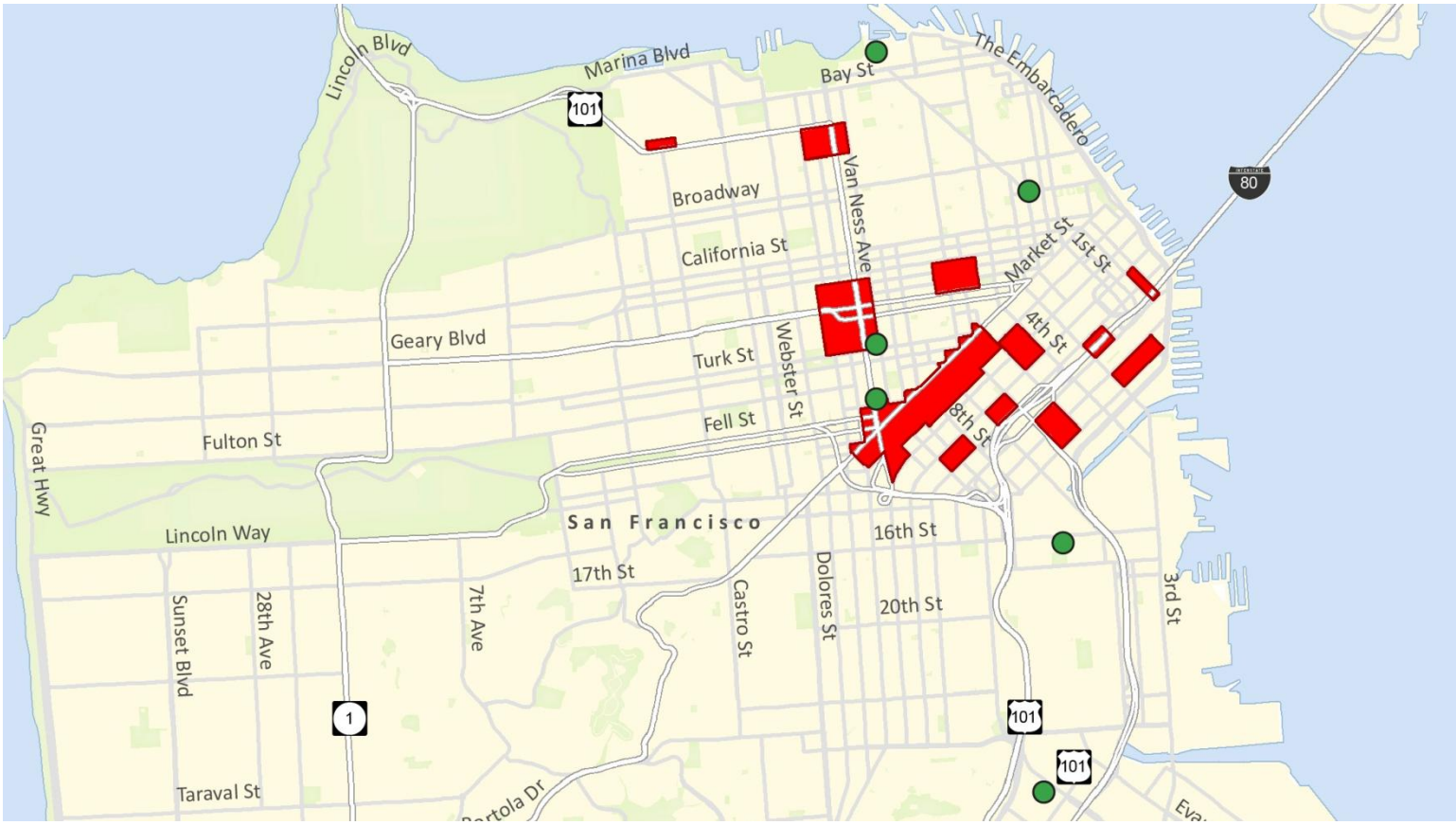

VOLUME II

DRAFT ENVIRONMENTAL IMPACT REPORT

Academy of Art University Project

PLANNING DEPARTMENT
CASE NO. **2008.0586E**

STATE CLEARINGHOUSE NO. 2010092080

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SAN FRANCISCO
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Written comments should be sent to:
Sarah B Jones Environmental Review Officer | 1650 Mission Street, Suite 400 | San Francisco, CA 94103
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4.7 NOISE

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect noise and vibration, including ambient noise levels and temporary construction noise levels. Some noise issues were raised during the NOP scoping period. Specifically, comments were made regarding noise from increased use of the AAU's shuttle bus and increase in human activity. These areas of concern are addressed in this section.

Acoustic Terminology and Definitions

Sound is created when vibrating objects produce pressure variations that move rapidly outward into the surrounding air. The main characteristics of these air pressure waves are amplitude, which we experience as a sound's loudness, and frequency, which we experience as a sound's pitch. The standard unit of sound amplitude is the decibel (dB); it is a measure of the physical magnitude of the pressure variations relative to the human threshold of perception. The human ear's sensitivity to sound amplitude is frequency-dependent; it is more sensitive to sounds in the mid-frequency range than to sounds with much lower or higher frequencies.

Most "real world" sounds (e.g., a dog barking, a car passing, etc.) are complex mixtures of many different frequency components each having different amplitudes. When the average amplitude of such sounds is measured with a sound level meter, it is common for the instrument to apply adjustment factors to each of the measured sound's frequency components. These factors account for the differences in perceived loudness of each of the sound's frequency components relative to those to which the human ear is most sensitive. Because the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear. The unit of A-weighted sound amplitude is also the decibel. In reporting measurements to which A-weighting has been applied, an "A" is appended to dB (dBA) to make this clear. Finally, since environmental sound levels usually vary greatly over time, it is often useful to know the degree of variability at a particular location over any measurement period. This variability is specified in terms of statistical sound levels (L_n), where n is the percentage of time these levels are exceeded during the measurement period. For example, L_{10}, L_{50}, and L_{90} are descriptors that represent the sound level exceeded 10 percent of the time, 50 percent of the time, and 90 percent of the time, respectively, during a measurement, while L_{min} and L_{max} represent the minimum and maximum sound levels during the measurement period.

Noise is the term generally given to the intrusive, "unwanted" aspects of sound. Many factors influence how a sound is perceived and whether it is considered harmful or disruptive to an individual or a community. These factors include the primary physical characteristics of a sound

(e.g., amplitude, frequency, duration, etc.), but also secondary acoustic and non-acoustic factors that can influence judgment regarding the degree to which the sound is intrusive and disruptive. Table 4.7-1, Representative Environmental Noise Levels, p. 4.7-2, lists representative noise levels for the environment.

Table 4.7-1 Representative Environmental Noise Levels

Common Outdoor Activities	*Noise Level (dBA)*	*Common Indoor Activities*
	—110—	Rock Band
Jet Fly-over at 100 feet	—105—	
	—100—	
Gas Lawnmower at 3 feet	—95—	
	—90—	
	—85—	Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime	—75—	
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area	—65—	Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
	—55—	Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
	—45—	
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime	—35—	
	—30—	Library
Quiet Rural Area during Nighttime	—25—	Bedroom at Night, Concert Hall (background)
	—20—	
	—15—	Broadcast/Recording Studio
	—10—	
	—5—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

SOURCE: California Department of Transportation (1998).

All quantitative descriptors used to measure environmental noise exposure recognize the strong correlation between the high acoustical energy content of a sound (i.e., its loudness and duration) and the disruptive effect it is likely to have as noise. Because environmental noise fluctuates over time, most such descriptors average the sound level over the time of exposure, and some add "penalties" during the times of day when intrusive sounds would be more disruptive to listeners. The rating scales of L_{eq}, L_{min}, and L_{max} are measures of ambient noise, while the L_{dn} and Community

Noise Equivalent Level (CNEL) are measures of community noise. L_{eq} is the average A-weighted sound level measured over a given time interval. L_{eq} can be measured over any time period, but is typically measured for 1-minute, 15-minute, 1-hour, or 24-hour periods. L_{dn} is another average A-weighted sound level measured over a 24-hour time period. However, this noise scale is adjusted to account for some individuals' increased sensitivity to noise levels during the evening and nighttime hours. L_{eq}, L_{min}, and L_{max}, as well as L_{dn} and CNEL are all applicable to this analysis and defined as follows:

The most commonly used noise descriptors for environmental exposures are:

- **L_{eq}**, the equivalent-energy noise level, is the average acoustic energy[242] content of noise over any chosen exposure time. The L_{eq} is the constant noise level that would deliver the same acoustic energy to the ear as the actual time-varying noise over the same exposure time. L_{eq} does not depend on the time of day during which the noise occurs.
- **L_{dn}**, the day-night average noise level, is a 24-hour average L_{eq} with a 10 dBA "penalty" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for increased nighttime noise sensitivity. Because of this penalty, the L_{dn} would always be higher than its corresponding 24-hour L_{eq} (e.g., a constant 60 dBA noise over 24 hours would have a 60 dB L_{eq}, but a 66.4 dBA L_{dn}).
- **CNEL**, the Community Noise Equivalent Level, is a 24-hour average L_{eq} with a 5 dBA "weighting" during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA "weighting" added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA 24-hour L_{eq} would result in a measurement of 66.7 dBA CNEL.
- **SEL**, the sound exposure level (also known as the single noise event level), is the constant noise level that would deliver the same acoustic energy to the ear of a listener during a one-second exposure as the actual time-varying noise would deliver over its entire time of occurrence.[243] SEL is typically used to characterize the effects of short-duration noise events (e.g., aircraft fly-overs or train pass-bys)

Noise levels from a particular source decline as distance to the receptor increases. Other factors, such as the weather and other reflecting or shielding factors, also help intensify or reduce the noise level at any given location. A commonly used rule of thumb for roadway noise is that for every

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[242] Averaging sound levels in decibels is not done by standard arithmetic averaging, but according to the following rule:

$L_{eq} = 10 \times \log((1/n) \times (10^{L1/10} + 10^{L2/10} + \ldots + 10^{Ln/10})$; where L_1, L_2, L_n are n individual sound levels.

For example, the L_{eq} of the sound levels L_1 = 60 dBA and L_2 = 70 dBA is 67.4 dBA, not 65 dBA as it would if standard arithmetic averaging were used. The larger individual sound levels contribute much more substantially to the L_{eq} than they would to an average done in the standard way.

[243] For a sound lasting longer than one second, its SEL would be higher than that of the largest of the shorter-duration component sounds that make up the total. For example, if a sound with a ten-second-long duration made up of 10 one-second-long component sounds, each of 60 dBA amplitude, its SEL would be 70 dBA.

doubling of distance from the source, the noise level is reduced by about 3 dBA at acoustically "hard" locations (i.e., where the area between the noise source and the receptor is nearly complete asphalt, concrete, hard-packed soil, or other solid materials) and 4.5 dBA at acoustically "soft" locations (i.e., where the area between the source and receptor is unpacked earth or has vegetation, including grass). Noise from stationary or point sources (such as commercial heating and ventilation units [HVAC] or construction equipment) is reduced by about 6 to 7.5 dBA for every doubling of distance at acoustically hard and soft locations, respectively. Generally, if a noise source is completely enclosed or completely shielded with a solid barrier located close to the source, an 8 dBA noise reduction can be expected; if the enclosure and/or barrier is interrupted, noise would be reduced by only 5 dBA. The exterior-to-interior reduction of newer residential buildings and office buildings is generally 30 dBA or more.

Fundamentals of Environmental Groundborne Vibration

Vibrating objects in contact with the ground radiate energy through the ground. If the object is massive enough and/or close enough to an observer, the ground vibrations are perceptible. Vibration magnitude is measured in vibration decibels (VdB) relative to a 1 micro-inch-per-second reference level. Background vibration levels in most inhabited areas are usually 50 VdB or lower, well below the threshold of perception (i.e., typically about 65 VdB). In most cases, when vibration is perceptible to people in their homes or workplaces, the source is within the same building (i.e., operation of HVAC equipment, movement of other occupants, slamming of doors, etc.). The outdoor sources most commonly responsible for producing perceptible vibration are heavy construction equipment, steel-wheeled trains, and motor vehicle traffic on rough roads (if the roadway is smooth, the vibration from traffic is rarely perceptible). At about 100 VdB, vibration levels are strong enough to begin to cause structural damage in fragile buildings.

Health and Welfare Effects of Environmental Noise

World Health Organization Noise Exposure Recommendations

The World Health Organization (WHO) is perhaps the best source of current knowledge regarding health impacts of noise. According to WHO, sleep disturbance can occur when continuous indoor noise levels exceed 30 dBA or when intermittent interior noise levels reach 45 dBA, particularly if background noise is low. With a bedroom window slightly open (a reduction from outside to inside of 15 dB), the WHO criteria would suggest exterior continuous (ambient) nighttime noise levels should be 45 dBA or below, and short-term events should not generate noise in excess of 60 dBA. WHO also notes that maintaining noise levels within the recommended levels during the first part of the night is believed to be effective for the ability to fall asleep.[244]

[244] World Health Organization, *Guidelines for Community Noise* (Geneva: 1999), http://www.who.int/docstore/peh/noise/guidelines2.html (accessed June 18, 2012).

Other potential health effects of noise identified by WHO include decreased performance on complex cognitive tasks, such as reading, attention, problem solving, and memorization; physiological effects such as hypertension and heart disease (after many years of constant exposure, often by workers, to high noise levels); and hearing impairment (again, generally after long-term occupational exposure, although shorter-term exposure to very high noise levels, for example, exposure several times a year to concert noise at 100 dBA). Noise can also disrupt speech intelligibility at relatively low levels; for example, in a classroom setting, a noise level as low as 35 dBA can disrupt clear understanding. Finally, noise can cause annoyance, and can trigger emotional reactions like anger, depression, and anxiety. WHO reports that, during daytime hours, few people are seriously annoyed by activities with noise levels below 55 dBA, or moderately annoyed with noise levels below 50 dBA.

According to WHO, an adverse effect of noise is defined as:

> … a change in the morphology and physiology of an organism that results in impairment of functional capacity, or an impairment of capacity to compensate for additional stress, or increases the susceptibility of an organism to the harmful effects of other environmental influences … [including] any temporary or long-term lowering of the physical, psychological or social functioning of humans or human organs.

WHO exposure guidelines to avoid the adverse effects described below are summarized in Table 4.7-2, WHO Guideline Values for Community Noise in Specific Environments.

Table 4.7-2 WHO Guideline Values for Community Noise in Specific Environments

Specific Environment	*Critical Health Effect(s)*	*L_{eq} (dBA)*	*Exposure Time (hours)*	*L_{max} (dB)*
Outdoor residential area	Serious annoyance, daytime and evening	55	16	—
	Moderate annoyance, daytime and evening	50	16	—
Dwelling, indoors	Speech intelligibility and moderate annoyance, daytime and evening	35	16	
Inside bedrooms	Sleep disturbance, nighttime	30	8	45
School class rooms, indoors	Speech intelligibility, disturbance of information extraction, message communication	35	during class	—
School playground outdoor	Annoyance (external source)	55	during play	—
Public addresses, indoors and outdoors	Hearing impairment	85	1	110
Outdoors in parks and nature preserves[a]	Disruption of tranquility	*		

SOURCE: World Health Organization, *WHO Guidelines for Community Noise: A Complete, Authoritative Guide on the Effects of Noise Pollution on Health*, Table 4.1.

a. Existing quiet outdoor areas should be preserved, and the ratio of intruding noise to natural background sound should be kept low.

The San Francisco Noise Ordinance (Section 2900) makes the following declaration with regard to community noise levels and the WHO Guidelines (additional provisions of the San Francisco Noise Ordinance that pertain to the Proposed Project are given below in Regulatory Framework):

> It shall be the policy of San Francisco to maintain noise levels in areas with existing healthful and acceptable levels of noise and to reduce noise levels, through all practicable means, in those areas of San Francisco where noise levels are above acceptable levels as defined by the World Health Organization's Guidelines on Community Noise.

4.7.2 Environmental Setting

Existing Noise Levels and Noise-Sensitive Uses

The 12 study areas are generally within downtown San Francisco, on the Van Ness Avenue corridor and east of the corridor, the Market Street corridor, and the South of Market district. These areas have the greatest intensity of land use in San Francisco, with a broad mix of office, commercial, residential, and service-oriented land uses.

Four of the project sites (PS-1, 2801 Leavenworth Street [The Cannery]; PS-2, 700 Montgomery Street; PS-3, 625 Polk Street; and PS-4, 150 Hayes Street) are also generally within downtown San Francisco, along the Van Ness Avenue corridor, or within a tourist area. These districts have the greatest intensity of land use in San Francisco, with a broad mix of office, commercial, residential, and service-oriented land uses. PS-5, 121 Wisconsin Street, is located in Showplace Square/Potrero area, which contains noise-sensitive uses in a light industrial area. PS-6, 2225 Jerrold Avenue, is located in the Bayview Hunters Point area. This part of Bayview Hunters Point is predominantly light industrial and warehousing areas, which can contain noise sources but also have fewer or no sensitive receptors.

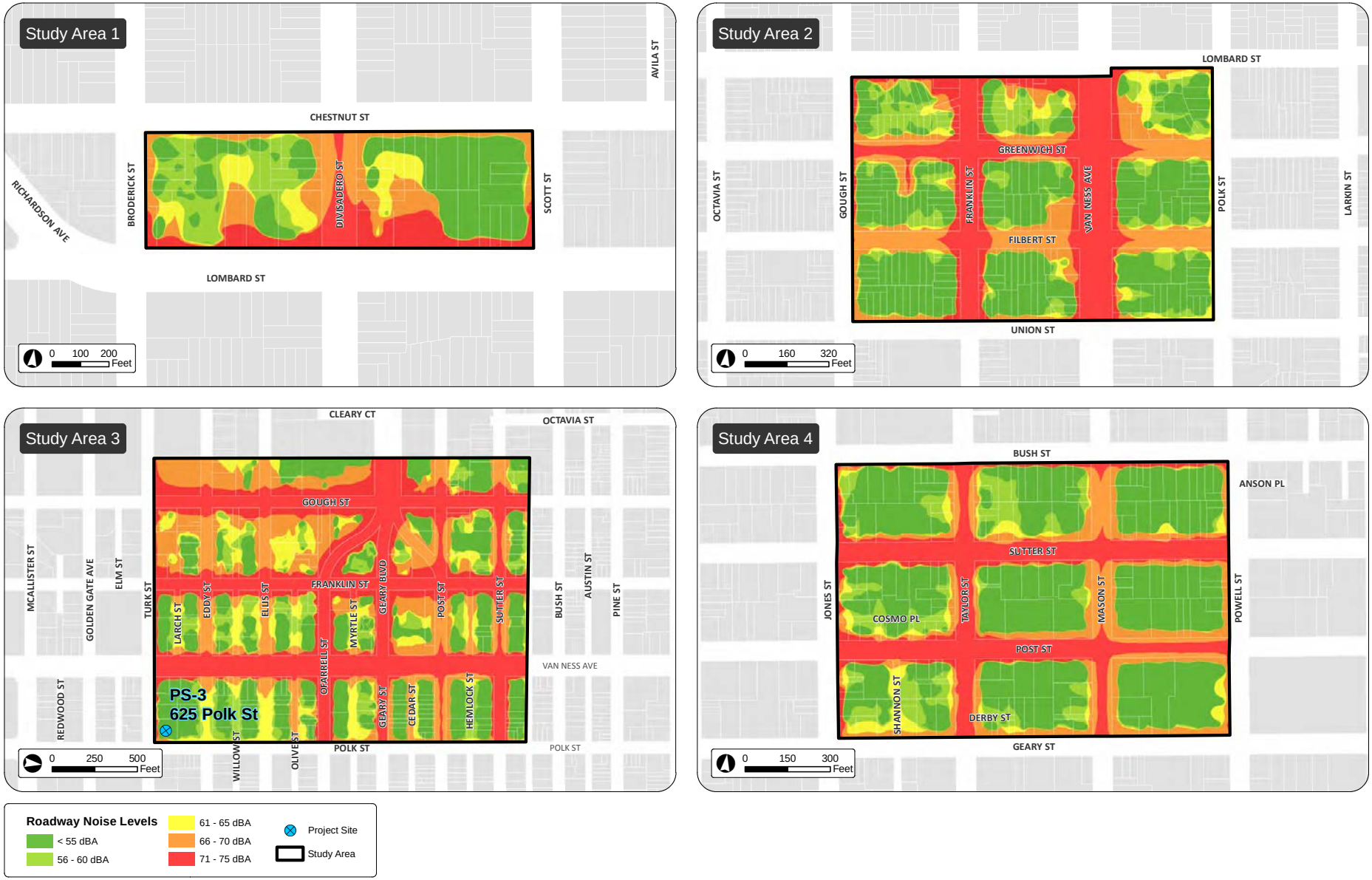
Noise-Sensitive Uses

The City and County of San Francisco has defined noise-sensitive uses as land uses that consist of residences of all types, schools, hospitals, convalescent facilities, rest homes, hotels, motels, and places of worship. Sensitive uses from a noise perspective include places where there is a reasonable expectation that individuals could be sleeping, learning, worshipping, or recuperating. Existing noise-sensitive uses in the vicinity of the 12 study areas and five project sites (excluding PS-6, 2225 Jerrold Avenue) include multifamily and mixed-use residential areas; existing schools and daycare centers; hotels and motels; and churches. Due to the urban and highly developed nature of San Francisco and AAU's propensity to locate in existing commercial and noncommercial buildings, it is highly likely that any future AAU use would be located in a "noisy" environment, where noise levels would range between 65 and 75 dBA. For PS-6, 2225 Jerrold Avenue, while noise levels would similarly range between 65 and 75 dBA, there are no noise-sensitive uses at or near this project site.

Community Ambient Noise Levels

The San Francisco Department of Public Health (DPH) has mapped transportation noise throughout the City, based on modeled baseline traffic volumes derived from the San Francisco County Transportation Authority travel demand model. DPH maps indicate the areas subject to noise levels over 60 dBA L_{dn} as shown in Figure 4.7-1, Streets Subject to Daily Average Traffic Noise Levels in Excess of 60 Decibels within Study Areas 1–4, p. 4.7-8; Figure 4.7-2, Streets Subject to Daily Average Traffic Noise Levels in Excess of 60 Decibels within Study Areas 5–7, p. 4.7-9; and Figure 4.7-3, Streets Subject to Daily Average Traffic Noise Levels in Excess of 60 Decibels within Study Areas 8–12, p. 4.7-10, and the range of L_{dn} noise levels that occur on every street within the city as shown in Figure 4.7-4, Traffic Noise Map within Study Areas 1–4, p. 4.7-11; Figure 4.7-5, Traffic Noise Map within Study Areas 5–7, p. 4.7-12; and Figure 4.7-6, Traffic Noise Map within Study Areas 8–12, p. 4.7-13. As indicated in these figures, the modeled traffic generated noise levels along all major streets in the project area currently exceed 60 dBA (L_{dn}). In fact, traffic noise on nearly all of the major streets exceeds 70 dBA (L_{dn}). Traffic noise levels also exceed 60 dBA (L_{dn}) on several of the smaller mid-block streets, including portions of some of the existing residential alleys. In general, however, traffic noise is considerably less on the mid-block streets than on the major streets.

During the noise analysis, short-term noise measurements (i.e., 15 minutes each) were taken at 28 locations in the study areas and in the vicinity of the six project sites during the winter and spring of 2010/2011, as shown in Table 4.7-3, Existing Ambient Noise Measurements, in L_{eq}, p. 4.7-15. These short-term noise measurements were taken for 15 minute increments while AAU was in operation, including classes in session. The locations of these measurements are indicated as N1 through N28 on the map in Figure 4.7-7, Noise Measurement Locations, p. 4.7-14. While noise measurements were not taken in every study area, the 28 measurements below represent a sampling of typical noise levels in the locations where future AAU growth could occur. As shown in Table 4.7-3, noise levels in the representative study areas and project sites range between 62.7 and 85.5 dBA, indicating that, in general, the 12 study areas and six project sites would be considered a noisy environment, consistent with a busy urban area such as downtown San Francisco.



SOURCE: Atkins 2015.

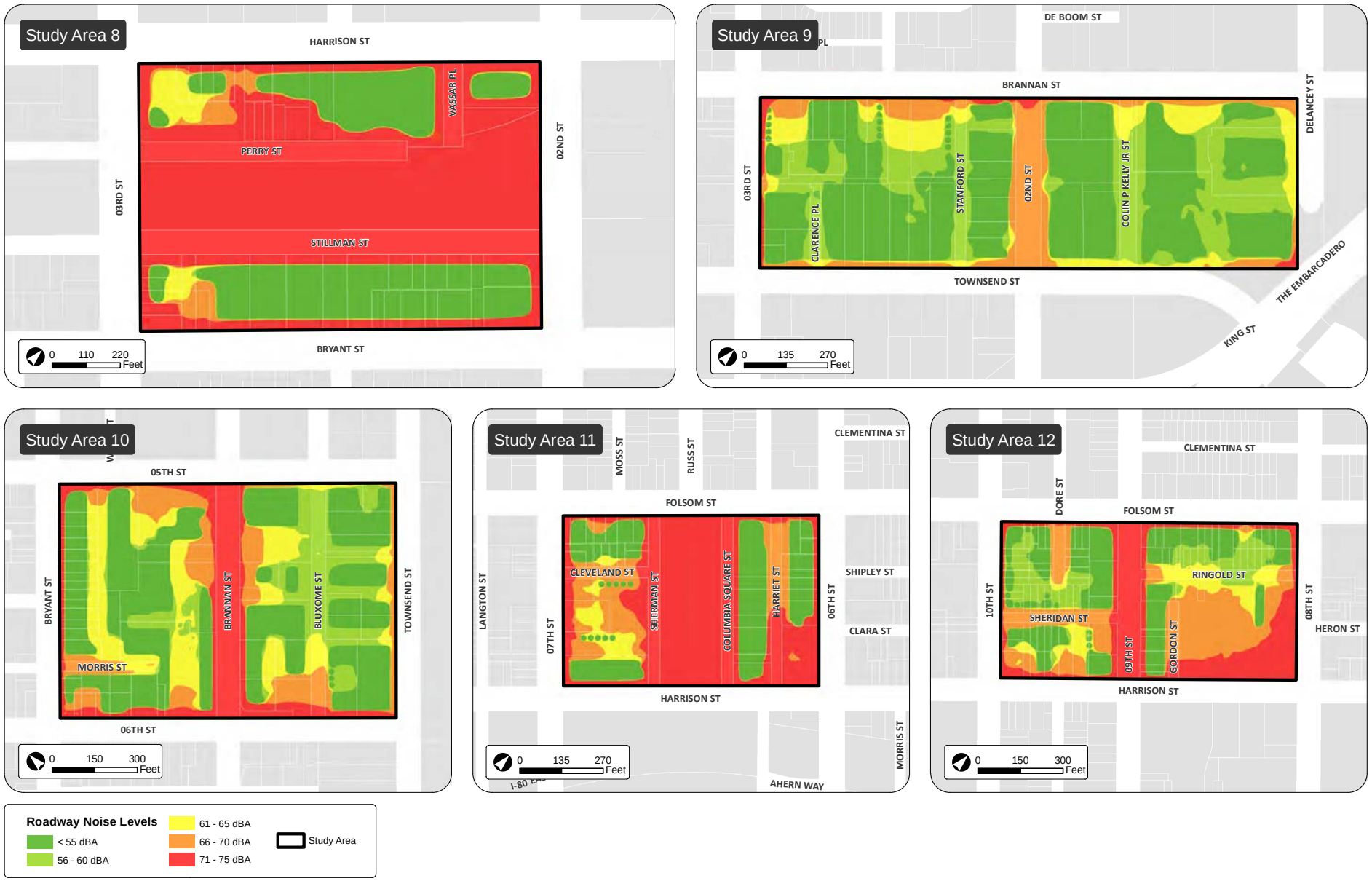
ACADEMY OF ART UNIVERSITY EIR

FIGURE 4.7-1: TRAFFIC NOISE MAP - STUDY AREAS 1-4

SOURCE: Atkins 2015.

