

DISTRICT 4 & 5

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

 X Resolution or Ordinance (Blue) _____ Waiver of First Requested

Recommendations of Boards, Commissions & Committees (Green)
Other Business (Pink)

TO: PRESIDENT AND BOARD OF TRUSTEES

FROM: David A. Hulseberg, Village Manager

DATE: May 31, 2011 (COW) (B of T) **Date:** June 16, 2011

TITLE: Great Western Trail Pedestrian Bridges (over Grace St, UP Railroad, & St Charles Rd)
Design Engineering Contract Amendment #2

SUBMITTED BY: David A. Dratnol, P.E., Village Engineer *DM*

BACKGROUND/POLICY IMPLICATIONS:

Amend Design Contract to reflect changes in scope due to addition of architectural enhancements based on the downtown plan, use of borrow material from (design and incorporation of) expansion of Morris Pond and Finley Road Pond, the addition of structural protection measures for the DuPage Water Commission watermain, and a change in foundation design for the Grace Street bridge. These changes result in an increase to the Phase II Engineering costs.

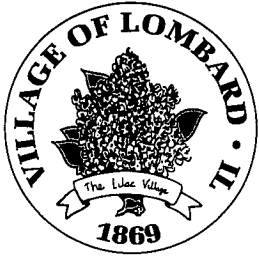
FISCAL IMPACT/FUNDING SOURCE:

Total Amended Contract Amount: \$826,000.04
Amendment Amount: \$144,359.00
HTE Project Number: 0603 HTE Acct: 7110.809425
Public Works Project Number: M-06-03
P.O. #: 054757

Review (as necessary):

Village Attorney X _____ Date _____
Finance Director X _____ Date _____
Village Manager X _____ Date _____

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: David A. Hulseberg, Village Manager
Through: Carl Goldsmith, Director of Public Works *CG*
From: David A. Dratnol, P.E., Village Engineer *DAD*
Date: May 31, 2011
Subject: Great Western Trail Pedestrian Bridges
over Grace St, UPRR, & St. Charles Road
Contract Amendment #2 for Design Engineering

Attached please find the second 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 \$144,359.00.

The attached request includes a detailed itemization of the need for amendment. There are four unanticipated items which have added to the scope of the project. 1) The Village requested the addition of architectural enhancements consistent with the downtown plan. These include a surface texturing of the retaining walls around the bridges and trail, and the addition of the Village logo on the parapet walls over Grace Street and St. Charles Road. 2) The Village asked BLA to look into different types of railing and fence enhancements. 3) As part of Stormwater management in the Village and in conjunction with the need for embankment material for the bridges, BLA added the expansion of Morris Pond and Finley Road Pond as borrow areas for the construction of the trail embankments. 4) Finally, DuPage Water Commission has required the protection of the transmission watermain which is located in close proximity to the proposed trail. This required BLA to look into several possible solutions and the addition of a structural curtain wall below grade to protect the watermain.

The current contract for design engineering services is \$681,641.04. The proposed contract amount will be \$826,000.04. 60% of the portion of the design engineering attributable to the grade separation of the railroad is eligible for Grade Crossing Protection Fund (approximately \$165,200.00).

Please present this Contract Amendment to the President and Board of Trustees at their regular meeting of June 16, 2011. If approved, please return one signed original to Public Works-Engineering for further processing.

DAD/pk

c: File: H:PW/PW-ENG/PROJECTS/FY2006 GWT Bridges/M-06-03/design/Amendment
1/Contract Amendment 2 BoT Memo M-06-03

RESOLUTION
R _____ 12

A RESOLUTION AUTHORIZING AN AMENDMENT TO A PROFESSIONAL SERVICES CONTRACT INVOLVING AN INCREASE/DECREASE IN THE DOLLAR AMOUNT OF THE CONTRACT OF \$10,000 OR MORE AND/OR EXTENDING/SHORTENING THE TIME IN WHICH THE CONTRACT IS TO BE COMPLETED BY THIRTY (30) DAYS OR MORE

