

CAMINO REAL REGIONAL MOBILITY AUTHORITY BOARD RESOLUTION

WHEREAS, the Camino Real Regional Mobility Authority (CRRMA) has partnered with the Texas Department of Transportation (TxDOT) for the development of the Americas Managed Lanes Project and the State Loop 375 Frontage Road Ramps Project, whereby the CRRMA agreed to provide the environmental and preliminary engineering services for such projects; and

WHEREAS, the CRRMA entered into Work Authorization No. 2 with AECOM for the preparation of schematic, environmental document and Plans, Specifications and Estimates for the State Loop 375 Frontage Road Ramps Project (Project), and such Work Authorization was subsequently revised by three separate amendments; and

WHEREAS, TxDOT has requested that AECOM, as the engineer of record for the Project, provide certain design services necessary to remove portions of the original Project design package to be developed as a separate project and the CRRMA and AECOM now desire to amend Work Authorization No. 2 to incorporate such additional design services.

NOW, THEREFORE, BE IT RESOLVED BY THE CAMINO REAL REGIONAL MOBILITY AUTHORITY:

THAT the Executive Director be authorized to execute Amendment No. 4 to Work Authorization No. 2 with AECOM, including any additional documents or materials as may be required, for the development of a new project bid package from the original design services provided by AECOM for the State Loop 375 Frontage Road Ramps Project.

PASSED AND APPROVED THIS 12TH DAY OF JUNE 2019.

**CAMINO REAL REGIONAL
MOBILITY AUTHORITY**

ATTEST:

Joyce A. Wilson, Chair

Joe R. Fernandez, Board Secretary

APPROVED AS TO CONTENT:

Raymond L. Telles
Executive Director

AMENDMENT NO. 4

**WORK AUTHORIZATION NO. 2
CONTRACT FOR ENGINEERING SERVICES**

THIS AMENDMENT NO. 4 is made pursuant to the terms and conditions of Article 5 of the Contract for Engineering Services dated August 18, 2015 (the “Contract”) entered into by and between the CAMINO REAL REGIONAL MOBILITY AUTHORITY (the “CRRMA”) and AECOM (the “Engineer”).

This Amendment No. 4 seeks to amend Work Authorization No. 2 dated September 13, 2017, which was revised by Amendment No. 1 dated August 21, 2018, Amendment No. 2 dated February 25, 2019 and Amendment No. 3 dated February 25, 2019. The Work Authorization and subsequent amendments were executed by and between the parties pursuant to the Contract for the development of the project known as State Loop (SL) 375 Frontage Rd Ramps Project, along SL 375 from Zaragoza POE to North Loop (FM 76).

The terms and conditions of Work Authorization No. 2, as revised by Amendment No. 1, Amendment No. 2 and Amendment No. 3, are hereby further revised to: (1) supplement the services identified as Exhibit B-1, Exhibit B-2 and Exhibit B-3 with the additional services identified herein as Exhibit B-4; and (2) supplement the fees to be paid to AECOM through the additional fee schedule attached hereto as Exhibit D-3. Both Exhibit B-4 and Exhibit D-3 are attached hereto and incorporated herein for all purposes. The maximum amount payable to AECOM under Work Authorization No. 2 through this Amendment No. 4 is **\$470,005.22**.

This Amendment No. 4 shall become effective on the date of final execution of the parties hereto. All other terms and conditions of Work Authorization No. 2, as amended, not hereby revised are to remain in full force and effect.

IN WITNESS WHEREOF, this Amendment is executed in duplicate counterparts and hereby accepted and acknowledged below.

AECOM

**CAMINO REAL
REGIONAL MOBILITY AUTHORITY**

By: _____

By: _____

Name: _____

Raymond L. Telles
Executive Director

Date: _____

Date: _____

ATTACHMENT B-4

SERVICES TO BE PROVIDED BY THE ENGINEER

I. PROJECT SUMMARY OF SUPPLEMENTAL SCOPE

Additional Professional Services will be provided by the Engineer for producing a revised design for CSJ 2552-03-066. The design has been revised to ensure the project will tie in within the CSJ 2552-03-058 that is currently in construction, as portions of the design were taken out to meet allocated Budget constraints under CSJ 2552-03-058. The design has also been revised to ensure the proposed braided ramps south of Pan American meet the Freight Corridor Criteria, specifically the Vertical Clearance of 18'-6".

II. SERVICES TO BE PROVIDED BY THE ENGINEER

Professional services to be provided by the Engineer will conform to the latest editions of the TXDOT Project Development Process Manual, the Roadway Design Manual, Hydraulic Design Manual, the Bridge Design Manual-LRFD, Geotechnical Manual, Highway Illumination Manual, R/W Utility Manual, the PS&E Preparation Manual, and other applicable codes, ordinances, criteria, standards, regulations, policies, guidelines, practices and procedures. Seismic analysis/design of the structures is not required except to ensure that the cap width is sufficient for movement.

The Engineer will work at the direction and supervision of the CRRMA Executive Director and its consultants, providing reports and findings, as required. The Engineer will work cooperatively and collaboratively with other governmental agencies and design consultant firms who are responsible for adjacent projects or jurisdictional approval.

Scheduling of activities below will conform to established CRRMA, TxDOT and/or other municipal review and comment periods for each deliverable of the project. The Engineer will meet the following project submission dates: 95% PS&E - June 27, 2019, and 100% PS&E - September 20, 2019 for a TxDOT let in May 2020 to meet all the associated TxDOT District Design Review Meetings.

The services to be provided by the Engineer may include, but is not limited to, the following key elements:

- Project Management
- Geotechnical Investigations
- Plans, Specifications and Estimates
- Utility coordination and accommodation

A. Project Management

The Engineer, in coordination with the CRRMA, will be responsible for directing and coordinating all activities related to the Project. Project management and administration tasks shall include a Project Management/Work Plan, Progress Reporting, Coordination/Administration, Project Control/Scheduling, and Subconsultant Management. The prime provider's efforts shall include but not limited to the following:

2. Progress Reporting

- 2.1 Prepare and submit to the CRRMA monthly progress reports of activities completed during reporting period.
- 2.2 Prepare and Submit Invoices. The progress report shall be submitted as an attachment to the invoice submittal.

