Alder Avenue at SR-210
Preliminary Engineering Evaluation Report (PEER) and Environmental Document

SCOPE OF WORK

Advanced Civil Technologies (ACT) will provide Lewis Corporation with professional services required to prepare a Preliminary Engineering Evaluation Report (PEER) for the proposed improvements in the approved Feasibility Study Report (FSR) dated September 2017. These improvements include widening southbound Alder Avenue to include a right turn lane onto westbound on-ramp; restriping to add a second left turn lane onto Renaissance Parkway; restriping to add a second left turn lane onto the EB on-ramp; and adding a shared thru lane. Northbound Alder Avenue will also be widened to provide right turn lanes onto Casmalia Street and the eastbound on-ramp. Additionally, northbound Alder Avenue will be restriped to add a second left turn lane onto Casmalia Street. The westbound off-ramp will be widened to provide a second left turn lane, while the eastbound off-ramp will be widened to provide a right turn lane. See attachment A for Build Alternative Plan Layout.

It is assumed that the project will be processed under a Caltrans Encroachment Permit Application and PEER process based on the project being non-complex and the construction cost within Caltrans right-of-way being less than $3,000,000. The PEER will be based on the approved FSR and in accordance with the most recent design requirements and in English Units.

It is also assumed that only one build alternative be evaluated during the PEER phase. Additional design variations or alternatives will require an amendment to this contract scope of work.

The scope of work includes the development the PEER document, and Environmental Document (ED) for the proposed improvements. It is assumed that this project will be cleared by a Categorical Exemption (CE) under CEQA.

The duration for this project will be no more than ten (10) months. If this schedule is extended based on changes and/or new requirements by Caltrans, an amendment will be requested for additional compensation. Specific scope items are documented in the following sections.

TASK 1 – PROJECT MANAGEMENT/COORDINATION/ADMINISTRATION

This task includes the project management services including the requirements for meetings, progress reports, invoicing, and administration of ACT work.

Task 1.1 Coordination/Administration: The ACT Project Manager will provide overall project management, coordination, and supervision of project staff to facilitate the performance of the work in accordance with the scope of this amendment. ACT will closely coordinate with Caltrans, City of Rialto, and Lewis Corporation to discuss progress, coordinate activities, obtain direction, exchange project information, and identify issues to be resolved. ACT will participate in the following meetings:

- **Project Development Team/Agency Coordination/Technical Workshop Meetings:** Meetings will be held to discuss technical issues with specific agencies. ACT will participate in a maximum of six (12) meetings and will bring progress plans as appropriate. No special presentation materials will be prepared.

Deliverables:

- Meeting notices, agendas, handouts, and minutes
- Progress plans

TASK 2 – DRAFT PEER

ACT will prepare a Draft PEER to a level that will allow Caltrans, City, and Lewis Corporation to review. The PEER document will continue to follow Caltrans guidelines, using the data and analysis conducted previously and to date. The content of the Draft PEER will be as follows:

Task 2.1 Geometric Approval Drawings: The Geometric Approval Drawings (GADs) will be prepared and submitted to Caltrans for review and approval. The GADs will include horizontal and vertical layouts, superelevation diagrams, profiles, right of way (R/W) lines, design exceptions, traffic data, and typical cross sections.

In addition, topographic mapping and design level survey will be required to develop the GADs and Fact Sheets. The ACT surveying effort is limited to what is included in the attached Guida scope and fee schedule. If additional surveying or mapping is requested by Caltrans, an amendment to this scope and fee will be requested.

Task 2.2 Design Exceptions: Once the GADs are approved, ACT will develop the required Fact Sheets for the mandatory and advisory nonstandard features per the current Caltrans Highway Design Manual. The Fact Sheets will include traffic analysis, accident data analysis, cost to cure, and reasons for requesting the exceptions. Once developed, the Fact Sheets will be submitted to Caltrans for review and approval.

Task 2.3 Roadway Plans: Based on the approved GADs, layout cut sheets will be prepared for horizontal and vertical alignments. These sheets will be cut at a scale of 1":100' and will be included in the draft PEER. The level of details presented on the layout plans will be adequate for the Project Approval phase only, and to facilitate in the development of a cost estimate.

Task 2.4 Right-of-Way and Utility Assessment: The right-of-way requirements will be evaluated based on available right-of-way information. Existing and proposed R/W lines and a R/W data sheet will be prepared for this effort.

Utility information will be presented on the Layout sheets. It assumed no potholing will be done during this phase. Also, it is assumed if utility relocation design is required that it will be done by others.

Task 2.5 Traffic Volumes, and Analysis: Traffic volumes will be developed for existing, opening year 2022, and future conditions 2042. The following methodologies will be used to develop traffic volumes:

Existing Conditions. It is anticipated that new traffic counts will be required for this evaluation since the previous evaluation is based on traffic counts obtained in 2015. Counts will be obtained for the a.m. and p.m. peak hours for four intersections. Existing traffic counts for will be evaluated for bikes, pedestrians, truck and passenger car volumes.