WHEREAS, pursuant to Illinois Compiled Statutes, Chapter 720, Section 5/33E-9, units of local government are required to make specific findings prior to authorizing any amendment relative to a contract which would increase or decrease the dollar amount of the contract by \$10,000 or more, or would extend or shorten the time in which the contract is to be completed by thirty (30) days or more; and

WHEREAS, staff has presented and recommended the proposed amendment to the contract between the Village of Lombard and Bollinger, Lach & Associates, Inc. regarding the Great Western Trail Bridges project, as attached hereto as Exhibit "A" and made part hereof, (the "Amendment") to the Corporate Authorities of the Village of Lombard; and

WHEREAS, said Amendment attached hereto as Exhibit "A" would increase the dollar amount of the contract by \$144,359.00;

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 after reviewing the explanation of staff as to the necessity of and reasons for the Amendment attached hereto as Exhibit "A", the President and Board of Trustees find as follows:

- A That the circumstances which necessitated said Amendment were not reasonably foreseeable at the time the contract was entered into.
- B. That the basis of the Amendment was not within the contemplation of the contract when the contract was signed.
- C. That it is in the best interests of the Village of Lombard to approve the Amendment in its proposed form.
- D. That to the extent that it may have been necessary to go to bid relative to the work contemplated by said Amendment, bidding is hereby specifically waived as to the Amendment work.

SECTION 2: That having made the findings set forth in Section 1 above, the President and Board of Trustees hereby approve the Amendment attached hereto as Exhibit "A", and direct and authorize the Village President and Village Clerk to execute said Amendment on behalf of the Village.

Adopted this 16th day of June, 2011, pursuant to a roll call vote as follows:

Ayes: _____

Nays: _____

Absent: _____

Approved by me this 16th day of June, 2011.

William J. Mueller
Village President

ATTEST:

Brigitte O'Brien
Village Clerk



May 24, 2011

Mr. David A. Dratnol, P.E.
Village Engineer
Village of Lombard
255 E. Wilson Avenue
Lombard, Illinois 60148-3931

Re: Great Western Trail (GWT)
Subject: Contract Amendment No. 2
Phase II

Dear Mr. Dratnol:

Bollinger, Lach & Associates (BLA) has reviewed the scope of work in our current contract and compared it with tasks performed in Phase II along with current projected project scope. BLA believes that there are a number of items that differ significantly and are in addition to the previously agreed scope (July 2009). These items include: Enhancements (Village Logo, Formliner and Bridge Railing Investigation); Expansion of Village Ponds (3) & GWT Earthwork Revisions; DuPage Water Commission Retaining Walls & Trail Revisions; and Geosynthetic Reinforced Soil Abutments for Grace Street. A detailed discussion of the scope changes for these items and associated hours is attached.

These changes were unanticipated when the original scope and first amended scope were prepared and all tasks and changes in scope are a necessary part of the project and cannot be absorbed by the original budget.

For the Phase II portion of the contract we are presenting our justification for supplemental hours and fee for the additional engineering and plan sheets now required for the project. The total amended contract amount is calculated by taking the total fee required for these additional items, with our current rates, and adding it to the previously amended contract amount (July 2009).

We have attached the following supporting information for your review:


1. ~~Project Fee Summary.~~
2. Listing of Phase II scope changes and hours.
3. Narrative of Phase II scope changes.
4. Phase II side-by-side comparison of sheets and hours by Civil task.
5. Phase II side-by-side hours by Structure.
6. Phase II Amended Amount CECS & average rates by task.
7. Phase II Amended hours by Structure.

Mr. David A. Dratnol, P.E.
Village of Lombard
May 24, 2011
Page 2

Please contact our office at (630) 438-6400 if you have any questions.

Sincerely,

BOLLINGER, LACH & ASSOCIATES, INC.

A handwritten signature in black ink, appearing to read "Joel Ihde". The signature is fluid and cursive, written over the printed name below.

Joel Ihde, P.E., S.E.
Vice President

Attachments

cc: Paul Kuehnlenz, P.E.