3. Coordination/Administration

- 3.1 The Engineer shall prepare for and attend one kick-off meeting for New CSJ ending in 066 to discuss project guidelines and present general project requirements and expectations.
- 3.2 Coordinate New CSJ 066 Project Parameters with the CRRMA's GEC staff regularly throughout project development
- 3.3 Coordinate New CSJ 066 Project Parameters with Schematic consultant
- 3.4 Coordination New CSJ 066 Project Parameters with TxDOT (additional effort for schematic revisions / update)

D. Geotechnical Investigations

2. Geotechnical Design

- 2.1 Perform an engineering evaluation in general accordance with the AASHTO pavement design guide to determine pavement base and pavement thickness for both a flexible and a rigid pavement section.
- 2.2 The geotechnical engineering analysis shall determine the stability of the existing walls within the project limits and determine the feasibility of retaining them as a part of the ultimate design.
- 2.3 Provide recommendations for illumination pole foundations, overhead sign bridge foundations, retaining wall structures (including soil nail walls) and settlement analysis.
- 2.4 Summarize results of the geotechnical engineering investigations in a written report.

Deliverables

- Provide three (3) PE sealed and signed copies of report.
- Pavement Design
- Boring logs incorporated into the design set.

H. Plans, Specifications and Estimates (PS&E)

3. Initial Design

- 3.1 Develop Cost Estimates and Exhibits for Design Alternatives request by TxDOT (such as Raising Mainlane Bridges to meet Freight Corridor Criteria and determining their impact to the Proposed Designs, Widening North Loop to meet the Roadway Design Manual Criteria for Minimum Shoulder and Lane Width, etc.)
- 3.2 Coordinate approval of pavement design

4. Utility Coordination

- 4.1 Minimization of utility conflicts with the proposed design
- 4.2 Utility Coordination

5. Roadway Design (To be converted into OpenRoads)

- 5.1 Confirm Vertical Alignment (Additional effort for ramps and gore areas)
- 5.2 Develop cross-sections and earthwork volumes (12K LF, 50XS, 2 per 11x17 sheet). In OpenRoads Designer
- 5.3 Title Sheet, Index of Sheets, and Project Layout Sheets w/Horiz Geom (1 title, 2 index, 3 prj layouts)
- 5.4 Proposed Typical Sections
- 5.5 Horizontal Alignment Data Sheets
- 5.6 Roadway Plan & Profile Sheets (Scale: H 1"=100', V 1"=10')
- 5.7 Ramp Gore Grading Details
- 5.8 Demolition / Removal Plans
- 5.9 Miscellaneous Roadway Details (riprap layouts)
- 5.10 Calculate Quantities and Prepare Summary of Quantities (Roadway, Removals)
- 5.11 QC/QA
 - 5.11.1 95% Submittal Review
 - 5.11.2 100% Submittal Review
 - 5.11.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION

6. Illumination/Signing&Pvmt Mrkg/Traffic Management

- 6.1 ILLUMINATION DESIGN (Revisions to Bridge Underpass Lighting to meet Freight Corridor Criteria)
 - 6.1.1 Illumination photometric analysis
 - 6.1.2 Plan sheets - underpass lighting
 - 6.1.3 Electrical schematics / circuit diagrams
 - 6.1.4 Underdeck Illumination Detail
 - 6.1.5 Electrical Service Summary
 - 6.1.6 Summary of quantities
 - 6.1.7 Coordination with Adjacent Project Consultant/consistency review
- 6.2 LARGE GUIDE SIGN DESIGN (Redesign for CSJ 066)
 - 6.2.1 Plan sheets - large sign layouts
 - 6.2.2 Sign detail sheets
 - 6.2.3 Sign elevation sheets
 - 6.2.4 Large sign summary sheets
 - 6.2.5 Summary of quantities
- 6.3 SIGNING & PVMT MRKG (Redesign for CSJ 066)
 - 6.3.1 Develop Signing and Pvmt Mrkg plans
 - 6.3.2 Small Sign Details
 - 6.3.3 Summary of Small Signs & Small Sign Items (Quantities)
- 6.4 QC/QA

- 6.4.1 95% Submittal Review
- 6.4.2 100% Submittal Review
- 6.4.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION

7. Drainage Design

7.1 Drainage Design (Revisions to Bridge to meet Freight Corridor Criteria and Redesign for CSJ 066)

- 7.1.1 Prepare Drainage Area Maps
- 7.1.2 Prepare Plan and Profile Storm Drain Sheets
- 7.1.3 Prepare Hydraulic Calculations
- 7.1.4 Prepare Miscellaneous Detail Sheets
- 7.1.5 Prepare Drainage Summary of Quantities

7.2 QC/QA

- 7.2.1 95% Submittal Review
- 7.2.2 100% Submittal Review
- 7.2.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION

8. Traffic Control

- 8.1 Attend 3 TCP Workshop meetings including the SRT
- 8.2 Prepare traffic control drawings for CSJ 066
 - 8.2.1 General Notes (1 sheet)
 - 8.2.2 TCP Narrative / Phase Overview (1 sheet)
 - 8.2.3 TCP Phase Overview (20 sheets; 1"=200' D/B)
 - 8.2.4 Advance Warning Sign Line Diagram (Revision to incl additional sidewalk)
 - 8.2.5 TCP Typical Sections per Phase (10 sheets)
 - 8.2.6 Revise Detailed TCP Phase Layouts
 - 8.2.7 TCP Detour Plans (1 ea. phase, 1 bridge widen, 5 total sheets)
 - 8.2.8 Temporary Ramp P&P / Details (2 p&p, 1 detail, 4 total sheets)
 - 8.2.9 Temporary Shoring Layouts / Details (assume 2 temp walls)
 - 8.2.10 Temp Drainage
 - 8.2.11 Calculate Quantities and Prepare Summary of Quantities (TCP, Crash Cushion)
- 8.3 Combine CSJ 066 TCP with CSJ 049 TCP
- 8.4 QC/QA
 - 8.4.1 95% Submittal Review
 - 8.4.2 100% Submittal Review
 - 8.4.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION

9. Retaining Walls - Revisions to Walls WL375SBEB_R1, WL375SBXC_T5, WL375SBXC_R6, WL375NBEA_R1, WL375SBXC_T2, WL375NBEA_L3

- 9.1 Revise Wall Layout Sheet
- 9.2 Revise Wall Plan and Profile sheets (5 sheets)

- 9.3 Revise Wall Typical Sections (3 sheets)
- 9.4 Revise Soil Nail Layouts (3 sheets)
- 9.5 Revise standard RW(MSE)DD (1 sheet)
- 9.6 Revise retaining wall quantities and sheets
- 9.7 QC/QA
- 9.7.1 95% Submittal Review
- 9.7.2 100% Submittal Review
- 9.7.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION

10. Structures Design

- 10.1 Braided "Ramp A" NB Bridge Over NB Exit South of Pan American (Revised Profile to meet Freight Corridor Criteria)
 - 10.1.1 Update Bridge Layouts
 - 10.1.2 Update Bearing seat elevations and estimate quantity tables
 - 10.1.3 Update foundation layout sheets
 - 10.1.4 Redesign girders for updated lengths
 - 10.1.5 Update IGND sheet
 - 10.1.6 Update column details
 - 10.1.7 Update framing plans and slab sheets
- 10.2 Braided "Ramp C" SB Bridge Over SB Exit South of Pan American (Revised Alignment and Profile to meet Freight Corridor Criteria)
 - 10.2.1 Update Bridge Layouts
 - 10.2.2 Update Bearing seat elevations and estimate quantity tables
 - 10.2.3 Update foundation layout sheets
 - 10.2.4 Redesign girders for updated lengths
 - 10.2.5 Update IGND sheet
 - 10.2.6 Update column details
 - 10.2.7 Update framing plans and slab sheets
- 10.3 QC/QA
 - 10.3.1 95% Submittal Review
 - 10.3.2 100% Submittal Review
 - 10.3.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION

11. Final Assembly of PS&E Package

- 11.1 Complete final construction plans
- 11.2 General Notes, Specifications and Provisions
- 11.3 Form, 1002, 2229, 1814, Certs, Spl Prov, Spl Specs
- 11.4 Construction Time Determination
- 11.5 Construction Cost Estimate (95%, Final)

Deliverables

- 95, 100% Submittals: The Engineer will prepare and provide one (1) reproducible copy of the 95, 100% planset and supporting documents in addition to providing electronic files (pdf) for each PS&E package.

- Specification list
- QC/QA redlines at (95 percent) design review
- Preliminary (95 percent) design review
- Final approved design exceptions/waivers
- Plans estimate
- Specification list, general notes, special provisions, specifications, special specifications
- Final signed and sealed construction plans

E. Utility Coordination

1. Utility Coordination

- 1.1. Conduct a records research and acquisition of available as-built utility records. This information will be placed on the base map and provided to all utility companies.
- 1.2. Designate known utilities throughout the ROW, as provided by utility owners.
- 1.3. Conduct utility coordination meetings to review record drawings and proposed improvements with affected utility owners individually at each phase submittal. Utilities that may be affected include: El Paso Electric Company, Texas Gas Service, El Paso Water Utilities, Time Warner Cable, TW Telecom, ATT Telephone, AT&T Distribution Cable, MCI, QWEST Communications, and others.
- 1.4. Prepare and issue minutes for each meeting.
- 1.5. Provide base map information to all utility companies at each submittal phase.
- 1.6. Provide copies of documentation to the CRRMA at the Final submittal phase. Utilities can request that their new service lines be included as part of the bid package provided that the utility company signs an agreement with the CRRMA and funding is provided.
- 1.7. Conduct Level D SUE
 - 1.7.1. Obtain As-Built Plans from Utility Companies
 - 1.7.2. Research for County Records
 - 1.7.3. Map Utilities as Researched
- 1.8. Conduct Level C SUE
 - 1.8.1. Tie all Existing Visible Features
 - 1.8.2. Map Utilities Recovered
- 1.9. Conduct Level B SUE
 - 1.9.1. Conduct Utilities Designation
 - 1.9.2. Map Designation and other Levels Combined
- 1.10. Conduct Level A SUE
 - 1.10.1. 4 Test Holes (10' to 15')
 - 1.10.2. Final Mapping
- 1.11. Provide Traffic Control for all LEVEL A SUE

Deliverables

- Utility base map to show utilities on plan and profiles.
- Utility conflict list at all milestone submittals.
- Utility meeting minutes.

AECOM Technical Services Inc.

