

**DISTRICT 4&5**

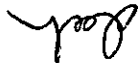
**VILLAGE OF LOMBARD  
REQUEST FOR BOARD OF TRUSTEES ACTION  
For Inclusion on Board Agenda**

Resolution or Ordinance (Blue) \_\_\_\_\_  
Waiver of First Requested Recommendations of Boards, Commissions & Committees (Green) \_\_\_\_\_  
Other Business (Pink) \_\_\_\_\_

X

TO: PRESIDENT AND BOARD OF TRUSTEES

FROM: David A. Hulseberg, Village Manager



DATE: August 04, 2009 (COW) (B of T) Date: August 20, 2009

TITLE: Great Western Trail Pedestrian Bridges (over Grace St, UP Railroad, & St Charles Rd) Design Engineering Contract Amendment

DESIGNED BY: David A. Dratmol, P.E., Village Engineer



**BACKGROUND/POLICY IMPLICATIONS:**

Amend Design Contract to reflect changes in scope due to change in load requirement by DuPage County from pedestrian loading to vehicle loading and UP Railroad requiring abutments to be outside the railroad right-of-way. These changes in loading and span length result in a significant change to the type of bridge structure and resultant increase in Phase I and Phase II Engineering costs.

**FISCAL IMPACT/FUNDING SOURCE:**

Total Amended Contract Amount: \$681,641.04  
Amendment Amount: \$359,541.36  
HTE Project Number: 0603 HTE Acct: 7110.809425  
Public Works Project Number: M-06-03  
P.O.#: 054757

Review (as necessary):

Village Attorney X \_\_\_\_\_  
Finance Director X \_\_\_\_\_  
Village Manager X \_\_\_\_\_  
Date: 8/10/09  
Date: 8/19/09

NOTE:

All materials must be submitted to and approved by the Village Manager's Office by 12:00 noon, Wednesday, prior to the Agenda Distribution.





To: Through: From: Date: Subject:

David A. Huliseberg, Village Manager  
Carl Goldsmith, Director of Public Works  
David A. Dratmol, P.E., Village Engineer  
August 04, 2009  
Great Western Trail Pedestrian Bridges  
over Grace St, UPRR, & St. Charles Road  
Contract Amendment for Design Engineering

Attached please find a request for an amendment to the contract with Bollinger, Lach & Associates, Inc. (BLA) for design engineering services for the Great Western Trail Bridges in the amount of an increase to the contract of \$359,541.36. This includes both Phase I and Phase II (construction plans and documents) engineering. The increase to Phase I would be \$66,960.06 and the increase to Phase II would be \$292,581.30. Phase I engineering should be completed by May 2010. Phase II would start upon approval of the Type, Size, and Location (TS&L) report by Illinois Department of Transportation. The major items are discussed below, but also refer to the BLA request for additional background and explanation.

The original contract was signed in January 2006. At that time, the proposed bridges were to be prefabricated steel bridges with intermediate pier supports. The design of the bridges would have been by the manufacturer. Since that time DuPage County changed the loading requirement for all trail bridges to be able to support maintenance vehicles. This requirement means that a prefabricated design could not be used and that the bridge design would be done by BLA. In addition, Union Pacific Railroad has required that the supports for the bridge crossing the railroad be outside the railroad right-of-way and increased the vertical separation between the bridge and top of rail. This will require a longer span for the bridge and Mechanically Stabilized Earth (MSE) retaining walls to support the additional embankment. The change in parameters requires additional engineering and coordination efforts to get approval from the controlling parties and complete the design. The project must be approved by Illinois Department of Transportation, DuPage County Highway Department, and the Union Pacific Railroad. In addition, the work must be coordinated with Commonwealth Edison and DuPage Water Commission. This project is proposed for construction in 2011.

The original contract for design engineering services is \$322,099.68. The proposed contract amount will be \$681,641.04.

Please present this Contract Amendment to the President and Board of Trustees at their regular meeting of August 20, 2009. If approved, please return one signed original to Public Works-Engineering for further processing.

