

TEDSI Basis Engineering Services

Description	General Management/Coordination								
	Sr. Project Manager	Senior Engineer	Project Engineer	Sr. Eng. Designer/EIT	Eng. Designer	Clerical			
Project Meetings (2 per month for 3 months)	12		12			12	36	\$	5,040
Preliminary Estimate	4	8	12		24		48	\$	6,220
Project Administration/Coordination	12					12	24	\$	3,300
Total Hours	28	8	24	0	24	24	108	\$	14,560
Contract Rate	\$ 200.00	\$ 160.00	\$ 145.00	\$ 110.00	\$ 100.00	\$ 75.00			

Description	Utility Coordination								
	Sr. Project Manager	Senior Engineer	Project Engineer	Sr. Eng. Designer/EIT	Eng. Designer	Clerical			
Identify potential utility conflicts and prepare list	8				16	3	27	\$	3,425
Prepare and send utility submittals	1				8	4	13	\$	1,300
Meet to coordinate with utility companies	4		4		4		12	\$	1,780
Total	13	0	4	0	28	7	52	\$	6,505
	\$ 200.00	\$ 160.00	\$ 145.00	\$ 110.00	\$ 100.00	\$ 75.00			

Description	Preliminary Engineering Report, Environmental Constraints Analysis and Public Involvement								
	Sr. Project Manager	Senior Engineer	Project Engineer	Sr. Eng. Designer/EIT	Eng. Designer	Clerical			
Develop DSR and attend design review meeting	4		8	8		3	23	\$	3,065
Develop preliminary design for:									
Roadway design with roadside ditches	12	24	40	80	100		256	\$	30,840
Roadway design with curb and gutter	12	24	40	80	100		256	\$	30,840
Bridge Evaluation	8	24			40		72	\$	9,440
Coordination of EA Document	20						20	\$	4,000
Prepare preliminary construction cost estimates	4	8	16	24	24		76	\$	9,440
Prepare typical sections	4		8		16		28	\$	3,560
Prepare TCP narrative and typical sections	4	8		16	16		44	\$	5,440
Prepare Preliminary Engineering Report	16	24	32	60	60		192	\$	24,280
Total	84	112	144	268	356	3	967	\$	120,905
	\$ 200.00	\$ 160.00	\$ 145.00	\$ 110.00	\$ 100.00	\$ 75.00			

Direct Expenses \$ 12,930

Subtotal Basis Engineering Fee \$ 154,900

TEDSI Additional Engineering Services

Drainage

Descripton	Sr. Project Manager	Senior Engineer	Project Engineer	Sr. Eng. Designer/EIT	Eng. Designer	Clerical		
Drainage Area Maps	4	4	16		40		64	\$ 7,760
Hydrology Calculations	4	4	16				24	\$ 3,760
Hydraulic Calculations	4	4	16				24	\$ 3,760
Preliminary culvert design, roadside ditches and storm sewer syst	4	4	12	24	40		84	\$ 9,820
Prepare H & H Report	4	4	12		15		35	\$ 4,680
Total	20	20	72	24	95	0	231	\$ 29,780
	\$ 200.00	\$ 160.00	\$ 145.00	\$ 110.00	\$ 100.00	\$ 75.00		

Traffic

Descripton	Sr. Project Manager	Senior Engineer	Project Engineer	Sr. Eng. Designer/EIT	Eng. Designer	Clerical		
Traffic Signal Warrant Study (4 Locations)	8	32	40		76		156	\$ 20,120
Prepare traffic counts and projections	1	4	8		10		23	\$ 3,000
Prepare exhibits for traffic and turning movement counts	4	8	16		15		43	\$ 5,900
Determine turning lane requirements	4	16	24		48		92	\$ 11,640
Develop Traffic Engineering Report	4	10	12		20		46	\$ 6,140
Total	21	70	100	0	169	0	360	\$ 46,800
	\$ 200.00	\$ 160.00	\$ 145.00	\$ 110.00	\$ 100.00	\$ 75.00		

Subtotal Additional Engineering Service Fee

\$ 76,580

Subconsultant Additional Services

Design Field Survey and Project Control	=	\$95,623
Environmental Constraints Analysis	=	\$8,840
Geotechnical Testing and Pavement Design	=	\$39,875

Subtotal Subconsultant Additional Engineering Services

\$144,338

TEDSI Management and Coordination Fee

\$21,651

Sub-Total

=

\$165,989

Total Lump Sum Fee (Basic +Additional)