ACADEMY OF ART UNIVERSITY EIR

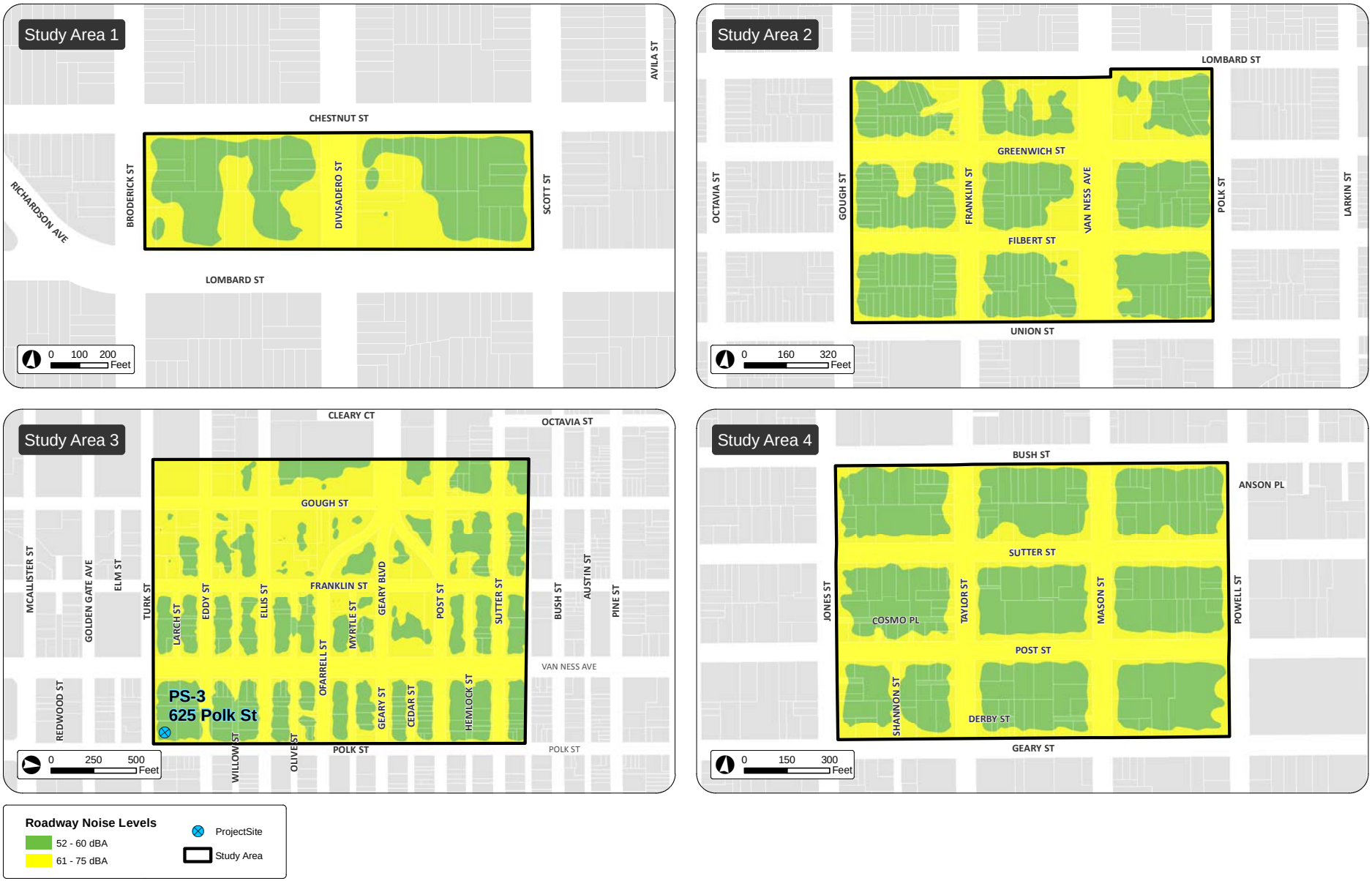
FIGURE 4.7-2: TRAFFIC NOISE MAP - STUDY AREAS 5-7



SOURCE: Atkins 2015.

ACADEMY OF ART UNIVERSITY EIR

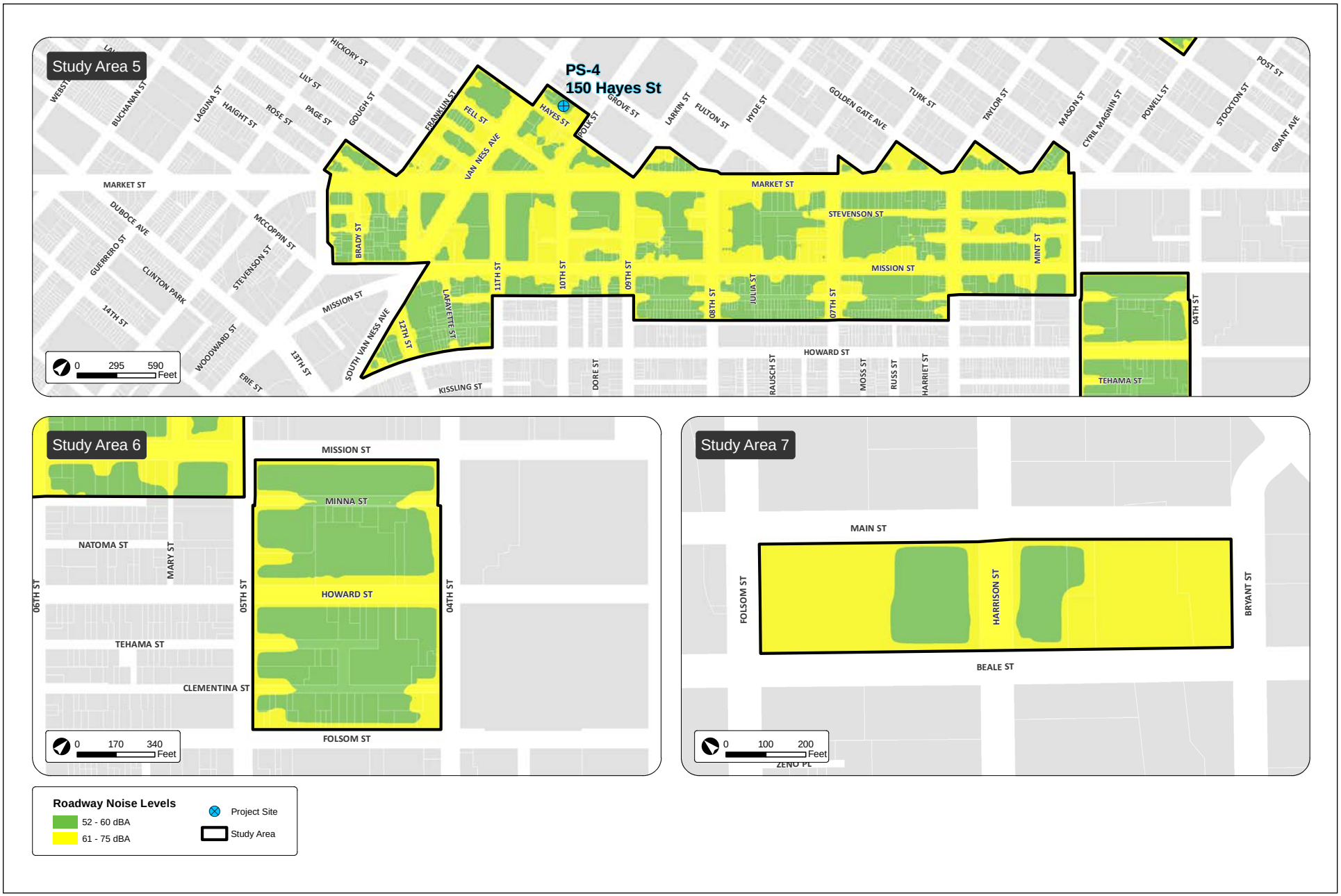
FIGURE 4.7-3: TRAFFIC NOISE MAP - STUDY AREAS 8-12



SOURCE: Atkins 2015.

ACADEMY OF ART UNIVERSITY EIR

FIGURE 4.7-4: STREET SUBJECT TO DAILY AVERAGE TRAFFIC NOISE LEVELS - STUDY AREAS 1-4



SOURCE: Atkins 2015.

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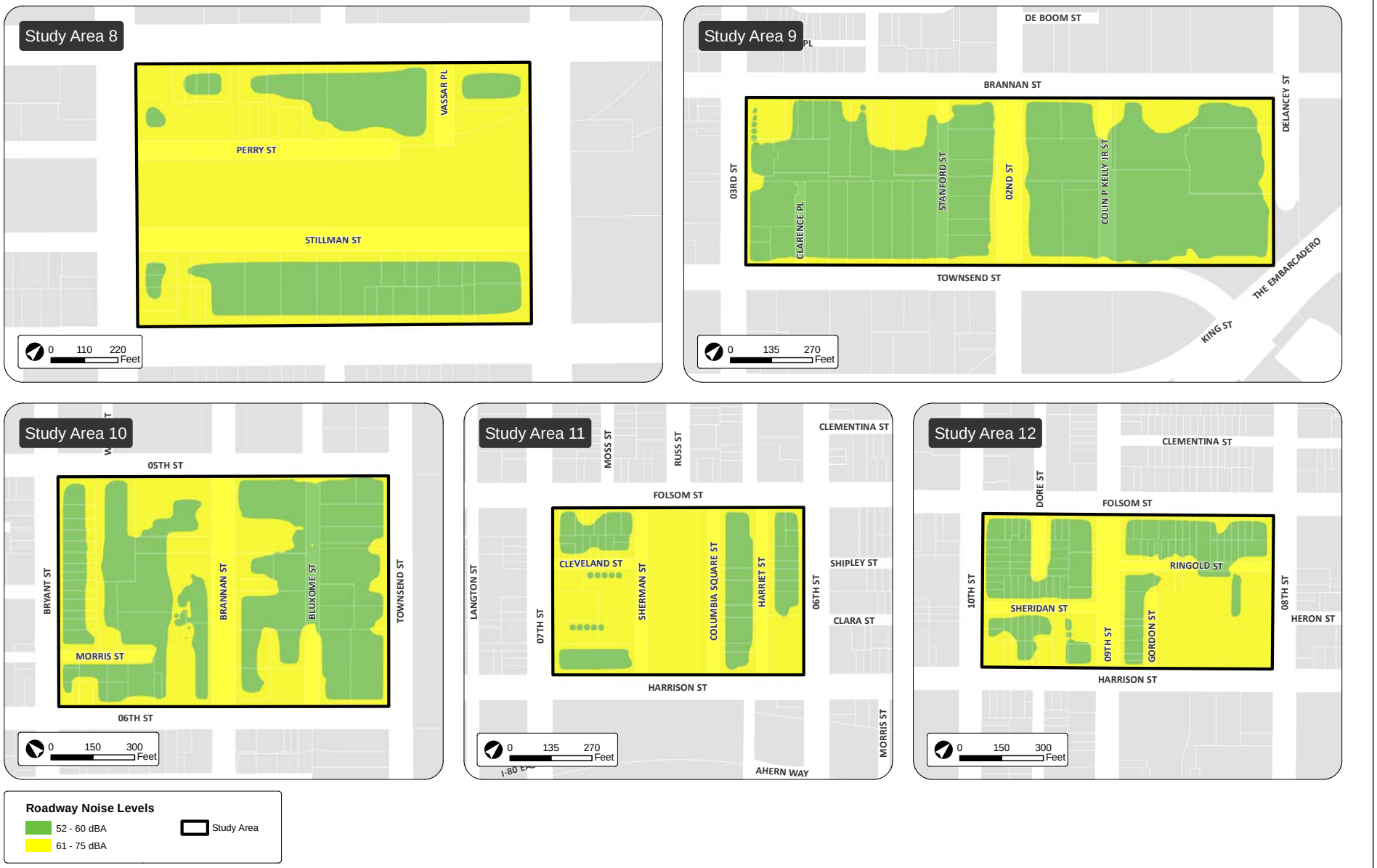
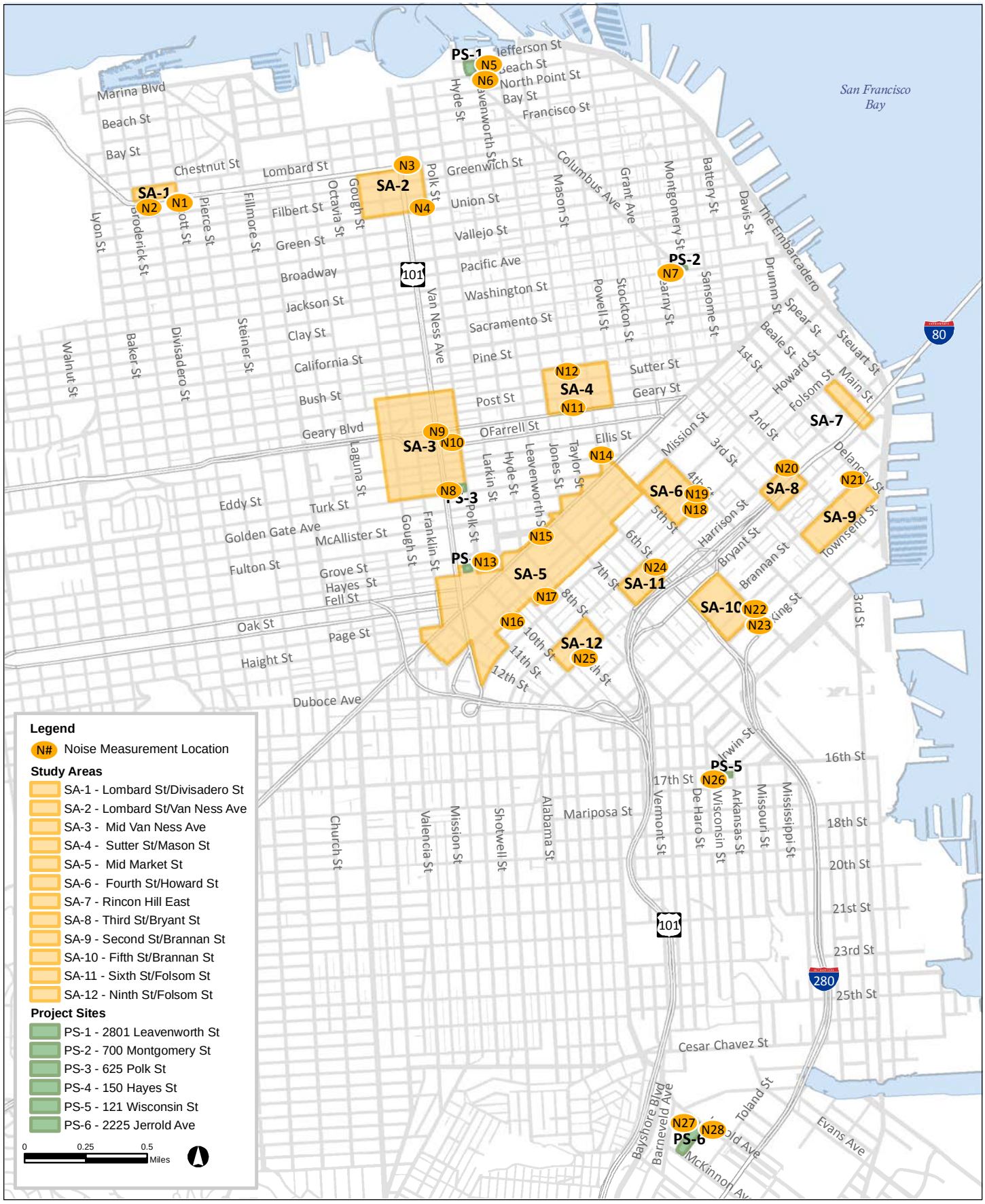
FIGURE 4.7-5: STREET SUBJECT TO DAILY AVERAGE TRAFFIC NOISE LEVELS - STUDY AREAS 5-7



SOURCE: Atkins 2015.

FIGURE 4.7-6: STREET SUBJECT TO DAILY AVERAGE TRAFFIC NOISE LEVELS - STUDY AREAS 8-12



SOURCE: AAU, 2013; Atkins, 2013.

ACADEMY OF ART UNIVERSITY EIR

FIGURE 4.7-7: NOISE MEASUREMENT LOCATIONS

Table 4.7-3 Existing Ambient Noise Measurements, in L_{eq}

Noise Receptor	*Location*	*Date*	*Start Time*	*Noise Level*			*Primary Noise Source*
				L_{eq}	L_{min}	L_{max}	
STUDY AREAS							
SA-1, Lombard Street/Divisadero Street							
N1	Lombard St—between Scott St and Divisadero St	January 12, 2011	7:33 a.m.	76.4	59.4	83.9	Traffic along Lombard St
N2	Divisadero St—between Lombard St and Chestnut St	January 12, 2011	7:52 a.m.	68.0	57.5	87.4	Traffic along Lombard St
SA-2, Lombard Street/Van Ness Avenue							
N3	Van Ness Ave—between Lombard St and Greenwich St	January 12, 2011	8:17 a.m.	72.2	59.7	82.9	Traffic along Van Ness Ave
N4	Polk St—between Union and Filbert	January 12, 2011	8:39 a.m.	66.8	50.6	80.2	Traffic along Polk St
SA-3, Mid Van Ness Avenue							
N8	Turk St—between Polk St and Van Ness Ave (Project Site 3)	December 7, 2010	7:27 a.m.	67.3	56.6	74.9	Traffic along Polk St
N9	Van Ness St at Myrtle St	December 7, 2010	7:47 a.m.	76.4	64.0	86.3	Traffic along Van Ness Ave
N10	O'Farrell St—between Polk St and Van Ness Ave	December 7, 2010	8:14 a.m.	70.4	59.0	81.1	Traffic along O'Farrell St
SA-4, Sutter Street/Mason Street							
N11	Post St at Taylor St	November 30, 2010	5:35 p.m.	71.3	59.9	88.2	Traffic along Post St
N12	Sutter St—between Mason St and Taylor St	December 1, 2010	8:15 a.m.	72.2	58.1	89.6	Traffic along Sutter St
SA-5, Mid Market Street							
N13	Hayes St—between Van Ness Ave and Polk St (Project Site 4)	June 20, 2012	9:50 a.m.	78.9	63.1	96.1	Traffic along Hayes St
N14	Mason St—between Eddy St and Ellis St	December 1, 2010	8:35 a.m.	68.8	57.5	83.3	Traffic along Mason St
N15	Market St—between Seventh St and Eighth St	March 9, 2011	4:02 p.m.	70.7	59.0	84.9	Traffic along Market St
N16	Mission St—between Ninth St and 10th St	March 9, 2011	4:26 p.m.	70.2	58.5	82.8	Traffic along Mission St
N17	Minna St—between Eighth St and Ninth St	March 9, 2011	4:53 p.m.	62.9	49.1	79.0	Traffic along Minna St
SA-6, Fourth Street/Howard Street							
N18	Folsom St—Southwest corner of Folsom St and Fourth St	June 20, 2012	11:16 a.m.	81.3	67.7	99.5	Traffic along Folsom St
N19	Folsom St— Southeast corner of Folsom St and Fourth St	June 20, 2012	11:35 a.m.	81.3	66.8	93.8	Traffic along Folsom St
SA-8, Third Street/Bryant Street							
N20	Visser Alley at Harrison St	February 23, 2011	8:40 a.m.	75.5	70.8	79.5	Traffic along Harrison St
SA-9, Second Street/Brannan Street							
N21	Collin P. Kelly St at Brannan St	March 4, 2011	5:18 p.m.	63.2	57.8	79.1	Traffic

Table 4.7-3 Existing Ambient Noise Measurements, in L_{eq}

Noise Receptor	Location	Date	Start Time	Noise Level			Primary Noise Source
				L_{eq}	L_{min}	L_{max}	
SA-10, Fifth Street/Brannan Street							
N22	Townsend St—Northwest corner of Fifth St and Townsend St	June 20, 2012	12:16 p.m.	83.3	77.8	99.8	Traffic, Caltrain
N23	Townsend St—Northeast corner of Fifth St and Townsend St	June 20, 2012	12:34 p.m.	81.6	77.1	96.4	Traffic, Caltrain
SA-11, Sixth Street/Folsom Street							
N24	Harriet St—between Folsom St and Harrison St	February 22, 2011	5:43 p.m.	62.7	55.7	69.5	Traffic on Harriet St
SA-12, Ninth Street/Folsom Street							
N25	Harrison St—Southeast corner of Harrison St and Ninth St	June 20, 2012	10:29 a.m.	70.5	64.6	82.6	Traffic on Harrison St
PS-1, 2801 Leavenworth Street (The Cannery)							
N5	Leavenworth St – Northwest corner of Leavenworth St and Jefferson St	June 21, 2012	9:23 a.m.	74.3	60.5	88.7	Traffic along Leavenworth St
N6	Leavenworth St – Southwest corner of Leavenworth St and Jefferson St	June 21, 2012	9:42 a.m.	71.7	66.5	87.2	Traffic along Leavenworth St
PS-2, 700 Montgomery Street							
N7	Montgomery St – Southeast corner of Montgomery St and Washington St	June 20, 2012	2:11 p.m.	85.5	67.9	107.4	Traffic along Montgomery St, fire truck
PS-5, 121 Wisconsin Street							
N26	Wisconsin St between 16th St and 17th St	June 20, 2012	7:49 a.m.	66.0	58.1	82.3.	Traffic on Wisconsin St
PS-6, 2225 Jerrold Avenue							
N27	Jerrold Ave—between Upton St and Barneveld St	June 20, 2012	8:37 a.m.	73.8	58.1	90.7	Traffic on Jerrold Ave
N28	Jerrold Ave—Southwest corner of Jerrold Ave and Upton St	June 20, 2012	8:55 a.m.	77.4	59.2	94.4	Traffic

SOURCE: Atkins (2013).

In addition to short-term measurements, traffic noise L_{eq} (peak hour) and L_{dn} at the setbacks of the residential uses adjacent to the major access routes (and other streets likely to carry substantial traffic volumes resulting from Proposed Project growth) were calculated using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108) and traffic volumes from the Traffic Impact Study (TIS) prepared for this EIR. The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, truck mix, distance from roadway to receptor and site environmental conditions. The average vehicle noise rates (energy rates) utilized in FHWA-RD-77-108 replicate the latest measurements of average vehicle noise rates for all vehicle classes. Traffic volumes utilized as data inputs in the noise prediction model were provided through the TIS, shown in Table 4.7-4, Modeled Existing Traffic Noise Levels—Roadways within the Most Congested Study Areas and Project Sites Containing Noise-

Sensitive Uses, p. 4.7-17. While the noise levels are not shown for each study area or project site, the roadway segments were selected based upon the segments identified in the transportation analysis as having the highest average daily trips in the study areas and project sites, as these roadways would likely experience the greatest noise levels. These segments are located in SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-5, Mid Market Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; and at PS-6, 2225 Jerrold Avenue, where the majority of project-related traffic noise would be generated.

Table 4.7-4 Modeled Existing Traffic Noise Levels—Roadways within the Most Congested Study Areas and Project Sites Containing Noise-Sensitive Uses

Roadway	*Roadway Segment*	*dBA L_{dn}*
SA-1, Lombard Street/Divisadero Street		
Lombard Street	Scott Street to Pierce Street	67.5
Richardson Avenue	Francisco Street and Lyons Street	66.3
SA-2, Lombard Street/ Van Ness Avenue		
Lombard Street	Gough Street to Franklin Street	66.9
SA-5, Mid Market Street		
Ninth Street	Market Street to Mission Street	66.6
SA-9, Second Street/Brannan Street		
King Street	Third Street to Second Street	66.9
Third Street	King Street and Townsend Street	63.9
SA-10, Fifth Street/Folsom Street		
Sixth Street	South of Brannan Street	67.8
PS-6, 2225 Jerrold Avenue		
Bayshore Boulevard	Jerrold Avenue and Main Street	65.9
	South of Industrial Street	64.9
Cesar Chavez Street	Evans Avenue to Connecticut Street	64.6

SOURCE: Atkins (2014).

The *General Plan* regards noise levels less than or equal to 65 dBA L_{dn} as "satisfactory, with no special noise insulation requirements" for institutional uses (refer to Section 4.7.3, Regulatory Framework, p. 4.7-19). The average daily noise levels[245] along these roadway segments are presented in Table 4.7-4, Modeled Existing Traffic Noise Levels—Roadways within the Most Congested Study Areas and Project Sites Containing Noise-Sensitive Uses. As shown, only Third Street between King Street and Townsend Street, Bayshore Boulevard south of Industrial Street, and Cesar Chavez Street between Evans Avenue and Connecticut Street were modeled below the 65 dBA L_{dn} noise level. It

[245] Average daily noise levels along the roadways were modeled using the highest average trip volumes identified in the transportation analysis.

can be assumed that noise levels in the remaining study areas and at the five remaining project sites would be similar, if not lower than the noise levels identified in Table 4.7-4, as the average daily trips for the remaining study areas and project sites are lower than for those evaluated below.

Existing Groundborne Vibration Levels

Vibration is sound radiated through the ground. The vibration of floors and walls may cause perceptible vibration, rattling of items such as windows or dishes on shelves, or a rumble noise. The rumbling sound caused by the vibration of room surfaces is called groundborne noise. The ground motion caused by vibration is measured as particle velocity in inches per second and, in the U.S., is referenced as vibration decibels (VdB).

The background vibration velocity level in residential and educational areas is usually around 50 VdB. The vibration velocity level threshold of perception for humans is approximately 65 VdB. A vibration velocity level of 75 VdB is the approximate dividing line between barely perceptible and distinctly perceptible levels for many people. Most perceptible indoor vibration is caused by sources within buildings, such as operation of mechanical equipment, movement of people, or the slamming of doors. Typical outdoor sources of perceptible groundborne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. If a roadway is smooth, the groundborne vibration from traffic is rarely perceptible. As such, the range of interest is from approximately 50 VdB, which is the typical background vibration velocity level, to 100 VdB, which is the general threshold where minor damage can occur in fragile buildings.

The general human response to different levels of groundborne vibration velocity levels is described in Table 4.7-5, Human Response to Different Levels of Groundborne Vibration.

Table 4.7-5 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	*Human Reaction*
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

SOURCE: Harris Miller Miller & Hanson Inc., *Transit Noise and Vibration Impact Assessment, Final Report* (May 2006).

Aside from seismic events, the greatest source of groundborne vibration in the study areas and at the project sites would be from roadway truck and bus traffic. Trucks and buses typically generate groundborne vibration velocity levels of around 63 VdB. These levels could reach 72 VdB where trucks and buses pass over bumps in the road.

