

THREE PARTY DESIGN ENGINEERING SERVICES CONTRACT  
SIGNATURE PAGES

ENGINEERING SERVICES CONTRACT

BETWEEN THE WISCONSIN DEPARTMENT OF TRANSPORTATION,  
TOWN OF RUSSELL, BAYFIELD COUNTY (MUNICIPALITY)  
AND WESTBROOK ASSOCIATED ENGINEERS, INC. (CONSULTANT) FOR

*Project ID 8357-01-02  
T Russell, Little Sand Bay Road  
Old CTH K – Termini  
Twn Rd, Bayfield County*

DOT OBJECT CODE 5501

This CONTRACT made and entered into by and between the DEPARTMENT, MUNICIPALITY and the CONSULTANT provides for those SERVICES described in the Scope of Services and Special Provisions and is generally for the purpose of providing the SERVICES solicited by the MUNICIPALITY in the pavement replacement design of Little Sand Bay Road in the Town of Russell and to provide survey, design reports, environmental documentation, agency coordination, utility coordination, public involvement, meetings, road plans and PS&E. This Qualification Based Selection was made based on the CONSULTANT'S Notice of Interest response and any interviews conducted.

The DEPARTMENT and MUNICIPALITY deem it advisable to engage the CONSULTANT to provide certain engineering SERVICES and has authority to contract for these SERVICES under sec. 84.01(13), Wis. Stats.

The DEPARTMENT REPRESENTATIVE is: Ryan McKane, PE; Knight E/A Inc., NW Region Local Program Management Consultant; 700 North 3<sup>rd</sup> Street, Suite 104, La Crosse, WI 54601; [rmckane@knightea.com](mailto:rmckane@knightea.com); (608) 519-1455.

The MUNICIPALITY REPRESENTATIVE is: Paul Tribovich; Chairman, Town of Russell; 35900 State Highway 13, Bayfield, WI 54814; [townofrussell@centurytel.net](mailto:townofrussell@centurytel.net); (715) 779-5338.

The CONSULTANT REPRESENTATIVE is: Aaron Palmer, PE; Vice President; Westbrook Associated Engineers, Inc.; 619 E. Hoxie Street, PO Box 429, Spring Green, WI 53588; [apalmer@westbrookeng.com](mailto:apalmer@westbrookeng.com); (608) 588-7866.

The CONSULTANT SERVICES will be performed for the DEPARTMENT's Northwest Regional office located in Superior, WI and will be completed by November 1, 2016. Deliver PROJECT DOCUMENTS to Wisconsin Department of Transportation; 1701 N. 4<sup>th</sup> Street, Superior, WI 54880, unless other directions are given by the DEPARTMENT.

- (a) For Road Plans, Specifications and Estimates performed by CONSULTANT.  
A LUMP SUM OF \$60,135.58
- (b) For Survey and Drainage Design subcontracted to Lund Engineering the CONSULTANT'S actual cost to Lund Engineering based on a lump sum of \$10,050.00.

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- (c) For Archaeological Phase 1 Survey subcontracted to Archaeological Research, Inc., the CONSULTANT'S actual cost to Archaeological Research, Inc. based on Archaeological Research, Inc.'s actual cost up to \$2,723.40 plus fixed fee of \$212.06 not to exceed \$2,935.46.

Compensation for all SERVICES provided by the CONSULTANT under the terms of the CONTRACT shall be for an amount not to exceed \$73,121.04.

The CONSULTANT does and will comply with the laws and regulations relating to the profession of engineering and will provide the desired engineering SERVICES.

This CONTRACT incorporates and the parties agree to all of the standard provisions of the Three Party Design Engineering Services Contract, dated July 1, 2015 and referenced in Procedure 8-15-1 of the State of Wisconsin Department of Transportation Facilities Development Manual. CONSULTANT acknowledges receipt of a copy of these standard provisions.

This CONTRACT incorporates all of the MANUALS defined in the CONTRACT.

The parties also agree to all of the Special Provisions which are annexed and made a part of this CONTRACT, consisting of 6 pages.

