility clearance.

#### **30.4 MOT Plans for Field Investigation**

Coordinate and develop Maintenance of Traffic (MOT) plan. All work zone traffic control will be performed in accordance with the DEPARTMENT's Roadway and Traffic Design Standards Index 600 series.

#### **30.5 Drilling Access Permits**

Obtain all State, County, City, and Water Management District permits for performing geotechnical borings, as needed.

#### **30.6 Property Clearances**

Notify property tenants in person of drilling and field activities, if applicable. Written notification to property owners/tenants is the responsibility of the DEPARTMENT's Project Manager.

#### **30.7 Groundwater Monitoring**

Monitor groundwater, using piezometers.

#### **30.8 LBR Sampling**

Collect appropriate samples for Limerock Bearing Ratio (LBR) testing.

#### **30.9 Coordination of Field Work**

Coordinate all field work required to provide geotechnical data for the project.

#### **30.10 Soil and Rock Classification - Roadway**

Refine soil profiles recorded in the field, based on results of laboratory testing.

#### **30.11 Design LBR**

Determine design LBR values from the 90% and mean methods.

#### **30.12 Laboratory Data**

Tabulate laboratory test results for inclusion in the geotechnical report, the report of tests sheet (Roadway Soil Survey Sheet), and for any necessary calculations and analyses.

#### **30.13 Seasonal High Water Table**

Review the encountered ground water levels and estimate seasonal high ground water levels. Estimate seasonal low ground water levels, if requested.

### **30.14 Parameters for Water Retention Areas**

Calculate parameters for water retention areas, exfiltration trenches, and/or swales.

### **30.15 Limits of Unsuitable Material**

Delineate limits of unsuitable material(s) in both horizontal and vertical directions. Assist the Engineer of Record with detailing these limits on the cross-sections. If requested, prepare a plan view of the limits of unsuitable material.

### **30.16 ASCII Files for Cross-Sections**

Create ASCII files of boring data for cross-sections.

### **30.17 Embankment Settlement and Stability**

Estimate the total magnitude and time rate of embankment settlements. Calculate the factor of safety against slope stability failure.

### **30.18 Stormwater Volume Recovery and/or Background Seepage Analysis**

Perform stormwater volume recovery analysis as directed by the DEPARTMENT.

### **30.19 Geotechnical Recommendations**

Provide geotechnical recommendations regarding the proposed roadway construction project including the following: description of the site/alignment, design recommendations and discussion of any special considerations (i.e. removal of unsuitable material, consolidation of weak soils, estimated settlement time/amount, groundwater control, high groundwater conditions relative to pavement base, etc.) Evaluate and recommend types of geosynthetics and properties for various applications, as required.

### **30.20 Preliminary Roadway Report and Pavement Evaluation Report**

If a preliminary roadway investigation is performed, a preliminary roadway report shall be submitted before the Phase I plans submittal. The purpose of the preliminary roadway report will be to assist in setting road grades and locating potential problems.

Copies of U.S.G.S. and S.C.S. maps with project limits shown.

- A report of tests sheet that summarizes the laboratory test results, the soil stratification (i.e. soils grouped into layers of similar materials) and construction recommendations relative to Standard Indices 500 and 505.

Results of all tasks discussed in the previous section (Data Interpretation and Analysis).

- An appendix that contains stratified soil boring profiles, laboratory test data sheets, sample embankment settlement and stability calculations, design LBR calculation/graphs, and other pertinent calculations.

The CONSULTANT will respond in writing to any changes and/or comments from the DEPARTMENT and submit any responses and revised reports.

If a pavement evaluation is performed, the evaluation and report submittal shall be in accordance with Section 3.4 of the Materials Manual: Pavement Coring and Evaluation.

### **30.21 Final Report**

The Final Roadway Report shall include the following:

Copies of U.S.G.S. and S.C.S. maps with project limits shown.

- A report of tests sheet that summarizes the laboratory test results, the soil stratification (i.e. soils grouped into layers of similar materials) and construction recommendations relative to Standard Indices 500 and 505.

Results of all tasks discussed in the previous section (Data Interpretation and Analysis).

- An appendix that contains stratified soil boring profiles, laboratory test data sheets, sample embankment settlement and stability calculations, design LBR calculation/graphs, and other pertinent calculations.