DAD/pk



**R E S O L U T I O N**  
R \_\_\_\_\_  
10

**A RESOLUTION AUTHORIZING**  
**AMENDMENT OF A PROFESSIONAL**  
**SERVICES CONTRACT**

**WHEREAS**, the Board of Trustees of the Village of Lombard on April 06, 2006 adopted a resolution authorizing signature of President and Clerk on an agreement between the Village of Lombard and BOLLINGER, LACH & ASSOCIATES, INC. and

**WHEREAS**, an amendment to said contract is required to legally bind the parties; and

**WHEREAS**, Illinois law exempts professional engineering contracts from the requirements of Illinois Compiled Statutes, Chapter 720, Section 5/33E-9 regarding preparation of change orders.

NOW, THEREFORE, BE IT RESOLVED BY THE PRESIDENT AND BOARD OF TRUSTEES OF THE VILLAGE OF LOMBARD, DU PAGE COUNTY, ILLINOIS, as follows:

**SECTION 1:** That the President and Village Clerk are hereby directed and authorized to

execute an amendment to the contract with BOLLINGER, LACH & ASSOCIATES, INC.

substantially in the form and manner of Exhibit "A" attached hereto and made a part hereof.

Adopted this 20<sup>th</sup> day of August, 2009.

Ayes; \_\_\_\_\_

Nays: \_\_\_\_\_

Absent: \_\_\_\_\_

Approved this 20<sup>th</sup> day of August, 2009.

**ATTEST:**  
**William J. Mueller**  
Village President

**Brigitte O'Brien**  
Village Clerk

APPROVAL AS TO FORM:

**Thomas R. Bayer**  
Village Attorney



**AGREEMENT TO AMEND A CONTRACT**

**THIS AGREEMENT** made and entered into this 20<sup>th</sup> day of August, 2009, by and between the **VILLAGE OF LOMBARD** (the "VILLAGE") and **BOLLINGER, LACH & ASSOCIATES, INC.** (the "CONSULTANT").

WHEREAS, on April 06, 2006 the VILLAGE and CONSULTANT executed a contract regarding certain engineering services relative to the Great Western Trail Pedestrian Bridges Design Contract; and

WHEREAS, the VILLAGE and CONSULTANT have agreed to increase the amount of work to be performed by the CONSULTANT together with a resultant increase in the limit which the contract sum may not exceed;

**NOW, THEREFORE**, for and in consideration of the foregoing and various covenants in said agreement and the mutual covenants herein contained, it is agreed by and between the parties as follows:

**SECTION 1:** The aforementioned contract shall be amended to expand the scope of work as provided for in the CONSULTANT'S proposal dated July 15, 2009.

**SECTION 2:** The aforementioned contract shall be amended to show a contract sum not to exceed \$681,641.04.

**SECTION 3:** All other terms, covenants and conditions of said contract heretofore executed which are not amended or deleted herein shall remain in full force and effect.

**IN WITNESS WHEREOF**, the VILLAGE and CONSULTANT have caused this document to be signed by duly authorized officers who have set their hands and seals the day and year set forth above.

**VILLAGE OF LOMBARD**

By: \_\_\_\_\_  
Village President

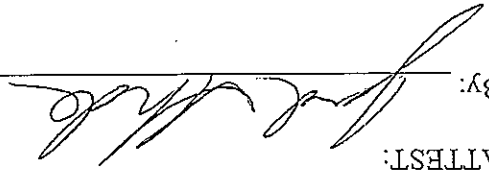
ATTEST:

By: \_\_\_\_\_  
Village Clerk

and **BOLLINGER, LACH & ASSOCIATES, INC.**

By: \_\_\_\_\_  
Cory A. Stuy

ATTEST:

By: \_\_\_\_\_  






**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 structures 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.

**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.

**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.

**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.

**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 of Geotechnical Consultant's Activities**  
There is unanticipated administrative effort required for coordination, management and document processing of the additional geotechnical report are required for the proposed bridge and wall designs. BLA is requesting 30 additional hours for this task.

