

August 18, 2015

Mr. John Veilluex City of Gainesville Public Works 405 NW 39th Avenue Gainesville, FL 32609

Subject:

**Depot Avenue Corridor Project** 

Ninth Supplemental Agreement for Professional Design Services

Depot Avenue Segments 2 and 4

Dear Mr. Veilleux:

Comprehensive Engineering Services, Inc. (CES) has enclosed the following scope and fee estimate which outlines the additional work effort related to engineering services on Depot Avenue. The requested funds are related to design updates required for Segment 4. The updates are necessary to accommodate existing utilities which will no longer be relocated as previously coordinated during the preparation of the 90% design. The plans shall be updated such that the existing water and sewer lines within the project limits may remain to the maximum extent feasible.

It is anticipated that the work outlined in the attached exhibit will completed within 20 weeks from the Notice-to-Proceed. The opportunity to be of service to the City of Gainesville is greatly appreciated and we look forward to a continued productive relationship in providing transportation design services to you. If there are any questions, please do not hesitate to call.

Sincerely,

Comprehensive Engineering Services, Inc.

Ryan A. McGinnis, P.E.

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Project Manager

# EXHIBIT "A" SCOPE OF SERVICES

This Exhibit forms an integral part of the agreement between the City of Gainesville (hereinafter referred to as the CITY) and COMPREHENSIVE ENGINEERING SERVICES (CES) (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows: Depot Avenue Transportation Corridor Improvement Project – Segment 4 from West of SE 7th Ave. to SR 331 (Williston Rd.)

#### I. DESCRIPTION

The purpose of this supplemental is to update 90% design plans being prepared by the *CONSULTANT* for future improvements to Depot Avenue from West of SE 7th Ave. to SR 331 (Williston Rd.). The updates are necessary to accommodate existing utilities which will no longer be relocated as previously coordinated during the preparation of the 90% design. The plans shall be updated such that the existing water and sewer lines within the project limits may remain to the maximum extent feasible. The plans update shall primarily address changes in the closed drainage system to accommodate the aforementioned utilities and changes in the roadway typical to accommodate the updated drainage system. Updates to the signing and marking, lighting and landscaping which are required to accommodate the roadway and drainage updates are considered ancillary and shall be performed in accordance with the original scope of work.

#### II. SCOPE

#### A. Project General Tasks

#### **Contract Maintenance**

The **CONSULTANT** Project Manager shall perform the following:

- 1. Setup and maintenance of project files, hard copy and electronic. Copies will be provided to the *CITY* at the end of the project or upon request.
- 2. Progress reports, weekly or monthly, as necessary, and as agreed upon by the *CITY* and *CONSULTANT*.

The *CONSULTANT* shall attend coordination meetings with the *CITY* as necessary. The *CONSULTANT* shall also be available with no more than a five (5) workday notice to attend meetings or make presentations at the request of the *CITY*. Such meetings and presentations may be held at any hour between 8:00 A.M. and 12:00 midnight on any day of the week.

#### B. Roadway Analysis

#### **Design Files**

The **CONSULTANT** shall update the roadway 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 and ADA requirements.

#### **Cross Section Files**

The **CONSULTANT** shall update the cross section files depicting the proposed roadway template and existing topographic features. Depicted information shall include the estimated location of existing utilities known to the **CONSULTANT**.

#### **Design Report**

The **CONSULTANT** shall update the design notes, data, and calculations to document the design conclusions reached during the development of the plans.

# . C. Roadway Plans

The *CONSULTANT* shall update the Roadway and Drainage plan sheets, notes, and details. The following plan sheets shall be updated:

- 1. Cover Sheet
- 2. Drainage Map
- 3. Typical Section Sheets
- 4. General Notes
- 5. Summary of Quantities
- 6. Summary of Drainage Structures
- 7. Plan/Profile Sheet
- 8. Back of Sidewalk Profile Sheet
- 9. Intersection Layout Details (for roundabout at 7th Street)
- 10. Miscellaneous Detail Sheets
- 11. Drainage Structure Sheets
- 12. Retention/Detention Ponds Detail Sheet
- 13. Retention Pond Detail Sheets
- 14. Roadway Soil Survey Sheet
- 15. Cross Sections
- 16. Utility Adjustment Sheets

### D. Drainage Analysis

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

The **CONSULTANT** shall update the drainage design to determine runoff, inlet locations, and spread. Calculate hydraulic losses. Determine Design Tailwater and, if necessary, outlet scour protection.