The CONSULTANT will respond in writing to any changes and/or comments from the DEPARTMENT and submit any responses and revised reports.

### **30.22 Auger Boring Drafting**

Draft auger borings as directed by the DEPARTMENT.

### **30.23 SPT Boring Drafting**

Draft SPT borings as directed by the DEPARTMENT.

## **Structures**

The CONSULTANT shall be responsible for coordination of all geotechnical related fieldwork activities. The CONSULTANT shall retain all samples until acceptance of Phase IV plans. Rock cores shall be retained as directed in writing by the District Geotechnical Engineer.

CONSULTANT shall perform specialized field-testing as required by needs of project and as directed in writing by the District Geotechnical Engineer.

All laboratory testing and classification will be performed in accordance with applicable DEPARTMENT standards, ASTM Standards or AASHTO Standards, unless otherwise specified in the Contract Documents.

The staff hour tasks for high embankment fills and structural foundations for bridges, box culverts, walls, high-mast lighting, overhead signs, mast arm signals, strain poles, buildings, and other structures include the following:

**30.24 Detailed Boring Location Plan**

Develop a detailed boring location plan. Meet with DEPARTMENT Geotechnical Project Manager for boring plan approval. If the drilling program expects to encounter artesian conditions, the CONSULTANT shall submit a methodology(s) for plugging the borehole to the DEPARTMENT for approval prior to commencing with the boring program.

**30.25 Stake Borings/Utility Clearance**

Stake borings and obtain utility clearance.

**30.26 MOT Plans for Field Investigation**

Coordinate and develop MOT plan. All work zone traffic control will be performed in accordance with the DEPARTMENT's Roadway and Traffic Design Standards Index 600 series.

**30.27 Drilling Access Permits**

Obtain all State, County, City, and Water Management District permits for performing geotechnical borings, as needed.

**30.28 Property Clearances**

Notify property tenants in person of drilling and field activities, if applicable. Written notification to property owners/tenants is the responsibility of the DEPARTMENT's Project Manager.

**30.29 Collection of Corrosion Samples**

Collect corrosion samples for determination of environmental classifications.

**30.30 Coordination of Field Work**

Coordinate all field work required to provide geotechnical data for the project.

**30.31 Soil and Rock Classification – Structures (N/A)**

**30.32 Tabulation of Laboratory Data**

Laboratory test results should be tabulated for inclusion in the geotechnical report and for the necessary calculations and analyses.

### **30.33 Design Groundwater Level for Structures**

Review encountered groundwater levels, estimate seasonal high groundwater levels, and evaluate groundwater levels for structure design.

### **30.34 Selection of Foundation Alternatives (BDR) (N/A)**

### **30.35 Detailed Analysis of Selected Foundation Alternate(s) (N/A)**

### **30.36 Bridge Construction and Testing Recommendations (N/A)**

### **30.37 Lateral Load Analysis (Optional) (N/A)**

### **30.38 Walls**

Provide the design soil profile(s), which include the soil model/type of each layer and all soil engineering properties required by the Engineer of Record for conventional wall analyses and recommendations. Review wall design for geotechnical compatibility and constructability.

Evaluate the external stability of conventional retaining walls and retained earth wall systems. For retained earth wall systems, calculate and provide minimum soil reinforcement lengths versus wall heights, and soil parameters assumed in analysis. Estimate differential and total (long term and short term) settlements.

Provide wall construction recommendations.

### **30.39 Sheet Pile Wall Analysis (Optional) (N/A)**

### **30.40 Soil Parameters for Signs, Signals, High Mast Lights, and Strain Poles and Geotechnical Recommendations (N/A)**

### **30.41 Box Culvert Analysis (N/A)**

### **30.42 Preliminary Report – BDR (N/A)**

### **30.43 Final Report - Bridge and Associated Walls (N/A)**

### **30.44 Final Reports - Signs, Signals, Box Culvert, Walls, and High Mast Lights**

The final reports shall include the following:

Copies of U.S.G.S. and S.C.S. maps with project limits shown.

- Summary of structure background data, SCS, USGS, geologic and potentiometric data.
- The results of all tasks discussed in the previous section (Data Interpretation and Analysis).