Opening Year Conditions. Traffic volumes for opening year conditions will be developed based on discussion with Caltrans and City staff. It is anticipated that traffic volumes will be developed based on application of growth rates and adding trips from proposed projects in the area.

Future (Design Year) Traffic Conditions. Currently the latest model for the area is San Bernardino Associated Governments' (SANBAG) San Bernardino Transportation Analysis Model (SBTAM) modified for the Renaissance Specific Plan. Translutions also has the City of Fontana General Plan (GP) model which was recently updated using the SBTAM. The Fontana GP version of the SBTAM is recommended for use in this evaluation for the following reasons:

1. Fontana is an adjacent jurisdiction with relatively sparse development in the project area;
2. The GP model includes reasonable buildout of the City of Fontana, including the Lytle Creek area and the area along the western side of the City – both of which are likely to add traffic to this interchange.

The Fontana GP model will be compared to the 2016 Southern California Association of Governments (SCAG) financially constrained Regional Transportation Plan (RTP, with amendments) and the network will be adjusted for consistency. The model will be run using standard convergence criteria. Post processing of traffic volumes will be done separately for passenger cars and trucks since on the mainline, all trucks will be evaluated using a different PCE factor.

A volume development Memo will be submitted to Caltrans for approval. This memo will include existing and future traffic volumes, vehicle miles traveled (VMT), and vehicle hours traveled (VHT).

Traffic Operations Analysis

Traffic operations will be evaluated for existing, opening year, and future conditions. The following methodologies will be used to evaluate traffic operations for each facility type:

Intersections Analysis. Based on Caltrans requirements, the analysis will be conducted for the Alder Avenue corridor (from Renaissance Parkway to Casmalia Street). The following items will be reported:

- **Levels of Service.** Levels of Service will be calculated using HCM-6 methodologies and Synchro 10 software.
- **Intersection Queues.** Queues for all left and right turns will be provided based on Synchro outputs.
- **Measures-of-Effectiveness (MOEs).** MOEs such as travel time, vehicle hours of delay, delay per vehicle, arterial travel time, and demand served will be reported to evaluate operations along the study area.
- **Performance Measures.** Performance Measures including ramp queues, on-ramp metering rates and recommended ramp meter rates will be reported.

Freeway Analysis. Since one of the requirements of the PEER process is that the gore points to the mainline remain unchanged, it is anticipated that for this evaluation mainline, merge-diverge, or weaving analyses will not be required.

Traffic Operations Analysis Report (TOAR)

The TOAR will be prepared discussing analysis methodologies, assumptions, and findings. The TOAR will be submitted to the client for review. Ultimately, the TOAR will become part of the PEER for the Alder Avenue interchange.

Task 2.6 Storm Water Data Report (SWDR): The ACT team will coordinate with Caltrans District 8 to determine whether to prepare the Short Form or Long Form SWDR. At this time, it is anticipated that the Long Form SWDR be prepared to address storm water quality issues for this project. The SWDR will summarize the storm water quality issues of a Project and each alternative. The SWDR will consist of a cover sheet, storm water data information, checklists, and attachments. The SWDR will summarize how the Project will address temporary, permanent, and treatment BMPs for the Project and each alternative. The SWDR will be approved by obtaining signatures from the following reviewers: Project Manager, Designated Maintenance Representative, Designated Landscape Architect Representative, and District Storm Water Coordinator.

Task 2.7 Initial Site Assessment (ISA): The ACT team will prepare an Initial Site Assessment per Caltrans requirement for one build alternative. The ISA will only cover the area impacted by the project footprint.

Task 2.8 Cost Estimate: The ACT team will develop a summary cost estimate for all items that will be required for the construction of the project. The format of the estimate will follow the Caltrans Project Report six-page estimate.

Deliverables:

- GADs
- 100 scale layouts, profiles, superelevation plans and diagrams
- R/W Data Sheet
- Fact Sheets, Mandatory and Advisory
- Storm Water Data Report
- ISA
- Draft PEER with Concept Plans and Cost Estimate (6 copies)

Assumptions:

- *The PEER and concept plans will not include hydrology/hydraulic analysis or drainage plans. An approximate lump sum item for drainage improvements will be included in the preliminary cost estimate.*

TASK 3 – FINAL PEER

ACT will update the Draft PEER based on Caltrans, City of Rialto, and Lewis Corporation review. The Final PEER will incorporate comments received on the text, concept plans and cost estimate. It is assumed that comments on the Draft PEER will not significantly alter the proposed geometrics.