Loop 375 Braided Ramps

Company	Fee
AECOM Technical Services Inc.	\$407,230.05
PSI	\$18,450.72
QUANTUM	\$13,009.13
FXSA	\$31,315.32
Total	\$470,005.22

AECOM Technical Services Inc. Loop 375 Braided Ramps				
Task	AECOM Technical Services Inc.	PSI	QUANTUM	FXSA
A. Project Management	\$22,118.98	\$0.00	\$0.00	\$0.00
B. Surveying	\$0.00	\$0.00	\$0.00	\$0.00
C. Right-Of-Way Mapping	\$0.00	\$0.00	\$0.00	\$0.00
D. Geotechnical Investigations	\$0.00	\$18,381.72	\$0.00	\$0.00
E. Schematic Design	\$0.00	\$0.00	\$0.00	\$0.00
F. Drainage Study	\$0.00	\$0.00	\$0.00	\$0.00
G. Stakeholder Coordination	\$0.00	\$0.00	\$0.00	\$0.00
H. Plans, Specifications and Estimates (PS&E)	\$379,879.32	\$0.00	\$13,009.13	\$0.00
I. Utility Coordination	\$0.00	\$0.00	\$0.00	\$31,246.32
Sub Totals	\$401,998.30	\$18,381.72	\$13,009.13	\$31,246.32
Direct Expenses	\$5,231.75	\$69.00	\$0.00	\$69.00
Totals	\$407,230.05	\$18,450.72	\$13,009.13	\$31,315.32
Grand Total	\$470,005.22			
Participation Percentage	86.64%	3.93%	2.77%	6.66%
Total DBE Percentage:	13.36%			

AECOM Technical Services Inc. Loop 375 Braided Ramps											
Task Description	SENIOR PROJECT MANAGER	DESIGN MANAGER	SENIOR BRIDGE ENGINEER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	EIT	SENIOR ENGINEERING TECHNICIAN	ADMIN / CLERICAL (ENG)	TOTAL LABOR HOURS	TOTAL LABOR COST
A. Project Management										182	\$ 22,118.98
2. Progress Reporting										104	\$ 9,274.46
2.1 Prepare and Submit Monthly Progress Reports for CRRMA (Assume 12 Month Duration)	4			10	6	6			24	50	\$ 4,820.98
2.2 Prepare and Submit Invoices	4			10					40	54	\$ 4,453.48
3. Coordination/Administration										78	\$ 12,844.52
3.1 Prepare and Attend One (1) Kick-off Meeting for New CSJ ending in 066 (Project guidelines, general project requirement and expectations)	8			8						16	\$ 2,792.96
3.2 Coordinate New CSJ 066 Project Parameters with CRRMA GEC Staff	4			4						8	\$ 1,396.48
3.3 Coordinate New CSJ 066 Project Parameters with Schematic/Project Adjacent Consultant	2			16						18	\$ 2,726.84
3.4 Coordinate New CSJ 066 Project Parameters with TxDOT	12			24						36	\$ 5,928.24
HOURS SUB-TOTALS	34	0	0	72	6	6	0	0	64	182	
CONTRACT RATE PER HOUR	\$204.22	\$202.77	\$145.14	\$144.90	\$97.71	\$109.38	\$76.31	\$109.38	\$54.69		
TOTAL LABOR COSTS	\$6,943.48	\$0.00	\$0.00	\$10,432.80	\$586.26	\$656.28	\$0.00	\$0.00	\$3,500.16	\$22,118.98	\$22,118.98
% DISTRIBUTION OF STAFF HOURS	18.68%	0.00%	0.00%	39.56%	3.30%	3.30%	0.00%	0.00%	35.16%		
H. Plans, Specifications and Estimates (PS&E)										3322	\$ 379,879.32
3. Initial Design										49	\$ 6,290.42
3.1 Develop Cost Estimates and Exhibits for Design Alternatives request by TxDOT (such as Raising ML Bridges, Widening North Loop, etc)	4		4	16			12	8		44	\$ 5,506.60
3.2 Coordinate approval of pavement design	1			4						5	\$ 783.82
4. Utility Coordination										39	\$ 4,921.00
4.1 Minimization of utility conflicts with the proposed design		4				12				16	\$ 2,123.64
4.2 Utility Coordination	1	2				12		8		23	\$ 2,797.36
5. Roadway Design (To be converted into OpenRoads)										451	\$ 51,923.33
5.1 Confirm Vertical Alignment (Additional effort for ramps and gore areas)	2	2		8				16		28	\$ 3,723.26
5.2 Develop cross-sections and earthwork volumes (12K LF, 50XS, 2 per 11x17 sheet). In OpenRoads Designer		1		12		100		24		137	\$ 15,504.69
5.3 Title Sheet, Index of Sheets, and Project Layout Sheets w/Horiz Geom (1 title, 2 index, 3 prj layouts)		1		1		8	12	8		30	\$ 3,013.47
5.4 Proposed Typical Sections		1		1				4		6	\$ 785.19
5.5 Horizontal Alignment Data Sheets		1		1				4		6	\$ 785.19
5.6 Roadway Plan & Profile Sheets (Scale: H 1"=100', V 1"=10')	2			6		12	12	12		44	\$ 4,818.68
5.7 Ramp Gore Grading Details	1			8		12		12		33	\$ 3,988.54
5.8 Demolition / Removal Plans		1		2		12	8	8		31	\$ 3,290.65
5.9 Miscellaneous Roadway Details (riprap layouts)		1		4		8	8	12		33	\$ 3,580.45
5.10 Calculate Quantities and Prepare Summary of Quantities (Roadway, Removals)		1		12		8	8	12		41	\$ 4,739.65
5.11 QC/QA										0	\$ -
5.11.1 95% Submittal Review	2			12			8			22	\$ 2,757.72
5.11.2 100% Submittal Review	2			12			8			22	\$ 2,757.72
5.11.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION	2			8			8			18	\$ 2,178.12
6. Illumination/Signing&Pvmt Mrkg/Traffic Management										440	\$ 47,876.04
6.1 ILLUMINATION DESIGN (Revisions to Bridge Underpass Lighting to meet Freight Corridor Criteria)										0	\$ -
6.1.1. Illumination photometric analysis				4	12					16	\$ 1,752.12
6.1.2. Plan sheets - underpass lighting				8	12			8		28	\$ 3,206.76
6.1.3. Electrical schematics / circuit diagrams				4	12			8		24	\$ 2,627.16
6.1.4. Underdeck Illumination Detail				4	8			8		20	\$ 2,236.32
6.1.5. Electrical Service Summary				4	8			8		20	\$ 2,236.32
6.1.6. Summary of quantities				4	8			4		16	\$ 1,798.80
6.1.7. Coordination with Adjacent Project Consultant/consistency review				2						2	\$ 289.80
6.2 LARGE GUIDE SIGN DESIGN (Redesign for CSJ 066)										0	\$ -
6.2.1. Plan sheets - large sign layouts				4		12	12	8		36	\$ 3,682.92
6.2.2. Sign detail sheets				4		12	8	8		32	\$ 3,377.68
6.2.3. Sign elevation sheets				4		12	8	8		32	\$ 3,377.68
6.2.4. Large sign summary sheets				4		12	8	8		32	\$ 3,377.68
6.2.5. Summary of quantities				4		12	8	4		28	\$ 2,940.16
6.3 SIGNING & PVMT MRKG (Redesign for CSJ 066)										0	\$ -
6.3.1. Develop Signing and Pvmt Mrkg plans				4		12	12	8		36	\$ 3,682.92
6.3.2. Small Sign Details				4		12	8	8		32	\$ 3,377.68
6.3.3. Summary of Small Signs & Small Sign Items (Quantities)				4		12	8	8		32	\$ 3,377.68
6.4 QC/QA										0	\$ -
6.4.1 95% Submittal Review	2			8			8			18	\$ 2,178.12
6.4.2 100% Submittal Review	2			8			8			18	\$ 2,178.12
6.4.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION	2			8			8			18	\$ 2,178.12
7. Drainage Design										454	\$ 52,329.40
7.1 Drainage Design (Revisions to Bridge to meet Freight Corridor Criteria and Redesign for CSJ 066)										0	\$ -
7.1.1 Prepare Drainage Area Maps				32		24	24	32		112	\$ 12,593.52
7.1.2 Prepare Plan and Profile Storm Drain Sheets				32		24	24	32		112	\$ 12,593.52
7.1.3 Prepare Hydraulic Calculations				32		16	16	16		80	\$ 9,357.92
7.1.4 Prepare Miscellaneous Detail Sheets				16		8	8	16		48	\$ 5,554.00
7.1.5 Prepare Drainage Summary of Quantities				12		8	8	12		40	\$ 4,536.88
7.2 QC/QA										0	\$ -
7.2.1 95% Submittal Review	2			12			8			22	\$ 2,757.72
7.2.2 100% Submittal Review	2			12			8			22	\$ 2,757.72
7.2.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION	2			8			8			18	\$ 2,178.12