Nothing in this CONTRACT accords any third part beneficiary rights whatsoever on any non-party that may be enforced by any non-party to this contract.

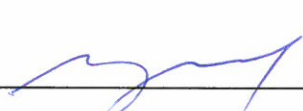
For the CONSULTANT

By: 

Title: Vice President

Date: September 24, 2015

For the DEPARTMENT

By: 

Contract Manager, WisDOT

Date: 10/27/15

For the MUNICIPALITY

By: 

Title: Chairman

Date: 9-28-15

Approved

By: SCOTT WALKER

Governor, State of Wisconsin

Date: 10/23/15

**THREE PARTY DESIGN CONTRACT SPECIAL PROVISIONS**  
**Revised 12/22/11**

The following are recommended special provisions for the design contract to be inserted behind the standard provisions.

**VI. SPECIAL PROVISIONS**

**SCOPE OF SERVICES**

**A. DESIGN REPORTS**

- (1) Request for Exceptions to Design Standards

Not included in this CONTRACT.

- (2) Encroachment Report

Not included in this CONTRACT.

- (3) Other Reports:

The CONSULTANT shall prepare the following engineering reports/analyses as directed by the MUNICIPALITY:

The CONSULTANT shall prepare the flexible design calculations and incorporate them with comment into the Design Study Report.

**B. ENVIRONMENTAL DOCUMENTATION**

By its execution of this CONTRACT, the CONSULTANT does hereby specify in accordance with the disclosure statement requirements of 40 CFR 1506.5(c) and 23 CFR 771.123(d) that CONSULTANT has no financial or other interest in the outcome of this PROJECT.

The CONSULTANT shall prepare a PCE Environmental document for the PROJECT as specified in the MANUAL and Chapter TRANS 400, Wisconsin Administrative Code. The appropriate number of copies shall be furnished to the MUNICIPALITY and DEPARTMENT for approval.

If review of the environmental document by the MUNICIPALITY, DEPARTMENT, and FHWA indicates that changes to this document are necessary, all such changes shall be made by the CONSULTANT.

In preparing environmental documentation, CONSULTANT shall consider and evaluate as alternatives to the PROJECT other reasonable actions or activities that may achieve the same or similar purpose of a highway PROJECT, including other or additional transportation alternatives and intermodal opportunities and the alternative of taking no action. CONSULTANT shall evaluate alternative courses of action based upon a balanced consideration of the environment, public comments, and the need for safe and efficient transportation consistent with local, state, and national environmental goals.

CONSULTANT shall prepare environmental documents that are concise, clear, and to the point and emphasize real environmental issues and alternatives. CONSULTANT shall comply with the requirements specified in the MANUAL as well as in Chapter TRANS 400, Wisconsin Administrative Code. In the event of any irresolvable conflict between the MANUAL and Chapter TRANS 400, Wisconsin Administrative Code, the administrative rule controls.

(1) Environmental Assessments :

Not included in this CONTRACT.

(2) Environmental Impact Statements :

Not included in this CONTRACT.

(3) Agricultural Impact Notice:

Not included in this CONTRACT.

(4) Section 4(f) Evaluation:

Not included in this CONTRACT.

(5) Section 6(f) Evaluation:

Not included in this CONTRACT.

(6) Historical and Archaeological Surveys and Studies:

(a) Project is assumed to be on the Screening List for Historical.

(b) A Phase 1 Archaeological Survey shall be completed by the CONSULTANT.

(7) Noise Analysis:

Not included in this CONTRACT.

(8) Air Quality:

Not included in this CONTRACT.

(9) Hazardous Materials/Contamination Assessments

(a) The CONSULTANT shall conduct a Phase I investigation for the PROJECT in accordance with the MANUAL and prepare the checklist for the Town of Russell.

(b) The MUNICIPALITY acknowledges that the CONSULTANT is not, by virtue of this CONTRACT, the owner or generator of any waste materials generated as a result of the Hazardous Materials/ Contamination Assessments services performed by the CONSULTANT under this CONTRACT.

C. AGENCY COORDINATION

- (1) Section 401 and 402 Certifications:

Not included in this CONTRACT.

