


Municipality McHenry County	L O C A L A G E N C Y	 Illinois Department of Transportation Preliminary Engineering Services Agreement For Motor Fuel Tax Funds Supplement No. 1	C O N S U L T A N T	Name Strand Associates, Inc.®
Township				Address 1170 Houbolt Road
County McHenry				City Joliet
Section 08-00356-00BR				State IL

THIS AGREEMENT is made and entered into this _____ day of _____, _____ between the above Local Agency (LA) and Consultant (ENGINEER) and covers certain professional engineering services in connection with the improvement of the above SECTION. Motor Fuel Tax Funds, allotted to the LA by the State of Illinois under the general supervision of the State Department of Transportation, hereinafter called the "DEPARTMENT", will be used entirely or in part to finance ENGINEERING services as described under AGREEMENT PROVISIONS.

Section Description

Name Hill Road Bridge Replacement Supplemental Services

Route TR 21 Length 0.20 Mi. _____ FT (Structure No. 056-3045)

Termini Approximately 1,100 feet east of US 12 to the Bonnie Brae Road intersection

Description:

Phase II engineering services for the removal and replacement of the two-span deck beam structure that carries Hill Road over the North Branch of Nippersink Creek with a new two-span deck beam structure and retaining walls to reduce fill.

Agreement Provisions

The Engineer Agrees,

1. To perform or be responsible for the performance of the following engineering services for the LA, in connection with the proposed improvements herein before described, and checked below:
 - a. Make such detailed surveys as are necessary for the preparation of detailed roadway plans
 - b. Make stream and flood plain hydraulic surveys and gather high water data, and flood histories for the preparation of detailed bridge plans.
 - c. Make or cause to be made such soil surveys or subsurface investigations including borings and soil profiles and analyses thereof as may be required to furnish sufficient data for the design of the proposed improvement. Such investigations are to be made in accordance with the current requirements of the DEPARTMENT.
 - d. Make or cause to be made such traffic studies and counts and special intersection studies as may be required to furnish sufficient data for the design of the proposed improvement.
 - e. Prepare Army Corps of Engineers Permit, Department of Natural Resources-Office of Water Resources Permit, Bridge waterway sketch, and/or Channel Change sketch, Utility plan and locations, and Railroad Crossing work agreements.
 - f. Prepare Preliminary Bridge design and Hydraulic Report, (including economic analysis of bridge or culvert types) and high water effects on roadway overflows and bridge approaches.
 - g. Make complete general and detailed plans, special provisions, proposals and estimates of cost and furnish the LA with five (5) copies of the plans, special provisions, proposals and estimates. Additional copies of any or all documents, if required, shall be furnished to the LA by the ENGINEER at his actual cost for reproduction.
 - h. Furnish the LA with survey and drafts in quadruplicate of all necessary right-of-way dedications, construction easement and borrow pit and channel change agreements including prints of the corresponding plats and staking as required.

Note: Four copies to be submitted to the Regional Engineer

- i. Assist the LA in the tabulation and interpretation of the contractors' proposals
 - j. Prepare the necessary environmental documents in accordance with the procedures adopted by the DEPARTMENT's Bureau of Local Roads & Streets.
 - k. Prepare the Project Development Report when required by the DEPARTMENT.
- (2) That all reports, plans, plats and special provisions to be furnished by the ENGINEER pursuant to the AGREEMENT, will be in accordance with current standard specifications and policies of the DEPARTMENT. It is being understood that all such reports, plats, plans and drafts shall, before being finally accepted, be subject to approval by the LA and the DEPARTMENT.
- (3) To attend conferences at any reasonable time when requested to do so by representatives of the LA or the Department.
- (4) In the event plans or surveys are found to be in error during construction of the SECTION and revisions of the plans or survey corrections are necessary, the ENGINEER agrees that he will perform such work without expense to the LA, even though final payment has been received by him. He shall give immediate attention to these changes so there will be a minimum delay to the Contractor.
- (5) That basic survey notes and sketches, charts, computations and other data prepared or obtained by the Engineer pursuant to this AGREEMENT will be made available, upon request, to the LA or the DEPARTMENT without cost and without restriction or limitations as to their use.
- (6) That all plans and other documents furnished by the ENGINEER pursuant to this AGREEMENT will be endorsed by him and will show his professional seal where such is required by law.