4.7.3 Regulatory Framework

State

Title 24 (California Noise Insulation Standards)

The California Noise Insulation Standards (California Code of Regulations, Title 24, Section 1207) establishes uniform minimum noise insulation performance standards for new hotels, motels, dormitories, apartment houses, and dwellings other than detached single-family dwellings. Specifically, Title 24 states that interior noise levels attributable to exterior sources shall not exceed 45 dBA L_{dn} or CNEL (the same levels that the USEPA recommends for residential interiors) in any habitable room of new dwellings. Acoustical studies must be prepared for proposed multiple unit residential and hotel/motel structures where outdoor L_{dn} or CNEL is 60 dBA or greater. The studies must demonstrate that the design of the building would reduce interior noise to 45 dBA L_{dn} or CNEL, or lower. Dwellings are to be designed so that interior noise levels would meet this standard for at least ten years from the time of building permit application. The primary means to achieve this standard is through the use of noise-insulating windows, and/or sound-isolation materials when constructing walls and ceilings.

Local

San Francisco General Plan

The *General Plan* provides long-term guidance and policies for maintaining and improving the quality of life and the man-made and natural resources of the community. The *General Plan* Environmental Protection Element is concerned primarily with avoiding or mitigating the adverse effects of transportation noise. The *General Plan* Environmental Protection Element contains Land Use Compatibility Guidelines for Community Noise. These guidelines, which are similar to but differ somewhat from state guidelines promulgated by the Governor's Office of Planning and Research, indicate maximum acceptable exterior noise levels for various newly developed land uses. The City's guidelines, which are presented in Figure 4.7-8, City of San Francisco Land Use Compatibility Guidelines, p. 4.7-21, indicate exterior noise levels that might be inappropriate for the construction of new sensitive land uses and would therefore require additional noise insulation considerations beyond standard practices. Though this figure presents a range of noise levels that are considered compatible or incompatible with the new construction of various land uses, the maximum "satisfactory" noise level is 60 dBA (L_{dn}) for residential and hotel uses; 65 dBA (L_{dn}) for school classrooms, libraries, churches, and hospitals; 70 dBA (L_{dn}) for playgrounds, parks, office buildings, retail commercial uses, and noise-sensitive manufacturing/communications uses; and 77 dBA for other commercial uses such as wholesale, some retail, industrial/manufacturing, transportation, communications, and utilities. If the construction of new noise-sensitive uses is proposed to be located in areas with noise levels that exceed these guidelines, a detailed analysis of noise reduction requirements will normally be necessary prior to final review and approval. It

should be noted that the Proposed Project would involve the occupancy and change of use of existing buildings in the study areas and at the project sites, and no new buildings would be constructed.

San Francisco Noise Ordinance (Article 29, San Francisco Police Code)

The Noise Ordinance specifically recognizes that adverse effects on a community can arise from noise sources such as transportation, construction, mechanical equipment, entertainment, and human and animal behavior. The San Francisco Noise Ordinance (Article 29, San Francisco Police Code, Section 2900) makes the following declaration:

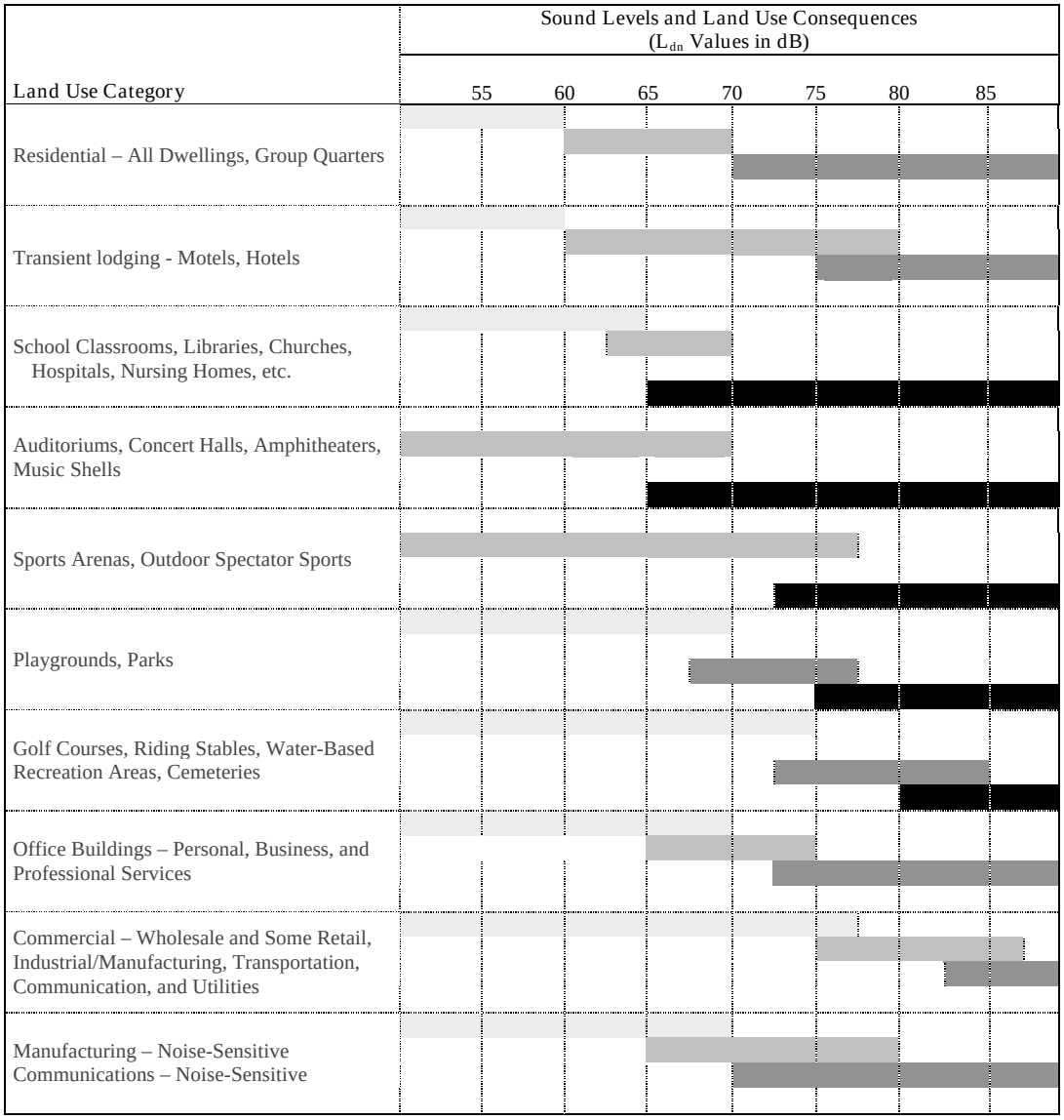
> It shall be the policy of San Francisco to maintain noise levels in areas with existing healthful and acceptable levels of noise and to reduce noise levels, through all practicable means, in those areas of San Francisco where noise levels are above acceptable levels as defined by the World Health Organization's Guidelines on Community Noise.

The following regulations are included to address and limit disruptive noise intrusions from these sources.

Construction (Sections 2907 and 2908)

The Noise Ordinance limits noise from powered construction equipment to a level of 80 dBA at a distance of 100 feet (or an equivalent level at some other convenient distance).[246] This limit does not apply to impact tools provided they are equipped with appropriate noise control features recommended by the manufacturers and approved by the Director of Public Works or the Director of Building Inspection. Also, construction activities are generally prohibited between the hours of 8:00 p.m. and 7:00 a.m. if the noise created would be in excess of the ambient noise level by 5 dBA at the nearest property line (although exceptions to these limits can be made in certain cases by the Director of Public Works or the Director of Building Inspection).

[246] Noise Ordinance Section 2901(j) defines "powered construction equipment" as any tools, machinery, or equipment used in connection with construction operations which can be driven by energy in any form other than manpower, including all types of motor vehicles when used in the construction process of any construction site, regardless of whether such construction site be located on-highway or off-highway, and further including all helicopters or other aircraft when used in the construction process except as may be preempted for regulation by state or federal law.



Satisfactory, with no special noise insulation requirements.

New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design.

New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

New construction or development should generally not be undertaken.

SOURCE: San Francisco, 1986. San Francisco General Plan, adopted on June 27, 1996.

FIGURE 4.7-8: CITY OF SAN FRANCISCO LAND USE COMPATIBILITY GUIDELINES

Noise Limits (Section 2909)

The Noise Ordinance limits noise from sources defined as "any machine or device, music or entertainment or any combination of same" located on residential or commercial/industrial property to 5, 8 or 10 dBA, respectively, above the local "ambient"[247] at any point outside of the property plane of a residential, commercial/industrial or public land use[248], respectively, containing the noise source. An additional low-frequency criterion applies to noise generated from a licensed Place of Entertainment, specifically that no associated noise or music shall exceed the low-frequency ambient noise level by more than 8 dBA.

The Noise Ordinance prohibits noise from a fixed "source"[249] from causing the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00 p.m. with windows open except where building ventilation is achieved through mechanical systems that allow windows to remain closed.

Variances (Section 2910)

The Noise Ordinance gives the Directors of Public Health, Public Works, Building Inspection, or the Entertainment Commission, or the Chief of Police, authority to grant variances to noise regulations over which they have jurisdiction. The Department of Public Health has jurisdiction over sources specified in Noise Limits (Section 2909), the Departments of Building Inspection and Public Works over sources specified in Construction (Sections 2907 and 2908), and the Director of the Entertainment Commission may enforce noise standards associated with licensed Places of Entertainment.

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[247] Noise Ordinance Section 2901(a) defines "ambient" as the lowest sound level repeating itself during a minimum ten-minute period as measured with a type 1, precision sound level meter, set on slow response and A-weighting. It also provides that in no case shall the ambient be considered or determined to be (1) less than 35 dBA for interior residential noise, and (2) 45 dBA in all other locations.

[248] Ten (10) dBA, the limit for noise from a public land use, would cover students loudly playing music on a sidewalk.

[249] Noise Ordinance Section 2901(e) states "fixed source" means a machine or device capable of creating a noise level at the property upon which it is regularly located, including but not limited to: industrial and commercial process machinery and equipment, pumps, fans, air-conditioning apparatus or refrigeration machines.

4.7.4 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to noise, if it would:

- Result in exposure of persons to or generation of noise levels in excess of standards established in the Environmental Protection Element of the *San Francisco General Plan* or San Francisco Noise Ordinance (Article 29, San Francisco Police Code)
- Result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- Result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Proposed Project
- Result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Proposed Project
- If located within an airport land use plan area, or, where such a plan has not been adopted, in an area within two miles of a public airport or public use airport, would the Proposed Project expose people residing or working in the area to excessive noise levels
- If located in the vicinity of a private airstrip, would the Proposed Project expose people residing or working in the project area to excessive noise levels

Approach to Analysis

This analysis identifies potential noise impacts associated with the Proposed Project. The Proposed Project's potential contributions to cumulative noise impacts are evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the vicinity of the Proposed Project. The Proposed Project would be limited to occupancy and change of use of existing buildings in already developed areas of the City. Noise issues evaluated in this section include (1) noise generated by construction activities, (2) traffic and stationary source noise generated by future AAU operations, (3) consistency of potential future uses with San Francisco Land Use Compatibility Guidelines for Community Noise (Figure 4.7-8, City of San Francisco Land Use Compatibility Guidelines, p. 4.7-21), and (4) vibration.

As described in Chapter 3, Project Description, it is assumed that upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting. The equipment typically used to accommodate new AAU uses (that do not require seismic retrofitting), includes scaffolding, ladders, or scissor lifts, and, in some cases, other equipment for

specialized trades, such as pipe cutters, pipe threaders, and hand cutters for fire sprinkler work. Construction vehicles would include light trucks and delivery vehicles from vendors; no motorized excavation equipment has been used at existing AAU sites, nor would it be expected to be used for the Proposed Project. For seismic retrofit projects, AAU could use pneumatic equipment[250] (inside the building) and 10-cubic-yard roll-off bins.[251] Depending on the seismic upgrade that the structural engineer recommends, the equipment used may vary from scissor lifts to scaffolds, ladders, welding equipment (if required), debris boxes for the material disposal, and hand tools for the different trades. In some cases, there is minimal ground disturbance for installation of footings. Construction (i.e., tenant improvements and minor exterior alterations) noise and vibration levels were quantified using equipment noise reference levels.

Traffic noise modeling was completed using the Federal Transit Administration (FTA) methodology to evaluate noise impacts from surface transportation modes (i.e., passenger cars, trucks, buses, and rail) in *Transit Noise Impact and Vibration Assessment* (FTA Guidelines) (May 2006). The incremental noise impact criteria included in the FTA Guidelines, as presented in Table 4.7-6, Federal Transit Administration Impact Criteria for Noise-Sensitive Uses, p. 4.7-25, are based on USEPA Levels and subsequent studies of annoyance in communities affected by transportation noise and contained in the FTA Guidelines. Starting from the USEPA's definition of minimal noise impact as a 5 dBA change from an established protective ambient level, the FTA extended the USEPA's incremental impact criteria to higher baseline ambient levels. As baseline ambient levels increase, smaller and smaller increments are allowed to limit increases in community annoyance (e.g., in residential areas with a baseline ambient noise level of 50 dBA L_{dn}, a 5 dBA increase in noise levels would be acceptable, while at 70 dBA L_{dn}, only a 1 dBA increase would be allowed). These thresholds are utilized to determine if increases in traffic-related noise levels would result in a significant impact due to implementation of the Proposed Project.

[250] Pneumatic equipment is a machine or device operated by compressed air or by a vacuum.
[251] A roll-off bin is typically an open top dumpster characterized by a rectangular footprint, utilizing wheels to facilitate rolling the dumpster in place. The container is designed to be transported by special roll-off trucks. Roll-off bins are commonly used to contain loads of construction and demolition waste or other waste types.

Table 4.7-6 Federal Transit Administration Impact Criteria for Noise-Sensitive Uses

Residences and Buildings Where People Normally Sleep[a]		*Institutional Land Uses with Primarily Daytime and Evening Uses*[b]	
Existing L_{dn} (dBA)	*Allowable Noise Increment (dBA)*	*Existing Peak Hour L_{eq} (dBA)*	*Allowable Noise Increment (dBA)*
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

SOURCE: Federal Transit Administration, *Transit Noise Impact and Vibration Assessment* (May 2006).

a. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.

b. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

Traffic noise modeling procedures involved the calculation of existing and future vehicular noise levels at selected noise-sensitive uses in the vicinity of representative study areas and project sites using the Federal Highway Administration Highway Noise Prediction Model (FHWA-RD-77-108). The model calculates the average noise level at specific locations based on traffic volumes, average speeds, roadway geometry, truck mix, distance from roadway to receptor, and site environmental conditions. The average vehicle noise rates (energy rates) utilized in FHWA-RD-77-108 reflect the latest measurements of average vehicle noise rates for all vehicle classes. Traffic volumes utilized as data inputs in the noise prediction model were provided through the TIS prepared for this EIR. Future (year 2020) traffic noise levels without implementation of the Proposed Project are compared to year 2020 traffic noise levels with the traffic volumes resulting from the Proposed Project to determine if it would contribute to incremental increases in noise levels that would exceed the threshold(s) identified above. Roadway segments were selected based upon the segments identified in the transportation analysis as having the highest average daily trips in the study areas or project sites, as these roadways would likely experience the greatest noise levels. Additionally, for roadway segments that are part of the AAU shuttle routes, the model was calibrated to reflect the increase in heavy vehicle traffic (i.e. shuttle buses utilized by AAU) that would occur with implementation of the Proposed Project.

For the purpose of this analysis, groundborne vibration impacts associated with human annoyance would be significant if vibration caused by implementation of the Proposed Project exceeds 85 VdB, which is the vibration level that is considered by the FTA to be acceptable only if there are an infrequent number of events per day. In terms of groundborne vibration impacts on structures, this analysis will use the FTA's vibration damage threshold of approximately 100 VdB for fragile buildings and approximately 95 VdB for extremely fragile historic buildings (HMMH 2006).

Additionally, based on the physical setting of the 12 study areas and six project sites, and the nature of the Proposed Project (renovation and change of use of existing buildings), the Proposed Project would not result in impacts related to the following criteria, and no impact discussion is provided for this topic for the following reason:

- **Noise from Aircraft.** No portions of the City are within an airport land use plan area, within 2 miles of a public airport or public use airport, or within the vicinity of a private airstrip. Thus, the Proposed Project would have no impact with respect to exposure of residents or workers to excessive noise from commercial or private air traffic.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010 when the NOP for this EIR was published. These sites are therefore considered part of the EIR baseline conditions. As such, AAU activities at those 34 sites are part of the existing conditions accounted for in Section 4.7.2, Environmental Setting, p. 4.7-6, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to noise. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential effects to noise that resulted from pre-NOP changes at the 34 existing sites would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 program-level study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact NO-1.1 The Proposed Project construction activities associated with growth in the 12 study areas would not expose persons to temporary increases in noise levels substantially in excess of ambient levels. (Less than Significant)

The Proposed Project, including AAU growth within the 12 study areas, would occur through the occupation and change of use of existing buildings for postsecondary institutional uses such as educational, student residential, or recreational purposes. AAU would not demolish or develop new buildings. The reuse of existing buildings mostly would involve tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting. For seismic retrofitting projects, structural improvements would be added to a building to ensure the safety and security of the building's occupants and the property itself. Depending on the seismic upgrade that the structural engineer recommends, the equipment used may vary from scissor lifts to scaffolds, ladders, welding equipment (if required), debris boxes for the material disposal, and hand tools for the different trades. In some cases, there may be minimal ground disturbance for installation of footings. Tenant improvement work would generally occur when AAU is on winter or summer break.

Tenant improvement work would primarily occur within the interior of existing buildings, would be of short duration and would not be expected to require heavy-duty equipment such as excavators, concrete mixers, and heavy trucks. Further, noise related to the tenant improvements would be shielded from off-site receptors due to the work being conducted in the interior of existing buildings. Outdoor work, including potential limited excavation for seismic retrofits, could generate more noise over short periods of time. Table 4.7-7, Typical Noise Levels from Construction Equipment, p. 4.7-28, shows typical noise levels produced by various types of construction equipment.

Table 4.7-7 Typical Noise Levels from Construction Equipment

Construction Equipment Noise Level	*dBA, L_{eq} at 50 feet*	*dBA, L_{eq} at 100 feet*
Pile Driver	101	99
Paver	89	86
Dump Truck	88	85
Jack Hammer	88	85
Scraper	88	85
Dozer	87	84
Concrete Mixer (Truck)	85	82
Backhoe	85	82
Portable Air Compressor	81	78
Generator	76	73

SOURCE: Cunniff, Environmental Noise Pollution (1977).

Based on Table 4.7-7, and the proposed construction equipment and typical tenant improvements anticipated as part of the Proposed Project, the noise level associated with the Proposed Project would be less than 80 dBA at 50 feet. As described in Section 4.7.3, Regulatory Framework, p. 4.7-19, tenant improvement activities associated with the Proposed Project must comply with the San Francisco Noise Ordinance Section 2907, which limits noise from any individual piece of construction equipment (except impact tools, which require noise controls) to 80 dBA at 100 feet. In addition, Noise Ordinance Section 2908 prohibits construction noise that exceeds 5 dBA over the ambient noise level at the nearest property line between 8:00 p.m. and 7:00 a.m. Additionally, the Proposed Project would not involve the use of pile driving or other construction equipment which would result in ground-borne vibration or noise levels above the requirements of the Noise Ordinance. Because tenant improvement activities in the study areas would be of short duration and would be required to comply with the noise limits and hours mandated by the City's Noise Ordinance, they would not result in exposure of persons to or generation of noise in excess of City standards, or result in substantial temporary or periodic increases in ambient noise levels. The impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact NO-1.2 **The Proposed Project construction activities associated with growth at the six project sites would not expose persons to temporary increases in noise levels substantially in excess of ambient levels. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**

- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

Under the Proposed Project, PS-1, 2801 Leavenworth Street (The Cannery), would include 133,675 sf of institutional space. At full occupancy, the site could accommodate 1,600 students and 18 faculty and staff on a weekday. Current land uses in the vicinity of PS-1 include retail, commercial, and restaurant uses. PS-1 is bordered to the east and south by retail shops, restaurants, various commercial uses, and multifamily residential buildings, which are the only sensitive receptors in the vicinity of PS-1.

The Proposed Project at PS-1 would involve installation of signage, painting, replacement of ceiling tiles, limited concrete repairs in the interior courtyard, upgrades to the fire alarm system, installation of a security system, and interior construction associated with the conversion of space to AAU use. Future tenant improvements would not be anticipated to require heavy-duty equipment such as excavators, concrete mixers, and heavy trucks. Most noise related to the tenant improvements would be shielded from off-site receptors due to the work being conducted in the interior of existing buildings. As described in Section 4.7.3, Regulatory Framework, p. 4.7-19, tenant improvement activities associated with the Proposed Project must comply with the San Francisco Noise Ordinance Section 2907, which limits noise from any individual piece of construction equipment (except impact tools, which require noise controls) to 80 dBA at 100 feet. In addition, Noise Ordinance Section 2908 prohibits construction noise that exceeds 5 dBA over the ambient noise level at the nearest property line between 8:00 p.m. and 7:00 a.m. (unless the applicant obtains a City-approved exception, which is not anticipated). Because tenant improvement activities at PS-1, 2801 Leavenworth Street (The Cannery), would be of short duration and would be required to comply with the noise limits and hours mandated by the City's Noise Ordinance, they would not result in exposure of persons to or generation of noise in excess of City standards, or result in substantial temporary or periodic increases in ambient noise levels. The impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

Proposed uses at PS-2, 700 Montgomery Street, include 11,455 sf of institutional and restaurant space, which would accommodate up to 15 students and 20 faculty/staff. Current land uses in the vicinity of PS-2 include office and restaurant uses. The areas north and east of PS-2 have similar retail and commercial uses, while the area south of PS-2 is dominated by downtown office uses. Based on the surrounding land uses, there are no sensitive receptors identified in the immediate vicinity of PS-2.

Tenant improvements at PS-2 would include installation of signage, interior and exterior painting, installation of a security system, and interior construction associated with the conversion of space to AAU use. As discussed under PS-1, 2801 Leavenworth Street (The Cannery), tenant improvement activities associated with the Proposed Project must comply with the San Francisco Noise Ordinance Sections 2907 and 2908. Additionally tenant improvement work would be of short duration, would not be expected to require heavy-duty equipment such as excavators, concrete mixers, or heavy trucks, and would be shielded from off-site receptors due to the work being conducted in the interior of existing buildings. The impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

Under the Proposed Project, PS-3, 625 Polk Street, would include 93,103 sf of AAU institutional space and accommodate up to 1,675 students and 168 faculty and staff on a weekday. Polk Street provides a mixture of retail, commercial, restaurants, and multifamily residential uses. Turk Street includes a mixture of retail uses and multifamily residential buildings. The site is bordered to the north and east by multifamily residential buildings and retail. To the north are hotels and to the east are restaurants. The Tenderloin Community School is south of PS-3. Directly west of the site are multifamily residential uses.

Tenant improvements at PS-3 would include painting and installation of new lighting, a new security system, and signage. As discussed under PS-1, 2801 Leavenworth Street (The Cannery), tenant improvement activities associated with the Proposed Project must comply with the San Francisco Noise Ordinance Sections 2907 and 2908. Additionally tenant improvement work would be of short duration, would not be expected to require heavy-duty equipment such as excavators, concrete mixers, or heavy trucks, and would be shielded from off-site receptors due to the work being conducted in the interior of existing buildings. The impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

AAU uses at PS-4, 150 Hayes Street, would include 80,330 sf of office space for AAU. At full occupancy, the site would accommodate up to 390 staff. The area around PS-4 is a mixture of offices, off-street parking lots, entertainment uses (auditorium, symphony hall), government offices, the Civic Center plaza, and civic uses. City Hall and the Civic Center Plaza are located one block to the north. The Bill Graham Civic Auditorium is located one block to the east. The Davies Symphony Hall is located one block to the west and office uses dominate the area south of PS-4.

Tenant improvements at PS-4 would include painting and installation of carpeting, a new security system, and signage. As discussed under PS-1, 2801 Leavenworth Street (The Cannery), tenant improvement activities associated with the Proposed Project must comply with the San Francisco

Noise Ordinance Sections 2907 and 2908. Additionally tenant improvement work would be of short duration, would not be expected to require heavy-duty equipment such as excavators, concrete mixers, or heavy trucks, and would be shielded from off-site receptors due to the work being conducted in the interior of existing buildings. The impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

Proposed uses at PS-5, 121 Wisconsin Street, include AAU's bus storage yard. At full use, the site would accommodate approximately two staff members in trailers. PS-5 is bounded by commercial and industrial uses to the north, east, south, and west. Jackson Playground and residential uses are located at the end of Wisconsin Street, half a block south of PS-5.

Tenant improvements at PS-5 would include parking area repaving and signage installation. As discussed under PS-1, 2801 Leavenworth Street (The Cannery), tenant improvement activities associated with the Proposed Project must comply with the San Francisco Noise Ordinance Sections 2907 and 2908. Additionally tenant improvement work would be of short duration, would not be expected to require heavy-duty equipment such as excavators, concrete mixers, or heavy trucks, and would be shielded from off-site receptors due to the work being conducted in the interior of existing buildings. The impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

Proposed AAU uses at PS-6, 2225 Jerrold Avenue, would include continued office and storage uses, and the conversion of 17,533 sf to recreational uses. The First Student School Bus Yard, Restaurant Depot, USPS distribution center, and various other industrial uses are located directly to the north. PS-6 is bounded by the San Francisco Wholesale Produce Market to the east. There is a mini storage company at the corner of Jerrold Avenue and Barneveld Street. Just south of the mini storage on Barneveld Street is Blood Centers of the Pacific. To the west are a power station, industrial uses, and various commercial uses. There are no noise-sensitive uses within the vicinity of PS-6.

Tenant improvements at PS-6 would include interior construction associated with installation of recreational uses, signage installation, painting (both interior and exterior), addition of a new fire alarm, installation of a security system, and replacement of sidewalk, street curbs and landscaping along the McKinnon Avenue side of the site. As discussed under PS-1, 2801 Leavenworth Street (The Cannery), tenant improvement activities associated with the Proposed Project must comply with the San Francisco Noise Ordinance Sections 2907 and 2908. Additionally tenant improvement work would be of short duration, would not be expected to require heavy-duty equipment such as excavators, concrete mixers, or heavy trucks, and would be shielded from off-site receptors due to

the work being conducted in the interior of existing buildings. The impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact NO-1.3 **The Proposed Project construction activities associated with growth in the 12 study areas and at the six project sites would not expose persons to temporary increases in noise levels substantially in excess of ambient levels. (Less than Significant)**

The Proposed Project, including AAU growth within the 12 study areas and six project sites would occur through the occupation and change of use of existing buildings for postsecondary educational uses, including student housing. The change of use of existing buildings primarily would involve tenant improvements, including interior construction (drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting. For seismic retrofitting projects, structural improvements would be added to a building to ensure the safety and security of the building's occupants and the property itself. Depending on the seismic upgrade that the structural engineer recommends, the equipment used may vary from scissor lifts to scaffolds, ladders, welding equipment (if required), debris boxes for the material disposal, and hand tools for the different trades. In some cases, there would be minimal ground disturbance for installation of footings. The noisier renovations generally occur when AAU is on winter or summer break.

Tenant improvement work would be of short duration and would not be expected to require heavy-duty equipment such as excavators, concrete mixers, and heavy trucks. Most noise related to the tenant improvements would be shielded from off-site receptors due to the work being conducted in the interior of existing buildings. Outdoor work, including potential limited excavation for seismic retrofits, could generate more noise over short periods of time.