- (2) Section 404 Permits:

Not included in this CONTRACT.

- (3) Section 9 and 10 Permits:

Not included in this CONTRACT.

D. RAILROAD/ UTILITY INVOLVEMENTS

- (1) Railroad Negotiations/Agreements

Not included in this CONTRACT.

- (2) Utility Negotiations/Agreements

The CONSULTANT shall follow the procedures of the WisDOT Guide to Utility Coordination for Non-TRANS 220 projects.

E. PUBLIC INVOLVEMENT

Section II.C.(7.a.) of the Standard Provision of the CONTRACT is deleted.

- (1) Informational Meetings:

(a) The CONSULTANT shall conduct or assist the MUNICIPALITY in holding (1) informational meeting to acquaint the public with the concepts and probable impacts of this PROJECT.

(b) The CONSULTANT shall prepare all exhibits and documentary handout material and provide the equipment necessary to conduct the public informational meeting.

(c) The CONSULTANT shall prepare a summary report after the public information meeting.

(d) The CONSULTANT shall consult with the MUNICIPALITY after the public informational meeting to discuss the comments received and shall recommend as to the possible disposition of these comments and suggestions.

(e) The CONSULTANT shall make all the necessary arrangements for scheduling the meeting and provide notices and press releases for the MUNICIPALITY'S use.

(f) The CONSULTANT shall provide the MUNICIPALITY with copies of all public involvement correspondence and file notes.

(g) The CONSULTANT shall coordinate meeting schedules with the MUNICIPALITY'S representative.

(2) Formal Public Hearing:

Not included in this CONTRACT.

(3) Open Forum Public Hearing:

Not included in this CONTRACT.

(4) Project Mailings, Newsletters:

Not included in this CONTRACT.

#### F. MEETINGS

(1) The CONSULTANT shall attend or hold an Operational Planning Meeting to discuss the organization and processing of the Services under this CONTRACT.

(2) The CONSULTANT shall attend the pre-construction conference as scheduled by the DEPARTMENT.

#### G. LOCATING

Not included in this CONTRACT.

#### H. SURVEYS

Section II.C.(5) of the STANDARD PROVISIONS are deleted and replaced with the following:

(1) Surveys shall be tied into the Wisconsin County Coordinate System, Bayfield County.

(2) The CONSULTANT shall establish a minimum of 10 horizontal and 10 USGS vertical control points at the project location.

(3) Full topographical survey to be provided at the intersection of Little Sand Bay Road with Old CTH K, intersection of Little Sand Bay Road with Ridge Road and at (2) proposed culvert replacement areas only.

(4) Full cross section survey from R/W to R/W every 100' for the section of roadway between the intersection of CTH K and Ridge Road. The section of roadway north of Ridge Road will have full cross section survey from R/W to R/W every 300' in tangent sections and every 100' in curves.

#### I. SOILS AND SUBSURFACE INVESTIGATIONS



Not included in this CONTRACT.

J. ROAD PLANS

Section II.C.(9) in the Standard Provision of the CONTRACT is amended to include the following plan sheets only:

- a. Title Sheet
- b. Project Overview – Single Sheet Schematic Drawing
- c. Typical Cross Sections and General Notes
- d. Special Details
- e. List of Standard Detail Drawings
- f. Miscellaneous Quantities
- g. Plan Sheets with no profile view
- h. Cross Sections
- i. Erosion Control Plan

K. STRUCTURE PLANS

Not included in this CONTRACT.

L. PLATS

Not included in this CONTRACT.

M. HIGHWAY SYSTEM CHANGES

Not included in this CONTRACT.

N. TRAFFIC

Not included in this CONTRACT.