**Contract Amendment No. 2
May 2011
Project Fee Summary
Great Western Trail**

Phase I Engineering

Original Phase I Fee	\$147,104.48
Amendment No. 1 Fee	<u>\$66,960.06</u>
Total Phase I Fee	\$214,064.54

Phase II Engineering

Original Phase II Fee	\$174,995.20
Amendment No. 1 Fee	\$292,581.30
Amendment No. 2 Fee	<u>\$144,359.00</u>
Total Phase II Fee	\$611,935.50
Total Phase I & II Fee	\$826,000.04

Contract Amendment No. 2
May 2011
Phase II List with Scope Changes & Hours (Summary)

Great Western Trail

Below are the change in scope items and the associated hours for the work. The following pages contain a narrative with more detailed discussion of the change in scope and also a breakdown of the hours and fee for each item by discipline.

Enhancements (Village logo, formliner and railing investigation)

BLA is requesting 166 additional hours for this work.

Expansion of Village Ponds (3) & Trail Earthwork Revisions

BLA is requesting 221 additional hours for this work.

DuPage Water Commission Retaining Walls & Trail Revisions

BLA is requesting 697 additional hours for this work.

Geosynthetic Reinforced Soil Abutments for Grace Street

BLA is requesting 473 additional hours for this work.

Contract Amendment No. 2
May 2011
Narrative of Phase II Scope Changes

Great Western Trail

The following tasks were not included in the original scope of work, or in Contract Amendment No. 1. These tasks could not have been anticipated at the time that the previous scopes of work were developed. And they cannot be absorbed by the existing budget.

Enhancements: Village Logo and Formliner

For this task the plans and specifications will be revised to show the MSE walls with formliner and colored concrete with stained finish. The bridge parapets will be revised to show form liner with staining and also show "Village of Lombard" along with stained flower logo on the outside face of Grace and St. Charles bridge parapets. This task was initiated by the Village in an October 5, 2010 meeting. In addition to the revisions to the plans and specifications, the task also required research and preparation of exhibits for Village review. New sheets will be added. BLA is requesting 110 additional hours for this work.

Enhancements: Bridge Railing Investigation

BLA was asked to find decorative alternatives in lieu of the standard IDOT bridge railing and fence shown on the plans. This task was initiated by the Village in a December 15, 2010 meeting. The last submittal for this task was on February 10, 2011 and the task was closed on April 1, 2011 at the direction of the Village. For this task BLA performed research to find suitable decorative railing and fence alternatives, visited sites for sample photographs, prepared cost estimates and prepared exhibits for review by the Village. BLA is requesting 56 additional hours for this work.

Expansion of Village Ponds (3) & GWT Earthwork Revisions

Expansion of the Village ponds benefits the Village by providing addition storm water storage capacity and it benefits the GWT project by providing a local source for embankment. This task was initiated by the Village in a December 15, 2010 meeting. BLA's work for this task includes topographic survey, environmental investigation and permitting, revisions to the GWT earthwork computations and revisions to the GWT plans and specifications. Additional plans sheets will be prepared for construction at the ponds and will be incorporated into the GWT plan set. 2 of the 3 ponds will be incorporated into GWT plans and the plans and computations for the third will be retained for use at a later date.

BLA is requesting 221 additional hours for this work.

DuPage Water Commission Exhibits, Retaining Walls & Trail Revisions

This task began with BLA following up with DPWC on 2-11-11 and requesting comments on plan submittals from November 2010. On 2-17-11 BLA met with DPWC who indicated that the MSE wall location presented a problem. BLA investigated alternate wall types and developed exhibits showing the walls located down slope. DPWC reviewed the exhibits and responded that the fill height over their main was too high. After meeting with DuPage County Division of

Transportation, BLA prepared new exhibits showing an anchored sheet pile wall that will support the MSE wall in the event that the DPWC needs to excavate their pipe in the future. These exhibits were presented to DPWC on 3-30-11 and the anchored sheet pile wall was accepted by DPWC. Thereafter BLA is to prepare detailed design of the anchored sheet piling, prepare a construction cost estimate, revise the JRF, revise the plans and revise the special provisions. New sheets will be added.

BLA is requesting 697 additional hours for this work.