The LA Agrees,

1. To pay the ENGINEER as compensation for all services performed as stipulated in paragraphs 1a, 1g, 1i, 2, 3, 5 and 6 in accordance with one of the following methods indicated by a check mark:
- a. A sum of money equal to _____ percent of the awarded contract cost of the proposed improvement as approved by the DEPARTMENT.
 - b. A sum of money equal to the percent of the awarded contract cost for the proposed improvement as approved by the DEPARTMENT based on the following schedule:

Schedule for Percentages Based on Awarded Contract Cost

Awarded Cost Under \$50,000	Percentage Fees	(see note)
		%
		%
		%
		%
		%

Note: Not necessarily a percentage. Could use per diem, cost-plus or lump sum.

2. To pay for services stipulated in paragraphs 1b, 1c, 1d, 1e, 1f, 1h, 1j & 1k of the ENGINEER AGREES at actual cost of performing such work plus _____ percent to cover profit, overhead and readiness to serve - "actual cost" being defined as material cost plus payrolls, insurance, social security and retirement deductions. Traveling and other out-of-pocket expenses will be reimbursed to the ENGINEER at his actual cost. Subject to the approval of the LA, the ENGINEER may sublet all or part of the services provided under the paragraph 1b, 1c, 1d, 1e, 1f, 1h, 1j & 1k. If the ENGINEER sublets all or part of this work, the LA will pay the cost to the ENGINEER plus a five (5) percent service charge.

"Cost to Engineer" to be verified by furnishing the LA and the DEPARTMENT copies of invoices from the party doing the work. The classifications of the employees used in the work should be consistent with the employee classifications for the services performed. If the personnel of the firm, including the Principal Engineer, perform routine services that should normally be performed by lesser-salaried personnel, the wage rate billed for such services shall be commensurate with the work performed.

3. That payments due the ENGINEER for services rendered in accordance with this AGREEMENT will be made as soon as practicable after the services have been performed in accordance with the following schedule:
 - a. Upon completion of detailed plans, special provisions, proposals and estimate of cost - being the work required by paragraphs 1a through 1g under THE ENGINEER AGREES - to the satisfaction of the LA and their approval by the DEPARTMENT, 90 percent of the total fee due under this AGREEMENT based on the approved estimate of cost.
 - b. Upon award of the contract for the improvement by the LA and its approval by the DEPARTMENT, 100 percent of the total fee due under the AGREEMENT based on the awarded contract cost, less any amounts paid under "a" above.

By Mutual agreement, partial payments, not to exceed 90 percent of the amount earned, may be made from time to time as the work progresses.

4. That, should the improvement be abandoned at any time after the ENGINEER has performed any part of the services provided for in paragraphs 1a, through 1h and prior to the completion of such services, the LA shall reimburse the ENGINEER for his actual costs plus _____ percent incurred up to the time he is notified in writing of such abandonment -"actual cost" being defined as in paragraph 2 of THE LA AGREES.
5. That, should the LA require changes in any of the detailed plans, specifications or estimates except for those required pursuant to paragraph 4 of THE ENGINEER AGREES, after they have been approved by the DEPARTMENT, the LA will pay the ENGINEER for such changes on the basis of actual cost plus _____ percent to cover profit, overhead and readiness to serve -"actual cost" being defined as in paragraph 2 of THE LA AGREES. It is understood that "changes" as used in this paragraph shall in no way relieve the ENGINEER of his responsibility to prepare a complete and adequate set of plans and specifications.