# **Drainage Design Documentation Report**

The **CONSULTANT** shall update the drainage design documentation report. Include documentation for all the drainage design tasks and associated meetings and decisions.

#### E. Utilities

The location of existing utilities and Subsurface Utility Engineering (SUE) (if required) are to be provided by the *CITY*. For the duration of project, the *CONSULTANT* shall coordinate with the *CITY* to assure that all utility coordination efforts by the *CONSULTANT* are accomplished in accordance with *CITY* procedures.

#### F. Cost Estimate

The *CONSULTANT* shall prepare cost estimates for each design submittal. The estimate shall utilize quantities determined by the Consultant during the design and unit costs available from the Florida Department of Transportation (FDOT) historical construction cost data.

#### G. Design Criteria

The services performed by the *CONSULTANT* shall be in compliance with all applicable Manuals and Guidelines. The current edition, including updates, of the following Manuals and Guidelines shall be used in the performance of this work. It is understood that AASHTO criteria shall apply as minimum policy.

- Florida Greenbook
- Florida Statutes
- Florida Administrative Codes
- Applicable federal regulations and technical advisories
- FDOT Plans Preparation Manual
- FDOT Design Standards
- Highway Capacity Manual
- Manual of Uniform Minimum Standards for Design, Construction, and Maintenance for Streets and Highways
- Bicycle Facilities Planning and Design Manual
- Location Survey Manual
- EFB User Guide
- Drainage Manual
- Soils and Foundations Manual
- Structures Design Guidelines CADD Manual (No. 625-050-001)
- AASHTO An Information Guide for Highway Lighting
- CADD Production Criteria Handbook
- MTPO Urban Design Policy Manual
- Kimley-Horn Depot Avenue Corridor Project Documents (City to provide)

- City of Gainesville Design Manual (City to provide)
- City of Gainesville Ordinances and Policies (City to provide)
- Segment 4 Preliminary Engineering Report, dated September 2007
- Rosewood Creek Watershed Management Plan (City to provide)

#### H. Quality Control

The *CONSULTANT* shall be responsible for insuring that all work products conform to *CITY* standards and criteria. This shall be accomplished through an internal Quality Control (QC) process performed by the *CONSULTANT*. This QC process shall insure that quality is achieved through reviewing and checking the work. Objective and qualified individuals, who were not directly responsible for performing the initial work, shall perform this work.

#### I. Coordination with Other Consultants and Entities

The *CONSULTANT* is to coordinate their work with any ongoing and/or planned projects that may affect this study. The *CONSULTANT* is to coordinate with local governmental entities to ensure design and right-of-way requirements for the project are compatible with local public works improvements and right-of-way activities.

#### III. SERVICES TO BE PERFORMED BY THE CITY

The *CITY* will provide those services and materials as set forth below:

- Project data currently on file.
- Existing Boundary and Topographic Survey
- All available information in the possession of the *CITY* pertaining to utility companies whose facilities may be affected by the proposed construction.
- All future information that is in possession or may come to the *CITY* 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.
- Existing right-of-way maps.
- Provide contract administration and provide management services and technical reviews of all work associated with the development and preparation of the Engineering plans for the transportation facility.
- Pay all permitting fees.

## IV. SCHEDULE

The services of the **CONSULTANT** are to commence on the date the agreement is executed by both the **CITY** and the **CONSULTANT**. The services under this agreement will require four submittals to the **CITY** (15% line and grade, 90%, 100% and Signed and Sealed). Both the 15% and 90% submittals shall be reviewed by the **CITY** and comments provided to the **CONSULTANT** for resolution and response prior to the next submittal. The 100% submittal shall be reviewed by the **CITY** to ensure that the plans are in conformance with previous **CITY** comments. Upon completion of the conformance review, the plans shall be signed and

sealed by the *CONSULTANT*. The *CONSULTANT* will complete the tasks outlined in the scope of service within 20 weeks from the execution date of the agreement contingent upon the *CITY* reviews.