Geosynthetic Reinforced Soil Abutments for Grace Street

BLA was asked by the Village to investigate the potential application of Geosynthetic Reinforced Soil (GRS) Abutments on the GWT project. On 3-31-11 BLA provided background information to IDOT, who through their committee, determined that it was a suitable candidate for the use of GRS. Work requires redesign of the abutments, wingwalls, beam seats and MSE walls. Redesign of the beams, bridge deck elevation trail profile Also included are revisions to ground improvement requirements at the site. Existing plan sheets, specification, quantities and cost estimate must be revised. New sheets will be added.

BLA is requesting 473 additional hours for this work.

**Summary
Sheets & Manhours by Civil Task**

**Phase II
Bollinger, Lach & Associates, Inc.**

July 2009 Amendment

Item	Sheets	MH/Sheet	Total MH	Enhancements	Ponds & GWT	Earthwork Work	DPWC Retaining Walls & GWT Revisions	GRS Abutments for Grace Street	April 2011 Add'l Hours	Total Add'l Hours
Cover Sheet	1	16	16							
Typical Section	1	30	30				4	2		6
Alignment & Ties, Benchmarks	2	24	48				2			2
Notes, Index, List of Standards	1	24	24		2		1	2		5
Summary of Quantities	2	32	64	4	4		4	4		16
Schedule of Quantities	1	24	24		4		2	2		8
Base Sheets	3	20	60			3	6	4		13
Roadway Plan & Profile	3	25	75				4	4		8
Drainage Plan & Profile	3	25	75				6	4		10
Special Provisions	-	-	40	8	4		4	2		18
Cost Estimate	-	-	36	2	4		4	4		14
Misc. IDOT Details	6	2	12							
Local Details (Consultant)	2	8	16							
Pavement Marking & Signing	1	16	16							
Landscaping	2	20	40				4	4		8
Erosion Control	2	20	40							
Meetings	-	-	80		2		14	4		20
Drainage Calculations	1	-	60							
Village of Lombard Drainage Submittal	1	-	80		16					16
Cross Sections (30 full @ 3.5 MH/xsec.)*	1	-	105				24	24		48
Permits (Railroad, NPDES, NOI, KDSC)	1	-	80		60					60
Utility Coordination, Permits, Conflicts	1	-	40			4	36			40
Soil Profile and Coordination	1	8	8							
QA/QC @ 40 MH/Submittal	-	-	120	2	2		2	2		8
Supplemental Survey			70		40					40
Phase III Coordination			40	2			8	8		18
Phase III Shop Drawing Review			162				24	8		32
Administration			176	2	4		4	4		14
			Subtotal	20	149		153	82		404
Structural (Bridge & Retaining Walls)	98	-	2,949							
TOTAL	134	-	4,586							
April 2011 Add'l Sheets	Sheets									
Form Liner & Village Logo	3			90						90
Pond Expansion (2)	5				72					72
Bridge Railing Enhancements	0			56						56
DPWC Walls	5					544				544
GRS-IBS Grace Street Abutments	5							391		391
GRAND TOTAL				166	221		697	473		1557

* Revise 16 Cross Sections for DPWC Walls
* Revise 16 Cross Sections for GRS Abutments

Manhour Summary by Structure

Phase II Great Western Trail

July 2009 Amendment		Enhancements	Ponds & GWT Earthwork	DPWC Retaining Walls & GWT Revisions	GRS Abutments for Grace Street
		April 2011 Add'l Hours			
Structural Design Tasks					
Grace Street Bridge	683	42			329
Grace Street MSE Wall Abutments	251				62
UPRR Bridge	703	18		193	
UPRR MSE Wall Abutments	299			104	
St. Charles Road Bridge	547	18		227	
St. Charles Road MSE Wall Abutments	239			20	
North MSE Wall	131	12			
Project Tasks	96				
Total Structural Tasks	2,949				
Civil Tasks (Nonstructural) & Phase III Tasks	1,637	76	221	153	82
Total Hours	4,586	166	221	697	473
Previously Negotiated	1,871				



Contract Amendment # 2

Cost Estimate of
Consultant Services
(Direct Labor Multiple)

Firm Bollinger, Lach & Associates, Inc.
 Route Great Western Trail
 Section Phase II
 County DuPage
 Job No. _____
 PTB & Item N/A

