

Great Western Trail Pedestrian Bridges Project
Contract Amendment No. 1
Narrative of Phase I Scope Changes

The following is a narrative describing Bollinger, Lach & Associates, Inc.'s (BLA) request for Phase I supplemental:

Mechanically Stabilized Earth (MSE) Retaining Walls

The 2002 Great Western Trail Access Improvement Plan recommended Option 3 which indicated embankment slopes graded at 3:1 or 2:1. In our 2005 proposal to the Village, BLA recommended the investigation of alternative trail alignments. It was recognized at the time of the fee proposal that some retaining walls would be required to support the trail and keep the improvement within the ROW. These walls were assumed to be modular block walls of limited height running parallel at the south side of the trail, between Grace St. and the Union Pacific Railroad (UPRR), primarily to prevent additional fill from being placed over the utilities near the toe of the existing embankment. Realignment of the trail has subsequently eliminated the need for most of these block walls.

The MSE walls which are now required at the abutments for the bridges over the UPRR, St. Charles Rd. and Grace St. were not required nor anticipated at the time of negotiations in January 2006. This also includes the MSE walls parallel to the trail at these locations. The need for these walls is driven by the increased live load requirements from DuPage County DOT along with the UPRR's request that all proposed substructures be located outside of their ROW. The UPRR has additionally requested a grading easement within the project limits which will require the evaluation and inclusion of additional MSE walls.

We propose to incorporate the MSE wall designs and details into the respective bridge TS&L's, see below. There will be one separate MSE wall along the north ROW. The north wall will require one drawing and we are requesting 60 hours for this.

Bridge Type , Size & Location (TS&L) Plans

The 2002 Great Western Trail Access Improvement Plan recommended Option 3, which consisted of two separate prefabricated steel pedestrian bridges supported on multiple piers. BLA's proposal to the Village was based on the recommendations contained in the report. Our original scope and manhours were based on the assumption that we would be preparing TS&Ls for prefabricated bridges, which are the proprietary design of others.

The increased design live load requirements of DuPage County DOT now necessitate that the bridges be designed by BLA as conventional highway bridges. Prefabricated bridges are no longer an economical option. It is planned that the bridges will now be designed with prestressed concrete beams and cast-in-place decks. Highway bridge TS&L's done to IDOT standards generally require two drawings for each bridge and are usually allotted 160 hours for each bridge for design and preparation. Our original scope was for 80 hours per TS&L. Therefore, we are requesting 80 hours additional for each of the three bridge TS&L's. The bridge TS&L's with MSE retaining walls will require two additional drawings per bridge. We are requesting 60 additional hours per bridge for these additional drawings.

Ongoing Project Management

It was assumed at the start of this project that Phase I would last one year. It was not anticipated that Phase I would go on for 3 years. The original 32 hours is only enough to prepare monthly bills over the course of 3 years and does not allow for other project management tasks. BLA is requesting 30 hours for this task.

Coordination of Geotechnical Consultant's Activities

There is unanticipated administrative effort required for coordination, management and document processing of the additional geotechnical activities for the project. Two supplemental drilling programs and a revised geotechnical report are required for the proposed bridge and wall designs. BLA is requesting 30 additional hours for this task.

Coordination with UPRR

BLA reviewed and commented on submittals and communications from the UPRR beyond the extent that was originally anticipated. BLA will need to perform additional coordination with the UPRR for various project issues before Phase I is complete. BLA is requesting 20 hours for this effort. BLA has also initiated additional coordination with the UPRR to obtain their embankment for use on the GWT project. BLA will have to prepare exhibits and coordinate with other agencies for this task. BLA is requesting 30 hours for this task.

Coordination with ComEd

BLA has recently determined that ComEd power lines, which are in a perpetual easement, are in conflict with the construction of the bridge over the UPRR and trail embankment. If the power lines need to be relocated, this will be a project expense. BLA has prepared exhibits and has initiated coordination with ComEd which will be an ongoing process. BLA is requesting 40 hours for this task.