AECOM Technical Services Inc. Loop 375 Braided Ramps											
Task Description	SENIOR PROJECT MANAGER	DESIGN MANAGER	SENIOR BRIDGE ENGINEER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	EIT	SENIOR ENGINEERING TECHNICIAN	ADMIN / CLERICAL (ENG)	TOTAL LABOR HOURS	TOTAL LABOR COST
8. Traffic Control										874	\$ 90,436.52
8.1 Attend 3 TCP Workshop meetings including the SRT	12			12						24	\$ 4,189.44
8.2 Prepare traffic control drawings for CSJ 066										0	\$ -
8.2.1 General Notes (1 sheets)				2			4			6	\$ 595.04
8.2.2 TCP Narrative / Phase Overview (1 sheet)				4		8	12	8		32	\$ 3,245.40
8.2.3 TCP Phase Overview (20 sheets; 1"=200' D/B)				4		12	16	16		48	\$ 4,863.20
8.2.4 Advance Warning Sign Line Diagram (Revision to incl additional sidewalk)				2		8	12	8		30	\$ 2,955.60
8.2.5 TCP Typical Sections per Phase (10 sheets)				4		12	20	20		56	\$ 5,605.96
8.2.6 Revise Detailed TCP Phase Layouts				8		40	60	80		188	\$ 18,863.40
8.2.7 TCP Detour Plans (1 ea. phase, 1 bridge widen, 5 total sheets)				4		8	24	16		52	\$ 5,036.16
8.2.8 Temporary Ramp P&P / Details (2 p&p, 1 detail, 4 total sheets)				8		16	24	16		64	\$ 6,490.80
8.2.9 Temporary Shoring Layouts / Details (assume 2 temp walls)				8		12	24	16		60	\$ 6,053.28
8.2.10 Temp Drainage				8		24	32			64	\$ 6,226.24
8.2.11 Calculate Quantities and Prepare Summary of Quantities (TCP, Crash Cushion)				4			16	12		32	\$ 3,113.12
8.3 Combine CSJ 066 TCP with CSJ 049 TCP				12		24	60	60		156	\$ 15,505.32
8.4 QC/QA										0	\$ -
8.4.1 95% Submittal Review	2			12			8			22	\$ 2,757.72
8.4.2 100% Submittal Review	2			12			8			22	\$ 2,757.72
8.4.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION	2			8			8			18	\$ 2,178.12
9 Retaining Walls - Revisions to Walls WL375SBEB_R1, WL375SBXC_T5, WL375SBXC_R6, WL375NBEA_R1, WL375SBXC_T2, WL375NBEA_L3										299	\$ 38,005.91
9.1 Revise Wall Layout Sheet				24		40				64	\$ 7,852.80
9.2 Revise Wall Plan and Profile sheets (5 sheets)	1	1		24		40				66	\$ 8,259.79
9.3 Revise Wall Typical Sections (3 sheets)				8		8				16	\$ 2,034.24
9.4 Revise Soil Nail Layouts (3 sheets)	1	1		16		32				50	\$ 6,225.55
9.5 Revise standard RW(MSE)DD (1 sheet)				8		8				16	\$ 2,034.24
9.6 Revise retaining wall quantities and sheets		1		8		16				25	\$ 3,112.05
9.7 QC/QA										0	\$ -
9.7.1 95% Submittal Review	2			12		8				22	\$ 3,022.28
9.7.2 100% Submittal Review	2			12		8				22	\$ 3,022.28
9.7.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION	2			8		8				18	\$ 2,442.68
										0	\$ -
10 Structures Design										590	\$ 70,862.56
10.1 Braided "Ramp A" NB Bridge Over NB Exit South of Pan American (Revised Profile to meet Freight Corridor Criteria)										0	\$ -
10.1.1 Update Bridge Layouts	1	1	8			16		16		42	\$ 5,068.27
10.1.2 Update Bearing seat elevations and estimate quantity tables			8			16		16		40	\$ 4,661.28
10.1.3 Update foundation layout sheets	1	1	8			16		14		40	\$ 4,849.51
10.1.4 Redesign girders for updated lengths			8			16		16		40	\$ 4,661.28
10.1.5 Update IGND sheet			8			10		16		34	\$ 4,005.00
10.1.6 Update column details			6			8		14		28	\$ 3,277.20
10.1.7 Update framing plans and slab sheets			8			16		16		40	\$ 4,661.28
10.2 Braided "Ramp C" SB Bridge Over SB Exit South of Pan American (Revised Alignment and Profile to meet Freight Corridor Criteria)										0	\$ -
10.2.1 Update Bridge Layouts	1	1	8			16		16		42	\$ 5,068.27
10.2.2 Update Bearing seat elevations and estimate quantity tables			8			16		16		40	\$ 4,661.28
10.2.3 Update foundation layout sheets	1	1	8			16		14		40	\$ 4,849.51
10.2.4 Redesign girders for updated lengths			8			16		16		40	\$ 4,661.28
10.2.5 Update IGND sheet			8			10		16		34	\$ 4,005.00
10.2.6 Update column details			6			8		14		28	\$ 3,277.20
10.2.7 Update framing plans and slab sheets			8			16		16		40	\$ 4,661.28
10.3 QC/QA										0	\$ -
10.3.1 95% Submittal Review	2		12			8				22	\$ 3,025.16
10.3.2 100% Submittal Review	2		12			8				22	\$ 3,025.16
10.3.3 95, 100% SUBMITTAL & DIV REVIEW COMMENT RESOLUTION	2		8			8				18	\$ 2,444.60
11 Final Assembly of PS&E Package										126	\$ 17,234.14
11.1 Complete final construction plans		4		4	4	8	12	12		44	\$ 4,884.84
11.2 General Notes, Specifications and Provisions	1	4		12			6			23	\$ 3,211.96
11.3 Form, 1002, 2229, 1814, Certs, Spl Prov, Spl Specs	1	4		12		8				25	\$ 3,629.14
11.4 Construction Time Determination	1	4		12						17	\$ 2,754.10
11.5 Construction Cost Estimate (95%, Final)	1	4		12						17	\$ 2,754.10
HOURS SUB-TOTALS	69	42	144	633	64	928	630	812	0	3322	
CONTRACT RATE PER HOUR	\$204.22	\$202.77	\$145.14	\$144.90	\$97.71	\$109.38	\$76.31	\$109.38	\$54.69		
TOTAL LABOR COSTS	\$14,091.18	\$8,516.34	\$20,900.16	\$91,721.70	\$6,253.44	\$101,504.64	\$48,075.30	\$88,816.56	\$0.00	\$379,879.32	
% DISTRIBUTION OF STAFF HOURS	2.08%	1.26%	4.33%	19.05%	1.93%	27.93%	18.96%	24.44%	0.00%		
TOTAL PROJECT HOURS	103	42	144	705	70	934	630	812	64	3504	
PROJECT TOTALS	\$21,034.66	\$8,516.34	\$20,900.16	\$102,154.50	\$6,839.70	\$102,160.92	\$48,075.30	\$88,816.56	\$3,500.16	\$401,998.30	\$401,998.30
TOTAL PROJECT % DISTRIBUTION OF STAFF HOURS	2.94%	1.20%	4.11%	20.12%	2.00%	26.66%	17.98%	23.17%	1.83%		