O. SERVICES PROVIDED BY THE MUNICIPALITY

The MUNICIPALITY will provide to the CONSULTANT the following for the PROJECT:

1. Proposed Pavement Section

P. PROSECUTION AND PROGRESS

- (1) The MUNICIPALITY shall report on the progress of the PROJECT as stipulated in the contract agreement. Standard benchmarks, consistent with WisDOT internal staff benchmarks, will be reported monthly to the DEPARTMENT. The actual start, projected or actual finish date, and percent of work complete will be included for all relevant benchmarks on any project report required for delivery to DEPARTMENT staff. The report can be delivered in electronic format consistent with current WisDOT standards (Microsoft Project), or on paper.
- (2) The CONSULTANT proposes to sublet these services to LUND Engineering:
  - a. Survey
  - b. H&H, Drainage Design for Culvert Replacement

- (3) The CONSULTANT proposes to sublet these services to Archaeological Research Inc.
- a. Archaeological Survey Phase I
- (4) The following items of work will be completed and submitted to the MUNICIPALITY by the indicated dates, if CONSULTANT has received the Notice to Proceed by November 15, 2015.

Report Title	Date
Environmental Document	March 2016
Preliminary Road Plan	March 2016
Design Study Report	July 2016
Final Road Plans	September 1, 2016
Final P.S. & E.	November 1, 2016

**BASIS OF PAYMENT – Phased Contracts**

- (1) The CONSULTANT will be compensated by the DEPARTMENT for services provided under this CONTRACT on the following basis:
- (a) For Road Plans, Specifications and Estimates performed by CONSULTANT,  
A LUMP SUM OF \$60,135.58.
- (b) For Survey and Drainage Design subcontracted to Lund Engineering the CONSULTANT'S actual cost to Lund Engineering based on a lump sum of \$10,050.00.
- (c) For Archaeological Phase 1 Survey subcontracted to Archaeological Research, Inc., the CONSULTANT'S actual cost to Archaeological Research, Inc. based on Archaeological Research, Inc.'s actual cost up to \$2,723.40 plus fixed fee of \$212.06 not to exceed \$2,935.46.
- (d) For the CONSULTANTS total cost, not to exceed \$73,121.04.



## Summary of Staff Hours and Direct Labor Costs

### PROJECT TOTAL

Project ID: 8357-01-02

Classification		Project Manager		Project Engineer		Engineer		Engineering Technician		Surveyor		Clerical		Total Direct Labor	
Hourly Wage		\$53.00		\$35.00		\$24.75		\$25.75		\$27.00		\$31.80			
Task	Activity Code	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars	Hours	Dollars
Administration	740	12	\$636.00	6	\$210.00	0	\$0.00	0	\$0.00	0	\$0.00	12	\$381.60	30	\$1,227.60
Reports	748	3	\$159.00	18	\$630.00	32	\$792.00	12	\$309.00	0	\$0.00	0	\$0.00	65	\$1,890.00
Env. Documentation	767	3	\$159.00	14	\$490.00	17	\$420.75	16	\$412.00	0	\$0.00	0	\$0.00	50	\$1,481.75
Utilities/RR/Agency Coord	746	1	\$53.00	8	\$280.00	10	\$247.50	8	\$206.00	0	\$0.00	0	\$0.00	27	\$786.50
Public Involvement	743	14	\$742.00	1	\$35.00	4	\$99.00	12	\$309.00	0	\$0.00	2	\$63.60	33	\$1,248.60
Survey	729	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Prelim Road Design	741	6	\$318.00	36	\$1,260.00	34	\$841.50	82	\$2,111.50	0	\$0.00	0	\$0.00	158	\$4,531.00
Prelim Structure Design	1001	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Final Road Design	742	8	\$424.00	39	\$1,365.00	40	\$990.00	96	\$2,472.00	0	\$0.00	0	\$0.00	183	\$5,251.00
Final Structure Design	1002	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00
Meetings	747	12	\$636.00	14	\$490.00	8	\$198.00	8	\$206.00	0	\$0.00	0	\$0.00	42	\$1,530.00
PS&E	794	4	\$212.00	18	\$630.00	44	\$1,089.00	28	\$721.00	0	\$0.00	0	\$0.00	94	\$2,652.00
Consultant Management	773	4	\$212.00	12	\$420.00	0	\$0.00	0	\$0.00	0	\$0.00	2	\$63.60	18	\$695.60
<b>TOTAL:</b>		67	\$3,551.00	166	\$5,810.00	189	\$4,677.75	262	\$6,746.50	0	\$0.00	16	\$508.80	700	\$21,294.05

8357-01-02

T Russell, Little Sand Bay Road  
 Old CTH K - Termini  
 Twn Rd, Bayfield County

Westbrook Associated Engineers, Inc.

