Abrams Associates
TRAFFIC ENGINEERING, INC.

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Re: Trip Generation Assessment and Draft Scope of Work for the Proposed Mixed Use Project at 2136-2154 San Pablo Avenue in the City of Berkeley

This report presents the results of the trip generation assessment of the proposed mixed use located at 2136-2154 San Pablo Avenue in the City of Berkeley. This letter also includes a proposed scope of work for traffic engineering services for the project. The project would consist of 126 apartment units, three of which would be live/work units. The project would replace an existing occupied retail building of approximately 9,281 square feet. The proposed ground floor site plan for the proposed project is presented in **Figure 1**.

PROJECT TRIP GENERATION

As noted above, the proposed project would consist of 126 apartment units, three of which would be live/work units that would have approximately 1,245 of ground floor commercial space. The project would replace an existing retail building of approximately 9,281 square feet. The vehicle trip generation for the project is shown in the attached **Table 1.** The trip generation rates are based on the ITE rates for apartments and for a retail space taken from the 10th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.

Berkeley Residential Trip Generation - Since the project is located near a central business district with excellent transit access (and less than a mile and half from a major university) the vehicle trip rate per unit is less than would be generated by a typical apartment building. The availability of transit, the use of bicycles, and the attractiveness of walking in a mixed-use environment results in reduced vehicle trip generation. For this project, a trip reduction of 19% has been applied to the unfiltered trip generation rate to account for conditions in this part of Berkeley. The ITE trip generation rates are based on surveys of primarily suburban locations and this reduction is intended to account for walk, bicycle, and transit trips as well as shared trips with the residential component of the project. The 19% reduction is based census data on vehicle ownership and travel patterns for the census tracts in the area where the project is located.[1]

[1] *American Community Survey*, U.S. Census Bureau, Washington D.C., 2016.

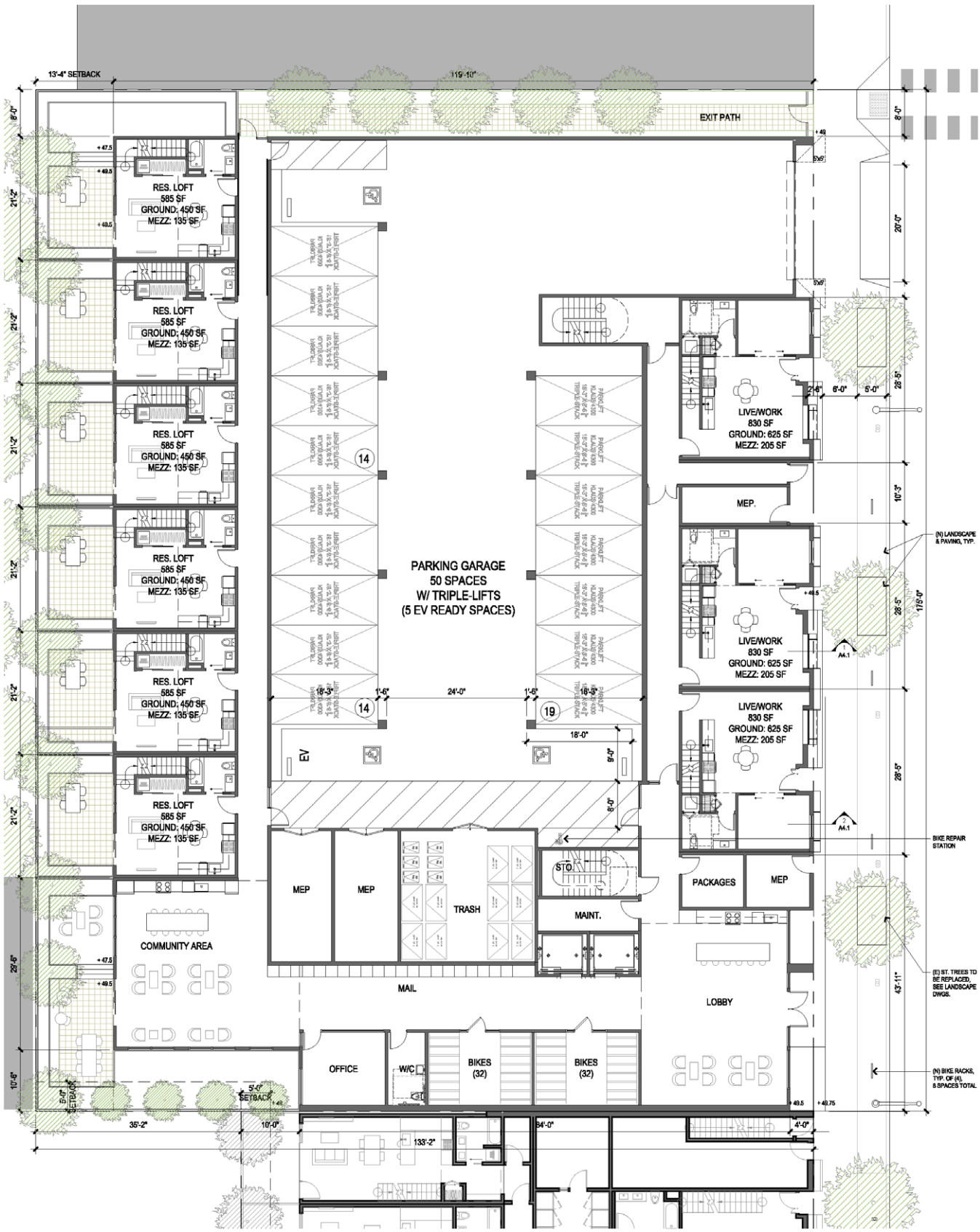

FIGURE 1 | GROUND FLOOR SITE PLAN
TRIP GENERATION ASSESSMENT
2136-2154 San Pablo Avenue
City of Berkeley