It is Mutually Agreed,

1. That any difference between the ENGINEER and the LA concerning their interpretation of the provisions of this Agreement shall be referred to a committee of disinterested parties consisting of one member appointed by the ENGINEER, one member appointed by the LA and a third member appointed by the two other members for disposition and that the committee's decision shall be final.
2. This AGREEMENT may be terminated by the LA upon giving notice in writing to the ENGINEER at his last known post office address. Upon such termination, the ENGINEER shall cause to be delivered to the LA all surveys, permits, agreements, preliminary bridge design & hydraulic report, drawings, specifications, partial and completed estimates and data, if any from traffic studies and soil survey and subsurface investigations with the understanding that all such material becomes the property of the LA. The ENGINEER shall be paid for any services completed and any services partially completed in accordance with Section 4 of THE LA AGREES.
3. That if the contract for construction has not been awarded one year after the acceptance of the plans by the LA and their approval by the DEPARTMENT, the LA will pay the ENGINEER the balance of the engineering fee due to make 100 percent of the total fees due under this AGREEMENT, based on the estimate of cost as prepared by the ENGINEER and approved by the LA and the DEPARTMENT.
4. That the ENGINEER warrants that he/she has not employed or retained any company or person, other than a bona fide employee working solely for the ENGINEER, to solicit or secure this contract, and that he/she has not paid or agreed to pay any company or person, other than a bona fide employee working solely for the ENGINEER, any fee, commission, percentage, brokerage fee, gifts or any other consideration, contingent upon or resulting from the award or making of this contract. For Breach or violation of this warranty the LA shall have the right to annul this contract without liability.

IN WITNESS WHEREOF, the parties have caused the AGREEMENT to be executed in quadruplicate counterparts, each of which shall be considered as an original by their duly authorized officers.

Executed by the LA:

County of McHenry _____ of the
(Municipality/Township/County)

ATTEST:

State of Illinois, acting by and through its

By _____

County _____ Clerk

By _____

(Seal)

Title _____

Executed by the ENGINEER:

Strand Associates, Inc.® _____

1170 Houbolt Road _____

ATTEST:

Joliet, IL 60431 _____

By _____

By _____

Title _____

Title _____

Approved

Date
Department of Transportation

Regional Engineer

CHANGES

HILL ROAD BRIDGE REPLACEMENT

On Page 1, under **The Engineer Agrees**, ADD “and as clarified in Exhibit B” to Item 1 after “...and checked below.”

On Pages 2 and 3, under **The LA Agrees**, DELETE paragraphs 1, 2, 3, 4, and 5 and REPLACE with the following:

“1. To pay ENGINEER within fifteen (15) days following LA’s approval of ENGINEER’s invoices as compensation for all services performed as stipulated under **The ENGINEER Agrees**, on a Cost Plus Fixed Fee basis in accordance with the Cost Estimate of Consultant Services included as Exhibit C and as follows:

- a) For progressive payments: Upon receipt of monthly invoices from ENGINEER and the approval thereof by the LA, monthly payments for the services performed shall be due and payable to ENGINEER, such payments to be equal to the value of the partially completed services minus all previous partial payments made to ENGINEER.
- b) Final Payment: Upon approval of the services by the LA but not later than 60 days after the services are completed and reports have been made and accepted by the LA and STATE, a sum of money equal to the basic fee as determined in this AGREEMENT less the total of the amounts of partial payments previously paid to ENGINEER shall be due and payable to ENGINEER.

The total compensation shall not exceed ninety-six thousand, nine hundred seventy-eight dollars and sixty-four cents (\$96,978.64).”

On Page 3 of the Agreement, under **It is Mutually Agreed**, DELETE paragraph 3 in its entirety.

SUPPLEMENTAL SCOPE OF SERVICES

HILL ROAD BRIDGE REPLACEMENT

Stormwater Permit Submittals (80 hours)

The original Hill Road Phase II contract included 48 man-hours for permitting. The project was scoped under the assumption that a variance would be pursued for reduced compensatory storage. It was determined by the County Department of Transportation (DOT) that, rather than continue to pursue a variance, the plans will be modified to avoid the need for a variance. Various alternatives and associated compensatory storage calculations were developed to meet the permit requirements. The County DOT's preferred alternative was selected; and updated drawings and permit submittals will reflect the new design.