Based on Table 4.7-7, Typical Noise Levels from Construction Equipment, p. 4.7-28, and the proposed construction equipment and typical tenant improvements proposed as part of the Proposed Project, the noise levels associated with the Proposed Project would be less than 80 dBA at 50 feet. As described in Section 4.7.3, Regulatory Framework, p. 4.7-19, tenant improvement activities associated with the Proposed Project must comply with the San Francisco Noise Ordinance Section 2907, which limits noise from any individual piece of construction equipment (except impact tools, which require noise controls) to 80 dBA at 100 feet. In addition, Noise Ordinance Section 2908 prohibits construction noise that exceeds 5 dBA over the ambient noise level at the nearest property line between 8:00 p.m. and 7:00 a.m. Additionally, the Proposed Project would not involve the use of pile driving or other construction equipment which would result in groundborne vibration or noise

levels above the requirements of the Noise Ordinance. Because tenant improvement activities for the Proposed Project within the study areas and project sites would be of short duration and would be required to comply with the noise limits and hours mandated by the City's Noise Ordinance, they would not result in exposure of persons to or generation of noise in excess of City standards, or result in substantial temporary or periodic increases in ambient noise levels. The impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact NO-2.1 **The Proposed Project, including growth in the 12 study areas could expose persons to or generate noise levels in excess of standards established in the San Francisco General Plan or Noise Ordinance (Police Code Article 29) or result in a substantial permanent increase in ambient noise levels. (Less than Significant with Mitigation)**

The Proposed Project, including AAU growth within the 12 study areas, would occur through the occupation and change of use of existing buildings for institutional purposes, including student housing. The expansion of AAU institutional and residential uses would introduce a different pattern of uses in terms of student, faculty, or staff population. In some cases, change of use of buildings would intensify activities at a particular site; for example, shuttle bus service would be extended to most locations (except where it already exists in close proximity) or increased pedestrian activity could occur around specific sites. Overall, noise levels resulting from AAU uses would be typical of the dense, urban areas of the City. The below impact addresses both the potential for AAU operations in the study areas to result in a substantial permanent ambient noise increase to off-site receptors and the potential for new AAU noise-sensitive uses, i.e., student residences, in the study areas to be exposed to excessive noise.

AAU Traffic Noise

The idling of shuttle buses when picking up or dropping off AAU students, faculty, and staff would generate short-term noise at each study area. In order to determine if the increase in shuttle bus activity during drop-off and pick-up times would result in a substantial increase in ambient noise levels, noise levels of the existing AAU shuttle fleet were measured at the PS-6, 2225 Jerrold Avenue, parking lot. The noise meter was located approximately 10 feet from the vehicle and was positioned five feet above the ground.

The maximum noise levels of each shuttle vehicle are graphically illustrated in Figure 4.7-9, Academy of Art University Shuttle Bus Noise Measurements, p. 4.7-34.

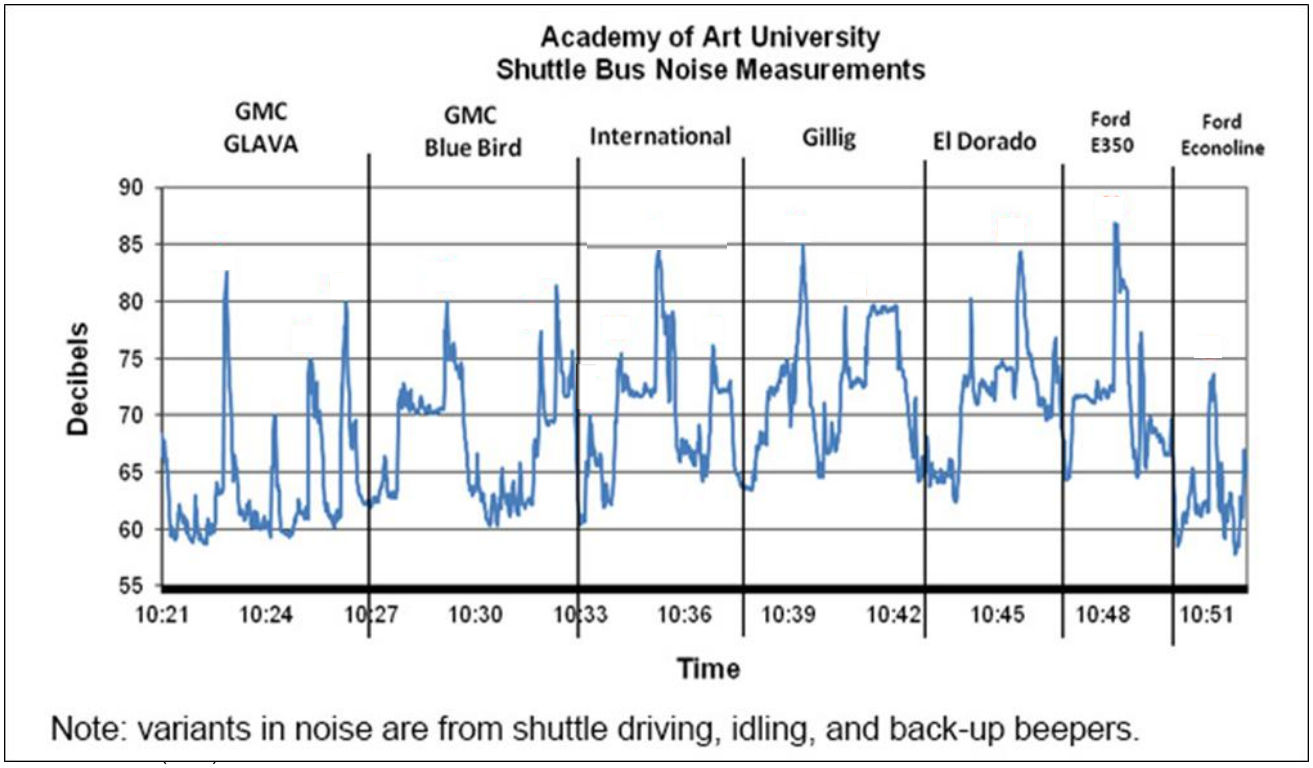

Figure 4.7-9 Academy of Art University Shuttle Bus Noise Measurements

The noise levels as presented in Figure 4.7-9, Academy of Art University Shuttle Bus Noise Measurements, p. 4.7-34, are typical of idling and backup beepers associated with the different shuttle types. As shown in Figure 4.7-9, the loudest noise levels associated with any of the shuttle buses are produced by the backup beepers, with noise levels up to 87 dBA. Backup beepers are required by Cal-OSHA to be at least 5 dBA above ambient noise levels. These devices are highly directional in nature. Backup beepers are, of course, intended to warn persons who are behind the vehicle when it is backing up. Due to the highly urbanized environment, shuttle bus idling noise would likely be masked by typical traffic noise in all but the quietest of the study areas, such as SA-9, Second Street/Brannan Street, and SA-11, Sixth Street/Folsom Street, and would not cause a substantial increase in ambient noise levels.

Project-related increases in noise would occur primarily as a result of increased traffic on local roadways due to the addition of project-related traffic (including shuttle bus and nonshuttle bus activity). Traffic-generated noise impacts resulting from the Proposed Project have been assessed based on the contribution of growth within the 12 study areas to the existing base traffic volumes in the study areas. Roadway segments were selected based upon the segments identified in the transportation analysis as having the highest average daily trips in the study areas, as these roadways would likely experience the greatest noise level increases as a result of the Proposed Project. Additionally, the model was calibrated to reflect the increase in heavy vehicle traffic (shuttle

buses utilized by AAU) that would occur with study area growth. As shown in Table 4.7-8, Future Year Study Noise Levels at Most Affected Roadways, p. 4.7-35, traffic associated with study area growth would not result in substantial increases in noise along any roadway segments compared to 2020 without Project conditions. Permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant, and implementation of the Proposed Project would have a less-than-significant noise impact due to noise created by project-generated traffic. The largest increase in ambient noise levels would be 0.24 dBA L_{dn} along Richardson Avenue, which would be considered an inaudible increase. Therefore, the increase in motor vehicles along the study area roadways, including the increase in shuttle buses, would not result in a substantial permanent increase in ambient noise levels. The Proposed Project uses in the 12 study areas would not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project, and this impact would be less than significant.

Table 4.7-8 Future Year Study Noise Levels at Most Affected Roadways

Roadway	*Roadway Segment*	*Noise Levels in dBA L_{dn}*					
		Existing	*2020 Without Project*	*2020 With Project*	*Project-Related Increase*	*Allowable Increase*	*Significant Impact?*
SA-1, Lombard Street/Divisadero Street							
Lombard St	Scott St to Pierce St	67.5	67.9	67.9	0.05	1	No
Richardson Ave	Francisco St and Lyons St	66.3	67.3	67.5	0.24	1	No
SA-2, Lombard Street/ Van Ness Avenue							
Lombard St	Gough St to Franklin St	66.9	67.1	67.2	0.06	1	No
SA-5, Mid Market Street							
Ninth St	Market St to Mission St	66.6	67.5	67.5	0.02	1	No
SA-9, Second Street/Brannan Street							
King St	Third St to Second St	66.9	68.2	68.3	0.11	1	No
Third St	King St and Townsend St	63.9	67.6	67.6	0.00	1	No
SA-10, Fifth Street/Folsom Street							
Sixth St	South of Brannan St	67.8	68.5	68.6	0.10	1	No
PS-6, 2225 Jerrold Avenue							
Bayshore Blvd	Jerrold Ave and Main St	65.9	67.1	67.2	0.05	1	No
	South of Industrial St	64.9	67.2	67.2	0.00	1	No
Cesar Chavez St	Evans Ave to Connecticut St	64.6	67.4	67.4	0.01	1	No

SOURCE: Atkins (2014).

Sensitive Receptor Exposure

As part of the Proposed Project, AAU could propose changes of use of currently nonresidential buildings in study areas to residential use, thereby placing noise-sensitive land uses in a noise

environment that may be incompatible with that sensitive use. If the noise environment were not compatible with residential use, the Proposed Project would expose sensitive receptors to excessive noise, and the City would consider this a significant impact.

As described under "Community Ambient Noise Levels," above, traffic-generated noise levels along most major streets throughout the Proposed Project area currently exceed 70 dBA (L_{dn}), and traffic noise on some of the smaller midblock streets currently exceeds 60 dBA (L_{dn}). The *San Francisco General Plan* noise compatibility guidelines indicate that any new residential construction or development in areas with noise levels above 60 dBA (L_{dn}) should be undertaken only after a detailed analysis of noise reduction requirements is made and needed noise insulation features are included in the design. In areas where noise levels exceed 65 dBA (L_{dn}), new residential construction or development is generally discouraged, but if it does proceed, a detailed analysis of noise reduction requirements must be done and needed noise insulation features included in the design. It is noted, however, that because most new residential occupancies and renovations that would occur would be attached, dormitory style residential units, the new dwelling units would be subject to state Title 24 noise requirements contained in the California Noise Insulation Standards. Building Code regulation requires meeting an interior standard of 45 dBA (L_{dn}) in any habitable room where such units are proposed in areas subject to noise levels greater than 60 dBA (L_{dn}). In areas with noise levels up to 70 dBA (L_{dn}), conventional construction with closed windows and fresh air supply systems or air conditioning will normally be adequate to maintain acceptable interior noise levels (45 dBA, L_{dn}).

For residential development not subject to the California Noise Insulation Standards, traffic noise in the Project Area has the potential to result in a significant effect. Implementation of Mitigation Measures M-NO-2.1a – Interior Noise Levels for Residential Uses and M-NO-2.1b – Siting of Noise-Sensitive Uses, below, would reduce the impact of exposure to noise levels in excess of *San Francisco General Plan* recommendations to a less-than-significant level. These mitigation measures would apply to individual projects that are proposed within the study areas.

Mitigation Measures

Mitigation Measure M-NO-2.1a – Interior Noise Levels for Residential Uses. For new development including conversion of non-noise-sensitive to noise-sensitive uses located along streets with noise levels above 60 dBA (L_{dn}), where such development is not already subject to the California Noise Insulation Standards in California Code of Regulations Title 24, the project sponsor of future individual developments within the study areas shall conduct a detailed analysis of noise reduction requirements. Such analysis shall be conducted by person(s) qualified in acoustical analysis and/or engineering. Noise-insulation features identified and recommended by the analysis shall be included in the design, as specified in the *San Francisco General Plan* Land Use Compatibility Guidelines for Community Noise to reduce potential interior noise levels to the maximum extent feasible. Additional noise attenuation features may need to be incorporated into the building design

where noise levels exceed 70 dBA (L_{dn}) to ensure that acceptable interior noise levels can be achieved.

Mitigation Measure M-NO-2.1b – Siting of Noise-Sensitive Uses. To reduce potential conflicts between existing noise-generating uses and new sensitive receptors, for new residential development and development that includes other noise-sensitive uses (primarily, residences, and also including schools and child care, religious, and convalescent facilities and the like), the San Francisco Planning Department shall require the preparation of an analysis that includes, at a minimum, a site survey to identify potential noise-generating uses within 900 feet of, and that have a direct line-of-sight to, the project site, and including at least one 24-hour noise measurement (with average and maximum noise level readings taken so as to be able to accurately describe maximum levels reached during nighttime hours) prior to the first project approval action. The analysis shall be prepared by persons qualified in acoustical analysis and/or engineering and shall demonstrate with reasonable certainty that Title 24 standards, where applicable, can be met, and that there are no particular circumstances about the individual project site that appear to warrant heightened concern about noise levels in the vicinity. Should the Planning Department conclude that such concerns be present, the Planning Department may require the completion of a detailed noise assessment by person(s) qualified in acoustical analysis and/or engineering prior to the first project approval action, in order to demonstrate that acceptable interior noise levels consistent with those in the Title 24 standards can be attained.

AAU Stationary Source Noise

AAU uses in the study area could add fixed noise sources such as pumps, fans, air-conditioning apparatus or refrigeration machines.[252] Stationary sources of noise from such uses can include mechanical equipment and ventilation units. Depending on the type of mechanical equipment and ventilation units, noise generated during the evening or nighttime hours can result in noise conflicts between existing residential and commercial uses. Student residential as well as all residential development in proximity to existing noisy uses could result in health effects associated with exposure to chronic high levels of environmental noise and with exposure to short-term spikes in noise occurring during the typical hours of sleep. Such health effects include sleep disturbance, annoyance, impaired speech comprehension, and possible changes in cognitive function.

To avoid these effects, as described in Section 4.7.3 above, Section 2909 of the City's Noise Ordinance prohibits "any machine or device, music or entertainment or any combination of same" located on residential or commercial/industrial property from emitting noise that is 5 dBA (residential) or 8 dBA (commercial/industrial) above the local ambient noise at any point outside the property plane

[252] As with the small stationary sources of air pollutants described in Section 4.8, Air Quality, AAU has historically been more likely to replace existing equipment at a site than to add new equipment, and it is anticipated this will continue to be the case in the renovations in the study areas. Because new equipment is manufactured to meet more stringent noise standards than were required of older equipment, such replacements generally reduce noise emissions.

of the use containing the noise source. In addition, Section 2909 requires that no fixed noise source may cause the noise level measured inside any sleeping or living room in any dwelling unit located on residential property to exceed 45 dBA between the hours of 10:00 p.m. to 7:00 a.m. or 55 dBA between the hours of 7:00 a.m. to 10:00 p.m. with windows open. Compliance with these Noise Ordinance requirements would prevent AAU stationary noise sources from causing significant off-noise impacts to off-site receptors in the study areas where noise-sensitive land uses are subject to design and construction standards for noise. In these instances it is anticipated that consistency with the *San Francisco General Plan* recommendations would be achieved as a matter of course. However, without adequate design, significant impacts on such uses could result from noise levels generated by fixed sources in excess of *San Francisco General Plan* recommendations. Implementation of Mitigation Measure M-NO-2.1c – Siting of Noise-Generating Equipment, p. 4.7-38, would reduce this impact to a less-than-significant level. This mitigation measure would apply to individual projects that are proposed within the study areas.

Mitigation Measure

> **Mitigation Measure M-NO-2.1c – Siting of Noise-Generating Equipment.** If AAU proposes, as part of a change of use new (as opposed to replacement) mechanical equipment or ventilation units that would be expected, to increase ambient to noise levels by 5 dBA or more, either short-term, at nighttime, or as 24-hour average, in the proposed Project site vicinity, the San Francisco Planning Department shall require the preparation of an analysis that includes, at a minimum, a site survey to identify potential noise-sensitive uses (primarily, residences, and also including schools and child care, religious, and convalescent facilities and the like) within 900 feet of, and that have a direct line-of-sight to, the project site, and at least one 24-hour noise measurement (with average and maximum noise level readings taken so as to be able to accurately describe maximum levels reached during nighttime hours), prior to the first project approval action. The analysis shall be conducted prior to issuance of a building permit. The analysis shall be prepared by persons qualified in acoustical analysis and/or engineering and shall demonstrate with reasonable certainty that the proposed equipment would not cause a conflict with the use compatibility requirements in the *San Francisco General Plan* and would not violate Noise Ordinance Section 2909. If necessary to meet these standards, the proposed equipment shall be replaced with quieter equipment, deleted entirely, or mitigated through implementation of site-specific noise reduction features or strategies.

AAU Student-Generated Noise

The introduction of students in both institutional and residential sites could lead to increased noise in the form of loud-playing music or entertainment from machines or devices, but the potential increase in noise levels due to student activity would be consistent with a typical downtown highly urbanized environment. The noise levels measured and reported in Table 4.7-3, Existing Ambient Noise Measurements, in L_{eq}, p. 4.7-15, reflect that existing noise levels in the study areas are dominated by vehicle noise and it is unlikely that potential increases in noise levels due to increases

in human activity would result in a substantial increase in ambient noise levels. In addition, as described in Section 4.7.3, Regulatory Framework, p. 4.7-19, Noise Ordinance Section 2909 and 2908 regulates any "machine or device, music or entertainment or any combination of the same," and prohibits these noise sources from causing a substantial increase in ambient noise.[253] Excessive noise reported to the SFPD would be handled by that agency to ensure that excessive noise does not continue.

Significance after Mitigation: Less than Significant.

Project-Level Impacts (Growth at the Six Project Sites)

Impact NO-2.2 **The Proposed Project, including the uses at the six project sites, would not expose persons to or generate noise levels in excess of standards established in the San Francisco General Plan or Noise Ordinance (Police Code Article 29) or result in a substantial permanent increase in ambient noise levels, (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

Under the Proposed Project, PS-1, 2801 Leavenworth Street (The Cannery), would include classrooms, office space, a restaurant, multiuse/event space, and other space that would accommodate up to 1,600 students and 18 faculty and staff on a weekday. Shuttle service would be extended to PS-1. The shuttle stop serving PS-1 would stop at the existing 80-foot white zone located near 2700 Jones Street between North Point and Beach Streets. As shown in Table 4.7-3, Existing Ambient Noise Measurements, in L_{eq}, p. 4.7-15, noise levels in the vicinity of PS-1 range from 71.7 to 74.3 dBA, indicating a noisy commercial environment. However, college classrooms are not considered a protected sensitive land use under the *San Francisco General Plan*. Operations at PS-1, 2801 Leavenworth Street (The Cannery), would not result in the addition of any mechanical equipment that would add to the ambient noise levels within the area. The noise levels generated by student activity and increased shuttle bus operation would be compatible with a typical urban environment.

Additionally, because any noise increases from shuttle bus operations (backup beepers) would be intermittent and minor, and because the Proposed Project would be required to comply with the

[253] As noted in section 4.7.3, 10 dBA is the limit for noise from a public land use, which would cover students loudly playing music on a sidewalk.

City's Noise Ordinance with respect to music and/or entertainment noise from machines or devices, as well as fixed noise sources at the site, the Proposed Project at PS-1 would not exceed the standards established by the City for impacts to receptors in the vicinity of PS-1, and this impact would be less than significant.

Project-related increases in noise would occur primarily as a result of increased traffic on local roadways due to the addition of project-related traffic (including shuttle bus and nonshuttle bus activity). Traffic-generated noise impacts resulting from the Proposed Project have been assessed based on the contribution of growth from the six project sites to the existing base traffic volumes on roadways near the project sites. Roadway segments were selected based upon the segments identified in the transportation analysis as having the highest average daily trips in the study areas, as these roadways would likely experience the greatest noise levels. Additionally, the model was calibrated to reflect the increase in heavy vehicle traffic (shuttle buses utilized by AAU) that would occur with study area growth. The analysis presented in Table 4.7-8, Future Year Study Noise Levels at Most Affected Roadways, p. 4.7-35, shows that the roadways in the study areas that experience the highest average daily trips would not experience ambient noise increases above 0.24 dBA L_{dn} as a result of the Proposed Project, which would be an inaudible increase. Permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant, and implementation of the Proposed Project would have a less-than-significant noise impact due to noise created by project-generated traffic. Therefore, it can reasonably be assumed that roadways within the vicinity of PS-1, which have lower daily traffic volumes than those evaluated in Table 4.7-8, would experience similar increases in noise levels (less than 1 dBA L_{dn}). As such, the Proposed Project at PS-1 would not result in a substantial permanent increase in ambient noise levels, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

Proposed uses at PS-2, 700 Montgomery Street, include 11,455 sf of institutional and restaurant space. The institutional use would accommodate up to 15 students and 20 faculty and staff on a weekday. No shuttle service would be provided to this location. As shown in Table 4.7-3, Existing Ambient Noise Measurements, in L_{eq}, p. 4.7-15, noise levels in the vicinity of PS-2 were measured to be 85.5 dBA, indicating a noisy commercial environment. However, college classrooms are not considered a protected sensitive land use under the *San Francisco General Plan*. Operations at the project site would not result in the addition of any mechanical equipment that would add to the ambient noise levels within the area. The noise levels generated by student activity would be compatible with a typical urban environment.

Because the Proposed Project would be required to comply with the City's Noise Ordinance with respect to music and/or entertainment noise from machines or devices, as well as fixed noise sources

at the site, the Proposed Project at PS-2 would not exceed the standards established by the City for impacts to receptors in the vicinity of PS-2, and this impact would be less than significant.

Project-related increases in noise would occur primarily as a result of increased traffic on local roadways due to the addition of project-related traffic. At PS-2 this would include nonshuttle bus activity, as there is no existing or proposed AAU shuttle service to this site. Traffic-generated noise impacts resulting from the Proposed Project have been assessed based on the contribution of growth from the six project sites to the existing base traffic volumes on roadways near the project sites. The analysis presented in Table 4.7-8, Future Year Study Noise Levels at Most Affected Roadways, p. 4.7-35, shows that the roadways within the study areas that experience the highest average daily trips would not experience ambient noise increases above 0.24 dBA L_{dn} as a result of the Project, which would be an inaudible increase. Permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant, and implementation of the Proposed Project would have a less-than-significant noise impact due to noise created by project-generated traffic. Therefore, it can reasonably be assumed that roadways in the vicinity of PS-2, which have lower daily traffic volumes than those evaluated in Table 4.7-8 would experience similar increases in noise levels (less than 1 dBA L_{dn}). As such, the Proposed Project at PS-2 would not result in a substantial permanent increase in ambient noise levels, and this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

AAU uses at PS-3, 625 Polk Street, would include 93,103 sf of institutional space that would accommodate up to 1,675 students and 168 faculty and staff on a weekday. Shuttle service would be extended to PS-3. As shown in Table 4.7-3, Existing Ambient Noise Measurements, in L_{eq}, p. 4.7-15, noise levels in the vicinity of PS-3 range from 67.3 to 76.4 dBA indicating a noisy commercial environment. However, college classrooms are not considered a protected sensitive land use under the *San Francisco General Plan*. Operations at the project site would not result in the addition of any mechanical equipment that would add to the ambient noise levels within the area. The noise levels generated by student activity and increased shuttle bus operation would be compatible with a typical urban environment.

As of 2013, AAU had an existing shuttle stop on Polk Street, just east of Turk Street. SFMTA has advised that when bicycle lanes are added to Polk Street, the white zone will likely be eliminated and a substitute white zone will be created around the corner on Turk Street. Because any noise increases from shuttle bus operations (backup beepers) would be intermittent and minor, and because the Proposed Project would be required to comply with the City's Noise Ordinance with respect to music and/or entertainment noise from machines or devices as well as fixed noise sources at the site, the Proposed Project at PS-3 would not exceed the standards established by the City for impacts to receptors in the vicinity of PS-3, and this impact would be less than significant.

Project-related increases in noise would occur primarily as a result of increased traffic on local roadways due to the addition of project-related traffic (including shuttle bus and nonshuttle bus activity). Traffic-generated noise impacts resulting from the Proposed Project have been assessed based on the contribution of growth from the six project sites to the existing base traffic volumes on roadways near the project sites. The analysis presented in Table 4.7-8, Future Year Study Noise Levels at Most Affected Roadways, p. 4.7-35, shows that the roadways within the vicinity of PS-3 would experience a maximum ambient noise increase of 0.24 dBA L_{dn} as a result of the Proposed Project, and would be an inaudible increase. Permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant, and implementation of the Proposed Project would have a less-than-significant noise impact due to noise created by project-generated traffic. As such, the Proposed Project at PS-3 would not result in a substantial permanent increase in ambient noise levels, and this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

AAU growth at PS-4 would include 80,330 sf of office space that would accommodate up to 390 staff on a weekday. Shuttle service would be extended to PS-4, and a portion of the existing garage would be used as a shuttle stop for existing shuttle routes. As shown in Table 4.7-3, Existing Ambient Noise Measurements, in L_{eq}, p. 4.7-15, noise levels in the vicinity of PS-4 range from 62.9 to 78.9 dBA indicating a noisy commercial environment. However, college land uses, including staff offices, are not considered a protected sensitive land use under the *San Francisco General Plan*. Operations at the project site would not result in the addition of any mechanical equipment that would add to the ambient noise levels within the area. The noise levels generated by increased staff at PS-4 would be compatible with a typical urban environment.

Because any noise increases from shuttle bus operations (backup beepers) would be intermittent and minor, and because the Proposed Project would be required to comply with the City's Noise Ordinance with respect to music and/or entertainment noise from machines or devices as well as fixed noise sources at the site, the Proposed Project at PS-4 would not exceed the standards established by the City, and this impact would be less than significant.

Project-related increases in noise would occur primarily as a result of increased traffic on local roadways due to the addition of project-related traffic (including shuttle bus and non-shuttle-bus activity). Traffic-generated noise impacts resulting from the Proposed Project have been assessed based on the contribution of growth from the six project sites to the existing base traffic volumes on roadways near the project sites. The analysis presented in Table 4.7-8, Future Year Study Noise Levels at Most Affected Roadways, p. 4.7-35, shows that the roadways within the vicinity of PS-4 would experience a maximum ambient noise increase of 0.24 dBA L_{dn} as a result of the Proposed Project and would be an inaudible increase. Permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant, and implementation of the Proposed Project would

have a less-than-significant noise impact due to noise created by project-generated traffic. As such, the Proposed Project at PS-4 would not result in a substantial permanent increase in ambient noise levels, and this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

AAU growth at PS-5 would include 1,140 sf of institutional space consisting of two storage trailers. Proposed uses include the bus storage yard. At full use, the site would accommodate approximately two staff in the trailers. There is no existing shuttle service to this location, and none is proposed for the future. As shown in Table 4.7-3, Existing Ambient Noise Measurements, in L_{eq}, p. 4.7-15, noise levels in the vicinity of PS-5 were measured to be 66.0 dBA indicating a noisy commercial environment. However, a parking lot is not considered a sensitive land use under the *San Francisco General Plan*. Operations at the project site would not result in the addition of any mechanical equipment that would add to the ambient noise levels within the area. The noise levels generated by increased shuttle bus operation at the beginning and end of day to transport drivers would be compatible with a typical urban environment.