Deliverables:

- Final PEER with Concept Plans and Cost Estimate (6 copies)

TASK 4 – Environmental Document – Categorical Exemption (CE)

4.1 Categorical Exemption: The ACT team, including LSA, will prepare a CE utilizing the forms and format on Caltrans Standard Environmental Reference (SER) and the CE will be submitted for review by the City of Rialto and Lewis Corporation. The CE form will be revised based on any comments from the City and Lewis Corporation and submitted to Caltrans for review. Upon receipt of comments from Caltrans, a revised CE form will be submitted for City and Lewis Corporation review, prior to submittal to Caltrans for approval/signature. Upon approval of the CE by Caltrans, the ACT team will prepare a draft Notice of Exemption (NOE) form for Caltrans to sign and submit to the State Clearinghouse documenting the approval of the CE. This scope of work includes two rounds of review of the CE. If, based on the conclusions of the technical studies below and/or direction from Caltrans, a higher level of CEQA documentation is required, modification to this scope will be required.

It is assumed that our project team will be able to utilize, and incorporate by the reference, the existing environmental document, including available technical environmental studies to support the determination of a CE under CEQA. As a result, this scope does not include the preparation of any of these environmental technical studies. However, if this approach is not accepted by Caltrans, an amendment will be required to cover any change in scope, cost or schedule.

SCHEDULE

ACT will complete the PEER per the following estimated schedule:

ACTIVITY	DATE
Notice to Proceed	March 2019
Draft PEER	September 2019
Final PEER	December 2019

Cost Proposal Summary for Change Order No.3

Alder Avenue at SR-210 Interchange Project PEER & ED

ACT Consulting Engineers, Inc.

Original Contract Amount (Feasibility Study)	$	248,597	
Spent on Feasibility Study Report (FSR)	$	85,695	
Balance Remaining from FSR	$	162,902	
New PEER/SOP & ED Cost Proposal As of March 2, 2018	$	387,358	
Requested Change Order #3 Amount As of March 2, 2018	$	224,456	
TOTAL			$ 224,456

Cost Proposal Summary for Change Order No.3

Alder Avenue at SR-210 Interchange Project PEER & ED FEE

ACT Consulting Engineers, Inc.

ACT Labor		
Task 1 - PROJECT MANAGEMENT/COORDINATION/ADMINISTRATION	$	50,600.00
Task 2 - DRAFT PEER	$	194,118.00
Task 3 - FINAL PEER	$	28,128.00
Task 4 - ENVIRONMENTAL DOCUMENT (CE)	$	12,770.00
TOTAL		$ 285,616.00

Additional Reports/Services (By Subconsultants):		
Traffic Coordination (Translutions)	$	36,000
Environmental Document	$	20,000
ISA Report (Leighton)	$	10,000
Survey and Mapping (Guida)	$	26,500
Subconsultant Mark up (5%)	$	9,250
TOTAL		$ 101,750

GRAND TOTAL	$ 387,366.00

Alder Avenue at SR-210 PEER And Environmental Document
ACT Staffing Allocations for Engineering Services

		ACT LABOR CLASSIFICATIONS											
		Project Manager	Principal Engineer	Engineer V	Engineer IV	Engineer III	Engineer II	Engineer I	Project Coordinator	Administrative Assistant	Total Hours by Task	Other Direct Costs (Reimbursables)	Total Cost by Task
Billing Rate by Classification		$ 398	$ 360	$ 275	$ 233	$ 228	$ 175	$ 117	$ 80	$ 80			
Task 1	**Project Management/Coordination/Administration**												
1.1	Coordination/Administration	80	16	32					24	16	168	$ 1,000	$ 50,600.00
	Subtotal	80	16	32	0	0	0	0	24	16	168	$ 1,000	**$ 50,600.00**
Task 2	**Draft PEER**												
2.1	Geometric Approval Drawings	8	10	50	80		40		15	4	207	$ 500	$ 48,194.00
2.2	Design Exception (Mandatory & Advisory)	16	8	32	24		40		8	8	136		$ 31,920.00
2.3	Roadway Plans	8	4	16	24	24	40	100	16	8	240		$ 40,708.00
2.4	R/W & Utility Assessment	4		8	8	24		24		4	72		$ 14,256.00
2.5	Traffic Analysis and ICE	8	8	16						8	40		$ 11,104.00
2.6	SWDR	2			60			24		8	94	$ 500	$ 18,724.00
2.7	ISA	4				8		12		4	28		$ 5,140.00
2.8	Cost Estimate	6	4		12	60		24	8	4	118		$ 24,072.00
	Subtotal	56	34	122	208	116	120	184	47	48	935	$ 1,000	**$ 194,118.00**
Task 3	**Final PEER**												
	Final PEER	8	8	40	8	16	8	16	8	8	120	$ 1,000	$ 28,128.00
	Subtotal	8	8	40	8	16	8	16	8	8	120	$ 1,000	**$ 28,128.00**
Task 4	**Environmental Document - Categorical Exemption (CE)**												
	Environmental Document - CE	8	4	4	4	4	6	16	8	8	62	$ 1,000	$ 12,770.00
	Subtotal	8	4	4	4	4	6	16	8	8	62	$ 1,000	**$ 12,770.00**
												TOTAL	**$ 285,616.00**