## Consultant Direct Labor Rates

**Project ID: 8357-01-02**

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Employee Number	Classification	Current Rate	Pay Increase %	Pay Increase Amount	Date of Increase	% Work at Current Rate	% Work at Future Rate	Weighted Average Hourly Rate
6352	Project Manager	\$53.00	0.00%	\$0.00	1/1/17	\$100.00	0.00%	\$53.00
6320	Project Engineer	\$35.00	0.00%	\$0.00	1/1/17	\$100.00	0.00%	\$35.00
6408	Engineer	\$24.75	0.00%	\$0.00	1/1/17	\$100.00	0.00%	\$24.75
6264	Engineering Technician	\$25.75	0.00%	\$0.00	1/1/17	\$100.00	0.00%	\$25.75
6280	Surveyor	\$27.00	0.00%	\$0.00	1/1/17	\$100.00	0.00%	\$27.00
6248	Clerical	\$31.80	0.00%	\$0.00	1/1/17	\$100.00	0.00%	\$31.80

**PROJECT TOTAL**

**8357-01-02**

Task	Activity Code	Direct Labor Costs	Overhead Costs	Fixed Fee	Direct Expenses	Total
Administration	740	\$1,227.60	\$1,912.72	\$222.50	\$0.00	\$3,362.82
Reports	748	\$1,890.00	\$2,944.81	\$342.56	\$0.00	\$5,177.37
Env. Documentation	767	\$1,481.75	\$2,308.71	\$268.57	\$0.00	\$4,059.03
Utilities/RR/Agency Coord	746	\$786.50	\$1,225.45	\$142.55	\$0.00	\$2,154.50
Public Involvement	743	\$1,248.60	\$1,945.44	\$226.31	\$601.25	\$4,021.60
Survey	729	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Prelim Road Design	741	\$4,531.00	\$7,059.75	\$821.24	\$0.00	\$12,411.99
Prelim Structure Design	1001	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Final Road Design	742	\$5,251.00	\$8,181.58	\$951.74	\$0.00	\$14,384.32
Final Structure Design	1002	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Meetings	747	\$1,530.00	\$2,383.89	\$277.31	\$1,202.50	\$5,393.70
PS&E	794	\$2,652.00	\$4,132.08	\$480.68	\$0.00	\$7,264.76
Consultant Management	773	\$695.60	\$1,083.81	\$126.08	\$0.00	\$1,905.49
						\$0.00
						\$0.00
						\$0.00
						\$0.00
						\$0.00
						\$0.00
						\$0.00
						\$0.00
TOTAL:		\$21,294.05	\$33,178.24	\$3,859.54	\$1,803.75	\$60,135.58

7.25%



8357-01-02  
T Russell, Little Sand Bay Road  
Old CTH K - Termini  
Twn Rd, Bayfield County

Westbrook Associated Engineers, Inc.

## Direct Expenses by Item

**Project ID:**

**8357-01-02**

Item	Unit Amount	Unit Type	Rate	Total Expenses
Mileage	2250	Mile	\$0.575	\$1,293.75
Meals - breakfast	3	Each	\$8.000	\$24.00
Meals - lunch	3	Each	\$13.00	\$39.00
Meals - dinner	3	Each	\$24.00	\$72.00
Lodging	3	Each	\$125.00	\$375.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
				\$0.00
TOTAL				\$1,803.75

T Russell, Little Sand Bay Road  
Old CTH K - Termini  
Twn Rd, Bayfield County

## Subconsultants

**8357-01-02**

Work Element	Name of Subconsultant	Unit Type	Units	Unit Rate	Total Expenses
Survey and Drainage Design	Lund Engineering	LS	1	\$10,050.00	\$10,050.00
Phase 1 Arch Survey	Arch. Research Inc.	AC	1	\$2,935.46	\$2,935.46
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
					\$0.00
<b>TOTAL</b>					<b>\$12,985.46</b>

8357-01-02

T Russell, Little Sand Bay Road  
 Old CTH K - Termini  
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Westbrook Associated Engineers, Inc.