The original Scope of Services for the Hill Road Bridge Replacement project indicated a submittal to the LA's Stormwater Department. Multiple iterations required by the LA's Stormwater Department were not included in the initial Scope. There have been three stormwater permit submittals between October 2011 and March 2012. Each submittal required significant calculations and exhibit development. A submittal will also be necessary to address the design changes. Additional correspondence with McHenry County DOT and its stormwater consultant will also be necessary.

Phase I Updates (64 hours)

While we are proposing design changes from those approved in Phase I, there are some Phase I elements that must be resubmitted. The items to be submitted are as follows: Phase I Report Addendum, BLR Form 10210, Project Progress Information (PPI) Form, and a Variance Request Form.

Attachments to BLR Form 10210 require an updated hydraulic analysis, bridge cross sections, and a scour analysis.

Roadway Drawing Updates (152 hours)

In order to meet the permit requirements of the County Stormwater Ordinance, the design drawings must be modified by lowering the profile and adding retaining walls to reduce fill and provide additional compensatory storage. Guardrail will be lengthened to provide adequate protection for the retaining walls.

With the adjustment in the profile and installation of the retaining walls, there are modifications to be made to the roadway drawings. Following is a list of sheets to be modified.

1. Index of Sheets: Number of sheets will change and standards will be updated.
2. General Notes and Commitments: General notes will be updated to include information about the retaining walls.
3. Summary of Quantities: Summary of Quantities will be updated with changes in the quantities. Approximately 40 quantities will change as a result of the profile adjustment and several quantities will be added.

4. Typical Sections: Typical Sections will be updated to incorporate the retaining walls and the adjustment in the ditch configuration.
5. Schedule of Quantities: Schedules will be updated to reflect the adjustment in profile and addition of the retaining walls.
6. Plan and Profile: The profile view in the Plan and Profile sheets will be updated to incorporate the lowered profile. The plan view will be updated to include the location of the proposed retaining walls.
7. Erosion Control Plan: Erosion Control Plan will be updated to reflect the new limits of construction. Erosion concerns presented by installation of the retaining walls and the widened ditches will also be addressed. The cofferdam locations and sediment basin locations will be reevaluated.
8. Drainage and Utility: The drainage and utility sheet will be updated to include the new ditch profiles and plan view location of the ditches. The location of the relocated utilities will be updated as well.
9. Grading: The entire grading plan will be recreated. The lowered profile, retaining walls, adjustment to the wingwalls, and updated ditch profiles all factor into the updates necessary for the grading sheet.
10. Pavement Marking and Landscaping: The final seeding limits will be updated to reflect the new construction limits and embankment configuration. There will no longer be room for the proposed trees to be planted so it will be necessary to update the sheet to reflect these changes.
11. Cross Sections: The cross sections will be recreated to incorporate the new roadway profile, retaining walls, guardrail limits, shoulder configuration, and new ditch profiles.
12. Quantities: Quantity calculation sheets will be updated for each quantity that will be added and updated as a result of the design changes. Several quantities will be added and approximately 40 quantities from the original drawings will be updated.
13. Specifications: Specifications will be updated to incorporate the most current check sheets and specifications for the January 2013 letting.

Structural Drawing Updates (104 hours)

With the adjustment in profile and the installation of the retaining walls, there are modifications that will be made to the structure drawings. Following is a list of sheets that will be modified.

14. General Plan and Elevation: The following items will be updated to account for the new profile, wingwalls, and sheet pile wall: Elevation view, Plan, Design Scour Table, Waterway Information Table, Profile Grade, and Index of Sheets.
15. Top of Approach Slab Elevations: All five of the top of approach slab tables will be updated.
16. Bridge Approach Slab Details: Update elevations for the new profile.