Escalation of Pay Rates

The original contract was based on our January 2006 pay rates. It was not anticipated at that time that the Phase I portion of the project would run into 2009. Therefore, BLA is requesting an adjustment to the remaining manhours from the original contract to account for escalation of pay rates. There were 840 hours remaining in the project as of the December 2008 billing. The average hourly rate in the original contract was 32.92 \$/hour. The average hourly rate using our 2009 pay rates is 38.74 \$/hour. The difference = 5.82 \$/hour. 840 hours times 5.82 \$/hour = \$4,888.80 times 2.5 contract approved multiplier = \$12,222. Therefore, BLA is requesting \$12,222 to cover the pay rate escalation.

Tree Survey

The Improvement Plan recommended a straight trail alignment. It has become necessary to minimize the bridge span length over the UPRR due to DuPage County and UPRR requirements. This has taken the trail alignment off of the area of the ROW where the original tracks were and onto the side slopes, which have numerous low value trees on them. In a February 2009 coordination meeting at IDOT, we were informed that it would be necessary to complete the tree portion of the Environmental Survey Request (ESR). Therefore, it will be necessary to perform a tree survey within the project limits and then determine how many of them will be impacted. BLA is requesting 110 hours for this task.

PHASE I DESIGN
Contract Amendment No. 1
 VILLAGE OF LOMBARD
 GREAT WESTERN TRAIL PEDESTRIAN BRIDGES
 Bollinger, Lach & Associates, Inc.

Personnel & Hours

Rate	Principal	Proj. Mgr.	Proj. Eng.	Des. Eng.	Dir.Str.Eng.	CADD	Dir.Env.Eng.	Dir. Survey	Surv. Mgr.	Party Chief	Inst.Man	Total Hours	% of Hours	Total Cost
	-	\$40.32	\$29.45	-	\$45.67	\$30.50	\$41.35	\$45.67	\$36.06	\$30.00	\$15.67			
Bridge TS&L		60	20		70	90						240	32.4	\$8,950.10
MSE Walls at Bridge Abutments		50	20		40	70						180	24.3	\$6,566.80
North MSE Wall		20			20	20						60	8.1	\$2,329.80
Geotechnical Coordination		15			15							30	4.1	\$1,289.85
UPRR Coordination		10			20	20						50	6.8	\$1,926.60
ComEd Coordination		10			20	10						40	5.4	\$1,621.60
Ongoing Project Managemen		10			20							30	4.1	\$1,316.60
Tree Survey						8	50	1	3	24	24	110	14.9	\$3,561.43
Subtotal	0	175	40		205	218	50	1	3	24	24	740	100.0	\$27,562.78
% of Hours	0.0	23.6	5.4		27.7	29.5	6.8	0.1	0.4	3.2	3.2	-	100.0	-
Total Cost		\$7,056.00	\$1,178.00		\$9,362.35	\$6,649.00	\$2,067.50	\$45.67	\$108.18	\$720.00	\$376.08	-	-	\$27,562.78
Multiplier 2.5	\$0.00	\$17,640.00	\$2,945.00		\$23,405.88	\$16,622.50	\$5,168.75	\$114.18	\$270.45	\$1,800.00	\$940.20	-	-	\$68,906.95
Direct Costs	-	-	-	-	-	-	-	-	-	-	-	-	-	\$0.00
Pay Rate Escalation(Attached)	-	-	-	-	-	-	-	-	-	-	-	-	-	\$12,222.00
Unused fee Lighting Sub-KAM														-\$2,348.50
Unused fee Architectural Sub-DLK														-\$11,820.39
	-	-	-	-	-	-	-	-	-	-	-	-	-	
TOTAL COST	-	-	-	-	-	-	-	-	-	-	-	-	-	\$66,960.06

(Phase I Contract Amendment No. 1 Amount)

Great Western Trail Pedestrian Bridges Project
Contract Amendment No. 1
Narrative of Phase II Scope Changes

In the original Phase II scope of engineering work for the Great Western Trail bridges it was assumed that stub abutments would be used and that proprietary prefabricated pedestrian bridges would be supported by the abutments. Stub abutments are piles with a concrete cap and have the ground in front of them sloping at 2:1 (H:V).