#### V. COMPENSATION

Compensation to the Consultant for services performed under this agreement shall be **lump** sum in the amount of \$109,996.02. Invoices shall be submitted to the CITY'S Project Manager. The CITY'S 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 CITY. All payments for services as herein discussed are contingent upon the satisfactory progress of the work and the work itself being satisfactory to the CITY. Payment shall be made within thirty (30) days from the date the invoice is approved by the CITY.

#### ESTIMATE OF WORK EFFORT AND COST - PRIME CONSULTANT

Name of Project: County: FPN:

Depot - Segment 4 Supp City of Gainesville TBD

Consultant Name: CES
Consultant No.: enter consultants proj. number
Date: 01/29/2010

	TBD 1/0/1900												Estimator:	RAM		
	Hours From	Project	Senior	Project		Engineer	Designer	Staff Classi-	Staff Classi-	Staff Classi-	Staff Classi-	Staff Classi-	Staff Classi-	SH	Salary	Average
Staff Classification	"SH Summary -	Manager	Engineer	Engineer	Engineer	Intern	Designer	fication 7	fication 8	fication 9	fication 10	fication 11	fication 12	By	Cost By	Rate Per
	Firm"	\$62.50	\$59.00	\$42.83	\$32,28	\$26.44	\$35.98	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0,00	Activity	Activity	Task
Project General Tasks	32	3	7	7	5	5	5	0	0	0	0	0 .	0	32	\$1,374	\$42.93
. Roadway Analysis	183	18	40	42	27	27	29	0	0	0	0	0	0	183	\$7,913	\$43.24
. Roadway Plans	373	37	. 82	86	56	56	56	0	0	0	0	0	0.	373	\$16,137	\$43.26
Drainage Analysis	185	19	41	43	28	28	26	0	0	0	0	0	0	185	\$8,028	\$43,39
Utilities	0	0	0	О	0	0	0	0	0	0	٥	0	0	0	\$0	#DIV/0I
Environmental Permits	0	0	0	0	0	C	0	. 0	0	0	C	0	0	0	\$0	#DIV/0I
Structures - Misc. Tasks, Dwgs, Non-Tec	0	0	0	0	0	0	0	0	0	0	0	0	. 0	0	\$0	#DIV/0I
), Structures - BDR	0	0	0	0	, 0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
Structures - Temporary Bridge	0	0	0	0	0	0	0	0 .	0	0	0	0	0	0	\$0	#DIV/0!
2. Structures - Short Span Concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
3. Structures - Medium Span Concrete	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
Structures - Structural Steel	0	0	0	0	0	Ð	0	0	0	0	0	0	0	D	\$0	#DIV/01
5. Structures - Segmental Concrete	0	0	0	0	0	0	0	0	0	. 0	0	0	0	0	\$0	#DIV/01
5. Structures - Movable Span	0	0	0	D	0	D	0 -	0	0	0	0	0	0	. 0	\$0	#DIV/0!
7. Structures - Retaining Walls	0	0	0	0	0	. 0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
3. Structures - Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
9. Signing & Marking Analysis	0	0	0	0	0	0	0	0	0	0	0	D	0	0	\$0	#DIV/OI
0. Signing & Marking Plans	0	0	0	0	0	0	0	0	0	0 -	0	0	0	0	\$0	#DIV/0!
1. Signalization Analysis	. О	0	0	0	. 0	0	D	0	0	0	. 0	0	0	0	\$0	#DIV/0!
2. Signalization Plans	0	0	0	0	0	۵	0	0	0	0	0	0	0	0	\$0	#DIV/0!
3. Lighting Analysis	0	0	0	.0	0	.0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
4. Lighting Plans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/01
5. Landscape Architecture Analysis	0	0	0	0	0	0	0	0	. 0	0	0	0	0	0	\$0	#DIV/01
6, Landscape Architecture Plans	C	0	٥	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/01
7. Survey (Field & Office Support)	0	0	ō	٥	С	0	0	0	0	. 0	0	0	0	0	\$0	#DIV/01
B, Photogrammetry	0	0	0	0	o	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
9. Mapping	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
D. Geotechnical	0	0	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/01
1, Architecture Development	0	Ð	0	0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
2. Noise Wall Analysis	0	0	0	. 0	0	0	0	0	0	0	0	0	0	0	\$0	#DIV/0!
Total Staff Hours	773	77	170	178	116	116	116	0	0	0	0	0	0	773		
Total Staff Cost		\$4,812.50	\$10,030.00	\$7,623,74	\$3,744.48	\$3,067.04	\$4,173.68	\$0.00	\$0.00	\$0.00	\$0.00	\$0,00	\$0.00	L	\$33,451.44	\$43.27
										041 4577 557 45				Check =	\$33,451.44	\$22 AE4 AA