- Recommendations for foundation installation, or other site preparation soils-related construction considerations with plan sheets as necessary.
- Any special provisions required for construction that are not addressed in the DEPARTMENT's Standard specification.

An Appendix which includes SPT and CPT boring/sounding profiles, data from any specialized field tests, engineering analysis, notes/sample calculations, sheets showing ultimate bearing capacity curves versus elevation for piles and drilled shafts, a complete FHWA check list, pile driving records (if available), and any other pertinent information.

Final reports will incorporate comments from the DEPARTMENT and contain any additional field or laboratory test results, recommended foundation alternatives along with design parameters and special provisions for the contract plans. These reports will be submitted to the District Geotechnical Engineer for review prior to project completion. After review by the District Geotechnical Engineer, the reports will be submitted to the District Geotechnical Engineer in final form and will include the following:

All original plan sheets (11" x 17")

- One set of all plan and specification documents, in electronic format, according to DEPARTMENT requirements
- Two sets of record prints
- Six sets of any special provisions

All reference and support documentation used in preparation of contract plans package

Additional final reports (up to four), aside from stated above, may be needed and requested for the DEPARTMENT's Project Manager and other disciplines.

The final reports, special provisions, as well as record prints, will be signed and sealed by a Professional Engineer registered in the State of Florida.

Draft the detailed boring/sounding standard sheet, including environmental classification, results of laboratory testing, and specialized construction requirements, for inclusion in final plans.

### **30.45 SPT Boring Drafting**

Prepare a complete set of drawings to include all SPT borings, auger borings and other pertinent soils information in the plans. Include these drawings in the Final Geotechnical Report. Draft borings, location map, S.C.S. map and U.S.D.A. map as directed by the DEPARTMENT. Soil symbols must be consistent with those presented in the latest Florida Department of Transportation Soils and Foundations Handbook.

### **30.46 Other Geotechnical**

Define

### **30.47 Technical Special Provisions**

### **30.48 Field Reviews**

Identify and note surface soil and rock conditions, surface water conditions and locations, and preliminary utility conflicts. Observe and note nearby structures and foundation types.

### **30.49 Technical Meetings**

### **30.50 Quality Assurance/Quality Control**

### **30.51 Supervision**

### **30.52 Coordination**

### **30.53 Optional Preliminary Contamination Assessment**

When required, all work shall be performed in accordance with current Florida Department of Environmental Regulation (DER) and Federal OSHA and EPA standards. The following work shall be included, but not limited to:

A minimum of four borings will be required per site.

- Soil gas analysis will be required by use of a flame ionization detector; e.g. Organic Vapor Analyzer (OVA).
- Installation of monitoring wells may be required.
- Water sampling and laboratory analysis may be required. The State of Florida Department of Health shall certify the laboratory performing the analysis.

Four copies of the draft PCA report will be required for review and comment by the DEPARTMENT. After comments have been addressed, six signed and sealed copies of the final PCA report shall be submitted to the DEPARTMENT. Copies of all documents will be additionally transmitted to the DEPARTMENT in electronic format in accordance with the DEPARTMENT's current standards.

## **34 INVOICING LIMITS**

Payment for the work accomplished will be in accordance with Method of Compensation of this contract. Invoices shall be submitted to the DEPARTMENT, in a format prescribed by the DEPARTMENT. The DEPARTMENT Project Manager and the CONSULTANT shall monitor the cumulative invoiced billings to insure the reasonableness of the billings compared to the project schedule and the work accomplished and accepted by the DEPARTMENT.

The CONSULTANT will provide a list of key events and the associated total percentage of work considered to be complete at each event. This list will be used to control invoicing. Payments will not be made that exceed the percentage of work for any event until those events have actually occurred and the results are acceptable to the DEPARTMENT.