=

\$397,469

TASK AND DESCRIPTION	PRINCIPLE	PROJECT MANAGER	R.P.L.S.	ENGINEER	SURVEYOR IN TRAINING	SURVEY TECHNICIAN	CADD TECHNICIAN	3-MAN SURVEY CREW	CLERICAL SUPPORT
I. PROJECT START-UP AND COORDINATION									
1. Coordination Between Engineer, Consultant, and County	2	8	2		2				2
2. Coordination with Utilities / Irrigation District	2	8	2		2				2
3. Obtain Right-of-Entry from Property Owners for Surveying Purposes		2							4
SUBTOTAL - PROJECT START-UP AND COORDINATION	4	18	4	0	4	0	0	0	8
II. DATA GATHERING									
1. Collect and Review Existing County Data		2	4		4	8			2
2. Visit Site with Client Representatives	1	2	2		2				
3. Coordinate Field Survey	1	2	4		4				1
4. Prepare Preliminary Project Layout	1	2	4		2	8	8		2
5. Client Conference / Review Meetings	1	2	2		4	2			2
SUBTOTAL - DATA GATHERING	4	10	16	0	16	18	8	0	5
III. TOPOGRAPHICAL SURVEYING									
1. Establish Horizontal and Vertical Control Benchmarks @ 1,000-Ft Intervals	1	2	4		4				48
2. Create 11'x17" Control Data Plan Sheet		1	2		2	2	2	2	
3. Cross Sections @ 100-Foot Intervals (Project Length - 13,200-Ft Length)	2	4	8		4				40
4. Topographic Survey of Project to 10-Ft outside R.O.W.									
a. Obtain driveway x-sections to extend 10-ft outside R.O.W.	1	1	2		2				12
b. Inventory public access, commercial and private driveway by type.		1	1						4
c. Obtain Side Drain data (approx. station, size, length, flow lines, etc.)			1						4
5. Culverts and Bridges (Drainage or Irrigation)									
a. Obtain size of structures, type, skew angle, material.	1	1	2		2				24
b. Locate and obtain inlet and outlet flow line elevations, top of headwalls, aprons, edge of pavement, and centerline of road.									4
c. Obtain profiles and x-sections @ 100-ft intervals upstream and downstream of structures.		1	2		4				16
d. Determine type of wingwall or safety end treatments or barrier rails, (end treatment, location, length, height)		1	1						4
e. Obtain pictures of culvert barrels and outlet and inlet view to the R.O.W.		1							1
6. Fences, Mailboxes, and Sign Inventory									
a. Locate and obtain mailbox inventory (type-identify as single, double, or multiple) for all mailboxes within R.O.W. and at all intersection locations, include photographs.	1	1	1		1				8
b. Locate and obtain sign inventory (type) for all signs within R.O.W. and at all intersection locations, include pictures.		1	1		1				12
7. Miscellaneous									
a. Locate any topographic feature within project area (within 10-ft outside of R.O.W.) in addition to items specifically mentioned above.	1	1	2		2				12
b. Pick up any items that may be an obstruction to the proposed construction (ie. Gas markers, etc.)	1	1	1		1				8
c. Process ASCII files to develop DTM and submit to Consultant	1	2			8	8	16		
SUBTOTAL - TOPOGRAPHICAL SURVEYING	9	19	28	0	31	10	18	197	1
IV. RIGHT-OF-WAY SURVEYING									
1. Utility information (to 10-ft outside R.O.W.)									
a. Contact "One Call" to request marking of underground utilities.	1	1	2		1				2
b. Request existing utility information from local utility companies.	1	1	2		1				2
c. Perform surveying necessary for horizontal location of located "Flagged" underground utilities and visible overhead lines.		1	2		1				32
d. Measure downs on utilities as follows:									
i. Top of key on gas line valves.		1	2		1				8
ii. Top of key on water line valves.		1	2		1				8
iii. Flow line, size of tie-ins and direction of flow for sanitary sewer manholes.		1	2		1				8
iv. Flow line, size of pipe for irrigation systems.		1	2		1				8
v. Flow line, size of system for inverted siphons.		2	4		2				24
2. Right-of-Way									
a. Obtain most current existing right-of-way information as follows:									
i. Plats.	1	2	4		2	8			4
ii. Deeds.		2	4		2	8			4
iii. Ownership information.		2	4		2	8			4
b. Survey existing roadway right-of-way and adjoining parcel lines in project coordinate system.	1	2	4		2	8	8	40	
c. Provide Microstation file to show the following:									
i. Existing road right-of-way.	1	2	4		2	8	8		
ii. Adjoining parcel property lines.					2	8	8		
iii. Legal information.		2	4		2	8	8		
iv. Ownership information.					2	8	8		
SUBTOTAL - RIGHT-OF-WAY SURVEYING	5	21	42	0	25	64	40	128	16
TOTAL - DICKER ROAD TOPOGRAPHIC SURVEYING	22	68	90	0	76	92	66	325	30

PERSONNEL LABOR:	Estimated Hours	Hourly Rate	Estimated Cost	Totals
Principal	22	\$256.61	\$5,645	
Project Manager	68	\$183.30	\$12,464	
R.P.L.S.	90	\$154.30	\$13,887	
Engineer	0	\$102.65	\$0	
Surveyor In Training	76	\$87.99	\$6,687	
Survey Technician	92	\$76.25	\$7,015	
CADD-Design Technician	66	\$61.00	\$4,026	
3-Man Survey Crew	325	\$130.00	\$42,250	
Clerical	30	\$55.73	\$1,672	
Personnel Labor Total:	769			\$93,647
MISCELLANEOUS COSTS:	Quantity	Unit	x Rate =	Estimated Cost
Prints & Reproduction	1200	SF	\$0.25	\$300.00
Materials & Supplies	1	LS	\$1,500.00	\$1,500.00
Auto Mileage (20 Trips @ 16 Miles per trip)	320	MI	\$0.55	\$176.00
Miscellaneous Cost Total:				\$1,976
PROJECT FEE TOTAL:				\$95,623