AECOM Technical Services Inc. Loop 375 Braided Ramps				
Other Direct Expenses	UNITS		RATE	
Lodging/Hotel (Taxes/fees not included)	8	night	100.00	\$800.00
Meals (overnight stay required)	8	day	46.00	\$368.00
Rental Car (Tax/fees not included)	4	day	65.00	\$260.00
Rental Car Gasoline	16	Gallon	3.75	\$60.00
SUV or ATV Rental	0	day	0.00	\$0.00
Air Travel	8	each	450.00	\$3,600.00
Taxi/Cab fare	0	each	0.00	\$0.00
Standard Postage	0	letter	0.00	\$0.00
Overnight express-letter size	0	each	20.00	\$0.00
Overnight express-oversized box	0	each	35.00	\$0.00
Courier Services	0	each	30.00	\$0.00
8½"X11" B/W Paper Copies	0	each	0.10	\$0.00
11"X17" B/W Paper Copies	0	each	0.20	\$0.00
8½"X11" Color Paper Copies	0	each	0.50	\$0.00
11"X17" Color Paper Copies	0	each	1.50	\$0.00
CADD Plotting	0	linear foot	4.50	\$0.00
Digital Ortho Plotting	0	linear foot	0.00	\$0.00
Law Enforcement/Uniform Officer	0	hour/officer	0.00	\$0.00
Notebooks	0	each	0.00	\$0.00
Hazardous Materials Database Search	0	per search	0.00	
Backhoe Rental	0	day	0.00	\$0.00
Boards for Public Meeting	0	each	0.00	\$0.00
Env. Field Supplies (lathes, stakes, flagging, spray paint, etc.)	0	day	0.00	\$0.00
Interpreter	0	hour	0.00	\$0.00
Court Reporter	0	hour	0.00	\$0.00
Newspaper Advertisement	0	each	0.00	\$0.00
Other Direct Expense Total				\$5,231.75