Date 05/24/11
 Overhead Rate _____
 Complexity Factor 0

ITEM	MANHOURS (A)	PAYROLL (B)	(2.50+R) TIMES PAYROLL (C)	DIRECT COSTS (D)	SERVICES BY OTHERS (E)	DBE TOTAL (C+D+E)	TOTAL (C+D+E)	% OF GRAND TOTAL
Grace Street Bridge	371	14,712.62	36,781.55				36,781.55	25.48%
Grace Street MSE Walls	62	2,532.76	6,331.90				6,331.90	4.39%
St. Charles Road Bridge	245	9,299.52	23,248.80				23,248.80	16.10%
St. Charles MSE Walls	20	799.04	1,997.60				1,997.60	1.38%
UPRR Bridge	211	8,083.98	20,209.95				20,209.95	14.00%
UPRR MSE Walls	104	4,028.12	10,070.30				10,070.30	6.98%
North Access MSE Wall	12	444.76	1,111.90				1,111.90	0.77%
Roadway Engineering	350	11,589.00	28,972.50				28,972.50	20.07%
Administration and Meetings	14	578.80	1,447.00				1,447.00	1.00%
Supplemental Survey	40	1,047.13	2,617.83				2,617.83	1.81%
Pond Expansion	72	2,800.80	7,002.00				7,002.00	4.85%
Bridge Railing Enhancements	56	1,826.92	4,567.30				4,567.30	3.16%
TOTALS	1557	57,743.45	144,358.63	0.00	0.00	0.00	144,358.63	100.00%



Average Hourly Project Rates

Route Great Western Trail
 Section Phase II
 County DuPage
 Job No. _____
 PTB/Item _____

Consultant Bollinger, Lach & Associates, Inc.

Date 05/12/11

Sheet 1 OF 3

Payroll Classification	Total Project Rates		Grace Street Bridge			Grace Street MSE Walls			St. Charles Road Bridge			St. Charles MSE Walls			UPRR Bridge				
	Avg Hourly Rates	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg			
Director of Structural Eng	\$47.12	297	19.08%	8.99	142	38.27%	18.04	32	51.61%	24.32	45	18.37%	8.65	4	20.00%	9.42	42	19.91%	9.38
Project Manager	\$40.38	531	34.10%	13.77	91	24.53%	9.90	9	14.52%	5.86	99	40.41%	16.32	12	60.00%	24.23	88	41.71%	16.84
Design Engineer	\$25.52	144	9.25%	2.36										4	20.00%	6.30	81	38.39%	12.09
CADD Technician II	\$31.50	511	32.82%	10.34	138	37.20%	11.72	21	33.87%	10.67	101	41.22%	12.99						
Survey Project Manager	\$38.22	5	0.32%	0.12															
Party Chief I	\$25.75	15	0.96%	0.25															
Instrument Man	\$16.25	14	0.90%	0.15															
Director of Environmental	\$43.27	40	2.57%	1.11															
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
		0																	
TOTALS		1557	100%	\$37.09	371	100%	\$99.66	62	100%	\$40.85	245	100%	\$37.96	20	100%	\$39.95	211	100%	\$38.31



Average Hourly Project Rates

Route: Great Western Trail
 Section: Phase II
 County: DuPage
 Job No. _____
 PTB/Item _____

Consultant: Bollinger, Lach & Associates, Inc.

Date: 05/12/11

Sheet 2 OF 3

Payroll Classification	Avg Hourly Rates	UPRR MSE Walls			North Access MSE Wall			Roadway Engineering			Administration and Meetings			Supplemental Survey			Pond Expansion					
		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			
Director of Structural Eng	\$47.12	22	21.15%	9.97	2	16.67%	7.85	94	26.86%	10.84	2	14.29%	6.73	6	15.00%	6.06	60	83.33%	33.65			
Project Manager	\$40.38	46	44.23%	17.86	4	33.33%	13.46	124	35.43%	9.04	12	85.71%	34.61									
Design Engineer	\$25.52																					
CADD Technician II	\$31.50	36	34.62%	10.90	6	50.00%	15.75	92	26.29%	8.28							12	16.67%	5.25			
Survey Project Manager	\$38.22																					
Party Chief I	\$25.75																					
Instrument Man	\$16.25																					
Director of Environmental	\$43.27																					
TOTALS					104	100%	\$38.73	12	100%	\$37.06	350	100%	\$33.11	14	100%	\$41.34	40	100%	\$26.18	72	100%	\$38.90



Route Great Western Trail
 Section Phase II
 County DuPage
 Job No.
 PTB/Item

Consultant Bollinger, Lach & Associates, Inc.