Two primary factors that impacted the Phase I scope also impact the Phase II scope. One change was the UPRR subsequently requiring that no substructures be placed in their ROW. The other change was DuPage County DOT's requirement that the bridges be designed to carry H20 vehicular live load. Together these requirements mean that prefabricated pedestrian bridges can no longer economically span over the UPRR and roadways.

Therefore, the bridge designs were changed to conventional highway bridges following the IDOT Bridge Manual. The trail was realigned to reduce the bridge span length required over the UPRR. Stub abutments with 2:1 slopes in front could no longer be used and were changed to stub abutments with vertical MSE walls in front of them.

Superstructure Design

Superstructure design was not part of the original scope; it was to be done by the prefabricated pedestrian bridge supplier. Therefore, BLA will now be required to prepare plans for three highway bridge superstructures. BLA is requesting 1,423 additional hours for this work (683+703+547 - 510 original).

MSE Wall Design

MSE walls were not part of the original scope. Modular block walls were included in the original scope. MSE walls are being used as part of the abutments for each of the three bridges. Six individual wall designs are required for the abutments. Because of the realignment of the trail going over the UPRR, an additional MSE wall is required adjacent to the trail's north ROW. There will still be modular block walls, but not to the original extent. BLA is requesting 624 additional hours for this work (251+299+239+131+52+44 - 392 original).

Shop Drawing Review

Shop drawing review was included in the original scope. However, the hours were to review submittals for prefabricated pedestrian bridges. Anticipated reviews now include prestressed Bulb-Tee girders and I-girders, girder bearings, bridge rail, bridge handrail, bridge deck joints, MSE walls, and block walls. BLA is requesting 112 additional hours for this work (162+40 - 90 original).

Civil Engineering/Survey

Additional work effort is required due to the change in scope discussed above. BLA is requesting 466 additional hours for this work (1435 - 969 original).