**FXSA
Loop 375 Braided Ramps**

Task Description	SENIOR PROJECT MANAGER	DESIGN ENGINEER	SENIOR ENGINEERING TECHNICIAN	ENGINEERING TECHNICIAN	TOTAL LABOR HOURS	TOTAL LABOR COST
I. Utility Coordination					246	\$ 31,246.32
1. Utility Coordination for CSJ 066					246	\$ 31,246.32
1.1 Conduct records research and acquisition of available as-built utility records	2	8			10	\$ 1,442.82
1.2 Designate known utilities throughout the ROW	2	16	12	12	42	\$ 5,068.66
1.3 Conduct utility coordination meetings	2	12			14	\$ 1,957.22
1.4 Prepare and issue minutes for meetings	2	8			10	\$ 1,442.82
1.5 Provide base map information to all utility companies at each submittal phase	2	8	16	16	42	\$ 4,905.54
1.6 Provide copies of documentation to the CRRMA at the Final submittal phase	2	16			18	\$ 2,471.62
1.7 Level D SUE.					0	\$ -
a) Obtain As-Built Plans from Utility Companies.	2	12			14	\$ 1,957.22
b) Research for County Records.	2	12			14	\$ 1,957.22
c) Map Utilities as Researched.	2	4	12		18	\$ 2,358.70
1.8 Level C SUE.					0	\$ -
a) Tie all Existing Visible Features.			4		4	\$ 476.76
b) Map Utilities Recovered.			8		8	\$ 953.52
1.9 Level B SUE.					0	\$ -
a) Conduct Utilities Designation (1 Mile).	2		8		10	\$ 1,367.54
b) Map Designation and other Levels Combined.	2		8	8	18	\$ 2,145.38
1.10 Level A SUE.					0	\$ -
a) Test Holes (0'-4.99').					0	\$ -
b) Test Holes (5' to 9.99')					0	\$ -
c) 4 Test Holes (10' to 15').	2	4		8	14	\$ 1,706.26
d) Final Mapping.		2		8	10	\$ 1,035.04
1.11 Traffic Control.					0	\$ -
					0	\$ -
HOURS SUB-TOTALS	24	102	68	52	246	
CONTRACT RATE PER HOUR	\$207.01	\$128.60	\$119.19	\$97.23		
TOTAL LABOR COSTS	\$4,968.24	\$13,117.20	\$8,104.92	\$5,055.96	\$31,246.32	
% DISTRIBUTION OF STAFF HOURS	9.76%	41.46%	27.64%	21.14%		
TOTAL PROJECT HOURS	24	102	68	52	246	
PROJECT TOTALS	\$4,968.24	\$13,117.20	\$8,104.92	\$5,055.96	\$31,246.32	
TOTAL PROJECT % DISTRIBUTION OF STAFF HOURS	9.76%	41.46%	27.64%	21.14%		

FXSA
Loop 375 Braided Ramps

Other Direct Expenses	UNITS		RATE		
Lodging/Hotel (Taxes/fees not included)	0	night	0.00		\$0.00
Meals (overnight stay required)	0	day	0.00		\$0.00
Rental Car (Tax/fees not included)	0	day	0.00		\$0.00
Mileage	120	mile	0.575		\$69.00
Air Travel	0	each	400.00		\$0.00
Parking	0	day	15.00		\$0.00
Standard Postage	0	letter	0.45		\$0.00
Overnight express-letter size	0	each	45.00		\$0.00
Overnight express-oversized box	0	each	65.00		\$0.00
Courier Services	0	each	0.00		\$0.00
8½"X11" B/W Paper Copies	0	each	0.10		\$0.00
11"X17" B/W Paper Copies	0	each	0.20		\$0.00
8½"X11" Color Paper Copies	0	each	0.40		\$0.00
11"X17" Color Paper Copies	0	each	0.74		\$0.00
CADD Plotting	0	linear foot	0.00		\$0.00
Digital Ortho Plotting	0	linear foot	0.00		\$0.00
Law Enforcement/Uniform Officer	0	hour/officer	0.00		\$0.00
Notebooks	0	each	0.00		\$0.00
Hazardous Materials Database Search	0	per search	0.00		\$0.00
Backhoe Rental	0	day	0.00		\$0.00
Boards for Public Meeting	0	each	0.00		\$0.00
Env. Field Supplies (lathes, stakes, flagging, spray paint, etc.)	0	day	0.00		\$0.00
Interpreter	0	hour	0.00		\$0.00
Court Reporter	0	hour	0.00		\$0.00
Newspaper Advertisement	0	each	0.00		\$0.00
Designate		Unit	250.00		\$0.00
GPS Receiver	0	hour	14.43		\$0.00
Locate (0-5)	0	each	1,000.00		\$0.00
Locate (5-10)	0	each	1,500.00		\$0.00
Locate (10-15)		each	2,000.00		\$0.00
Traffic Control		day	950.00		\$0.00
Other Direct Expense Total					\$69.00