17. Abutment Details: The existing abutment sheet will be updated. Joint details are required for the interface between the new retaining wall and the abutment. Wingwall details will be updated to show only a concrete wing on the northeast corner and sheet pile wings/retaining wall at the other quadrants. Rebar details will be updated.
18. Pier Details: Update elevations for the new profile.
19. Quantities: Quantity calculation sheets will be updated for each quantity that will be added and updated as a result of the design changes.

Retaining Walls (150 hours)

20. General Plan and Elevation: A plan and elevation view will be developed for each wall showing the tied-back sheet pile wall locations and grading. Three sheets minimum will be required.
21. Details: A typical section, cap weld detail, anchor wall details, wall penetration details, whaler details, Bill of Materials, and general notes will be developed for the proposed retaining walls.
22. Soil Boring Logs/Coordination with Geotechnical Engineer: Review the Structural and Geotechnical for the design of the tied-back sheet pile wall systems. Create a drawing sheet for the boring logs.
23. Quantities/Special Provisions: Quantity calculation sheets will be developed for the new quantities added to the drawings. The sheet pile wall requires the use of a special provision.

Permitting Resubmittals (32 hours)

24. Floodway Permit–IDNR: To receive an amended floodway permit, the revised HEC-RAS models, drawing sheets cited in the current permit, (i.e. the entire plan set), and supporting floodway compensatory storage calculations will be resubmitted.
25. 404 Permit–Army Corps of Engineers: To receive an amended 404 permit, a copy of the drawings, revised responses to the regional permit requirements to coincide with our new design and mitigation credit purchase information (responsibility of the County DOT) will be resubmitted.

Addendum (40 hours)

26. Incorporate Soil Borings: Review soil borings and soil report to review that proposed design is adequate.
27. Address Bureau of Bridges and Structures (BBS) Review Comments: Incorporate review comments received from the BBS regarding design of the sheet piling wall. It is anticipated that the tied-back sheet pile wall system is acceptable.
28. Compile Addendum for submittal: Modify sheets that will need to be resubmitted in the Addendum.

Quality Control (20 hours)

29. Roadway Drawings: Provide quality control review of the final drawings and design elements arising due to lowering the profile and adding retaining walls.
30. Structural Drawings and Retaining Walls: Provide quality control review of the final structure drawings and design elements arising due to lowering the profile and adding retaining walls.
31. Retaining Wall Addendum: Provide quality control review for the retaining wall addendum for any drawings and design changes that may arise from BBS review comments and soil borings.

PAYROLL ESCALATION TABLE FIXED RAISES

FIRM NAME Strand Associates, Inc.
PRIME/SUPPLEMENT Prime

DATE 09/06/12
PTB NO. _____

CONTRACT TERM 3 MONTHS
START DATE 7/1/2012
RAISE DATE 7/1/2012

OVERHEAD RATE 166.31%
COMPLEXITY FACTOR _____
% OF RAISE 3.00%

ESCALATION PER YEAR

7/1/2012 - 7/1/2012

7/2/2012 - 10/1/2012

0
3

3
3

= 0.00%

103.00%

= 1.0300

The total escalation for this project would be:

3.00%

PAYROLL RATES

FIRM NAME Strand Associates, Inc. DATE 09/06/12
PRIME/SUPPLEMENT Prime
PSB NO. _____

ESCALATION FACTOR 3.00%

CLASSIFICATION	CURRENT RATE	CALCULATED RATE
PRINCIPAL	\$64.62	\$66.56
PROJECT MANAGER	\$50.78	\$52.30
STRUCTURAL ENGINEER	\$45.39	\$46.75
PROJECT ENGINEER	\$30.41	\$31.32
TECHNICIAN	\$26.90	\$27.71
CLERICAL	\$21.19	\$21.83
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
		\$0.00
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		\$0.00