**EXHIBIT A-3**

**DRAFT SCOPE OF SERVICES  
PHASE III – POST DESIGN SERVICES**

County Project Number: *PS-2825-07/BHJ*  
County CIP Number: *00205304*  
Financial Project ID: *240233-4*  
Description: *SR 434 from Rangeline Rd to CR 427 in Seminole County*

**EXHIBIT A-2**

1 PURPOSE \_\_\_\_\_ 1

2 POST DESIGN SERVICES \_\_\_\_\_ 1

    2.1 Plans and Right of Way Documents Update and Maintenance \_\_\_\_\_ 1

    2.2 Construction Assistance \_\_\_\_\_ 1

    2.3 Permit Updates \_\_\_\_\_ 2

    2.4 Review Structural Shop Drawings \_\_\_\_\_ 2

    2.5 Survey Update \_\_\_\_\_ 2

    2.6 Web Site Updates (N/A) \_\_\_\_\_ 2

    2.7 Newsletters \_\_\_\_\_ 2

3 INVOICING LIMITS \_\_\_\_\_ 2

**DRAFT SCOPE OF SERVICES FOR CONSULTING ENGINEERING SERVICES  
HIGHWAY AND BRIDGE FINAL DESIGN & PERMITTING**

This Exhibit forms an integral part of the agreement between the Seminole County Board of County Commissioners (hereinafter referred to as the COUNTY) and XXXX (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

County Project Number: *PS-2825-07/BHJ*  
County CIP Number: *00205304*  
Financial Project ID: *240233-4*  
Description: *SR 434 from Rangeline Rd to CR 427 in Seminole County*

**1 PURPOSE**

At the COUNTY's option, the CONSULTANT may be requested to provide post design services. The purpose is to achieve quality post design services from competent professionals in order to satisfactorily complete construction. These services are intended to address changed conditions or services not covered that occur following acceptance of final plans, including changes required as part of right of way acquisition. These services are not intended for instances of CONSULTANT error and/or omissions.

**2 POST DESIGN SERVICES**

The following descriptions provide a non-exclusive summary of the specific tasks within this Scope-of-Services and are the minimum criteria for project performance and execution. The COUNTY will issue work orders on an as needed basis. The CONSULTANT is responsible to provide the following required professional services as requested:

**2.1 Plans and Right of Way Documents Update and Maintenance**

The CONSULTANT shall perform engineering analyses and/or make revisions to the plans, right of way maps, legal descriptions and special provisions, as requested by the COUNTY and the DEPARTMENT, to reflect additions, deletions and/or modifications prior to and subsequent to construction advertising. Whenever the plans or Right of Way Maps are revised, the CONSULTANT shall submit two (2) sets of signed and sealed half size prints of the revised sheets and one (1) set of the revised reproducibles. The Right of Way maps and drainage maps will be full size.

**2.2 Construction Assistance**

The CONSULTANT shall provide to the COUNTY qualified representation during the construction phase concerning the intent and interpretation of the construction plans and documents. Should changed conditions be encountered in the field and when requested by the COUNTY, the CONSULTANT shall respond in a timely manner with suitable engineering solutions which take into account the changed conditions.

On site appearance of CONSULTANT shall be made during construction at the written request of the COUNTY.

From time to time during construction, the COUNTY may request the CONSULTANT to review contractor proposed field changes or to respond with a recommended solution to remedy particular field situations not covered by the plans and specifications.

### **2.3 Permit Updates**

The CONSULTANT shall provide valid permits extending through construction. The CONSULTANT shall apply for and provide the necessary information to modify, extend or renew required permits, prior to or subsequent to construction advertising.

### **2.4 Review Structural Shop Drawings**

The CONSULTANT shall review structural shop drawings during construction as needed.

### **2.5 Survey Update**

If requested, the CONSULTANT shall provide additional field survey updates prior to and during the construction contract.

### **2.6 Web Site Updates (N/A)**

The CONSULTANT will maintain and update as needed the web site previously developed for this project. The web site will include information such as the project scope, schedule and progress.

### **2.7 Newsletters**

The CONSULTANT will prepare and send out newsletters to inform the public of when construction will begin, general project information, and construction contacts. The newsletter will be sent to all those on the mailing list.

## **3 INVOICING LIMITS**

Payment for the work accomplished will be in accordance with Method of Compensation of this contract. Invoices shall be submitted to the COUNTY, in a format prescribed by the COUNTY. The COUNTY Project Manager and the CONSULTANT shall monitor the cumulative invoiced billings to insure the reasonableness of the billings compared to the project schedule and the work accomplished and accepted by the COUNTY.

The CONSULTANT will provide a list of key events and the associated total percentage of work considered to be complete at each event. This list will be used to control invoicing. Payments will not be made that exceed the percentage of work for any event until those events have actually occurred and the results are acceptable to the COUNTY.