Exhibit A-1 Scope of Work Amendments

The purpose of the project is to establish a railroad quiet zone through the City of Emeryville at the 65th, 66th and 67th street crossings of the Union Pacific Railroad. The tracks are currently used for both passenger (Amtrak) and freight rail, with data collected in 2013 showing that an average of 58 trains per weekday and 45 trains per weekend day travel through the corridor. When there is back-to-back train activity, the rail crossings can be blocked for extended periods of time, creating congestion along the Shellmound Street corridor and intersecting roadways. As part of the Quiet Zone project, closure of one or two crossings is contemplated. The purpose of our assessment would be evaluating the effects on circulation for all modes, including emergency response times under various scenarios.

The following describes our proposed scope of work.

SCOPE OF WORK

We assume that others on the project team will provide information related to the number of rail crossings per day, temporal distribution of rail crossing activities, average and maximum duration of gate closure activities, and other available information.

Task 1 – Data Collection

Fehr & Peers will retain a traffic count firm to collect peak period intersection turning movement counts at key intersections in the area that could be affected by the Quiet Zone project during the weekday morning and evening peak periods, as well as a Saturday peak period. We will place a camera at one of the crossings for 7 days to capture the frequency and duration of gate down times. We will conduct 72-hour roadway segment counts to quantify off-peak travel patterns in the area. The final list of study intersections would be identified in consultation with the project team, but we expect that data would be collected at the following locations:

1. Ashby Avenue at 7th Street
2. Potter Street at Bay Street
3. I-80 Off-Ramp at Shellmound Street
4. 67th Street at Shellmound Street
5. 67th Street at Hollis Street
6. 66th Street at Shellmound Street
7. 66th Street at Hollis Street
8. 65th Street at Shellmound Street
9. 65th Street at Overland Avenue
10. 65th Street at Hollis Street
11. 64th Street at Shellmound Avenue
12. Powell Street at Hollis Street

Fehr & Peers staff will conduct field reconnaissance during the data collection period to observe overall intersection operations, document vehicle queue spillback during rail crossing events, and confirm existing intersection configurations. Additionally, we will document the bicycle, pedestrian and transit facilities in the vicinity of the three existing crossings.

Daily roadway segment counts will be collected at the following locations:

1. Shellmound Street, north of 67th Street,
2. 67th Street, east of Shellmound Street
3. 66th Street, east of Shellmound Street
4. 65th Street, east of Shellmound Street
5. Hollis Street, north of 67th Street

We assume that others on the project team would provide us information related to the number of rail crossings per day, temporal distribution of rail crossing activities, average and maximum duration of gate closure activities, and other available information.

Task 2 – Existing Conditions Assessment

Existing peak-hour intersection operations will be evaluated for the existing condition based on the data collection effort from Task 1. For all time periods, we will develop a Synchro model to evaluate intersection operations in isolation. For two of the time periods with the highest level of vehicular activity coupled with the highest level of rail activity (assumed to be Weekday PM and Saturday afternoon), we will develop a VISSIM microsimulation model that can evaluate the effects of vehicle queues that form during a rail crossing event. We will incorporate the gate down time and durations from the data collection into the VISSIM model to reflect railroad operations.

We will document levels of service and vehicle queues at the intersections. For the time periods evaluated using VISSIM, we will also document travel times between four origin and destinations.

Task 3 – Project Conditions

For the two time periods evaluated using VISSIM, we will conduct detailed evaluations for the following scenarios:

1. Option 1 – Permanent Closure of 66th Street Only (assumes stop sign installations on Shellmound Street at 67th Street)
2. Option 2 – Permanent Closure of 67th Street Only (assumes a traffic signal/pre-signal on 66th Street)
3. Option 3 – Permanent Closure of 66th and 67th Street (Optional Task)

For each scenario we will document levels of service, vehicle queues, and travel times between the same four origins and destinations as evaluated under Task 2 and make recommendations to minimize transportation impacts.

Based on the results of the analysis, we will evaluate bicycle, pedestrian, transit vehicle, commercial loading, and emergency vehicle travel through the project area and make recommendations to minimize transportation impacts. In addition, we will review city-provided parcel maps and identify those parcels where property access would be impacted if either street were closed.

Task 4 – Documentation

The following documents will be prepared:

- Administrative Draft Transportation Assessment
- Draft Transportation Assessment
- Final Transportation Assessment

We have included 12 hours of staff time to respond to comments on the administrative draft report, and 4 hours of staff time to prepare the final assessment.

Task 5 – Meetings

Fehr & Peers and CTC will attend 2 staff level meetings and participate in up to 5 conference calls throughout the course of this project.

Project Activity	Fehr & Peers Cost	CTC Cost	Total Cost
Task 1 – Data Collection	$14,225.00	$1,422.50	$15,647.50
Task 2 – Existing Conditions Assessment	$40,310.00	$4,031.00	$44,341.00
Task 3 – Project Conditions	$39,090.00	$3,909.00	$42,999.00
Task 4 – Documentation	$16,385.00	$1,638.50	$18,023.50
Task 5 – Meetings	$7,145.00	$714.50	$7,859.50
TOTAL COST:	**$117,155.00**	**$11,715.50**	**$128,870.50**