COST PLUS FIXED FEE EXHIBIT C COST ESTIMATE OF CONSULTANT SERVICES

DF-824-039
REV 12/04

FIRM
PSB
PRIME/SUPPLEMENT

Strand Associates, Inc.
Prime

DATE 09/06/12

OVERHEAD RATE 1.6631
COMPLEXITY FACTOR 0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL (B)	OVERHEAD & FRINGE BENF (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	Outside Direct Costs (F)	SERVICES BY OTHERS (G)	DBE TOTAL (H)	TOTAL (B-G)	% OF GRAND TOTAL
	PHASE I UPDATES	64	2,552.83	4,245.62	258.75	1,023.29	50.00			8,130.50	8.38%
	ROADWAY PLANS	152	5,036.00	8,375.37	1,087.50	2,102.34	50.00			16,651.21	17.17%
	STRUCTURAL PLANS	104	4,021.37	6,687.94	937.50	1,688.79	50.00			13,385.59	13.80%
	RETAINING WALLS	150	6,260.77	10,412.29	772.50	2,529.61		16,500.00		36,475.17	37.61%
	STORMWATER PERMIT	80	2,806.05	4,666.74	787.50	1,197.74	100.00			9,558.03	9.86%
	PERMITTING	32	1,065.27	1,771.65	277.50	451.59	100.00			3,666.00	3.78%
	QUALITY CONTROL	20	1,331.17	2,213.87	82.50	525.99				4,153.54	4.28%
	ADDENDUM	40	1,489.17	2,476.65	277.50	615.28	100.00			4,958.60	5.11%
	Subconsultant DL					0.00				0.00	0.00%
	TOTALS	642	24,562.64	40,850.12	4,481.25	10,134.63	450.00	16,500.00	0.00	96,978.64	100.00%

DBE 0.00%

DBE

AVERAGE HOURLY PROJECT RATES

EXHIBIT C

FIRM
PSB
PRIME/SUPPLEMENT

Strand Associates, Inc.
Prime

DATE 09/06/12

SHEET 1 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES						PHASE I UPDATES			ROADWAY PLANS			STRUCTURAL PLANS			RETAINING WALLS		
		Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg	Hours	% Part.	Wgt'd Avg
PRINCIPAL	66.56	20	3.12%	2.07															
PROJECT MANAGER	52.30	104	16.20%	8.47				24	37.50%	19.61	20	13.16%	6.88	8	7.69%	4.02	24	16.00%	8.37
STRUCTURAL ENGINEER	46.75	152	23.68%	11.07				6	9.38%	4.38				48	46.15%	21.58	78	52.00%	24.31
PROJECT ENGINEER	31.32	180	28.04%	8.78				24	37.50%	11.75	92	60.53%	18.96	8	7.69%	2.41	8	5.33%	1.67
TECHNICIAN	27.71	168	26.17%	7.25				8	12.50%	3.46	40	26.32%	7.29	40	38.46%	10.66	40	26.67%	7.39
CLERICAL	21.83	18	2.80%	0.61				2	3.13%	0.68									
		0																	
		0																	
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TOTALS		642	100%	\$38.26	0	0.00%	\$0.00	64	100%	\$39.89	152	100%	\$33.13	104	100%	\$38.67	150	100%	\$41.74

AVERAGE HOURLY PROJECT RATES

EXHIBIT C

FIRM Strand Associates, Inc.
PSB
PRIME/SUPPLEMENT Prime

DATE 09/06/12
SHEET 2 **OF** 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	STORMWATER PERMIT			PERMITTING			QUALITY CONTROL			ADDENDUM			Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg						
PRINCIPAL	66.56							20	100.00%	66.56									
PROJECT MANAGER	52.30	20	25.00%	13.08	8	25.00%	13.08												
STRUCTURAL ENGINEER	46.75										20	50.00%	23.38						
PROJECT ENGINEER	31.32	40	50.00%	15.66	8	25.00%	7.83												
TECHNICIAN	27.71	12	15.00%	4.16	8	25.00%	6.93				20	50.00%	13.85						
CLERICAL	21.83	8	10.00%	2.18	8	25.00%	5.46												
TOTALS		80	100%	\$35.08	32	100%	\$33.29	20	100%	\$66.56	40	100%	\$37.23	0	0%	\$0.00	0	0%	\$0.00