**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.

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

**Personnel & Hours**

	Principal	Prcl. Mgr.	Prcl. Eng.	Des. Eng.	Dir. Sr. Eng.	CADD	Dir. Env. Engr.	Dir. Survey	Surv. Mgr.	Party Chief	Inst. Man	Total Hours	% of Hours	Total Cost
Rate	-	\$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 Management		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
<b>TOTAL COST</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	<b>\$66,960.06</b>

(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 Bull-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).



Side By Side Comparison of Phase II Tasks and Hours

Comments in Italics

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

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

VILLAGE OF LOMBARD  
GREAT WESTERN TRAIL  
Phase II

Item	Sheets	MI/Sheet	Total MI	Item	Sheets	MI/Sheet	Total MI
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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	-	-	-	Special Provisions	-	-	-
Cost Estimate	-	-	-	Cost Estimate	-	-	-
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	-	-	Meetings	-	-	-
Drainage Calculations	1	-	-	Drainage Calculations	1	-	-
DEC Permit *	1	-	-	Village of Lombard Drainage Submittal	1	-	-
Cross Sections (30 full @ 3.5 MH/xsec	1	-	-	Cross Sections (30 full @ 3.5 MH/xsec.)	1	-	-
Permits (Railroad, NPDES)	1	-	-	Permits (Railroad, NPDES, NOI, KDSC)	1	-	-
Utility Coordination, Permits, Conflict	1	-	-	Utility Coordination, Permits, Conflicts	1	-	-
Soil Profile and Coordination	1	8	8	Soil Profile and Coordination	1	8	8
QA/QC @ 40 MH/Submittal	-	-	-	QA/QC @ 40 MH/Submittal	-	-	-

Cost Estimate	-	-	-	Additional SP for bridges and MSE walls	-	-	-
Summary of Quantities	2	24	48	Additional pay items	2	32	64
Notes, Index, List of Standards	1	16	16	Notes, Index, List of Standards	1	24	24
Additional sheets and notes required.	-	-	-	Additional sheets and notes required.	-	-	-
Summary of Quantities	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	-	-	-	Special Provisions	-	-	-
Cost Estimate	-	-	-	Cost Estimate	-	-	-
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	-	-	Meetings	-	-	-
Drainage Calculations	1	-	-	Drainage Calculations	1	-	-
DEC Permit *	1	-	-	Village of Lombard Drainage Submittal	1	-	-
Cross Sections (30 full @ 3.5 MH/xsec	1	-	-	Cross Sections (30 full @ 3.5 MH/xsec.)	1	-	-
Permits (Railroad, NPDES)	1	-	-	Permits (Railroad, NPDES, NOI, KDSC)	1	-	-
Utility Coordination, Permits, Conflict	1	-	-	Utility Coordination, Permits, Conflicts	1	-	-
Soil Profile and Coordination	1	8	8	Soil Profile and Coordination	1	8	8
QA/QC @ 40 MH/Submittal	-	-	-	QA/QC @ 40 MH/Submittal	-	-	-

Supplemental Survey	70	-	-	Supplemental Survey	70	-	-
Topo changes made by UPR and to topo embankment stockpiles.	40	-	-	Phase III Coordination	40	-	-
Phase III Shop Drawing Review	162	-	-	Phase III Shop Drawing Review	162	-	-
Required to address questions from contractor for entire project	-	-	-	Required to address questions from contractor for entire project	-	-	-
Explained elsewhere.	-	-	-	Explained elsewhere.	-	-	-
Administration	176	-	-	Administration	176	-	-
Required to manage the project.	-	-	-	Required to manage the project.	-	-	-
Subtotal	1,637	-	-	Subtotal	1,637	-	-
Structural (Bridge & Retaining Walls)	902	-	-	Structural (Bridge & Retaining Walls)	98	-	-
Explained elsewhere.	-	-	-	Explained elsewhere.	-	-	-
TOTAL	1871	-	-	TOTAL	134	-	-

\* 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										Total
	Principal	Proj. Manager	Sr. Engineer	Design Engineer	Sr. Struc. Eng.	CADD	Total Hours	% of Hours	Cost		
Rate	\$67.50	\$41.58	\$34.03	\$26.12	\$43.99	\$26.05	Hours	Hours	Cost		
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