Notes:

1. This sheet to be used by Prime Consultant to calculate the Grand Total fee,

2. Manually enter fee from each subconsultant. Unused subconsultant rows may be hidden.

Survey Field Days by Subconsultant 4 - Person Crew:

SALARY RELATED COSTS: OVERHEAD: OPERATING MARGIN: FCCM (Facilities Capital Cost Money): EXPENSES:

177.42% 28% 0.173% 23.23% 4-man crew days @

\$33,451.44 \$59,349.54 \$9,366.40 \$57.87 \$7,770.77

Survey (Field - If by Prime)
SUBTOTAL ESTIMATED FEE:
Optional Services
GRAND TOTAL ESTIMATED FEE:

\$0.00 \$109,996.02 \$0.00 \$109,996.02

Depot Segment 4-Supp Fee 20150818 xds Fee Sheet - Prime

8/18/2015 7:59 AM

# **Project Activity 3: General Tasks**

Estimator: RAM

Form Revised 6/6/05

Depot - Segment 4 Supp TBD

Task No.	Task	Units	No of Units	Hours / Unit	Total Hours	Comments
3.1	Public Involvement	LS	0	0	0	Included 3.6
3.2	Joint Project Agreements	EA	0	0	0	N/A
3.3	Specifications Package Preparation	LS	0	0	0	
3.4	Contract Maintenance	LS	1	12	12	6 months at 2 hours per month
3.5	Value Engineering (Multi-discipline Team) Review	LS	0	0	0	N/A
1 1 n	Prime Consultant Project Manager Meetings	LS	1	20	20	
3.7	Other Project General	LS	0	0	0	N/A
	3. General Tasks Total				32	

# **Project Activity 3: General Tasks**

Task No.	Task	Units	No of Units	Hours / Unit	Total Hours	Comments
	3.6 - List of Project Manager Meetir	nae			٠	See notes below
		iys EA	0	0	0	See Hotes below
	Roadway Analysis	EA	0	0	0	
	Drainage					· ·
	Utilites	EA	2	5	10	
	Environmental	EA	0	0	0	
	Structures	EA	0	0	0	
	Signing & Marking	EA	0	0	0	
	Signalization	EA	0	0	0	
	Lighting	EA	0	0	0	
	Landscape Architecture	EΑ	0	Ö	0	
	Survey	EA	0	0	0	
	Photogrammetry	EΑ	0	0	0	
	ROW & Mapping	EA	0	0	0	
	Geotechnical	EΑ	0	0	0	
	Architecture	EA	0	0	0	
	Noise Walls	EA	0	0	0	
	Progress Meetings	EΑ	2	5	10	
	Phase Reviews	EA	0	0	0	
	Field Reviews	EA	0	0	0	
	Total Project Manager Meetings		4		20	

- 1. If the hours per meeting vary in length (hours) enter the average in the hour/unit column.
- Do not double count agency meetings between permitting agencies.
   Project manager meetings are calculated in each discipline sheet and brought forward to column D except for Photogrammetry.