Date 05/12/11

Sheet 3 OF 3

Payroll Classification	Avg Hourly Rates	Bridge Railing Enhancements			Category 1			Category 2			Category 3			Category 4		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Director of Structural Eng	\$47.12	6	10.71%	5.05												
Project Manager	\$40.38	10	17.86%	7.21												
Design Engineer	\$25.52	20	35.71%	9.11												
CADD Technician II	\$31.50	20	35.71%	11.25												
Survey Project Manager	\$38.22															
Party Chief I	\$25.75															
Instrument Man	\$16.25															
Director of Environmental	\$43.27															
TOTALS				\$32.62												
		56	100%													\$0.00

Structural Manhour Estimate
Great Western Trail over Grace Street Bridge
2011 Plan Revisions

Sheet No.	Sheet Title/ Task	No. of Sheets	Hours			Total Hours	Formliner & Village Logo	GRS Abutments for Grace Street
			Sr. Str	Struct	CADD			
1	General Plan	1	9	4	12	25	2	23
2	Total Bill, General Notes, Abutment Typ Sec (MSE), Index, Name Plate	1	4	2	6	12		12
3	Top of Slab Elevations	1		4	4	8		8
4	Top of Slab Elevations	1	2	3	3	8		8
5	Top of Approach Pavement Elevations	1			1	1		1
6	Superstructure Plan	1	6	2	4	12		12
7	Super Structure Cross Sections	1	2		2	4		4
8	Parapet Plan and Elevation (Lighting)	1	1	4	4	9	4	5
9	Abutment Diaphragm Details	1	4	2	2	8		8
10	Superstructure Bar List, Bar Details, Parapet Joint Details, Lighting Details	1				0		0
11	Parapet Railing Details (2'-2") Standard R-29	1	2		2	4		4
12	Framing Plan and Beam Tables	1	2	8	4	14		14
13	48" PPC I-Beam P1-4-48	1	2	8	2	12		12
14	48" PPC I-Beam Details P1-4-48D	1				0		0
15	West Abutment - Plan, Elev., Section	1	8	4	8	20		20
16	East Abutment - Plan, Elev., Section	1	8	4	8	20		20
17	H-Piles (F-HP)	1			1	1		1
18	Bar Splicer Assembly Details (BSD-1)	1			1	1		1
19	Approach Pavement Details I	1			1	1		1
20	Approach Pavement Details II	1			1	1		1
21	Boring Logs	1				0		
22	Boring Logs	1				0		
23	Boring Logs	1				0		
	Subtotal	23						
	Special Provisions		8	4		12	4	8
	Subtotal Hours for Plan Revisions		58	49	66	173	10	163
	New Sheets							
	Formliner and Village Logo	1	2	12	18	32	32	
	GRS Abutment - FHWA Notes and Details	3	12	6	18	36		36
	GRS Abutment - Section A-A	1	40	12	18	70		70
	GRS Abutment - Detail and Wingwall	1	30	12	18	60		60
	Grand Total for Revisions & New Sheets		142	91	138	371	42	329

Structural Manhour Estimate
Great Western Trail over St. Charles Road Bridge
2011 Plan Revisions