Because any noise increases from shuttle bus operations (backup beepers) associated with bus storage at this site would be intermittent and minor, and because the Proposed Project would be required to comply with the City's Noise Ordinance with respect to music and/or entertainment noise from machines or devices as well as fixed noise sources at the site, the Proposed Project at PS-5 would not exceed the standards established by the City, and this impact would be less than significant.

Project-related increases in noise would occur primarily as a result of increased traffic on local roadways due to the addition of project-related traffic (including shuttle bus and non-shuttle-bus activity). Traffic-generated noise impacts resulting from the Proposed Project have been assessed based on the contribution of growth from the six project sites to the existing base traffic volumes on roadways near the project sites. The analysis presented in Table 4.7-8, Future Year Study Noise Levels at Most Affected Roadways, p. 4.7-35, shows that the roadways in the study areas that experience the highest average daily trips would not experience ambient noise increases above 0.24 dBA L_{dn} as a result of the project, which would be an inaudible increase. Therefore, it can reasonably be assumed that roadways within the vicinity of PS-5, which have lower daily traffic volumes than those evaluated in Table 4.7-8 would experience similar increases in noise levels (less than 1 dBA L_{dn}). Permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant, and implementation of the Proposed Project would have a less-than-significant noise impact due to noise created by project-generated traffic. As such, the Proposed Project at PS-5 would not result in a substantial permanent increase in ambient noise levels, and this impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

AAU growth at PS-6 would include continued office and storage space, as well as the conversion of 17,533 sf of existing space to recreational uses. PS-6 would accommodate up to 110 students and 20 faculty and staff on a weekday. Shuttle service would be extended to PS-6. As shown in Table 4.7-3, Existing Ambient Noise Measurements, in L_{eq}, p. 4.7-15, noise levels in the vicinity of PS-6 range from 73.8 to 77.4 dBA, indicating a noisy commercial environment. However, college land uses such as office, storage, and recreational space are not considered a protected sensitive land use under the *San Francisco General Plan*. Operations at the project site would not result in the addition of any mechanical equipment that would add to the ambient noise levels within the area. The Proposed Project would provide shuttle service to PS-6 approximately every hour between 5:30 a.m. and 10:00 p.m., with a stop located in front of the site in the off-street loading area. The noise levels generated by student activity and increased shuttle bus operation would be compatible with a typical urban environment.

Because any noise increases from shuttle bus operations (backup beepers) would be intermittent and minor, and because the Proposed Project would be required to comply with the City's Noise Ordinance with respect to music and/or entertainment noise from machines or devices as well as fixed noise sources at the site, the Proposed Project at PS-6 would not exceed the standards established by the City, and this impact would be less than significant.

Project-related increases in noise would occur primarily as a result of increased traffic on local roadways due to the addition of project-related traffic (including shuttle bus and non-shuttle-bus activity). Traffic-generated noise impacts resulting from the Proposed Project have been assessed based on the contribution of growth from the six project sites to the existing base traffic volumes on roadways near the project sites. The analysis presented in Table 4.7-8, Future Year Study Noise Levels at Most Affected Roadways, p. 4.7-35, shows that the roadways in the study areas that experience the highest average daily trips would not experience ambient noise increases above 0.05 dBA L_{dn} as a result of the Proposed Project and would be an inaudible increase. Therefore, it can reasonably be assumed that roadways within the vicinity of PS-6, which have lower daily traffic volumes than those evaluated in Table 4.7-8 would experience similar increases in noise levels (less than 1 dBA L_{dn}). Permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant, and implementation of the Proposed Project would have a less-than-significant noise impact due to noise created by project-generated traffic. As such, the Proposed Project at PS-6 would not result in a substantial permanent increase in ambient noise levels, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Future Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact NO-2.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, could expose persons to or generate noise levels in excess of standards established in the San Francisco General Plan or Noise Ordinance (Police Code Article 29) or result in a substantial permanent increase in ambient noise levels. (Less than Significant with Mitigation)**

AAU growth in the study areas and at the project sites would introduce a different pattern of use in terms of student, faculty, or staff population. In some cases, reuse of buildings would intensify activities at a particular site; for example, shuttle bus service would be extended to serve most locations or increased pedestrian activity around occupied sites. Overall, noise levels resulting from AAU uses would be typical of the dense, urban areas of San Francisco. Daily operation of the Proposed Project, including student activity, fixed noise sources at buildings, and shuttle pick-up and drop-off activities, would generate noise levels that are compatible with a typical urban environment. As such, operational activities associated with AAU would generally expose persons to or generate noise in excess of the San Francisco Noise Ordinance Section 2909, which prohibits an increase in noise (i.e., as produced by "any machine or device, music or entertainment or any combination of same") greater than 5 dBA, 8 dBA, or 10 dBA[254] above the local ambient (i.e., defined as the "lowest sound level repeating itself during a minimum 10-minute period as measured with a sound level meter, using slow response and A-weighting")[255] at any point outside the property plane of a residential, commercial/industrial or public land use, respectively, containing the noise source. However, for existing sensitive receptors without adequate design (i.e. residential development not subject to the California Noise Insulation Standards), significant impacts could result from noise levels generated by fixed sources in excess of *San Francisco General Plan* recommendations. Implementation of Mitigation Measure M-NO-2.1c – Siting of Noise-Generating Equipment, p. 4.7-38, would reduce this impact to a less-than-significant level.

For residential development not subject to the California Noise Insulation Standards, the placement of student residential development in proximity to existing noisy uses could result in health effects associated with exposure to chronic high levels of environmental noise and with exposure to short-term spikes in noise occurring during the typical hours of sleep. Such health effects include sleep disturbance, annoyance, impaired speech comprehension, and possible changes in cognitive function. Implementation of Mitigation Measure M-NO-2.1a – Interior Noise Levels for Residential Uses, p. 4.7-36, and M-NO-2.1b – Siting of Noise-Sensitive Uses, p. 4.7-37, would reduce potential conflicts between the existing noise environment and new AAU residential (noise-sensitive) uses

[254] Ten dBA is the limit for noise from a public land use, which would cover students loudly playing music on a sidewalk.

[255] The "ambient" level would most likely correspond to the L_{90} descriptor (i.e., the sound level exceeded 90 percent of the time) because of the operative words *"lowest sound level repeating itself"* in the Ordinance definition; there is a 10 percent chance that sound levels at or lower than L_{90} would repeat during a 10-minute period, whereas the L_{min} would likely occur only once.

within the study areas to less-than-significant levels. These mitigation measures would apply to individual projects that are proposed within the study areas.

As shown in Table 4.7-8, Future Year Study Noise Levels at Most Affected Roadways, p. 4.7-35, traffic associated with implementation of the Proposed Project would not result in substantial increases in noise along any roadway segments compared to 2020 without project conditions. The largest increase in ambient noise levels would be 0.24 dBA L_{dn} along Richardson Avenue, which would be considered an inaudible increase. Permanent increases in ambient noise levels of less than 3 dBA are considered to be less than significant, and implementation of the Proposed Project would have a less-than-significant noise impact due to noise created by project-generated traffic. Therefore, because the increase in motor vehicles along the study area and project site roadways, including the increase in shuttle buses, would not result in a permanent increase in ambient noise levels, the Proposed Project would not result in a substantial permanent increase in ambient noise levels in the vicinity, and this impact would be less than significant.

Mitigation: Implement Mitigation Measures M-NO-2.1a – Interior Noise Levels for Residential Uses, p. 4.7-36, M-NO-2.1b – Siting of Noise-Sensitive Uses, p. 4.7-37, and M-NO-2.1c – Siting of Noise-Generating Equipment, p. 4.7-38.

Significance after Mitigation: Less than Significant.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact NO-3.1 **The Proposed Project, including growth in the 12 study areas, would not create excessive groundborne vibration levels in existing residential neighborhoods adjacent to the study areas. (Less than Significant)**

Tenant Improvements

As noted above, AAU would not demolish or develop new buildings. The occupancy and change of use of existing buildings would involve tenant improvements, including interior construction, security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting. The Proposed Project would not require heavy-duty equipment such as excavators, concrete mixers, and heavy trucks; nor would the Proposed Project require use of impact tools such as pile drivers, that can be a source of vibration impacts and a source of human annoyance. As tenant improvement and seismic retrofit activities would primarily occur within existing buildings and would not involve the use of heavy equipment or pile-drivers, vibration-related impacts would not exceed 85 VdB and, this impact would be less than significant.

Building Occupation

Typical background vibration levels in urbanized areas are about 50 VdB.[256] Such vibration background levels would be expected generally along existing roadways in the study areas. This is substantially less than the significance threshold of 85 VdB. Groundborne vibration resulting from operation of the Proposed Project would primarily be generated by shuttle buses during student drop-off and pick-up activities. The vibration levels generated by the shuttle buses would be consistent with existing vibration levels that currently exist along roadways in the study areas and would not result in increases above 85 VdB.

Because no substantial sources of groundborne vibration would be created in connection with AAU uses in the 12 study areas, this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact NO-3.2 **The Proposed Project, including growth at the six project sites, would not create excessive groundborne vibration levels in existing residential neighborhoods adjacent to the project sites. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

Tenant Improvements

The Proposed Project as the six project sites would result in the change of use to institutional, recreational, and bus yard uses. The tenant improvements at the six project sites would not require the use of heavy-duty equipment such as excavators, concrete mixers, and heavy trucks or impact tools that could result in vibration-related impacts.

Building Occupation

Groundborne vibration resulting from use of the six project sites would primarily be generated by shuttle buses during student drop-off and pick-up activities. Shuttle service would be extended to all project sites (except PS-2, Montgomery Street and PS-5, 121 Wisconsin Street). However, the vibration levels generated by the shuttle buses would be consistent with existing vibration levels that currently exist along roadways in the study areas and would not result in increases above 85 VdB. Because the Proposed Project at the six project sites would not result in any substantial

[256] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment* (May 2006), Figure 7-3.

sources of groundborne vibration that could expose receptors on site or off site to excessive groundborne vibration or groundborne noise levels, this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact NO-3.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not create excessive groundborne vibration levels in existing residential neighborhoods adjacent to the study areas or project sites. (Less than Significant)**

Tenant Improvements

AAU would not demolish and replace existing buildings, or develop new buildings. Occupancy and reuse of existing buildings within the study areas mostly would involve tenant improvements, including interior construction (drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting. The Proposed Project would not require heavy-duty equipment such as excavators, concrete mixers, and heavy trucks. Vibration impacts and the potential for human annoyance and building damage are typically limited to vibration generated by impact equipment, especially pile drivers. The Proposed Project would not involve the use of heavy equipment or impact tools that could result in vibration-related impacts.

Building Occupation

Typical background vibration levels in urbanized areas are about 50 VdB.[257] Such vibration background levels would be expected generally along existing roadways in the study areas and adjacent to the project sites. This is substantially less than this EIR's significance threshold of 85 VdB. Groundborne vibration resulting from operation of AAU facilities in the study areas would primarily be generated by shuttle buses during drop-off and pick-up activities. However, the vibration levels generated by the shuttle buses would be consistent with existing vibration levels that currently exist along roadways in the study areas and would not result in increases above 85 VdB. Because the Proposed Project would not generate substantial sources of groundborne vibration that could expose sensitive receptors on site or off site to excessive groundborne vibration or groundborne noise levels, this impact would be less than significant.

Mitigation: None required.

[257] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment* (May 2006), Figure 7-3.

Cumulative Impacts

Impact C-NO-1 **The implementation of the Proposed Project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not contribute considerably to a cumulative impact associated with noise and vibration. (Less than Significant with Mitigation)**

With respect to cumulative traffic noise, Table 4.7-8, Future Year Study Noise Levels at Most Affected Roadways, p. 4.7-35, provides a cumulative (2020) analysis that shows that the Proposed Project would not make a cumulatively considerable contribution to traffic noise levels.

The geographic context for this analysis of stationary source noise includes the 12 study areas and six project sites, and those parcels located immediately adjacent to the project sites. This focus is due to the dissipation of noise and vibration with the increase of distance between receptors and noise sources.

The cumulative context includes specific proposed development projects such as the 5M Project, the Moscone Center Expansion Project, 598 Brannan, and the 350 Eighth Project, as well as program-level planning efforts such as implementation of the Western SoMa Plan, the Central SoMa Plan, and the East SoMa Plan. Further detail regarding these and other cumulative projects considered in this analysis is included in Table 4-1, Cumulative Projects.

Under the Proposed Project, AAU would not demolish or construct new buildings. Therefore, no substantial noise or vibration impacts related to construction would occur. The Proposed Project would not require heavy-duty equipment such as excavators, concrete mixers, and heavy trucks, and off-site receptors would be shielded by the buildings themselves from noise generated by interior renovations. Further, noise levels generated by student activity and fixed noise sources would be limited by compliance with the City's Noise Ordinance, and increased shuttle bus operations would be compatible with a typical urban environment, and would not contribute to noise levels in excess of limits established by the City of San Francisco. As with the Proposed Project, other proposed development in the vicinity of the study areas and project sites would be required to adhere to noise limits and standards established by the City of San Francisco.

Compliance with these Noise Ordinance requirements would prevent AAU stationary noise sources from causing significant off-noise impacts to off-site receptors in the study areas where noise-sensitive land uses are subject to design and construction standards for noise. In these instances it is anticipated that consistency with the *San Francisco General Plan* recommendations would be achieved as a matter of course. However, without adequate design, significant impacts on such uses could result from noise levels generated by fixed sources in excess of *General Plan* recommendations. Implementation of Mitigation Measure M-NO-2.1c – Siting of Noise-Generating Equipment, p. 4.7-38, would reduce this impact to a less-than-significant level. This mitigation measure would apply to individual projects that are proposed within the study areas.

It is possible that with cumulative development, the ambient noise level will increase in study areas where AAU might seek changes of use to accommodate student housing. For residential development not subject to the California Noise Insulation Standards, traffic noise in the Project Area has the potential to result in a significant effect. Implementation of Mitigation Measures M-NO-2.1a – Interior Noise Levels for Residential Uses, p. 4.7-36, and M-NO-2.1b – Siting of Noise-Sensitive Uses, p. 4.7-37, the potential conflict between the cumulative noise environment and AAU residential uses would be reduced to less-than-significant levels.

Because typical background groundborne vibration levels in urbanized areas are about 50 VdB, and neither the Proposed Project nor cumulative projects are anticipated to generate groundborne vibration at higher levels, cumulative groundborne vibration levels would not exceed the significance threshold of 85 VdB, and no considerable contribution to a significant cumulative impact would occur.

Mitigation: Implement of Mitigation Measures M-NO-2.1a – Interior Noise Levels for Residential Uses, p. 4.7-36, and M-NO-2.1b – Siting of Noise-Sensitive Uses, p. 4.7-37.

Significance after Mitigation: Less than Significant.

4.8 AIR QUALITY

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect air quality. The analysis estimates potential increases in criteria air pollutants as well as health effects from emissions of toxic air contaminants and odor impacts. This section incorporates the results of the Air Quality Technical Report (AQTR) and AQTR Errata prepared for the Proposed Project.[258] Some air quality issues were raised during the NOP comment period. Specifically, comments were made regarding air pollution from AAU shuttle buses. These areas of concern are addressed in this section.

4.8.1 Environmental Setting

Regional Climate

The Proposed Project study areas and six project sites are located in the San Francisco Bay Area Air Basin (Bay Area Air Basin). Covering an area of approximately 5,500 square miles, the Basin is composed of all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties along with the southeast portion of Sonoma County and the southwest portion of Solano County. The Bay Area Air Quality Management District (BAAQMD) is the regional agency responsible for air quality planning in the Bay Area Air Basin.

The Mediterranean climate of the Basin is characterized by warm dry summers and cool rainy winters. Yearly temperatures range from the low 30s to above 90 degrees Fahrenheit with summers averaging in the 60s and winters in the high 40s. Snowfall is rare with annual average precipitation of about 20 inches. The climate is dominated by a strong, semipermanent, subtropical high-pressure cell over the northeastern Pacific Ocean.

The terrain of the Bay Area Air Basin is complex, consisting of coastal mountain ranges, inland valleys, and bays, which distort normal wind flow patterns. California's Coast Range has its only major break in the Bay Area Air Basin with San Francisco located between the two ranges. This gap is called the Golden Gate and allows air to pass into and out of the Bay Area Air Basin and the Central Valley. Wind flow during the summer is from the northwest down through the Golden Gate and into the lower portions of the San Francisco Peninsula. This pushes air eastward and splits off to the northwest towards Richmond and southwest towards San Jose. During the winter the Bay Area Air Basin experiences stormy conditions with moderate to strong winds as well as periods of stagnation with very light winds. During these stagnation episodes air flow moves from the Central Valley towards the coast, reversing the summertime flow. Average annual wind speeds range from

[258] Atkins, *Academy of Art University Air Quality Technical Report* (October 13, 2014); Atkins, *Errata to the Academy of Art University AQTR* (December 19, 2014).

five to 10 miles per hour throughout the San Francisco Peninsula with higher wind speeds along the coast.

Criteria Air Pollutants

Federal and state laws regulate the air pollutants emitted by stationary and mobile sources. Regulated air pollutants are known as "criteria air pollutants" and are categorized as primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOCs), nitrogen oxides (NO_X), sulfur dioxide (SO_2), and most particulate matter including lead and fugitive dust (coarse [PM_{10}] and fine [$PM_{2.5}$]) are primary air pollutants. Of these, CO, SO_2, PM_{10}, $PM_{2.5}$, and lead are criteria pollutants. VOCs and NO_X are criteria pollutant precursors that go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone and NO_2 are the principal secondary criteria pollutants. The BAAQMD operates a network of ambient air monitoring stations throughout the Bay Area Air Basin. The purpose of the monitoring stations is to measure ambient concentrations of air pollutants and determine whether the ambient air quality meets the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS). The closest ambient monitoring station to the project site is the San Francisco Station located at Arkansas Street in the San Francisco lower Potrero Hill neighborhood. Table 4.8-1, Air Quality Monitoring Data, p. 4.8-3, presents a summary of the ambient pollutant concentrations monitored in San Francisco during 2009 through 2013.

As shown in Table 4.8-1, the 24-hour $PM_{2.5}$ concentration exceeded the federal standard five times; PM_{10} exceeded the state standard once; and NO_2 exceeded the national standard once over the five-year period. None of the other pollutants exceeded either state or federal standards between 2009 and 2013.

Health Effects Related to Criteria Air Pollutants

Carbon monoxide is an odorless, colorless, and toxic gas. Because it is impossible to see, taste, or smell the toxic fumes, carbon monoxide can kill people before they are aware that it is in their homes. At lower levels of exposure, carbon monoxide causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea, and fatigue. The effects of carbon monoxide exposure can vary greatly from person to person depending on age, overall health, and the concentration and length of exposure.[259] The major sources of carbon monoxide in the Bay Area Air Basin are on-road vehicles, aircraft, and off-road vehicles and equipment.

[259] U.S. Environmental Protection Agency (USEPA), The Cost and Benefit of the Clean Air Act: 1990–2010, Appendix D, Human Health Effects of Criteria Pollutants (November 1999).

Table 4.8-1 Air Quality Monitoring Data

Pollutant	*2009*	*2010*	*2011*	*2012*	*2013*
Carbon Monoxide (CO)					
Maximum 1-hour concentration (ppm)	4.3	1.8	1.8	2.0	1.8
Days above state standard (>20.0 ppm)	0	0	0	0	0
Days above federal standard (>35.0 ppm)	0	0	0	0	0
Maximum 8-hour concentration (ppm)	2.9	1.4	1.2	1.2	1.4
Days above state or federal standard (>9.0 ppm)	0	0	0	0	0
Nitrogen Dioxide (NO_2)					
Max 1-hour concentration (ppm)	0.059	0.093	0.093	0.124	0.073
Days above state 1-hour standard (0.18 ppm)	0	0	0	0	0
Days above the National 1-hour standard (0.10 ppm)	0	0	0	1	0
Annual Average (ppm)	0.015	0.013	0.014	0.013	0.014
Days above state annual standard (0.03 ppm)	0	0	0	0	0
Days above federal annual standard (0.053 ppm)	0	0	0	0	0
Ozone (O_3)					
Maximum 1-hour concentration (ppm)	0.072	0.79	0.070	0.069	0.069
Days above 1-hour state standard (>0.09 ppm)	0	0	0	0	0
Maximum 8-hour concentration (ppm)	0.056	0.051	0.054	0.048	0.059
Days above 8-hour state standard (>0.07 ppm)	0	0	0	0	0
Days above 8-hour federal standard (>0.075 ppm)	0	0	0	0	0
Respirable Particulate Matter (PM_{10})					
Peak 24-hour concentration (μg/m^3)	36	40	46	51	44
Days above state standard (>50 μg/m^3)	0	0	0	1	0
Days above federal standard (>150 μg/m^3)	0	0	0	0	0
Annual Average (μg/m^3) (>20 μg/m^3)[a]	18.7	19.9	19.5	17.4	18.3
Fine Particulate Matter ($PM_{2.5}$)					
Peak 24-hour concentration (μg/m^3)	35.6	45.3	47.5	35.7	48.5
Days above federal standard (>35 μg/m^3)	1	0	1	1	2
Annual Average (μg/m^3) (>12 μg/m^3)[b]	9.7	10.5	9.5	8.2	10.1

SOURCE: BAAQMD, *Bay Area Pollution Summary* (2009, 2010, 2011, 2012, 2013).
ppm = parts per million; ppb = parts per billion; μg/m^3 = micrograms per cubic meter.
* The San Francisco Station does not monitor for SO_2; therefore, it is not included in the table.
a. The 20 μg/m^3 standard represents the CAAQS. There is no federal standard for the Annual Average.
b. The 12 μg/m^3 standard represents both the state and federal standard.

Nitrogen oxides are a byproduct of fuel combustion and serve as integral components in the process of photochemical smog production. The two major forms of NO_X are nitric oxide and nitrogen dioxide (NO_2). Nitric oxide is a colorless, odorless gas formed from atmospheric nitrogen and

oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown, irritating gas formed by the combination of nitric oxide and oxygen. NO_X acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens. NO_X is also an ozone precursor. A precursor is a directly emitted air contaminant that, when released into the atmosphere, forms, causes to be formed, or contributes to the formation of a secondary air contaminant for which a NAAQS has been adopted, or whose presence in the atmosphere will contribute to the violation of one or more NAAQS. When NO_X and VOCs are released in the atmosphere, they chemically react with one another in the presence of sunlight to form ozone.

Ozone is one of a number of substances called photochemical oxidants that are formed when VOCs and NO_X (both byproducts of the internal combustion engine) react with sunlight. Ozone is present in relatively high concentrations in the Bay Area Air Basin, and the damaging effects of photochemical smog are generally related to ozone concentrations. Ozone may pose a health threat to those who already suffer from respiratory diseases as well as healthy people. Ozone can also act as a corrosive, resulting in property damage such as the embitterment of rubber products.

Particulate matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulate, also known as fugitive dust, are now regulated. Coarse particles (PM_{10}) include that portion of the particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 one-millionths of a meter or 0.0004 inch) or less. Fine particles ($PM_{2.5}$) have an aerodynamic diameter of 2.5 microns, that is 2.5 one-millionths of a meter or 0.0001 inch or less. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities; however, wind action on the arid landscape also contributes substantially to the local particulate loading. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

California has found that particulate matter exposure can cause health effects at lower levels than national standards. The current health burden of particulate matter demands that, where possible, public agencies take feasible available actions to reduce sources of particulate matter exposure. According to the California Air Resources Board (ARB), reducing particulate matter $PM_{2.5}$ concentrations to state and federal standards of 12 $\mu g/m^3$ in the San Francisco Bay Area would prevent between 200 and 1,300 premature deaths.[260]

Fugitive dust poses primarily two public health and safety concerns. The first concern is that of respiratory problems attributable to the suspended particulates in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive

[260] ARB, *Methodology for Estimating Premature Deaths Associated with Long-term Exposure to Fine Airborne Particulate Matter in California*, Staff Report (October 24, 2008), Table 4c.

material agent (similar to sandblasting activities). Finally, fugitive dust can result in a nuisance factor due to the soiling of proximate structures and vehicles.

Volatile organic compounds (VOCs) are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. VOCs consist of nonmethane hydrocarbons and oxygenated hydrocarbons. Hydrocarbons are organic compounds that contain only hydrogen and carbon atoms. Nonmethane hydrocarbons are hydrocarbons that do not contain the un-reactive hydrocarbon, methane. Oxygenated hydrocarbons are hydrocarbons with oxygenated functional groups attached.

It should be noted that there are no CAAQS or NAAQS for VOCs because they are not classified as criteria pollutants. They are regulated, however, because a reduction in VOC emissions reduces certain chemical reactions that contribute to the formation of ozone. VOCs are also transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} levels and lower visibility. Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, higher concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, kidneys, and central nervous system.[261]

The major sources of VOCs in the Bay Area Air Basin are on-road motor vehicles and solvent evaporation. Benzene, a VOC and known carcinogen, is emitted into the air from gasoline service stations (fuel evaporation), motor vehicle exhaust, tobacco smoke, and from burning oil and coal. Benzene is also sometimes used as a solvent for paints, inks, oils, waxes, plastic, and rubber. It is used in the extraction of oils from seeds and nuts. It is also used in the manufacture of detergents, explosives, dyes, and pharmaceuticals. Short-term (acute) exposure of high doses of benzene from inhalation may cause dizziness, drowsiness, headaches, eye irritation, skin irritation, and respiratory tract irritation. At higher levels, unconsciousness can occur. Long-term (chronic) occupational exposure of high doses by inhalation has caused blood disorders, including a plastic anemia and lower levels of red blood cells.[262]

Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfuric acid is formed from SO_2 and is an aerosol particle component that may lead to acid deposition. Acid deposition into water, vegetation, soil, or other materials can harm natural resources and materials. Sulfur oxides include SO_2 and sulfur trioxide. Although SO_2 concentrations have been reduced to levels well below state and national standards, further reductions are desirable because SO_2 is a precursor to sulfates. Sulfates are a particulate formed

[261] USEPA, The Cost and Benefit of the Clean Air Act: 1990–2010, Appendix D, Human Health Effects of Criteria Pollutants (November 1999).
[262] USEPA, The Cost and Benefit of the Clean Air Act: 1990–2010, Appendix D, Human Health Effects of Criteria Pollutants (November 1999).

through the photochemical oxidation of SO_2. Long-term exposure to high levels of SO_2 can cause irritation of existing cardiovascular disease, respiratory illness, and changes in the defenses in the lungs. When people with asthma are exposed to high levels of SO_2 for short periods of time during moderate activity, effects may include wheezing, chest tightness, or shortness of breath. SO2 has not been monitored at the San Francisco stations since 2008 and therefore is not included in Table 4.8-1, Air Quality Monitoring Data, p. 4.8-3.

Lead (Pb) is a solid heavy metal that can exist in air pollution as an aerosol particle component. An aerosol is a collection of solid, liquid, or mixed-phase particles suspended in the air. Lead was first regulated as an air pollutant in 1976. Leaded gasoline was first marketed in 1923 and was used in motor vehicles until around 1970. The exclusion of lead from gasoline helped to decrease emissions of lead in the United States from 219,000 to 4,000 tons per year between 1970 and 1997. Even though leaded gasoline has been phased out in most countries, some, such as Egypt and Iraq, still use at least some leaded gasoline.[263] Lead ore crushing, lead-ore smelting and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and physical weathering of surfaces containing lead. The mechanisms by which lead can be removed from the atmosphere (sinks) include deposition to soils, ice caps, oceans, and inhalation.

Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. The more serious effects of lead poisoning include behavioral disorders, mental retardation, and neurological impairment. Low levels of lead in fetuses and young children can result in nervous system damage, which can cause learning deficiencies and low intelligence quotients. Lead may also contribute to high blood pressure and heart disease. Lead concentrations once exceeded the state and national air quality standards by a wide margin but have not exceeded these standards at any regular monitoring station since 1982. Lead is no longer an additive to normal gasoline, which is the main reason that concentration of lead in the air is now much lower. The Proposed Project would not emit lead; therefore, lead has been eliminated from further review in this analysis.

Toxic Air Contaminants

Toxic air contaminants (TACs) refer to a diverse group of air pollutants that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial and painting operations, and research and teaching facilities. TACs are defined in California Health and Safety Code Section 39655 as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a present or potential hazard to human health. Individuals with

[263] United Nations Environmental Programme, *Partnership for Clean Fuels and Vehicles*, Middle East, North Africa, and West Asia Lead Matrix (April 2010).

exposure at sufficient concentrations or of prolonged duration have an increased chance of developing cancer or experiencing other health effects. Potential human health effects of TACs include birth defects, neurological damage, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the BAAQMD using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, in order to provide a quantitative estimate of health risks.[264]

In addition to monitoring criteria air pollutants, both the BAAQMD and the ARB operate TAC monitoring networks in the San Francisco Bay Area. These stations measure 10 to 15 TACs, depending on the specific station. The TACs selected for monitoring are those that have traditionally been found in the highest concentrations in the ambient air and therefore tend to be the primary contributors to community health risk.

The BAAQMD collects ambient TAC emissions data at its 16th and Arkansas Street monitoring station in San Francisco, which is the only monitoring site for air toxics in San Francisco. Table 4.8-2, Carcinogenic Toxic Air Contaminants – Annual Average Ambient Concentrations, p. 4.8-8, shows the ambient concentrations of carcinogenic TACs measured at the Arkansas Street monitoring station and the estimated cancer risks from lifetime (70 years) exposure to these substances.

When TAC measurements at the Arkansas Street monitoring station are compared to ambient concentrations of various TACs for the Bay Area as a whole, the cancer risks associated with mean TAC concentrations in San Francisco are similar to those for the Bay Area as a whole. Therefore, the estimated average lifetime cancer risk resulting from exposure to TAC concentrations monitored at the Arkansas Street monitoring station does not appear to be any greater than for the Bay Area as a region.

[264] In general, a health risk assessment is required if the BAAQMD concluded that projected emissions of a specific air toxic compound from a proposed new or modified source suggests a potential public health risk. Such an assessment generally evaluates chronic, long-term health effects, calculating the increased risk of cancer as a result of exposure to one or more TACs for the source in question.

Table 4.8-2 Carcinogenic Toxic Air Contaminants – Annual Average Ambient Concentrations

Substance	*Mean Concentration*	*Cancer Risk per Million*[a]
Gaseous TACs[b]		
Acetaldehyde	0.56	3
Benzene	0.208	19
1,3-Butadiene	0.036	13
Carbon tetrachloride	0.085	23
Chloroform	0.023	0.6
Para-Dichlorobenzene	0.15	10
Ethylene Dibromide	0.006	3
Formaldehyde	1.37	10
Methyl tertiary-Butyl Ether (MTBE)	0.26	0.3
Methylene Chloride	0.124	0.4
Perchloroethylene	0.012	0.5
Trichloroethylene	0.01	1
Particulate TACs[c]		
Chromium (Hexavalent)	0.53	8

SOURCE: California Air Resources Board, *Ambient Air Toxics Summary* (2013), www.arb.ca.gov/adam/toxics/sitesubstance.html (accessed December 19, 2014).

All values are from BAAQMD 2013 monitoring data from the 16th and Arkansas Street monitoring station, except for Para-Dichlorobenzene (2006), Ethylene Dibromide (1992), and MTBE (2003).

a. Cancer risks were estimated by applying published risk values to the measured concentration.

b. ppb = parts per billion

c. ng/m^3 = nanograms per cubic meter.

Traffic-Related Pollutants

Vehicle tailpipe emissions contain numerous TACs, including benzene, 1,3-butadiene, formaldehyde, acetaldehyde, acrolein, naphthalene, and diesel exhaust.[265] Engine exhaust, from diesel, gasoline, and other combustion engines, is a complex mixture of particles and gases, with collective and individual toxicological characteristics.

The U.S. Environmental Protection Agency (USEPA) lists diesel exhaust as a mobile source air toxic due to the cancer and noncancer health effects associated with exposure to this pollutant. The ARB identified DPM as a TAC in 1998, primarily based on evidence demonstrating cancer effects in humans.[266] Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are higher near heavily traveled roadways. The estimated

[265] San Francisco Department of Public Health (SFDPH), *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review* (May 2008).

[266] California Air Resources Board (ARB), Fact Sheet: The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines (October 1998).

cancer risk from exposure to diesel exhaust is much higher than the risk associated with other TACs routinely measured in the region.

Diesel particulate matter is a mixture of many exhaust particles and gases that is produced when an engine burns diesel fuel. Many compounds found in diesel exhaust are carcinogenic, including 16 that are classified as possibly carcinogenic by the International Agency for Research on Cancer. Diesel particulate matter includes the particle-phase constituents in diesel exhaust. Some short-term (acute) effects of diesel exhaust include eye, nose, throat, and lung irritation and exposure can cause coughs, headaches, light-headedness, and nausea. Diesel exhaust is a major source of ambient fugitive dust pollution as well, and numerous studies have linked elevated fugitive dust levels in the air to increased hospital admission, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Diesel particulate matter in the Bay Area Air Basin poses the greatest cancer risk of all the toxic air pollutants.[267]

Ambient Risk and $PM_{2.5}$ Concentrations

In an effort to identify areas of San Francisco most adversely affected by sources of TACs, San Francisco partnered with BAAQMD to inventory and assess air pollution and exposure from vehicles, stationary, and area sources within San Francisco. The Citywide dispersion modeling (Citywide modeling) was conducted using AERMOD[268] to assess the emissions from the following primary sources: roadways, permitted stationary sources, port and maritime sources, and Caltrain. Emissions of PM_{10} (DPM is assumed equivalent to PM_{10}), $PM_{2.5}$, and total organic gases (TOG) were modeled on a 20-meter by 20-meter receptor grid covering the entire City. Therefore, the results represent a comprehensive assessment of existing cumulative health risk exposures to air pollution throughout the City. The methodology and technical documentation for modeling citywide air pollution is available in the document entitled, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation*.[269] Areas with poor air quality, termed the *Air Pollutant Exposure Zone*, were then identified based on two health-protective criteria: (1) excess cancer risk from the contribution of emissions from all modeled sources greater than 100 per one million population and/or (2) cumulative $PM_{2.5}$ concentrations greater than 10 micrograms per cubic meter ($\mu g/m^3$).

An additional health vulnerability layer was incorporated into the Air Pollutant Exposure Zone for those San Francisco ZIP codes in the worst quintile of Bay Area Health Vulnerability scores (ZIP

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[267] Office of Environmental Health Hazard Assessment (OEHHA), Health Effects of Diesel Exhaust fact sheet (May 21, 2001), http://oehha.ca.gov/public_info/facts/pdf/diesel4-02.pdf.

[268] AERMOD is the USEPA's preferred/recommended steady state air dispersion plume model. For more information on AERMOD and to download the AERMOD Implementation Guide see www.epa.gov/ttn/scram/dispersion_prefrec.htm#aermod (accessed December 5, 2014).

[269] Bay Area Air Quality Management District, San Francisco Department of Public Health, and San Francisco Planning Department, *The San Francisco Community Risk Reduction Plan: Technical Support Documentation* (December 2012). This document is available for public review under Case No. 2008.0586E at 1650 Mission Street, Suite 400, San Francisco, CA, 94103.

codes 94102, 94103, 94105, 94124, and 94130). In these areas, the standard for identifying areas as being within the zone were lowered to (1) excess cancer risk greater than 90 per one million persons exposed and/or (2) $PM_{2.5}$ concentrations in excess of nine μg/m^3. Lastly, all parcels within 500 feet of a major freeway were also included in the Air Pollutant Exposure Zone, consistent with the findings in ARB's *Air Quality and Land Use Handbook: A Community Health Perspective*.[270]

Excess Cancer Risk. The above 100 per million persons (100 excess cancer risk) criteria is based on USEPA guidance for conducting air toxic analyses and making risk management decisions at the facility- and community-scale level.[271] As described by the BAAQMD, the USEPA considers a cancer risk of 100 per million to be within the acceptable range of cancer risk. Furthermore, in the 1989 preamble to the benzene National Emissions Standards for Hazardous Air Pollutants (NESHAP) rulemaking,[272] the USEPA states that it "… strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in one million and (2) limiting to no higher than approximately one in ten thousand (100 in one million) the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years." The 100 per one million excess cancer cases is also consistent with the ambient cancer risk in the most pristine portions of the Bay Area based on BAAQMD regional modeling.[273]

Fine Particulate Matter. In April 2011, the USEPA published *Policy Assessment for the Particulate Matter Review of the National Ambient Air Quality Standards*, "Particulate Matter Policy Assessment." In this document, USEPA staff concludes that the then-current federal annual $PM_{2.5}$ standard of 15 μg/m^3 should be revised to a level within the range of 13 to 11 μg/m^3, with evidence strongly supporting a standard within the range of 12 to 11 μg/m^3.[274] The Air Pollutant Exposure Zone for San Francisco is based on the health protective $PM_{2.5}$ standard of 11 μg/m^3, as supported by the USEPA's Particulate Matter Policy Assessment, although lowered to 10 μg/m^3 to account for uncertainty in accurately predicting air pollutant concentrations using emissions modeling programs.[275] Exposure to fine particulate matter is strongly associated with mortality, respiratory diseases, and delayed or under

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[270] California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective* (April 2005), http://www.arb.ca.gov/ch/handbook.pdf.
[271] Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance* (October 2009), p. 67.
[272] 54 *Federal Register* 38044 (September 14, 1989).
[273] Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance* (October 2009), p. 67.
[274] United States Environmental Protection Agency (USEPA), *Policy Assessment for the Review of Particulate Matter National Ambient Air Quality Standards* (April 2011), EPA 452/R-11-003. Available online at www.epa.gov (accessed December 29, 2014).
[275] United States Environmental Protection Agency (USEPA), *Policy Assessment for the Review of Particulate Matter National Ambient Air Quality Standards* (April 2011), EPA 452/R-11-003. Available online at www.epa.gov (accessed December 29, 2014).

developed lung capacities in children, and other endpoints such as hospitalization for cardiopulmonary disease.[276]

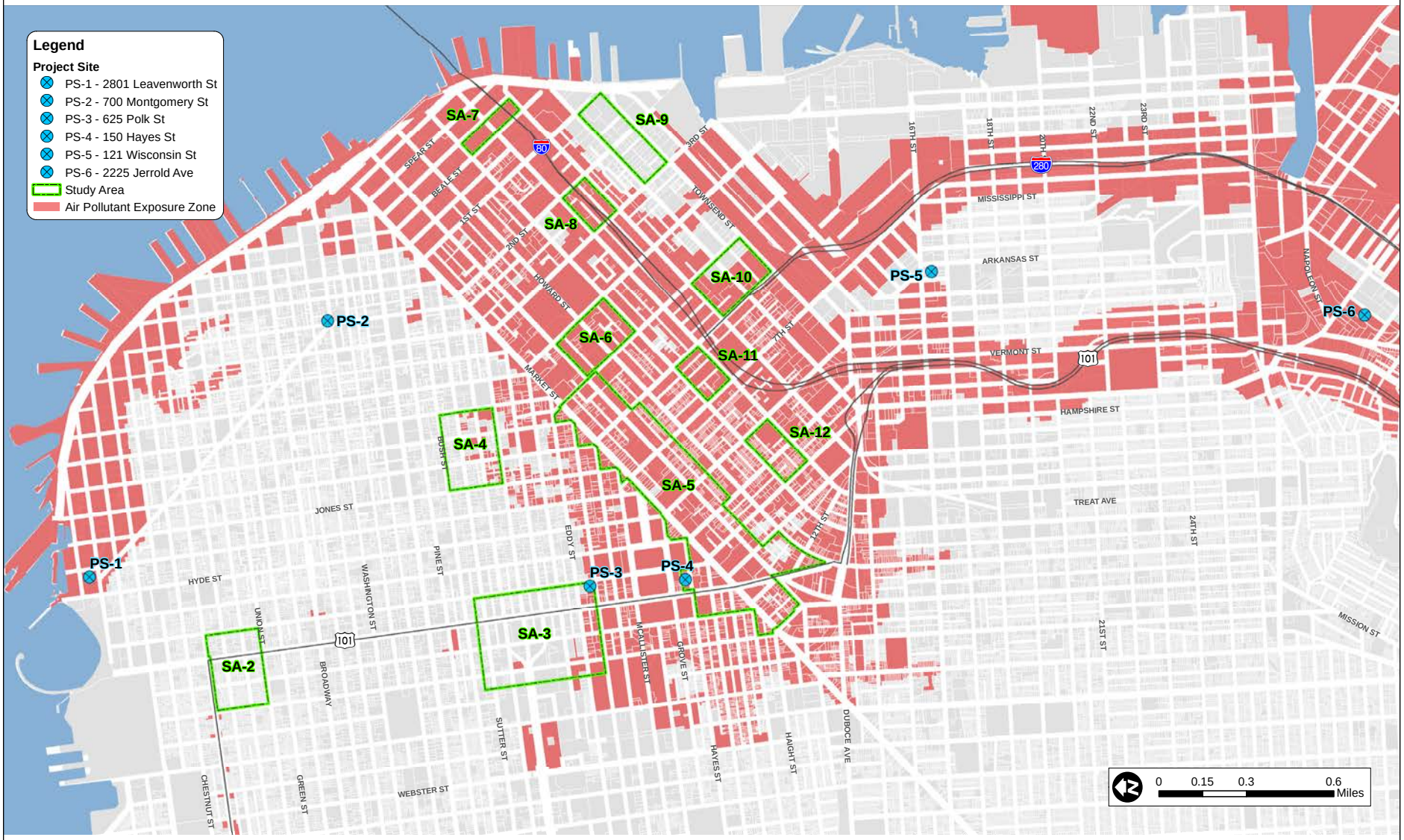
Based on the City's air pollutant exposure zone modeling, some of the project sites and study areas would be located within an Air Pollutant Exposure Zone. Table 4.8-3, Study Areas within Air Pollutant Exposure Zones p. 4.8-11, and Table 4.8-4, Project Sites within Air Pollutant Exposure Zones, p. 4.8-16, indicate whether a study area and/or project site is located within an Air Pollutant Exposure Zone, as well as whether the location includes a sensitive land use (residential) or not (institutional/recreational). For those locations that are within an Air Pollutant Exposure Zone, the table identifies whether the entire study area/project site is within that zone, or whether only a portion of the site is within the zone. Figure 4.8-1, Air Pollutant Exposure Zones – Citywide, p. 4.8-12; Figure 4.8-2, Air Pollutant Exposure Zones – Study Areas 1–, p. 4.8-13; Figure 4.8-3, Air Pollutant Exposure Zones – Study Areas 5–7, p. 4.8-14; and Figure 4.8-4, Air Pollutant Exposure Zones – Study Areas 8–12, p. 4.8-15, show the Air Pollutant Exposure Zones for the City of San Francisco and the Proposed Project study areas.

Table 4.8-3 Study Areas within Air Pollutant Exposure Zones

Location	*Land Use Type*	*Within Exposure Zone?*
Study Areas		
SA-1, Lombard Street/Divisadero Street	Residential/ sensitive	Yes – partial
SA-2, Lombard Street/Van Ness Avenue	Residential/ sensitive	No
SA-3, Mid Van Ness Avenue	Residential/ sensitive	Yes – partial
SA-4, Sutter Street/Mason Street	Residential/Institutional/ sensitive	Yes - partial
SA-5, Mid Market Street	Residential/Institutional/ sensitive	Yes – partial
SA-6, Fourth Street/Howard Street	Institutional/ not sensitive	Yes – mostly
SA-7, Rincon Hill East	Institutional/ not sensitive	Yes – completely
SA-8, Third Street/Bryant Street	Institutional/ not sensitive	Yes – partial
SA-9, Second Street/Brannan Street	Institutional/ not sensitive	No
SA-10, Fifth Street/Brannan Street	Institutional/ not sensitive	Yes – partial
SA-11, Sixth Street/Folsom Street	Institutional/ not sensitive	Yes – completely
SA-12, Ninth Street/Folsom Street	Residential/ sensitive	Yes – completely

SOURCE: City of San Francisco Database (December 2012).

[276] SFDPH, *Assessment and Mitigation of Air Pollutant Health Effects from Intra-Urban Roadways: Guidance for Land Use Planning and Environmental Review* (May 2008).



NOTE: Roadways within the figures remain uncolored to allow for them to be easily distinguished. However roadways between and partial roadways adjacent to Air Pollutant Exposure Zones are also considered part of the Air Pollutant Exposure Zone.

SOURCE: Atkins, 2015.

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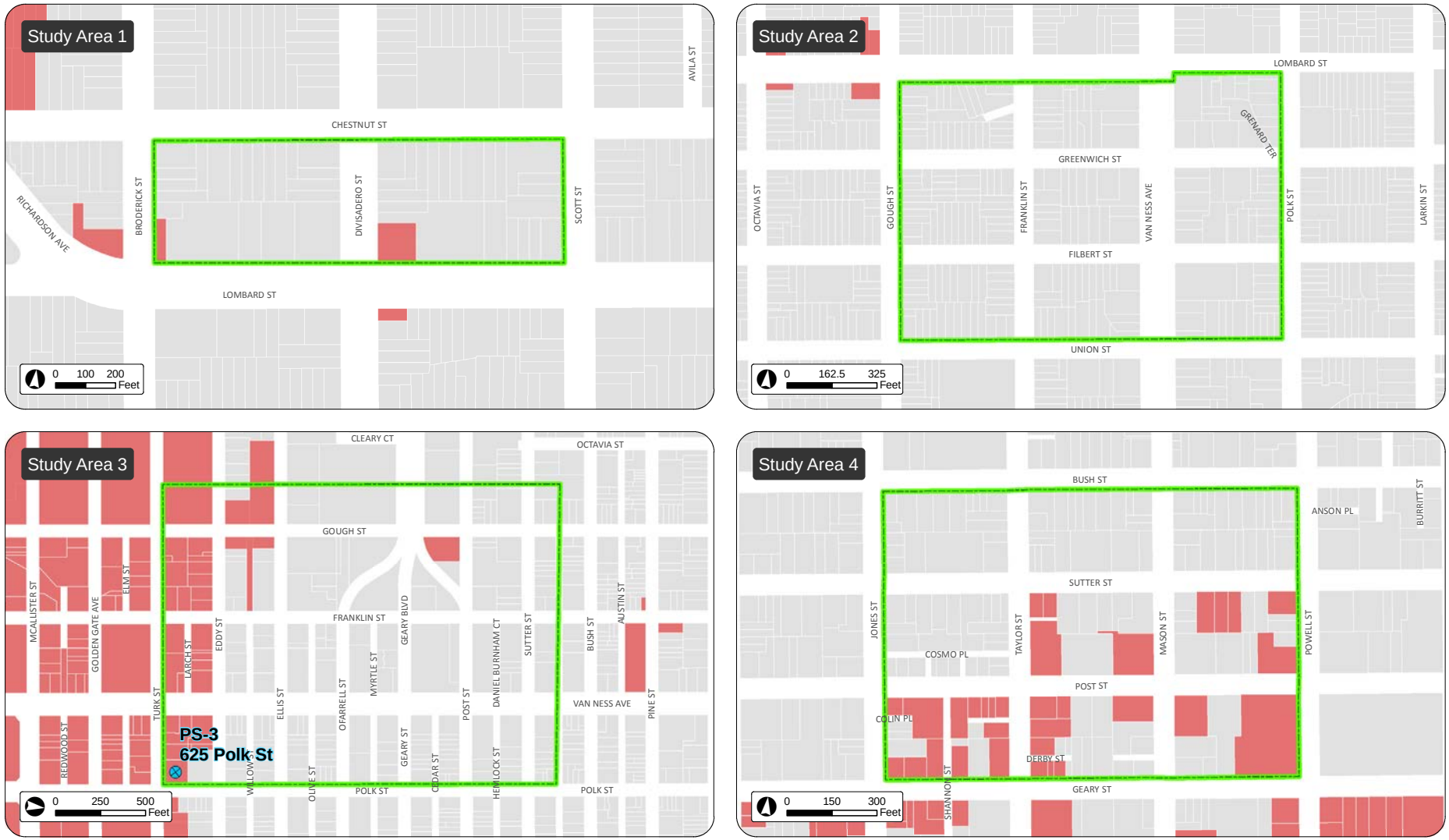
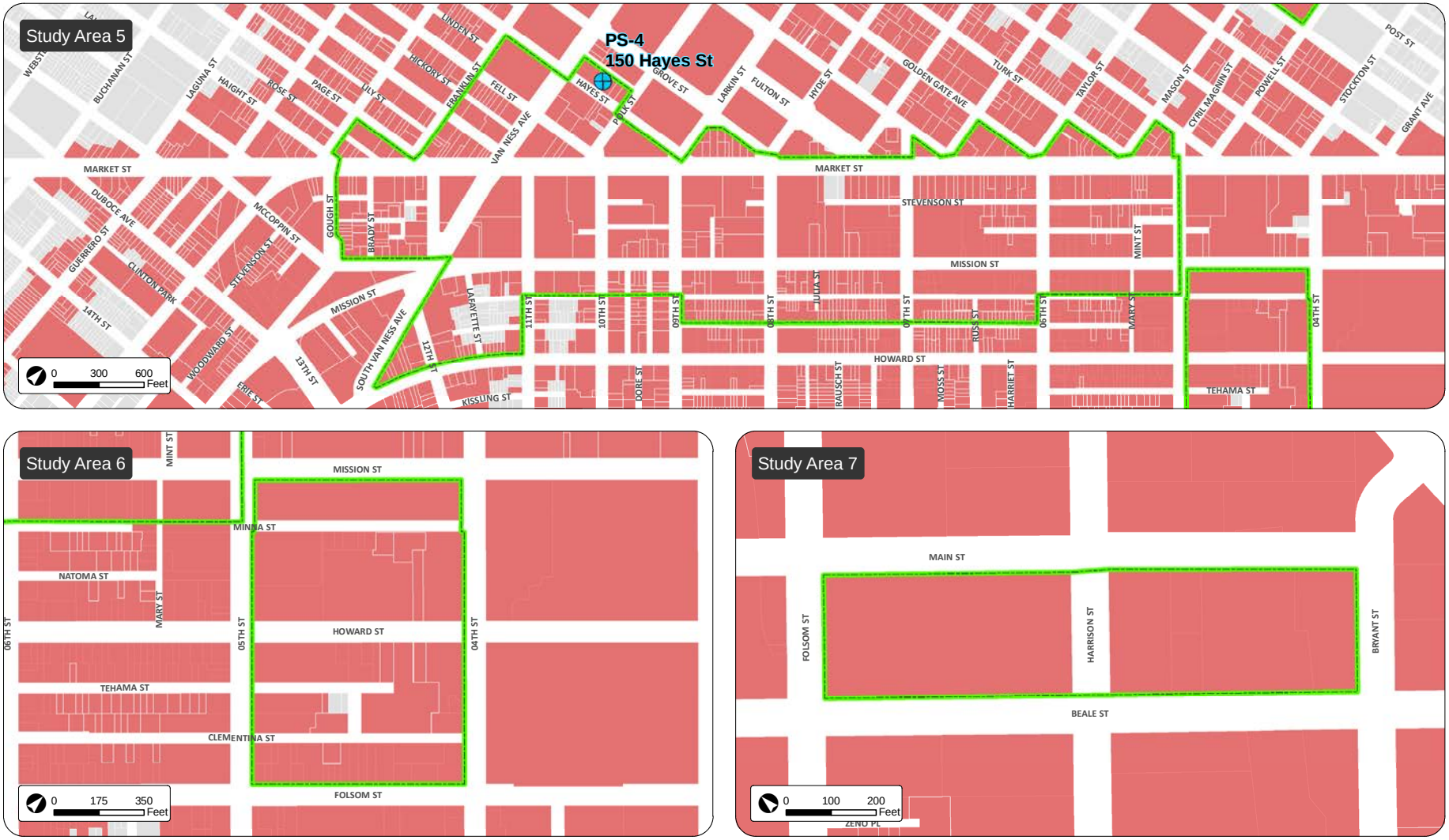
FIGURE 4.8-1: AIR POLLUTANT EXPOSURE ZONES – CITYWIDE



NOTE: Roadways within the figures remain uncolored to allow for them to be easily distinguished. However roadways between and partial roadways adjacent to Air Pollutant Exposure Zones are also considered part of the Air Pollutant Exposure Zone.

SOURCE: Atkins, 2015.

FIGURE 4.8-2: AIR POLLUTANT EXPOSURE ZONES – STUDY AREAS 1–4



Legend

- Project Site
- Study Area
- Air Pollutant Exposure Zone

NOTE: Roadways within the figures remain uncolored to allow for them to be easily distinguished. However roadways between and partial roadways adjacent to Air Pollutant Exposure Zones are also considered part of the Air Pollutant Exposure Zone.

SOURCE: Atkins, 2015.

FIGURE 4.8-3: AIR POLLUTANT EXPOSURE ZONES – STUDY AREAS 5–7

NOTE: Roadways within the figures remain uncolored to allow for them to be easily distinguished. However roadways between and partial roadways adjacent to Air Pollutant Exposure Zones are also considered part of the Air Pollutant Exposure Zone.

SOURCE: Atkins, 2015.

FIGURE 4.8-4: AIR POLLUTANT EXPOSURE ZONES – STUDY AREAS 8–12

Table 4.8-4 Project Sites within Air Pollutant Exposure Zones

Location	*Land Use Type*	*Within Exposure Zone?*
Project Sites		
PS-1, 2801 Leavenworth St (The Cannery)	Institutional/ not sensitive	Yes – completely
PS-2, 700 Montgomery St	Institutional/ not sensitive	No
PS-3, 625 Polk St	Institutional/ not sensitive	Yes – completely
PS-4, 150 Hayes St	Institutional/ not sensitive	Yes – completely
PS-5, 121 Wisconsin St	Institutional/ not sensitive	No
PS-6, 2225 Jerrold Ave	Recreational/ not sensitive	Yes – completely

SOURCE: City of San Francisco Database (December 2012).

Sources contributing to the existing excess cancer risk and $PM_{2.5}$ concentrations include the major roadways and stationary sources within the area. Major roadways include U.S. Highway 101 (U.S. 101), Interstate 280 (I-280), Interstate 80 (I-80) freeways, and higher volume surface streets. Stationary sources include those permitted by the BAAQMD such as generators and gasoline stations as well as other manufacturing/ industrial sites that emit TACs. AAU shuttle buses currently operate and will continue to operate both within and outside of the Air Pollutant Exposure Zone and therefore contribute to the existing health risk within the City.