QUANTUM
Loop 375 Braided Ramps

Task Description	SENIOR PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	DESIGN ENGINEER	SENIOR ENGINEERING TECHNICIAN	ENGINEERING TECHNICIAN	ADMIN / CLERICAL (ENG)	TOTAL LABOR HOURS	TOTAL LABOR COST
H. Plans, Specifications and Estimates (PS&E)								137	\$ 13,009.13
9. Storm Water Pollution Prevention Plan (SW3P) for CSJ 066								109	\$ 9,874.89
9.1 Prepare SW3P Narrative	2	4	4	8	8	8	14	48	\$ 4,146.40
9.2 Prepare Storm Water Pollution Prevention Plans	1	2	4	8	8	12		35	\$ 3,232.23
9.3 Prepare SW3P Manual	2	4	4	8			8	26	\$ 2,496.26
Deliverables for CSJ 066								28	\$ 3,134.24
1. 95, 100% Submittals	2	4		4	4	4		18	\$ 1,894.14
2. QC redlines at (95, and 100 percent) design reviews	2	4		4				10	\$ 1,240.10
HOURS SUB-TOTALS	9	18	12	32	20	24	22	137	
CONTRACT RATE PER HOUR	\$160.01	\$135.01	\$105.01	\$95.01	\$85.01	\$78.50	\$57.01		
TOTAL LABOR COSTS	\$1,440.09	\$2,430.18	\$1,260.12	\$3,040.32	\$1,700.20	\$1,884.00	\$1,254.22	\$13,009.13	
% DISTRIBUTION OF STAFF HOURS	6.57%	13.14%	8.76%	23.36%	14.60%	17.52%	16.06%		
TOTAL PROJECT HOURS	9	18	12	32	20	24	22	137	
PROJECT TOTALS	\$1,440.09	\$2,430.18	\$1,260.12	\$3,040.32	\$1,700.20	\$1,884.00	\$1,254.22	\$13,009.13	
TOTAL PROJECT % DISTRIBUTION OF STAFF HOURS	6.57%	13.14%	8.76%	23.36%	14.60%	17.52%	16.06%		

**PSI
Loop 375 Braided Ramps**

Task Description	SENIOR PROJECT MANAGER	SENIOR ENGINEER	PROJECT ENGINEER	EIT	ADMIN / CLERICAL (ENG)	TOTAL LABOR HOURS	TOTAL LABOR COST
D. Geotechnical Investigations						142	\$ 18,381.72
2. Geotechnical Design						142	\$ 18,162.60
2.1 Determine pavement base and pavement thickness for a rigid pavement concrete section	4	8	12	12		36	\$ 4,638.04
2.2 Analyze Existing Walls	4	8	12	12		36	\$ 4,638.04
2.3 Provide recommendations for illumination pole and overhead sign bridge foundations, and ret. wall structures	2	8	12	12		34	\$ 4,248.48
2.4 Summarize results of the geotechnical engineering investigations in a written report	4	8	12	12		36	\$ 4,638.04
Deliverables						0	\$ 219.12
1. Geotechnical Report (3 copies) (PE signed and sealed)					4	4	\$ 219.12
HOURS SUB-TOTALS	14	32	48	48	4	146	
CONTRACT RATE PER HOUR	\$194.78	\$158.26	\$130.86	\$85.21	\$54.78		
TOTAL LABOR COSTS	\$2,726.92	\$5,064.32	\$6,281.28	\$4,090.08	\$219.12	\$18,381.72	
% DISTRIBUTION OF STAFF HOURS	9.59%	21.92%	32.88%	32.88%	2.74%		
TOTAL PROJECT HOURS	14	32	48	48	4	146	
PROJECT TOTALS	\$2,726.92	\$5,064.32	\$6,281.28	\$4,090.08	\$219.12	\$18,381.72	
TOTAL PROJECT % DISTRIBUTION OF STAFF HOURS	9.59%	21.92%	32.88%	32.88%	2.74%		

PSI
LP375 Braided Ramps

Other Direct Expenses	UNITS		RATE		
Lodging/Hotel (Taxes/fees not included)	0	night	0.00		\$0.00
Meals (overnight stay required)	0	day	0.00		\$0.00
Rental Car (Tax/fees not included)	0	day	0.00		\$0.00
Mileage	120	mile	0.575		\$69.00
Air Travel	0	each	0.00		\$0.00
Parking	0	day	0.00		\$0.00
Standard Postage	0	letter	0.00		\$0.00
Overnight express-letter size	0	each	0.00		\$0.00
Overnight express-oversized box	0	each	0.00		\$0.00
Courier Services	0	each	25.00		\$0.00
8½"X11" B/W Paper Copies		each	0.10		\$0.00
11"X17" B/W Paper Copies	0	each	0.20		\$0.00
8½"X11" Color Paper Copies		each	0.40		\$0.00
11"X17" Color Paper Copies	0	each	0.70		\$0.00
CADD Plotting	0	linear foot	0.00		\$0.00
Digital Ortho Plotting	0	linear foot	0.00		\$0.00
Law Enforcement/Uniform Officer	0	hour/officer	0.00		\$0.00
Notebooks	0	each	0.00		\$0.00
Hazardous Materials Database Search	0	per search	0.00		\$0.00
Backhoe Rental		day	400.00		\$0.00
Boards for Public Meeting	0	each	0.00		\$0.00
Env. Field Supplies (lathes, stakes, flagging, spray paint, etc.)		day	800.00		\$0.00
Interpreter	0	hour	0.00		\$0.00
Court Reporter	0	hour	0.00		\$0.00
Drill Rig Mobilization		day	250.00		\$0.00
Drill Crew Mobilization (2-Man Crew)	0	hour	80.00		\$0.00
Auger Soil Boring with no Sampling	0	per foot	12.00		\$0.00
Auger Soil Boring with SPT (<50 feet)		per foot	16.00		\$0.00
Auger Soil Boring with TCP (<50 feet) (if needed)		per foot	25.00		\$0.00
Auger Soil Boring with SPT (>50 feet)		per foot	20.00		\$0.00
Traffic Control		day	1,800.00		\$0.00
Moisture Content and Visual Classification (ASTM D 2216)		each	14.00		\$0.00
Sieve Analysis (ASTM D 6913)		each	65.00		\$0.00
Atterberg Limits (ASTM D 4318)		each	65.00		\$0.00
Consolidation (ASTM D 2435)		each	650.00		\$0.00
Direct Shear (ASTM D 3080)		each	450.00		\$0.00
Moisture Density Relationship (ASTM D 1557)		each	200.00		\$0.00
California Bearing Ratio (ASTM D 1883)		each	300.00		\$0.00
Concrete/Asphalt Patch		each	125.00		\$0.00
Private Utility Locate		day	2,000.00		\$0.00
Percolation Test (ASTM D 5126)	0	each	500.00		\$0.00
Other Direct Expense Total					\$69.00