Sheet No.	Sheet Title/ Task	No. of Sheets	Hours			Total Hours	Formliner & Village Logo	DPWC Retaining Walls & GWT Revisions
			Sr. Structural	Structural	CADD			
1	General Plan	1	2	4	4	10	2	8
2	Total Bill, General Notes, Abutment Typ Sec (MSE), Index, Name Plate	1	1	2	2	5		5
3	Top of Slab Elevations	1				0		
4	Top of Slab Elevations	1				0		
5	Top of Approach Pavement Elevations	1				0		
6	Superstructure Plan	1				0		
7	Superstructure Cross Sections	1				0		
8	Parapet Plan and Elevation (Lighting)	1	2	8	6	16		16
9	Abutment Diaphragm Details	1				0		
10	Superstructure Bar List, Bar Details, Parapet Joint Details, Lighting Details	1				0		
11	Parapet Railing Details (2'-2") Standard R-29	1		1	1	2		2
12	Framing Plan and Beam Tables	1				0		
13	48" PPC I-Beam PI-4-48	1				0		
14	48" PPC I-Beam Details PI-4-48D	1				0		
15	West Abutment - Plan, Elev., Section	1				0		
16	East Abutment - Plan, Elev., Section	1		2	2	4		4
17	H-Piles (F-HP)	1				0		
18	Bar Splicer Assembly Details (BSD-1)	1				0		
19	Approach Pavement Details I	1				0		
20	Approach Pavement Details II (East Plan)	1	2	8	12	22		22
21	Boring Logs	1				0		
22	Boring Logs	1				0		
23	Boring Logs	1				0		
	Subtotal	23						
	Special Provisions					0		
	Subtotal Hours for Plan Revisions		7	25	27	59	2	57
	New Sheets							
	Formliner and Village Logo	1	2	6	8	16	16	
	Wall Elevation View	1	12	24	24	60		60
	Wall Plan View	1	12	20	18	50		50
	Wall Typical Sections, Anchor Details	1	12	24	24	60		60
	Grand Total for Revisions & New Sheets		45	99	101	245	18	227

Structural Manhour Estimate
Great Western Trail over Union Pacific Bridge
2011 Plan Revisions

Sheet No.	Sheet Title/ Task	No. of Sheets	Hours			Total Hours	DPWC Retaining Walls & GWT Revisions	Formliner and Village Logo
			Sr. Structural	Structural	CADD			
1	General Plan	1	2	3	3	8	8	
2	Total Bill, General Notes, Abutment Typ Sec (MSE), Index, Name Plate, UPRR Info	1	1	2	2	5	5	
3	Top of Slab Elevations	1				0		
4	Top of Slab Elevations	1				0		
5	Top of Approach Pavement Elevations	1				0		
6	Superstructure Plan	1				0		
7	Superstructure Cross Sections	1				0		
8	Parapet Plan and Elevation (Lighting)	1				0		
9	Superstructure Bar List, Bar Details, Parapet Joint Details, Lighting Details	1				0		
10	Preformed Joint Strip Seal EI-BJS	1				0		
11	Bridge Fence Railing Standard R-28 Modified	1				0		
12	Parapet Railing Standard R-29 Modified	1	1	2	1	4	4	
13	Framing Plan and Beam Tables	1				0		
14	72" PPC Bulb T Beam PBT-4-72	1				0		
15	72" PPC I-Beam Details PBT-4-72D	1				0		
16	Bearings	1				0		
17	West Abutment - Plan, Elev., Section	1				0		
18	East Abutment - Plan, Elev., Section	1		1	1	2	2	
19	H-Piles (F-HP)	1				0		
20	Approach Pavement Details I	1				0		
21	Approach Pavement Details II	1				0		
22	Boring Logs	1				0		
23	Boring Logs	1				0		
24	Boring Logs	1				0		
	Subtotal	24						
	Special Provisions					0		
	Subtotal Hours for Plan Revisions		4	8	7	19	19	0
	New Sheets							
	Formliner	1	2	8	8	18		18
	Plan View	1	12	24	18	54	54	
	Parapet and Moment Slab	1	12	24	24	60	60	
	Wall Typical Sections, Anchor Details	1	12	24	24	60	60	
	Grand Total for Revisions & New Sheets		42	88	81	211	193	18

Railing Enhancements - Summary
Manhour Estimate for Amendment No. 2
Great Western Trail

<u>Task</u>	<u>Hours</u>
Railing Alternative Research	16
Railing Alternative Cost Estimates	10
Railing Alternative Site Visits	4
Railing Alternative Exhibits	<u>26</u>
	56