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TABLE 1
TRIP GENERATION CALCULATIONS

Land Use	ITE Code	Size	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
ITE Apartment Rates - Trips per Unit	221		5.44	0.09	0.27	0.36	0.27	0.17	0.44
Apartment Trip Generation		123 units	685	11	34	45	34	21	55
Reduction for Non-Auto Trips (19%)			130	3	6	9	6	4	10
Subtotals for the Apartments			*555*	*8*	*28*	*36*	*28*	*17*	*45*
ITE Retail Rates - Trips per ksf	820		37.75	0.58	0.36	0.94	1.83	1.98	3.81
Live/Work Trip Generation		1,245 sq. ft.	47	1	0	1	2	3	5
Subtotals for the Proposed Project			***602***	***9***	***28***	***37***	***30***	***20***	***50***
ITE Retail Rates - Trips per ksf	820		37.75	0.58	0.36	0.94	1.83	1.98	3.81
Existing Retail Trip Generation		9,281 sq. ft.	350	5	4	9	17	18	35
Net New Trip Generation for the Proposed Project			**252**	**4**	**24**	**28**	**13**	**2**	**15**

SOURCE: Institute of Transportation Engineers Trip Generation Manual (10th Edition).

Transit Service – There is extensive bus service along San Pablo Avenue and along University Avenue near the project. Up to 4 different AC Transit routes pass the project. These routes include a transbay route (Route FS), an all-nighter (Route 802), as well as connections to intercity express routes. There are bus stops on San Pablo Avenue at Allston Street less than a block from the project. The North Berkeley BART station is located less than a mile from the project site on Sacramento Street at Delaware Street. This station is on the Richmond-Fremont BART Line which is connected to other destinations in the Bay Area at the MacArthur Station. There is also direct service to Downtown San Francisco as well as continuing service to Milbrae. There is also extensive bus transit service provided by Alameda-Contra Costa County (AC) Transit along University Avenue and at the BART Stations.

Project Trip Generation Summary – As shown in **Table 1**, based on the trip generation forecasts the project would generate about 37 vehicle trips during the AM peak hour and about 50 trips during the PM peak hour. The trips generated by the proposed development are estimated for the peak commute hours which represent the peak of adjacent street traffic. If the

traffic currently being generated by the existing 9,281 square foot retail building is subtracted out then the traffic associated with the new project is forecast to be an increase of about 28 vehicle trips during the AM peak hour and 15 trips during the PM peak hour.

Preliminary Scope of Work for a Transportation Impact Analysis – Abrams Associates will provide a transportation impact analysis for the proposed project and will assist in the preparation of the environmental documentation in the area of transportation. As part of the analysis it is assumed that new detailed traffic counts will be required at the project study intersections. Once the various analyses are completed a detailed report would be prepared and submitted to the City in an administrative draft form for internal review.

The report will follow all applicable requirements and procedures set forth by CEQA, the Alameda County Transportation Commission, Caltrans, and the City of Berkeley. Based on the City's Traffic Impact Report Guidelines the following is a list of the specific tasks that are proposed:

1) The report will clearly define all assumptions for trip generation, trip distribution, timing of transportation improvements and street network changes. This task would include detailed review of the proposed project access points during the AM and PM peak hours, as determined from the peak period traffic counts (from 7:00 Am to 9:00 AM and 4:00 PM to 6:00 PM).

2) Based on our preliminary estimates of the project trip generation and distribution approximartely four intersections are anticipated to be included in this analysis, subject to City approval. However, it should be noted the analysis would also include a qualitative review and any other unsignalized intersections in the area that could potentially be impacted by the project.

   The preliminary list of study intersections is as follows:

   1. San Pablo Avenue at Addison Street
   2. San Pablo Avenue at Cowper Street
   3. San Pablo Avenue at Allston Way
   4. San Pablo Avenue at the Proposed Project Entrance

3) The study will include evaluation of the operations at each of the study intersections for four different scenarios:

   1. Existing Conditions
   2. Existing Plus Project Conditions
   3. Baseline Condition (with Approved Projects)
   4. Baseline Plus Project Conditions

4) The physical characteristics of the area and the surrounding roadway network will be reviewed to identify existing roadway cross-sections, intersection lane configurations,

traffic control devices, and surrounding land uses. All planned or programmed roadway changes will be documented.

5) The analysis will include a review of access and internal circulation, the need for traffic controls, parking requirements, and bicycle/pedestrian safety in the area.

6) Appropriate mitigation measures will be presented for any significant impacts identified. In addition, a list of any other potential transportation improvement measures will be prepared for your consideration.

7) Summary figures will be prepared illustrating the existing roadway network in the area, project study intersections, and all traffic volumes used in the analysis. All appropriate field data, traffic calculations and reference tables will be provided in the report appendices as required.

8) An administrative draft of the study would be submitted for City review. The draft traffic report would submitted to the City and finalized following the response to all comments from the City staff.

Please don't hesitate to contact me if you have any questions or need additional information.

Sincerely,

Stephen C. Abrams
President, Abrams Associates
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