## Consultant Contract Total Fee Computation

Project ID	8357-01-02				Total for Contract
Number of Staff Hours	700				700
Total Direct Labor	\$21,294.05				\$21,294.05
Total Overhead Costs	\$33,178.24				\$33,178.24
Fixed Fee	\$3,859.54				\$3,859.54
Direct Expenses	\$1,803.75				\$1,803.75
<b>Subtotal</b>	<b>\$60,135.58</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$60,135.58</b>
Subcontract 1	\$10,050.00				\$10,050.00
Subcontract 2	\$2,935.46				\$2,935.46
<b>Subcontract Subtotal</b>	<b>\$12,985.46</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$12,985.46</b>
<b>TOTAL COST</b>	<b>\$73,121.04</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$73,121.04</b>

Company Wide Overhead Rate:

1.5581

Percent Profit:

7.25%



# LUND ENGINEERING

Randy M. Lund, PE (WI, MN, MI, IL, IA)

DATE: September 18, 2015

TO: Westbrook Associated Engineers, Aaron Palmer, PE

FR: Randy M. Lund, PE

RE: Survey Scope of Work

SURVEYS - Section II.C.(5) of the STANDARD PROVISIONS are deleted and replaced with the following:

- 1) Surveys shall be tied into the Wisconsin County Coordinate System, Bayfield County.
  - a. Find and tie into NGS, USGS, and Bayfield County Control Points.
  - b. Utilize accurate coordinate data and evaluate found control point information.
  - c. Attempt to tie into nearby (STH 13) WI DOT control points.
- 2) The CONSULTANT shall establish a minimum of 10 horizontal and 10 USGS vertical control points at the project location.
  - a. Establish Control network of 10 control points (CP's) thru Project.
  - b. Calibrate GPS coordinates for all Project Control Points
  - c. CP's shall be permanent (or semi-permanent) marks of rebar or spikes or hubs.
  - d. CP's shall be outside of the proposed construction limits.
  - e. CP's shall have inter-visibility to allow use of GPS or total station survey equipment.
- 3) Full topographical survey to be provided at the intersection of Little Sand Bay Road with Old CTH K, intersection of Little Sand Bay Road with Ridge Road and at (2) proposed culvert replacement areas only.
  - a. Manmade objects (signs, fences, etc.) and roadway break points (C/L, EOP, ditch, etc.) shall be included in the topo survey.
  - b. Drainage paths shall be identified and surveyed to allow adequate design of surface and conduit drainage.
  - c. Intersection match points shall incorporate survey points at least 50' feet from C/L of intersecting roads.
  - d. Culvert drainage shall be identified and surveyed to a point 50' upstream and 100' downstream, for the full width of the expected flow depth.
  - e. All Utilities shall be marked by Diggers Hotline and picked up in the field survey.
- 4) Full cross section survey from R/W to R/W every 100' for the section of roadway between the intersection of CTH K and Ridge Road. The section of roadway north of Ridge Road will have full cross section survey from R/W to R/W every 300' in tangent sections and every 100' in curves.
  - a. A minimum of 5 road points shall be surveyed (C/L, EOP, shld, ditch, approx. R/W)
  - b. Additional cross sections shall be obtained at all driveways and FE's
  - c. C/L offsets shall be established at critical locations (near intersections, at curves, and along long tangents) to allow re-establishment of the C/L during construction.
  - d. Major trees shall be located, if within expected construction limits. Especially at the culverts.
  - e. All Utilities shall be marked by Diggers Hotline and picked up in the field survey.