Sensitive Receptors

Air pollution does not affect every individual in the population in the same way, and some groups are more sensitive to adverse health effects than others. Land uses such as residences, schools, children's daycare centers, hospitals, and nursing and convalescent homes are considered to be the most sensitive to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress or, as in the case of residential receptors, their exposure time is greater than for other land uses. According to the BAAQMD sensitive "receptors are defined as people – children, adults, and seniors – occupying or residing in:

- Residential dwellings, including apartments, houses, condominiums
- Schools, colleges, and universities
- Daycares
- Hospitals
- Senior-care facilities"[277]

The Project Area includes sensitive residential land uses both on and adjacent to the study areas and adjacent to the project sites. Because specific buildings have not been identified for study area expansion, off-site sensitive receptors are assumed to be located directly adjacent to all study area buildings for the purposes of evaluating impacts. The project sites are known buildings and the

[277] Bay Area Air Quality Management District (BAAQMD), *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2012).

closest sensitive receptors to these buildings have been identified. Table 4.8-5, Off-Site Receptor Locations for the Project Sites, shows the distance from the project sites to the nearest off-site receptors.

Table 4.8-5 Off-Site Receptor Locations for the Project Sites

Project Site No.	*Closest Off-Site Receptors*
PS-1, 2801 Leavenworth Street (The Cannery)	Residential, 200 feet south
PS-2, 700 Montgomery Street	Residential, 300 feet east
PS-3, 625 Polk Street	Residential, adjacent to the north and west Tenderloin Community School, south across Turk Street
PS-4, 150 Hayes Street	Residential, adjacent to the west
PS-5, 121 Wisconsin Street	Residential, 300 feet southeast
PS-6, 2225 Jerrold Avenue	Residential 1,000 feet west

SOURCE: Google Earth Pro (accessed 10/21/2013).

Health risk exposure assessment guidance typically assumes that residences would be exposed to air pollution 24 hours per day, 350 days per year, for 70 years. AAU students are anticipated to occupy or reside in AAU student housing only during their enrollment (approximately two to four years). Therefore, while extremely conservative, residential land uses as a part of AAU's growth were considered sensitive receptors in this analysis.[278]

4.8.2 Regulatory Framework

Federal

Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required USEPA to establish NAAQS with states retaining the option to adopt more stringent standards or to include other specific pollutants.

These standards are the levels of air quality considered to protect the public health and welfare, with an adequate margin of safety. They are designed to protect those sensitive receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. Current NAAQS are listed in Table 4.8-6, National and California Ambient Air Quality Standards, p. 4.8-18. Areas that meet the ambient air quality standards are classified as "attainment" areas while areas that do not meet these standards are classified as "nonattainment" areas.

[278] AAU's policy is to guarantee housing only to first-year on-site students, but some students have remained longer.

Table 4.8-6 National and California Ambient Air Quality Standards

Pollutant	*Averaging Time*	*California Standards*[a]	*Federal Standards*[b]	
		Concentration[c]	*Primary*[c,d]	*Secondary*[c,e]
Ozone (O_3)	1 hour	0.09 ppm (180 µg/m^3)	—	Same as Primary Standards
	8 hours	0.070 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	
Respirable Particulate Matter (PM_{10})	24 hours	50 µg/m^3	150 µg/m^3	Same as Primary Standards
	Annual Arithmetic Mean	20 µg/m	—	
Fine Particulate Matter ($PM_{2.5}$)	24 hours	No Separate State Standard	35 µg/m^3	Same as Primary Standards
	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	
Carbon Monoxide (CO)	8 hours	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)[g]	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)[e]	Same as Primary Standard
	1 hour	0.18 ppm (470 mg/m^3)	0.10 ppm (188 µg/m^3)[e]	None
Sulfur Dioxide (SO_2)[h]	24 hours	0.04 ppm (105 µg/m^3)	—	—
	3 hours	—	—	0.5 ppm (1,300 µg/m^3)[f]
	1 hour	0.25 ppm (655 µg/m^3)	0.75 ppm (196 µg/m^3)[f]	—
Lead[i,j]	30-Day Average	1.5 µg/m^3	—	—
	Calendar Quarter	—	1.5 µg/m^3	Same as Primary Standard
	Rolling 3-Month Average[h]	—	0.15 µg/m^3	
Visibility Reducing Particles[k]	8 hours	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more due to particles	No Federal Standards	
Sulfates	24 hours	25 µg/m^3		
Hydrogen Sulfide	1 hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride[g]	24 hours	0.01 ppm (26 µg/m^3)		

SOURCE: California Air Resources Board, Ambient Air Quality Standards (revised June 7, 2012), http://www.arb.ca.gov/research/aaqs/aaqs2.pdf (accessed December 4, 2012).

a. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hours), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

b. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

c. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

d. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

e. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

f. Reference method as described by USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by USEPA

Table 4.8-6 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	Federal Standards[b]	
		Concentration[c]	Primary[c,d]	Secondary[c,e]

g. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm

h. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

i. The ARB has identified lead as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

j. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

k. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

Air Quality Index

The USEPA developed the Air Quality Index (AQI) scale to make the public health impacts of air pollution concentrations easily understandable. The AQI, much like an air quality "thermometer", translates daily air pollution concentrations into a number on a scale between 0 and 500. The numbers in the scale are divided into six color-coded ranges, with numbers 0–300 outlined below:

- Green (0–50) indicates "good" air quality. No health impacts are expected when air quality is in the green range.
- Yellow (51–100) indicates air quality that is "moderate." Usually sensitive people should consider limited prolonged outdoor exertion.
- Orange (101–150) indicates air quality that is "unhealthy for sensitive groups". Active children and adults, and people with respiratory disease, such as asthma, should limit outdoor exertion.
- Red (151–200) indicates air quality that is "unhealthy." Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.

- Purple (201–300) indicates air quality is "very unhealthy." Active children and adults, and people with respiratory disease, such as asthma, should avoid prolonged outdoor exertion.

The AQI numbers refer to specific amounts of pollution in the air. It is based on the federal air quality standards for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM_{10}, and $PM_{2.5}$. In most cases, the federal standard for these air pollutants corresponds to the number 100 on the AQI chart. If the concentration of any of these pollutants rises above its respective standard, it can be unhealthy for the public. In determining the air quality forecast, local air districts, including the BAAQMD, use the anticipated concentration measurements for each of the major pollutants, convert them into AQI numbers, and determine the highest AQI for each zone in a district.

Readings below 100 on the AQI scale would typically not affect the health of the general public (although readings in the moderate range of 50 to 100 may affect unusually sensitive people). Levels above 300 rarely occur in the United States, and readings above 200 have not occurred in the Bay Area in decades.[279] Historical BAAQMD data indicates that the SFBAAB experienced air quality in the Red level (unhealthy) on two days between 2009 and 2013. As shown in Table 4.8-7, Air Quality Index Statistics for the San Francisco Bay Area Air Basin, the SFBAAB had a total of 19 orange-level (unhealthy for sensitive groups) days in 2009, 14 days in 2010, 12 days in 2011, eight days in 2012, and 15 days in 2013.

Table 4.8-7 Air Quality Index Statistics for the San Francisco Bay Area Air Basin

AQI Statistics for City of San Francisco	*Number of Days by Year*				
	2009	*2010*	*2011*	*2012*	*2013*
Unhealthy for Sensitive Groups (Orange)	19	14	12	8	15
Unhealthy (Red)	0	1	0	0	1

SOURCE: BAAQMD (2014).

State

California Clean Air Act

The federal Clean Air Act allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. The California ARB, a part of the California EPA (Cal/EPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS. The ARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. The CAAQS are also included in Table 4.8-6, National and California Ambient Air Quality Standards, p. 4.8-18.

[279] BAAQMD, 2014. Website:sparetheair.org/Stay-Informed/Todays-Air-Quality/Air-Quality-Index.aspx.

The ARB also establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. The ARB has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

Attainment Status

The Bay Area Air Basin federal and state attainment status is shown in Table 4.8-8, Attainment Status for the San Francisco Air Basin. The Bay Area Air Basin is currently designated as a nonattainment area for the state standard for PM_{10}, $PM_{2.5}$, 1-hour and 8-hour ozone, and the federal 8-hour standard for ozone and 24-hour standard for $PM_{2.5}$. A pollutant is designated unclassified if the data are incomplete and/or do not support a designation of attainment or nonattainment.

Table 4.8-8 Attainment Status for the San Francisco Air Basin

Pollutant	*State Status*	*Federal Status*
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Unclassified/Attainment
Ozone (1-hour)	Nonattainment	—[a]
Ozone (8-hour)	Nonattainment	Nonattainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Nonattainment	Unclassified
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Attainment (Annual) \Nonattainment (24-hr)

SOURCE: BAAQMD, Air Quality Standards and Attainment Status (updated July 2012), http://hank.baaqmd.gov/pln/air_quality/ambient_air_quality.htm (accessed December 4, 2012).

a. The federal 1-hour ozone standard was revoked in 2005 and is no longer in effect for California.

In addition to standards set for the six criteria pollutants, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles (see Table 4.8-6, National and California Ambient Air Quality Standards, p. 4.8-18); however, these are not pollutants of concern for the Proposed Project because tenant improvements and operation of the proposed land uses would not result in emissions of these pollutants.

Toxic Air Contaminants

The public's exposure to toxic air contaminants is a significant public health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (AB 1807: Health and Safety Code Sections 39650–39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

Following the identification of diesel particulate matter as an air toxic in 1998, the ARB has worked on developing strategies and regulations aimed at reducing the risk from diesel particulate matter. The overall strategy for achieving these reductions is found in the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel Fueled Engines and Vehicles.[280] A stated goal of the plan is to reduce the cancer risk statewide arising from exposure to diesel particulate matter by 85 percent by 2020. A number of programs and strategies to reduce diesel particulate matter that have been or are in the process of being developed include:

The Carl Moyer Program. This program, administered by the ARB, was initially approved in February 1999 and is regularly updated. It provides grants to private companies, public agencies, or individuals operating heavy-duty diesel engines to cover an incremental portion of the cost of cleaner on-road, off-road, marine, locomotive, and agricultural irrigation pump engines.

California Diesel Fuel Regulations. The California Diesel Fuel Regulations (13 CCR 2281–2285 and 17 CCR 93114) set limits on the aromatic hydrocarbon and sulfur content for diesel fuel marketed in California. Under these rules, starting in June 2006 in accordance with the phase-in schedule, vehicular diesel fuel must not have a sulfur content that exceeds 15 parts per million (ppm) by weight. The regulations also specify that on or after October 1, 1993, the aromatic hydrocarbon content of vehicular diesel fuel must not exceed 10 percent by volume.

On-Road Heavy-Duty Diesel New Engine Program. This program develops strategies and regulations to reduce diesel emissions from new on-road diesel-powered equipment. Emission control regulations have been coordinated with USEPA and require that new engines manufactured in and subsequent to 2004 meet new emissions requirements for particulates and other pollutants.

Heavy-Duty Diesel In-Use Strategies Program. The goal of this program is to develop and implement strategies for reducing diesel emissions from existing on and off-road diesel engines. The Retrofit Assessment section is responsible for the development and implementation of procedures for assessing, recommending, and approving emission control devices. The Retrofit Implementation section is responsible for developing plans for retrofitting on- and off-road engines with emission reducing technologies. To date plans being developed or implemented have targeted solid waste collection vehicles, on-road heavy-duty public fleet vehicles, and fuel delivery trucks. Generally these plans require that a percentage of the fleet, based on age of the vehicles, be retrofitted on a predetermined schedule.

Off-Road Mobile Sources Emission Reduction Program. The goal of this program is to develop regulations to control emissions from diesel, gasoline, and alternative-fueled off-road mobile engines. These sources include a range of equipment from lawn mowers to construction equipment to locomotives.

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[280] California ARB, *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (October 2000).

Heavy-Duty Vehicle Inspection and Periodic Smoke Inspection Program. This program provides periodic inspections to ensure that truck and bus fleets do not emit excessive amounts of smoke.

Lower-Emission School Bus Program. Under this program, and in coordination with the California Energy Commission, the ARB is developing guidelines to provide criteria for the purchase of new school buses and the retrofit of existing school buses to reduce particulate matter emissions.

As an ongoing process, the ARB will continue to establish new programs and regulations for the control of diesel particulate emissions as appropriate. The continued development and implementation of these programs and policies will ensure that public exposure to diesel particulate matter will continue to decline.

Regional

Bay Area Air Quality Management District

The BAAQMD is the regional agency with jurisdiction over the nine-county Bay Area Air Basin, which includes San Francisco, Alameda, Contra Costa, Marin, San Mateo, Santa Clara and Napa counties and portions of Sonoma and Solano counties. BAAQMD is responsible for attaining and maintaining air quality in the Bay Area Air Basin within federal and state air quality standards, as established by the federal CAA and the California Clean Air Act (CCAA), respectively. Specifically, the BAAQMD has the responsibility to monitor ambient air pollutant levels throughout the Bay Area Air Basin and to develop and implement strategies to attain the applicable federal and state standards. The CAA and the CCAA require plans to be developed for areas that do not meet air quality standards, generally. The most recent air quality plan, the 2010 Clean Air Plan (CAP), was adopted by the BAAQMD on September 15, 2010. The 2010 CAP updates the Bay Area 2005 Ozone Strategy in accordance with the requirements of the CCAA to implement all feasible measures to reduce ozone; provide a control strategy to reduce ozone, particulate matter, air toxics, and GHGs in a single, integrated plan; and establish emission control measures to be adopted or implemented. The primary goals of the 2010 CAP are to:

- Attain air quality standards
- Reduce population exposure and protect public health in the San Francisco Bay Area
- Reduce GHG emissions and protect the climate

Although BAAQMD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate the air quality issues associated with plans and new development projects within the Bay Area. Instead, BAAQMD has used its expertise and prepared the BAAQMD CEQA Guidelines[281] to address these issues in accordance with the projections and programs of the Ozone Attainment Plan and CAP. The purpose of the BAAQMD CEQA Guidelines is to assist lead

[281] BAAQMD, *California Environmental Quality Act Air Quality Guidelines* (Updated May 2012).

agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the Bay Area.

Stationary Back-Up Generator Requirements

The BAAQMD requires that all internal combustion generator engines larger than 50 horsepower (hp) obtain a BAAQMD permit to operate as well as that all diesel engines comply with the BAAQMD-administered State Air Toxics Control Measure (ATCM) for Stationary Diesel Engines.

BAAQMD permitting requirements state that where a new generator will result in a cancer risk that exceeds 1.0 in a million, Air District Best Available Control Technologies would be required. Generators that result in cancer risk greater than 10 in a million are not permitted.

The ATCM requires that all stationary diesel engines meet certain emissions standards for particulate matter pollution (soot). The ATCM requires all stationary source engines greater than, or equal to, 50 hp to meet a 0.15 g/bhp-hr PM emission limit; testing hours limited to 50 hours per calendar year, and that the engines meet the applicable NMHC+NO_x, HC, and CO Tier 2 or Tier 3 nonroad CI engines emissions standards, and Tier 4 standards that do not require add-on controls.[282]

Local

City of San Francisco Health and Building Code Construction Dust Control Ordinance

City of San Francisco Health Code Article 22B and San Francisco Building Code (Section 106.3.2.6) address the emission of fugitive dust during construction activities within the City. The Construction Dust Control Ordinance requires:

1. For all projects, regardless of size:
    a. Water all active construction areas sufficiently to prevent dust from becoming airborne.
    b. Provide as much water as necessary to control dust (without creating run-off) in any area of land clearing, earth movement, excavation, drillings, and other dust generating activity.
    c. During excavation and dirt-moving activities, wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the workday.
    d. Cover any inactive (no disturbance for more than 7 days) stockpiles greater than ten cubic yards or 500 square feet of excavated materials, backfill material, import material, gravel, sand, road base, and soil with a 10 mil (0.01 inch) polyethylene plastic or equivalent tarp and brace it down or use other equivalent soil stabilization techniques.

[282] California Air Resources Board, *California Diesel Fuel Regulation*(May 2008), http://www.arb.ca.gov/regact/ulsd2003/ulsd2003.htm (accessed 12/8/2014).

e. Use dust enclosures, curtains, and dust collectors as necessary to control dust in the excavation area.

2. Projects over ½ half acre are required to submit a Dust Control Plan for approval to the San Francisco Department of Health. Dust Control Plans should provide for:

   a. The inclusion of a map indicating all sensitive receptors within 1,000 feet of the project site.

   b. Watering of disturbed areas at least three times per day and sufficient to prevent dust from becoming airborne. Care should be taken to not create run-off in areas of land clearing or earth movement.

   c. Upwind and downwind particulate dust monitors and a wind direction analysis.

   d. Recording particulate monitoring results.

   e. Independent third-party inspections with written records of the inspections and results.

   f. Shut-down conditions based on wind, soil migration, etc.

   g. Establishing a hotline for the community to report issues with fugitive dust leaving the site.

   h. Limiting the area subject to construction activities at one time.

   i. Installation of dust curtains and wind breaks on the property as appropriate.

   j. Covering all trucks transporting soil and limit the amount of dust to the size of the truck bed.

   k. Enforcing a 15 mile per hour speed limit for vehicles entering and exiting construction areas.

   l. Daily sweeping of streets, sidewalks, paths, and intersections where work is in progress during excavation and dirt-moving activities.

   m. Installation and utilization of wheel washers to clean truck tires.

   n. Termination of soil disturbing activities (including vehicle use on unpaved areas of the site) when winds exceed 25 miles per hour.

   o. Application of soil stabilizers to inactive areas.

   p. A specific individual to monitor compliance with dust control requirements.

3. Increased watering as necessary when winds exceed 15 miles per hour.

4. Use reclaimed water whenever possible and in compliance with Article 21, Sections 1100 et seq. of the San Francisco Public Works Code.

5. Inactive stockpiles greater than 10 cubic yards shall be covered with a 10 millimeter polyethylene plastic tarp and braced down or other equivalent soil stabilization technique employed.

City of San Francisco Health Code Article 30

San Francisco Health Code Article 30 requires all diesel backup generators used by facilities within the City and County of San Francisco to be registered through the Department of Public Health. The regulation also requires all new backup diesel generators to have air emissions control technologies as determined by the BAAQMD, be limited in their nonemergency use, and have records kept of all operations. The regulation also provides for enforcement for violations of the regulation requirements.

City of San Francisco Health Code Article 38

San Francisco adopted San Francisco Health Code Article 38 in 2008, with revisions taking effect December 2014. The revised code requires that sensitive use developments within the Air Pollutant Exposure Zone incorporate Minimum Efficiency Reporting Value (MERV) 13 equivalent ventilation systems to remove particulates from outdoor air. This regulation also applies to conversion of a nonsensitive use to a sensitive use (e.g., student housing).

4.8.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to air quality, if it would:

- Conflict with or obstruct implementation of the applicable air quality plan
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation
- Result in a cumulatively considerable net increase of any criteria air pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)
- Expose sensitive receptors to substantial pollutant concentrations
- Create objectionable odors affecting a substantial number of people

By its very nature, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to result, by itself, in nonattainment of air quality standards. Instead, a project's individual emissions contribute to existing cumulative air quality impacts. If a project's contribution to cumulative air quality impacts is considerable, then the project's impact on air quality would be considered significant.[283]

[283] BAAQMD, *California Environmental Quality Act Air Quality Guidelines* (May 2011), p. 2-1.

Land use projects may contribute to regional criteria air pollutants during the construction and operational phases of a project. Table 4.8-9, Criteria Air Pollutant Significance Thresholds, p. 4.8-27, identifies air quality significance thresholds for criteria air pollutants. Projects that would result in criteria air pollutant emissions below these significance thresholds would not violate an air quality standard, contribute substantially to an air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants within the SFBAAB.

Table 4.8-9 Criteria Air Pollutant Significance Thresholds

	Construction Threshold	*Operational Threshold*	
	Average Daily Emissions (lb/day)	*Average Daily Emissions (lb/day)*	*Maximum Annual Emissions (ton/year)*
Criteria Air Pollutants			
ROG	54	54	10
NO_X	54	54	10
PM_{10}	82	82	15
$PM_{2.5}$	54	54	10
CO	Not Applicable	9.0 ppm (8-hr average) or 20.0 ppm (1-hr average)	
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	

Ozone Precursors. As discussed previously, the SFBAAB is currently designated as nonattainment for ozone and particulate matter. Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG)[284] and NO_X. The potential for a project to result in a cumulatively considerable net increase in criteria air pollutants, which may contribute to an existing or projected air quality violation, is based on the state and federal Clean Air Act's emissions limits for stationary sources. To ensure that new stationary sources do not cause or contribute to a violation of an air quality standard, BAAQMD Regulation 2, Rule 2 requires that any new source that emits criteria air pollutants above a specified emissions limit must offset those emissions. For ozone precursors ROG and NO_X, the offset emissions level is an annual average of 10 tons per year (or 54 pounds [lb] per day).[285] These levels represent emissions by which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants.

Particulate Matter (PM_{10} and $PM_{2.5}$). The federal New Source Review (NSR) program was created by the federal CAA to ensure that stationary sources of air pollution are constructed in a manner

[284] ROG or VOCs are defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. Although there are slight differences in the definitions of ROG and VOCs, the two terms are often used interchangeably.

[285] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance* (October 2009), p. 17.

that is consistent with attainment of federal health based ambient air quality standards. For PM_{10} and $PM_{2.5}$, the emissions limit under NSR is 15 tons per year (82 lb/day) and 10 tons per year (54 lb/day), respectively. These emissions limits represent levels at which a source is not expected to have an impact on air quality.[286] Although the regulations specified above apply to new or modified stationary sources, land use development projects result in ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions as a result of increases in vehicle trips, architectural coating and construction activities. Therefore, the above thresholds can be applied to the construction and operational phases of land use projects and those projects that result in emissions below these thresholds would not be considered to contribute to an existing or projected air quality violation or result in a considerable net increase in ozone precursors or particulate matter. Due to the temporary nature of construction activities, only the average daily thresholds are applicable to construction phase emissions.

Fugitive Dust. Fugitive dust emissions are typically generated during construction phases. Studies have shown that the application of best management practices (BMPs) at construction sites significantly control fugitive dust.[287] Individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[288] The BAAQMD has identified a number of BMPs to control fugitive dust emissions from construction activities.[289] The City's Construction Dust Control Ordinance, San Francisco Health and Building Code Section 106.3.2.6, discussed at pages 4.8-24, 25, requires a number of fugitive dust control measures to ensure that construction projects do not result in visible dust. The BMPs employed in compliance with the City's Construction Dust Control Ordinance constitute an effective strategy for controlling construction-related fugitive dust.

Localized Carbon Monoxide Emissions

According to modeling conducted by the BAAQMD, a project's traffic would not have the potential to result in significant adverse carbon monoxide impacts if all of the following are met:

- A project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans; and
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour; and
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited

[286] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance* (October 2009), p. 16.
[287] Western Regional Air Partnership, *WRAP Fugitive Dust Handbook* (September 7, 2006), http://www.wrapair.org/forums/dejf/fdh/content/FDHandbook_Rev_06.pdf (accessed February 16, 2012).
[288] BAAQMD, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance* (October 2009), p. 27.
[289] BAAQMD, *CEQA Air Quality Guidelines* (May 2011).

(e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

If any of the above criteria are not met a quantitative analysis of CO emission impacts on the local project vicinity would need to be conducted.

Local Health Risks and Hazards

Unlike criteria air pollutants, TACs do not have ambient air quality standards but are regulated by the BAAQMD using a risk-based approach to determine which sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risks.[290]

As discussed previously, San Francisco partnered with the BAAQMD and inventoried and assessed air pollution and exposures from mobile, stationary, and area sources within San Francisco. Areas with poor air quality, termed "air pollutant exposure zones," were identified based on health-protective criteria.

Land use projects within Air Pollutant Exposure Zones require special consideration to determine whether the project's activities would expose sensitive receptors to substantial air pollutant concentrations or add emissions to areas already adversely affected by poor air quality. The threshold of significance used to evaluate health risks from new sources of TACs is based on the potential for the Proposed Project to substantially affect the geography or severity of the Air Pollutant Exposure Zone at sensitive receptor locations.

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to air quality in a quantitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting.

[290] In general, a health risk assessment is required if the BAAQMD concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. The applicant is then subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic, long-term effects, estimating the increased risk of cancer as a result of exposure to one or more TACs.

This section identifies program-level, project-level, combined program-level and project-level, and cumulative environmental impacts. As noted above, this analysis is based on the AQTR[291] and the Errata to the AQTR[292] prepared for the Proposed Project. Project-related air quality impacts associated with program- and project-level growth fall into two categories: short-term impacts from renovation activities and long-term impacts from project operation.

Potential air quality impacts resulting from the Proposed Project would be associated with the use of construction related equipment for tenant improvements and the day to day operation of the buildings once renovations are completed. Operational emissions would consist of mobile sources (shuttle and nonshuttle vehicle use), heating, use of consumer products, and other area source emissions. Unlike the project sites, where specific buildings have been identified, the program-level analysis assumes that within the designated study areas, AAU could occupy any building to accommodate future growth. However, beyond the project-level sites, no specific buildings within these areas have been identified. Additionally, the Proposed Project's potential contributions to cumulative air quality impacts are evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the project vicinity.

Renovation Emissions

The existing 34 AAU sites were used to provide the basis for information regarding renovation activities that are expected to take place for the study areas. Renovation activities specific to the project site buildings were used to model emissions for the project level analysis. Renovation activities have primarily consisted of interior tenant improvements, such as installation of drywall for partitions, paint, relocation of, or adding, light fixtures, new security systems, new fire sprinkler systems, new fire alarms or upgrades, and elevator modernizations. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings, exterior lighting and exterior signage. This work typically occurs, and is expected to occur, when AAU is on breaks, which last for five weeks between fall and spring semesters, five weeks between spring and summer semesters, and approximately four weeks between summer and fall semesters. No new construction would occur as part of the Proposed Project. Criteria air pollutant emissions from building renovations were estimated using the CalEEMod program. Assumptions for renovation activities are detailed in the AQTR.

The equipment typically used to renovate newly occupied AAU buildings (not requiring seismic retrofitting), include scaffolding, ladders, or scissor lifts, and, in some cases, other equipment for specialized trades, such as pipe cutters, pipe threaders, and hand cutters for fire sprinkler work. Construction vehicles include light trucks and delivery vehicles from vendors; however, no motorized excavation equipment has been used, nor is it expected to be used, for future renovations.

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[291] Atkins, *Academy of Art University Air Quality Technical Report* (October 13, 2014).
[292] Atkins, *Errata to the Academy of Art University AQTR* (December 19, 2014).

For sites that require seismic retrofitting, common examples of seismic retrofitting project elements include adding new lateral load-resisting elements, such as concrete shear walls or structural steel braced frames; strengthening roof and floor diaphragms (including connections to supporting walls); and installing lateral load-resisting systems. For seismic retrofit activities, AAU may use pneumatic equipment[293] (inside the building) and 10-cubic-yard roll-off bins.

Project Sites

For the six project sites, construction emissions were determined by the area of the building improved. Modeling assumptions were based on the renovation equipment and timing outlined in the AQTR. Emissions estimates from interior improvements were based only on the AAU-occupied portions of the project sites, which in all cases represents the greatest level of renovation activity required at any given time for these properties and, therefore, represent a conservative estimate of daily emissions from tenant improvements for the six project sites. Refer to Table 3-11, Project Sites. Construction activities associated with tenant improvements include adding drywall, painting, adding lighting, fire sprinkler/fire alarm upgrades, and exterior signage. With these activities, only interior or exterior coating, the use of equipment that emits exhaust, and vehicle trips from construction crews would emit pollutants of concern.