### Project Activity 4: Roadway Analysis

Estimator: RAM Form Revised 6/6/05

Depot - Segment 4 Supp TBD

Task No.	Task	Units	No of Units	Hours / Unit	Total Hours	Comments				
4:1	Typical Section Package	LS	0	0	0	N/A				
4.2	Pavement Design	LS	0	0	0	N/A				
4.3	Access Management	LS	0	0	0	N/A				
4.4	Horizontal /Vertical Master Design Files	LS	1	36	36					
4.5	Cross Section Design Files	LS	1	36	36					
4.6	Traffic Control Analysis	LS	0	0	0	N/A				
4.7	Master TCP Design Files	LS	0	0	0	N/A				
4.8	Design Variations and Exceptions	LS	0	0	0	N/A				
4.9	Design Report	LS	0	0	0	N/A				
4.10	Computation Book & Quantities	LS	1	18	18	No Computation Book Required, Quantities Only w/ breakdown				
4.11	Cost Estimate	LS	1	2	2					
4.12	Technical Special Provisions	LS	0	0	0	N/A				
4.13	Other Roadway Analysis	LS	1	40	40	Utility Conflict Matrix, UWS, Utility Meeting				
	Roadway Analysis Technical	Subtota	ıl		132					
4.14	Field Reviews	LS	1	12	12	2 people x 6 hrs. per review x 1 review (includes travel time)				
4.15	Technical Meetings	LS	1	20	20	4 meetings x 6 hrs. per meeting (includes travel time)				
4.16	Quality Assurance/Quality Control	LS	%	5%	7					
4.17	Independent Peer Review	LS	%	0%	0					
4.18	Supervision	LS	%	5%	7					
Roadway Analysis Nontechnical Subtotal					46					
4.19	Coordination	LS	%	3%	5					
	4.	Roadw	ay Analy	sis Total	183	· 基本中的 1996年 1				

Depot Segment 4-Supp Fee 20150818.xls 4. Roadway Analysis

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### **Project Activity 5: Roadway Plans**

Estimator: RAM

Depot - Segment 4 Supp TBD

Task No.	Task	Scale	Units	No. of Units	Hours / Unit	No. of Sheets	Total Hours	Comments
5.1	Key Sheet		Sheet	1	1	1	1	
5.2	Summary of Pay Items-including Quantity Input		Sheet	0	0	0 .	0	N/A
5.3	Drainage Map		Sheet	1	8	1	8	
5.4	Interchange Drainage Map		Sheet	0	0	. 0	0	N/A
5.5	Typical Section Sheets		Sheet	1	4	1	4	1 Typical
5.6	General Notes/Pay Item notes		Sheet	1	2	1	.2	Assumes City will Provide Standard Notes
5.7	Summary of Quantities		Sheet	3	8	1	24	
5.8	Box Culvert Data Sheet		Sheet	0	0	1	0	N/A
5.9	Bridge Hydraulics Recommendation Sheets	i	Sheet	0	0	0	0	N/A
5.10	Summary of Drainage Structures		Sheet	2	24	2	48	25 per sheet
5.11	Optional Pipe/ Culvert Material		Sheet	0	0	0	0	N/A
5.12	Project Layout		Sheet	0	0	0	0	N/A
5.13	Plan/Profile Sheet		Sheet	6	5	6	30	
5.14	Profile Sheet		Sheet	0	0	0	0	N/A
5.15	Plan Sheet		Sheet	0	0	0	0	N/A
5.16	Special Profile		Sheet	0	.0	0	0	N/A
5.17	Back of Sidewalk Profile Sheet		Sheet	6	14	4	84	
5.18	Interchange Layout Sheet		Sheet	0	0	0	0	N/A
5.19	Ramp Terminal Details (Plan View)		Sheet	0	0	0	0	N/A
5.20	Intersection Layout Details		Sheet	1	2	0	2	Update east leg of roundabout
5.21	Miscellaneous Detail Sheets		Sheet	8	2	1	16	Concrete Step Detail, HardscapePlan Sheets
5.22	Drainage Structure Sheet (per Structure)		EA	29	2	0	58	
5.23	Miscellaneous Drainage Detail Sheets		Sheet	2	8	2	16	Control Structure Details & Drainage Structure Data Sheet
5.24	Lateral Ditch Plan/Profile		Sheet	0	0	0	0	N/A

Depot Segment 4-Supp Fee 20150818.xls 5. Roadway Plans

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# Project Activity 5: Roadway Plans