# LUND ENGINEERING

Randy M. Lund, PE (WI, MN, MI, IL, IA)

## Hydraulics & Hydrology

- 1) Culvert analysis
  - a. 48" culvert has a major plunge pool and downstream erosion
  - b. The culvert sizing will be analyzed with HY-8 or HEC RAS.
  - c. The design will also address energy dissipation, downstream
  - d. Hydraulic improvements will be made to increase flow characteristics. The inlet end may be lowered, end sections will be added, and a smooth wall pipe will be specified.
- 2) Drainage Basin
  - a. The drainage basin will be delineated and TR55, regression equations, or HEC HMS will be utilized to develop the design flood flow rate.
  - b. The soils will be evaluated for hydrology input parameters.

**TOWN OF RUSSELL - LITTLE SAND BAY ROAD**

**DESIGN COSTS - Lund Engineering**

**COST ESTIMATE - SURVEY, H&H, MEETINGS, CLIENT ADMIN.**

**Sept 16, 2015**

**BY: LUND ENGINEERING: RANDY M. LUND, PE**

**ROAD DESIGN COSTS**

<b>ITEM</b>	<b>UNIT</b>	<b>UNIT COST</b>	<b>QUANTITY</b>	<b>COST</b>
1. SURVEY W/ GPS	HR	\$ 125.00	30 \$	3,750.00
2. SURVEY - 2 PERSON CREW	HR	\$ 125.00	10 \$	1,250.00
3. SURVEY - OFFICE RESEARCH & SETUP	HR	\$ 100.00	10 \$	1,000.00
4. HYDRAULICS & HYDROLOGY CULVERTS	HR	\$ 100.00	10 \$	1,000.00
5. MEETINGS - OPM	HR	\$ 100.00	4 \$	400.00
6. MEETINGS - PIM	HR	\$ 100.00	4 \$	400.00
7. ADMINISTRATION	HR	\$ 100.00	10 \$	1,000.00
8. FINAL DESIGN - REVIEW WITH CLIENT	HR	\$ 100.00	10 \$	1,000.00
9. EXPENSES	LS	\$ 250.00	1 \$	250.00

**TOTAL DESIGN - LEC PORTION** **\$ 10,050.00**

# Archaeological RESEARCH, INC.

## Fee Computation Summary

SUBMITTED TO: Westbrook Associated Engineers

**CONTACT: Aaron Palmer, PE**

PHONE NUMBER: (608) 588-7866

Email: apalmer@westbrookeng.com

### PROJECT DESCRIPTION:

Phase I Archaeological Investigation  
2.6 miles of mill and resurface with  
intermittent right of way acquisition

**DATE: 21 September 2015**

**Project ID 8357-01-02/72**

### Project Title:

Little Sand Bay Road  
Old County Hwy K - Termini  
Town of Russell, Bayfield County

LABOR/ACTIVITY	TIME IN PERSON/ HOURS	COST PER HOUR	TOTAL ITEM COST	TOTAL UNIT COST
TASK 1 BACKGROUND DOCUMENTS SEARCH				
Research Specialists 1	0	\$32.50	\$0.00	
Research Specialists 2	1	\$32.50	\$32.50	\$32.50
TASK 2 FIELD INVESTIGATION				
Research Specialists 1	8	\$32.50	\$260.00	
Research Specialists 2	8	\$32.50	\$260.00	\$520.00
TASK 3 MONITORING CONSTRUCTION				
Research Specialists 1	0	\$32.50	\$0.00	
Research Specialists 2	0	\$32.50	\$0.00	\$0.00
TASK 4 REPORT PREPARATION				
Research Specialists 1	8	\$32.50	\$260.00	
Research Specialists 2	8	\$32.50	\$260.00	\$520.00
TASK 5 Agency/Project/Native American Coordination				
Research Specialists 1	3	\$32.50	\$97.50	
Research Specialists 2	0	\$32.50	\$0.00	\$97.50
<b>TOTAL DIRECT LABOR COST</b>	<b>36</b>			<b>\$1,170.00</b>
INDIRECT COST AT 98% OF DIRECT LABOR COSTS				\$1,146.60
FIXED FEE AT 7.25% (2.5 * DIRECT COSTS)				\$212.06
TRAVEL EXPENSES (720 miles @ 0.565/mile)				\$406.80
<b>TOTAL PROJECT COST</b>				<b>\$2,935.46</b>

Terms: All material is delivered in digital format

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