**VILLAGE OF LOMBARD
GREAT WESTERN TRAIL
Phase II**

Side By Side Comparison of Phase II Tasks and Hours
Comments in italics

**VILLAGE OF LOMBARD
GREAT WESTERN TRAIL PEDESTRIAN BRIDGES
Phase II
Bollinger, Lach & Associates, Inc.**

January 9, 2006

**VILLAGE OF LOMBARD
GREAT WESTERN TRAIL
Phase II
Bollinger, Lach & Associates, Inc.**

July 2009

<u>Item</u>	<u>Sheets</u>	<u>MH/Sheet</u>	<u>Total MH</u>	<u>Item</u>	<u>Sheets</u>	<u>MH/Sheet</u>	<u>Total MH</u>
Cover Sheet	1	16	16	Cover Sheet	1	16	16
Typical Section	1	20	20	Typical Section	1	30	30
Alignment & Ties, Benchmarks	1	8	8	Alignment & Ties, Benchmarks	2	24	48
Notes, Index, List of Standards	1	16	16	Notes, Index, List of Standards	1	24	24
Summary	2	24	48	Summary of Quantities	2	32	64
Schedule	1	24	24	Schedule of Quantities	1	24	24
Base Sheets	1	20	20	Base Sheets	3	20	60
Roadway Plan & Profile	1	20	20	Roadway Plan & Profile	3	25	75
Drainage Plan & Profile	1	20	20	Drainage Plan & Profile	3	25	75
Special Provisions	-	-	24	Special Provisions	-	-	40
Cost Estimate	-	-	24	Cost Estimate	-	-	36
Misc. IDOT Details	6	2	12	Misc. IDOT Details	6	2	12
Local Details	2	8	16	Local Details (Consultant)	2	8	16
Pavement Marking & Signing	1	16	16	Pavement Marking & Signing	1	16	16
Landscaping	1	32	32	Landscaping	2	20	40
Erosion Control	1	20	20	Erosion Control	2	20	40
Meeting	1	-	80	Meetings	-	-	80
Drainage Calculations	1	-	60	Drainage Calculations	1	-	60
DEC Permit *	1	-	160	Village of Lombard Drainage Submittal*	1	-	80
Cross Sections (30 full @ 3.5 MH/xsec)	1	-	105	Cross Sections (30 full @ 3.5 MH/xsec.)	1	-	105
Permits (Railroad, NPDES)	1	-	60	Permits (Railroad, NPDES, NOI, KDSC)	1	-	80
Utility Coordination, Permits, Conflicts	1	-	40	Utility Coordination, Permits, Conflicts	1	-	40
Soil Profile and Coordination	1	8	8	Soil Profile and Coordination	1	8	8
QA/QC @ 40 MH/Submittal	-	-	120	QA/QC @ 40 MH/Submittal	-	-	120
				Supplemental Survey			70
				<i>Topo changes made by UPRR and to topo embankment stockpiles.</i>			
				Phase III Coordination			40
				<i>Required to address questions from contractor for entire project</i>			
				Phase III Shop Drawing Review			162
				<i>Explained elsewhere.</i>			
				Administration			176
				<i>Required to manage the project.</i>			
				Subtotal			1,637
Structural (Bridge & Retaining Walls)	21	-	902	Structural (Bridge & Retaining Walls)	98	-	2,949
				<i>Explained elsewhere.</i>			
TOTAL	49	-	1871	TOTAL	134	-	4,586

* Includes Environmental Services with respect to the DuPage County Stormwater Management Submittal.

Contract Amendment No. 1

Phase II

Great Western Trail

PHASE II DESIGN VILLAGE OF LOMBARD GREAT WESTERN TRAIL PEDESTRIAN BRIDGES Bollinger, Lach & Associates, Inc. 1/9/2006 (Original Contract) Personnel & Hours									
	Principal	Proj. Manager	Sr. Engineer	Design Engineer	Sr. Struc. Eng.	CADD	Total Hours	% of Hours	Total Cost
Rate	\$67.50	\$41.58	\$34.03	\$26.12	\$43.99	\$26.05			
Preliminary Eng. (65%)	18	61	152	97	-	281	609	100.0	\$18,777.63
Prefinal Eng. (95%) *	8	28	91	65	-	129	321	52.7	\$9,859.22
Final Eng. (100%)	2	5	12	8	-	20	47	7.7	\$1,481.22
Bridge Plans	-	-	73	73	160	204	510	83.7	\$16,743.55
Retaining Wall Plans **	-	-	82	82	54	174	392	64.4	\$11,840.46
Shop Drawing Review (Phase III)	-	-	-	60	30	-	90	14.8	\$2,886.90
Subtotal	28	94	410	385	244	808	1969	323.3	\$61,588.98
% of Hours	4.6	15.4	67.3	63.2	40.1	132.7	-	323.3	-
Total Costs	\$1,890.00	\$3,908.52	\$13,952.30	\$10,056.20	\$10,733.56	\$21,048.40	-	-	\$61,588.98
Multiplier 2.5	\$4,725.00	\$9,771.30	\$34,880.75	\$25,140.50	\$26,833.90	\$52,621.00	-	-	\$153,972.45
Direct Costs	-	-	-	-	-	-	-	-	\$1,738.75
Subcontractor (KAM): Lighting Plans	-	-	-	-	-	-	-	-	\$10,673.00
Subcontractor (DLK): Landscape Design	-	-	-	-	-	-	-	-	\$8,611.00
TOTAL COST	-	-	-	-	-	-	-	-	\$174,995.20

July 2009 Phase II Design Fee: (Attached)

\$467,576.50

January 2006 Phase II Design Fee: (This Sheet)

\$174,995.20

Phase II Contract Amendment Amount =

\$292,581.30