Task No.	Task	Scale	Units	No. of Units	Hours / Unit	No. of Sheets	Total Hours	Comments
5.25	Lateral Ditch Cross sections		EA	• 0	0	0	0	N/A
5.26	Retention/Detention Ponds Detail Sheet		Sheet	1	12	0	12	
5.27	Retention Pond Cross Sections		EA	0	0	0	0	N/A
5.28	Cross-section Pattern Sheet		Sheet	0	0	0	0	N/A
5.29	Roadway Soil Survey Sheet		Sheet	0	0	0	0	N/A
5.30	Cross Sections		LS	40	0.25	20	10	
5.31	Traffic Control Plan Sheets		Sheet	0	0.	0	0	N/A
5.32	Traffic Control Cross Section Sheets		EA	0	0		0	N/A
5.33	Traffic Control Detail Sheets		Sheet	0	0	0	0	N/A
5.34	Utility Adjustment Sheets		Sheet	4	6	4	24	
5.35	Selective Clearing and Grubbing		Sheet	0	0	0	0	N/A
5.36	Erosion Control Plan		Sheet	0	0 ′	0	0	N/A
5.37	SWPPP		Sheet	0	0	0	0	N/A
5.38	Project Control Network Sheet		Sheet	0	0	0	0	N/A
5.39	Interim Standards		LS	0	0		0	N/A
5.40	Utility Verification Sheet (SUE data)		Sheet	0	0	0	0	N/A
	Roadway Plans Technic	al Subto	45	339				
5.41	Quality Assurance/Quality Control		LS	%	5%		17	
5.42	Supervision		LS	%	5%		17	
			5,	Roadway	Plans Total	45	373	

Depot Segment 4-Supp Fee 20150818.xls 5. Roadway Plans

# **Project Activity 6: Drainage Analysis**

Estimator: RAM

Depot - Segment 4 Supp

Form Re	evised 6/6/05					TBD
Task No.	Task	Units	No of Units	Hours / Unit	Total Hours	Comments
6.1	Determine Base Clearance Water Elevation	Per Location	0	0	0	N/A
6.2	Pond Siting Analysis and Report	Per Basin	0	0	0	N/A
6.3	Design of Cross Drains	EA	. 0	0	0	N/A
6.4	Design of Roadway Ditches	Per Ditch Mile	0	0	0	N/A
6.5	Design of Outfalls	EA	0	0	0	N/A
6.6	Design of Stormwater Management Facility (Offsite Pond)	EA	0	0	0	N/A
6.7	Design of Stormwater Management Facility (Roadside Ditch as Linear Pond)	Per System	0	0	0	N/A
6.8	Design of Flood Plain Compensation Area	Per Encroachment	0	0	0	N/A
6.9	Design of Storm Drains	EA	40	3	120	
6.10	Optional Culvert Material	LS	0	0	0	N/A
6.11	French Drain Systems	Per 1000 Feet of French Drain	0	0	0	N/A
6.12	Drainage Wells	EA	0	0	0	N/A
6.13	Drainage Design Documentation Report	LS	1	24	24	

Depot Segment 4-Supp Fee 20150818.xls 6. Drainage Analysis

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# **Project Activity 6: Drainage Analysis**

Task No.	Task	Units	No of Units	Hours / Unit	Total Hours	Comments	
6.14	Preparation of Bridge Hydraulic Report	ĒΑ	0	0	0	N/A	
6.15	Temporary Drainage Analysis	LS	0	0	0	N/A	
6.16	Cost Estimate	LS	0	0	0	N/A	
6.17	Technical Special Provisions	LS	0	0	0	N/A	

# **Project Activity 6: Drainage Analysis**

Task <b>N</b> o.	Task	Units	No of Units	Hours / Unit	Total Hours	Comments
	Drainage Analysis Techn	ical Subtotal			144	
6.18	Field Reviews	LS	1	16	16	2 person @ 8 hours x 1 review
6.19	Technical Meetings	LS	1	6	6	1 person @ 6 hours x 1 meeting
6.20	Quality Assurance/Quality Control	LS	%	5.0%	7	
6.21	Independent Peer Review	LS	%	0%	0	N/A
6.22	Supervision	LS	%	5.0%	7	· .
	Drainage Analysis Nontech	nical Subtotal			36	
6.23	Coordination	LS	%	3%	5	
6.24	Coordination	LS	%	0%	0	
		6. Draina	ge Analy	sis Total	185	