Study Areas

All study area renovation activities would not be expected to occur at the same time; such activities would be conducted as is necessary based on market demand. For the study areas evaluated at a program level, a conservative estimate for construction equipment was used. Modeling assumptions were based on the construction equipment and timing detailed in the AQTR. Construction activities associated with tenant improvements include adding drywall, painting, adding lighting, fire sprinkler/fire alarm upgrades, seismic retrofitting, and exterior signage. Criteria air pollutant emissions from building renovations were estimated using the CalEEMod program. It is not anticipated that major structural demolition or site grading work would be required during any seismic retrofitting; therefore, renovation activities would be limited to the building construction and architectural coating phases consistent with minor tenant improvement activities. Based on historic acquisitions of buildings by AAU and the size of the buildings potentially identified in the study areas, the analysis assumes that as a worst-case scenario, renovation could occur simultaneously at two different locations and that the greatest building size to be acquired would be 100,000 square feet (sf). Therefore, study area analysis for renovation activities assumes that two 100,000 sf buildings would be renovated concurrently.

Operational Emissions

Criteria pollutant emissions associated with the operation of the six project sites and 12 study areas were estimated using CalEEMod in accordance with the BAAQMD's 2012 Guidelines. Area source

[293] Pneumatic equipment is a machine or device operated by compressed air or by a vacuum.

emissions were estimated based on the maximum square footage of institutional or recreational space, or number of student housing units, for each project site or study area anticipated to be operated under full AAU occupancy. Area source emissions from individual buildings were determined based on total building size or lot size as appropriate to the land use.

Currently, the property at PS-4, 150 Hayes Street, has a generator and the properties at PS-3, 625 Polk Street and PS-1, 2801 Leavenworth Street (The Cannery), have boiler units. The Proposed Project does not include any new generators, boilers, or other stationary sources associated with the project sites, nor are new units anticipated to be normally required for the buildings acquired in the study areas. Some of the buildings to be acquired by AAU in the study areas may currently include a generator or boiler. The operation of this equipment would be taken over by AAU at the time of acquisition and appropriately permitted through BAAQMD. However, as this equipment is currently operating, the emissions are part of the existing conditions and are not included in the analysis. Any units AAU replaces would be anticipated to be replaced with similar or newer equipment; therefore, emissions would remain the same or likely be reduced due to more stringent emissions standards for new equipment. Mobile emissions associated with nonshuttle vehicle operations were calculated in CalEEMod based on the number of trips and vehicle trip lengths identified in the project-specific transportation analysis.[294] Emissions from the shuttle trips were analyzed based on the change in vehicle miles traveled (VMT) between existing (2010 NOP baseline) and 2013 for the project sites and between existing (2010 NOP baseline) and full Project implementation (2020) for the study areas.

Detailed assumptions for modeling all operational emissions are included in the AQTR.

Project Sites

Area source emissions were estimated based on the square footage of institutional or recreational space that AAU would occupy within the buildings at full implementation of the Proposed. Although some of this space was occupied by other users immediately prior to AAU's occupancy and some remains occupied by other users as of 2015, the analysis conservatively assumes that the space was unoccupied. Therefore, area source emissions are based on total proposed square footage of each AAU-occupied space at each project site, and all emissions are considered new emissions.

Emissions from the AAU shuttle trips for the project sites were not calculated because, as detailed in the AQTR, total shuttle bus VMT between the existing 2010 shuttle fleet and routes and the 2013 shuttle fleet and routes decreased.[295] Therefore, the Proposed Project shuttle routes serving the project sites would not result in greater VMTs than in 2010. Because full shuttle service associated

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[294] Atkins, *Academy of Art University Transportation Impact Study*, Planning Department Case No. 2008.0546!, Administrative Draft 3 (October 2014).

[295] In 2013, service was provided to PS-1, 2801 Leavenworth Street (The Cannery), PS-3, 625 Polk Street, PS-4, 150 Hayes Street, and PS-6, 2225 Jerrold Avenue. Under the Proposed Project, these same project sites would receive AAU shuttle service and PS 2, 700 Montgomery Street, and PS 5, 121 Wisconsin Street, would not.

with operation of the project sites has been shown not to cause an increase in pollutant emissions, two categories of emissions from the operation of the project sites are calculated: area sources from operation of the project site buildings themselves and nonshuttle vehicle trips.

Study Areas

While the exact buildings that would be occupied are not known at this time, the maximum potential development under AAU growth is known. AAU may eventually occupy the full build-out of tenant space in all acquired buildings therefore the operational analysis conservatively assumes AAU fully occupies all building square footage by 2015. While this is unlikely to occur in 2015, the analysis remains valid and conservative. Because the specific buildings and the level of current occupancy in the study areas are unknown, operational emissions for these buildings were conservatively estimated and assume that all AAU uses are new uses.

The occupation of additional buildings in the study areas would increase the daily number of shuttle trips by 12 to 58 daily trips (between 2010 and 2020) depending on the locations of the buildings occupied and the shuttle routes implemented. Although AAU plans to phase out diesel buses as they are retired from service, the analysis assumes the same percentage of diesel buses under Proposed Project conditions as under existing conditions because the timing of this change is unknown. A widely dispersed distribution of AAU growth (Option 1) would be estimated to increase the number of daily shuttle trips by 58 and total daily shuttle VMT by approximately 606. A growth pattern along transit corridors (Option 2) would be estimated to increase the number of daily shuttle trips by 12 and total daily shuttle VMT by approximately 363. Because dispersed distribution (Option 1) of additional AAU square footage would result in more VMT and the generation of more criteria air pollutants, it represents the worst-case assumption. Therefore, Option 1 was the scenario analyzed with respect to the increase in shuttle VMT associated with AAU program-level growth in the study areas.

Emission factors for criteria pollutant emissions from the shuttle buses were determined using EMFAC2011 and weighted based on the year, classification, and fuel type of the existing AAU bus fleet.

Partial Study Area Occupancy

Partial study area occupancy is defined as the occupancy of all but 200,000 sf of the 779,670 sf (110,000 sf residential and 669,670 sf institutional) space AAU might occupy in the study areas under the Proposed Project. This scenario was developed to capture worst-case ROG emissions and assumes 200,000 sf of remaining study area use would be under renovation at the same time that 579,670 sf of study area space is being operated by AAU. Emissions from the Partial Study Area Occupancy scenario (conservatively modeled in year 2015) are the combined total of operational emissions (shuttle bus emissions, nonshuttle vehicle emissions, natural gas combustion, and

landscaping emissions) from the project sites and 579,670 sf of the study areas, plus the construction emissions from the final 200,000 sf of remaining study area renovations.

Full Occupancy

Full occupancy (anticipated by 2020, and conservatively modeled in year 2015) is the combined total of operational emissions (shuttle bus emissions, nonshuttle vehicle emissions, natural gas combustion, and landscaping emissions) from the project sites and the study areas.

Localized Carbon Monoxide Emissions

Potential localized carbon monoxide concentrations were analyzed based on the BAAQMD's screening criteria using the 2020 cumulative with Proposed Project scenario which would result in the greatest amount of peak hour traffic.

Health Risk

The AQTR evaluated the potential for the Proposed Project to expose its student residential population to TACs as well as the potential for the Proposed Project to emit TACs that could affect both on-site and off-site sensitive land uses for the six project sites and 12 study areas. Impacts from TACs emitted from diesel shuttle operation and during the renovation of properties in the study areas or at the six project sites could pose an increased health risk to off- and/or on-site receptors.

Renovation and Stationary Source Health Risk

San Francisco has identified BMPs to be implemented for projects that either site new sensitive land uses in, or would result in new sources of TACs, within the Air Pollutant Exposure Zone. These BMPs reduce exposure of sensitive land uses to sources of air pollution. BMPs would include measures such as the orientation of air intakes and higher rated filtration systems for sensitive land uses and source reduction measures for new sources of TACs.

Mobile Source Health Risk

In addition to stationary sources, operational (long-term) activities typically result in emissions of TACs (specifically DPM and total organic gases [TOG]) as a result of the operation of vehicles along local roadways. These sources impact both on- and off-site sensitive receptors.

Maximum project-specific daily vehicle trips[296] (nonshuttle trips) are anticipated at 4,467 under maximum growth. BAAQMD identifies roadways with less than 10,000 vehicles per day as representing minor, low-impact sources that do not pose a significant health risk even in combination with other sources. Project-related vehicle traffic would be dispersed throughout the City; therefore, not all 4,467 trips would traverse the same intersections and roadways. Therefore, Project-related traffic would not be sufficient to substantially increase health risks or create new or

[296] Project-specific daily vehicle trips were based on information provided in CHS Consulting Group and Atkins, *Academy of Art University Transportation Impact Study*, Planning Department Case No. 2008.0586! (February 2015).

more severe air pollutant exposure zones within the City. As such, the health risk assessment focused on the increase in shuttle traffic along specific City streets.

The expansion of AAU's shuttle service would increase shuttle trips throughout the City. As noted above, because expansion and reconfiguration of shuttle service to accommodate the project sites between 2010 and 2013 did not increase shuttle VMT, the increase in shuttle-related health risk is estimated based on growth in shuttle service to accommodate program-level (i.e., study area) growth from 2010 to 2020. Proposed Project-related risk is based on the risk from the greatest increase in shuttle activity along any given roadway segment. Standard methodology identifies using the first operational year (2015 for this analysis) to determine emission factors; however, the analysis instead uses emission factors based on the existing bus fleet and their model years thereby assuming AAU does not change its bus fleet.[297]

As discussed above, this analysis considered both Option 1, Dispersed Distribution, and Option 2, Transit Corridor Distribution, of AAU's program-level growth and expansion of the shuttle system. Option 1, Dispersed Distribution, and Option 2, Transit Corridor Distribution were modeled to demonstrate the range of potential air quality impacts from the increases in shuttle trips along roadway segments that could occur under the Proposed Project. Under both Options 1 and 2 the roadway segment with the greatest increase in shuttle trips would be Sutter Street between Grant Avenue and Kearny Street. The Health Risk Assessment (HRA) modeled this roadway segment under 2020 vehicle trip conditions using existing vehicle fleet emission factors to determine Project impacts to sensitive receptors under the proposed shuttle Options 1 and 2. Vehicle fleet emission factors were determined based on bus size, type and model year. Detailed assumptions for the health risk modeling, including the fleet emission factors, are detailed in the AQTR.

To determine the cumulative impact of the shuttle system on adjacent receptors, the Proposed Project results were added to the existing cancer risk and $PM_{2.5}$ concentration from the City's modeled air pollution database. As indicated in Table 4.8-10, Existing Cancer Risk and PM2.5 Concentrations, p. 4.8-36, the existing cancer risk within 20 feet of Kearny and Montgomery Streets is greater than 100 in a million. These roadway segments represent those segments modeled in the HRA. Therefore, these areas represent existing Air Pollutant Exposure Zones.

[297] This represents a conservative analysis because it uses emission factors for vehicles earlier than 2015, which are greater than would be seen with newer vehicles (post-2015). AAU has indicated that as older diesel buses age out of use, they will be replaced with new, nondiesel buses. This will, over time, decrease the DPM emitted from the AAU bus fleet (eventually to 0). However, as the timing of the phase out of diesel buses is unknown, keeping the bus fleet the same as the current fleet provides a worst-case (i.e., high) emissions scenario.

Table 4.8-10 Existing Cancer Risk and $PM_{2.5}$ Concentrations

	Cancer Risk (per million)		*$PM_{2.5}$ (µg/m^3)*	
	Minimum	*Maximum*	*Minimum*	*Maximum*
Sutter Street (between Taylor Street and Montgomery Street)	31.44	71.54	8.44	9.13
Post Street (between Jones Street and Kearny Street)	36.49	75.61	8.59	9.14
Kearny Street (between Market Street and California Street)	46.86	119.73	8.70	9.99
Grant Avenue (between Sutter Street and Bush Street)	58.15	59.87	8.93	8.96
Bush Street (between Grant Avenue and Kearny Street)	45.79	78.80	8.67	9.13
Montgomery Street (between Sutter Street and Pine Street)	38.28	100.75	8.56	9.26

SOURCE: City of San Francisco, Citywide Air Pollution Modeling Files (December 2012).

Methodologies used to evaluate emissions for the Project and cumulative HRA were based on the most recent BAAQMD Protocol,[298] and consultation with City of San Francisco Environmental Planning Staff. Cancer risk is based on concentrations from diesel exhaust and TOGs from gasoline-fueled vehicles. DPM is evaluated assuming all $PM_{2.5}$ emissions are DPM, as indicated in BAAQMD Methodology.[299] Detailed methodology for the evaluation of health risks is included in the AQTR.

Risk and $PM_{2.5}$ Characterization Methods

USEPA's AERMOD model was used to determine $PM_{2.5}$ and TOG concentrations from Project-specific shuttle vehicle miles traveled within 1,000 feet of the modeled roadways. AERMOD requires a variety of input parameters including meteorological data, terrain data, emission rates, source information, and receptor locations. When specific information was unavailable, default values were used to estimate a worst-case, conservative analysis. $PM_{2.5}$ and TOG concentrations were based on annual average concentrations. As discussed previously, the analysis uses the existing shuttle fleet emission factors with the level of activity anticipated at maximum growth. Detailed modeling parameters are included in the AQTR.

Cancer risk from DPM and TOGs were calculated from the annual average concentrations of $PM_{2.5}$ derived from AERMOD modeling. The total cancer risk is the sum of DPM and TOG cancer risk at any receptor.

Cumulative risk and $PM_{2.5}$ concentrations are the sum of the modeled shuttle impacts and the existing health risks. The background levels (existing health risks) were derived from the Citywide modeling database and are reported as a range along each roadway segment evaluated.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010, when the NOP for this EIR was published. These sites are, therefore, considered part of the EIR baseline conditions. As

[298] BAAQMD, *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2012).
[299] BAAQMD, *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2012), p. 6.

such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.8.1, Environmental Setting, p. 4.8-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at those sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to air quality. These emissions are however, part of the cumulative risk analysis as they are part of the existing area health risks. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential effects to air quality that resulted from pre-NOP changes at the 34 existing sites would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 program-level study areas and the six project sites.

Renovation Emissions

Program-Level Impacts (Growth in the 12 Study Areas)

Impact AQ-1.1 **Construction in the 12 study areas, could generate fugitive dust and criteria air pollutants during renovation activities, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)**

Impacts Related to Tenant Improvements

Construction activities (short-term) typically result in emissions of ozone precursors and PM in the form of dust (fugitive dust) and exhaust (e.g., vehicle tailpipe emissions). Emissions of ozone precursors and PM are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROGs are also emitted from activities that involve painting, other types of architectural coatings, or asphalt paving. As described in the Chapter 3, Project Description, the Proposed Project would include tenant improvements such as such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, seismic retrofit work, and addition of exterior signage, awnings, windows, or lighting. It is not anticipated

that major structural demolition or site grading work would be required during seismic retrofitting. Tenant improvement activities would have the potential to result in emissions of ozone precursors and PM, as discussed below.

Fugitive Dust

Typical tenant improvements in the study areas would not likely result in demolition or grading activities that would require ground disturbance. Seismic retrofitting could occur within the study areas during renovation activities. Seismic retrofitting has the potential to generate fugitive dust that would be controlled as per City of San Francisco Health Code and Building Code requirements (see p. 4.8-24). Therefore, the renovation of existing buildings would not be anticipated to result in significant wind-blown fugitive dust. Because the proposed renovation activities are not anticipated to disturb soil and create fugitive dust and seismic retrofit work that disturbs soil would be subject to dust control per City of San Francisco Building Code Article 22B and Building Code Section 106.3.2.6, the potential impacts from fugitive dust are considered less than significant.

Criteria Air Pollutants

As discussed above, tenant improvement activities could result in emissions of criteria air pollutants from the use of off- and on-road vehicles and equipment and application of architectural coatings. The Proposed Project would include renovations for AAU occupation of an additional 220 student housing units and 669,670 sf of institutional land use in the 12 study areas by 2020. Because of the size of the institutional land use that might be renovated, the number of student housing units that might be renovated and the mixed-use nature of the study areas, a quantitative analysis of anticipated renovation emissions was conducted.

Emission estimates for tenant improvements in the study areas are summarized in Table 4.8-11, Study Area Renovation Emissions. Assumptions and calculations used in the modeling along with the modeling output are included in the AQTR. The analysis represents a conservative (i.e., worst-case) level of renovation activities per year, assuming 200,000 sf of building area. As shown in Table 4.8-11, anticipated daily emissions do not exceed the thresholds of significance; therefore, the renovations of the study area sites would result in less-than-significant impacts.

Table 4.8-11 Study Area Renovation Emissions

	ROG	*NO_X*	*PM_{10}*	*$PM_{2.5}$*
Daily Renovation Emissions (lb/day)	35.72	6.25	0.48	0.47
Threshold	54	54	82	54
Significant	No	No	No	No

SOURCE: Atkins, *Academy of Art University Air Quality Technical Report* (October 13, 2014); Atkins, Errata to the Academy of Art University AQTR (December 19, 2014).
Assumes simultaneous renovation of two 100,000 sf buildings.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact AQ-1.2 **Construction at the six project sites would generate fugitive dust and criteria air pollutants during renovation activities, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)**

Site alterations related to AAU's uses at the six project sites would be limited to tenant improvements, such as interior construction, security system installation, fire sprinkler/fire alarm upgrades, seismic retrofit work, and addition of exterior signage, awnings, windows, or lighting, at an existing building.

Fugitive Dust

The Project-related tenant improvements at the six project sites would not result in demolition or grading activities that would result in substantial ground disturbance. Therefore, the renovation activities at the six project sites would not be anticipated to result in wind-blown dust at a level that would require dust control pursuant to the Building Code Section 22B and Building Code Section 106.3.2.6. Because the proposed renovation activities are not anticipated to disturb significant amounts of soil and create substantial fugitive dust, the potential impacts from fugitive dust are considered less-than-significant.

Criteria Air Pollutants

In order to identify the potential emissions associated with future site improvements at the six project sites, previous renovation activities were identified and modeled as a basis for future project site activities. Thus, the Proposed Project modeling identifies the renovation of AAU facilities between 2010 and 2013 of 274,577 sf for institutional and recreational land uses. This amount represents the maximum renovations that would be conducted at the project sites under the Proposed Project. A quantitative analysis of anticipated renovation emissions was conducted using CalEEMod. Full details of the renovation assumptions, calculations, and modeling outputs are included in the AQTR.

Using historic data from AAU's occupation of the project sites, renovation emission estimates for the six project sites were calculated and are summarized by site and by year in Table 4.8-12, Project Site Renovation Emissions, p. 4.8-40. The modeling uses 2010 construction equipment emission factors to generate a conservative estimate of construction equipment; however, renovation activities occurred between 2011 and 2013 for the project sites. Based on the BAAQMD methodology, emissions in Table 4.8-12 are presented as average lb/day by year and account for the potential overlap in renovation activities at the project sites. Because the methodology assumes overlap in renovation activities among the project sites over the course of a year, the six project sites should not be analyzed separately for construction criteria pollutants (regional air quality effect). As shown in Table 4.8-12, Project Site Renovation Emissions, the average daily emissions per year for all six

project sites are below the significance thresholds in each estimated year; therefore, the renovation emissions impacts are less than significant.

Table 4.8-12 Project Site Renovation Emissions

	ROG	*NO_X*	*PM_{10}*	*$PM_{2.5}$*	*Project Sites*
Daily Renovation Emissions (lb/day)					
2011	45.23	1.30	0.11	0.11	PS-2, 700 Montgomery Street PS-3, 625 Polk Street PS-6, 2225 Jerrold Avenue
2012	24.94	5.11	0.41	0.40	PS-1, 2801 Leavenworth Street (The Cannery) PS-5, 121 Wisconsin Street
2013	26.45	5.50	0.49	0.49	PS-2, 700 Montgomery Street PS-3, 625 Polk Street PS-4, 150 Hayes Street
Thresholds	54	54	82	54	
Significant?	No	No	No	No	

SOURCE: Atkins, *Academy of Art University Air Quality Technical Report* (October 13, 2014).

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact AQ-1.3 **Construction of the Proposed Project, including growth in the 12 study areas and at the six project sites, would generate fugitive dust and criteria air pollutants during renovation activities, but would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)**

Typical tenant improvements in the study areas would likely not result in demolition or grading activities that would require ground disturbance. Seismic retrofitting could occur within the study areas during renovation activities. Seismic retrofitting has the potential to generate fugitive dust; fugitive dust would be controlled as per City of San Francisco Health Code and Building Code requirements (see p. 4.8-24). Therefore, the renovation of existing buildings would not be anticipated to result in significant wind-blown fugitive dust. Because the proposed typical renovation activities are not anticipated to disturb soil and create fugitive dust, and seismic retrofit work that has the potential to disturb soil would be required to comply with City of San Francisco Health Code and Building Code requirements (see p. 4.8-24), the potential impacts from fugitive dust are considered less than significant.

For criteria air pollutants, renovation emission estimates for the study areas represents a conservative level of renovation activities per year at 200,000 sf of building area for build-out of the Proposed Project. As shown in Table 4.8-11, Study Area Renovation Emissions, p. 4.8-38, anticipated daily emissions do not exceed the thresholds of significance. This estimate also represents the

renovation activities at the six project sites, as AAU has confirmed that it is likely that substantially less than 200,000 sf of renovation activities would occur at any one time.[300] Based on the assumption that less than 200,000 sf of renovation would occur simultaneously at either the study areas or at the project sites, and Table 4.8-11 fully represents the estimated annual criteria air pollutant emissions of the Proposed Project (including in the study areas and at the six project sites, in future years), impacts from criteria pollutants would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact AQ-2.1 Construction in the 12 study areas could generate toxic air contaminants, including diesel particulate matter that would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)

Construction Related Health Risk

Off-road equipment (which includes construction equipment) is a large contributor to DPM emissions in California. A number of federal and state regulations are requiring cleaner off-road equipment. Specifically, both USEPA and California have set emissions standards for new off-road equipment engines, ranging from Tier 1 to Tier 4. Tier 1 emission standards were phased in between 1996 and 2000 and Tier 4 Interim and Final emission standards for all new engines are being phased in between 2008 and 2015. To meet the Tier 4 emission standards, engine manufacturers will be required to produce new engines with advanced emission-control technologies. Although the full benefits of these regulations will not be realized for several years due to fleet turnover rates, the USEPA estimates that by implementing the federal Tier 4 standards, NO_x and PM emissions will be reduced by more than 90 percent.[301] Furthermore, California regulations limit maximum idling times to five minutes, which further reduces public exposure to NO_x and PM emissions.[302]

In addition, construction activities do not lend themselves to analysis of long-term health risks because of their temporary and variable nature. As explained in the BAAQMD's *CEQA Air Quality Guidelines*:

> Due to the variable nature of construction activity, the generation of TAC emissions in most cases would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005). In addition, current models and methodologies for conducting health risk assessments are associated with longer-term exposure periods of 9, 40, and 70 years,

[300] Assumptions for the modeling of the study areas and the project sites were based on information provided by AAU and summarized in a memorandum (Atkins, 2013. *Assumptions for the Project Sites and Study Area Construction Activities*. Dated July 17, 2013) included in Appendix A of the AQTR.
[301] USEPA, Clean Air Nonroad Diesel Rule: Fact Sheet (May 2004).
[302] *California Code of Regulations* Title 13, Division 3, Section 2485.

> which do not correlate well with the temporary and highly variable nature of construction activities. This results in difficulties with producing accurate estimates of health risk.[303]

Therefore, project-level analyses of construction activities have a tendency to produce overestimated assessments of long-term health risks. However, within the Air Pollutant Exposure Zone additional construction activity may adversely affect populations that are already at a higher risk for adverse long-term health risks from existing sources of air pollution. Based on the City's Air Pollutant Exposure Zone modeling, some of the project sites and study areas would be located within an Air Pollutant Exposure Zone.

As shown in Table 4.8-3, Study Areas within Air Pollutant Exposure Zones, p. 4.8-11, several of the study areas are located completely or partially in areas that already experience poor air quality and tenant improvements associated with the Proposed Project would generate additional air pollution, adversely affecting nearby sensitive receptors that are already exposed to high levels of air pollution. While emission reductions from limiting idling, educating workers and the public, and properly maintaining equipment are difficult to quantify, other measures, specifically the requirement for equipment with Tier 2 engines and Level 3 Verified Diesel Emission Control Strategy (VDECS), can reduce construction emissions by 89 to 94 percent compared to equipment with engines meeting no emission standards and without a VDECS. Emissions reductions from the combination of Tier 2 equipment with Level 3 VDECS are almost equivalent to requiring only equipment with Tier 4 Final engines. TAC impacts from the renovation of buildings in the study areas are anticipated to be minimal with the only impact at sites requiring diesel equipment. Diesel equipment anticipated to operate at the sites includes scissor lifts and air compressors. This equipment is anticipated to operate between five and seven days per week for up to eight hours per day. Uncontrolled diesel equipment operating within an Air Pollutant Exposure Zone would be considered a significant impact. Compliance with Mitigation Measure M-AQ-2.1 – Construction Emissions Minimization within an Air Pollutant Exposure Zone, p. 4.8-42, requires cleaner diesel equipment and would reduce the impact from renovation activities on nearby sensitive receptors to a less-than-significant level. Those study areas that are not within an Air Pollutant Exposure Zone (SA-2, SA-9, PS-2, and PS-5) would not be subject to the following mitigation measure. When AAU occupies a new site within study area that is partially within an Air Pollutant Exposure Zone, the Planning Department will review the specific location to determine applicability of Mitigation Measure M-AQ-2.1 – Construction Emissions Minimization within an Air Pollutant Exposure Zone, p. 4.8-42.

Mitigation Measure

> **Mitigation Measure M-AQ-2.1 – Construction Emissions Minimization within an Air Pollutant Exposure Zone.** This mitigation measure is applicable to renovation activities

[303] BAAQMD, *CEQA Air Quality Guidelines* (May 2011), p. 8-6.

occurring within an Air Pollutant Exposure Zone and where off-road diesel powered equipment is required and would operate for more than 20 total hours over the duration of construction at any one site.

A. *Construction Emissions Minimization Plan.* Prior to issuance of a construction permit, the project sponsor shall submit a Construction Emissions Minimization Plan (Plan) to the Environmental Review Officer (ERO) for review and approval by an Environmental Planning Air Quality Specialist. The Plan shall detail project compliance with the following requirements:

1. All off-road equipment greater than 25 hp and operating for more than 20 total hours over the entire duration of construction activities shall meet the following requirements:

   a) Where access to alternative sources of power is available, portable diesel engines shall be prohibited.

   b) All off-road equipment shall have:

      i. Engines that meet or exceed either U.S. Environmental Protection Agency (USEPA) or California Air Resources Board (ARB) Tier 2 off-road emission standards, and

      ii. Engines that are retrofitted with an ARB Level 3 Verified Diesel Emissions Control Strategy (VDECS).[304]

   c) Exceptions:

      i. Exceptions to A(1)(a) may be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that an alternative source of power is limited or infeasible at the project site and that the requirements of this exception provision apply. Under this circumstance, the sponsor shall submit documentation of compliance with A(1)(b) for on-site power generation.

      ii. Exceptions to A(1)(b)(ii) *may* be granted if the project sponsor has submitted information providing evidence to the satisfaction of the ERO that a particular piece of off-road equipment with an ARB Level 3 VDECS is (1) technically not feasible, (2) would not produce desired emissions reductions due to expected operating modes, (3) installing the control device would create a safety hazard or impaired visibility for the operator, or (4) there is a compelling emergency need to use off-road equipment that are not retrofitted with an ARB Level 3 VDECS and the sponsor has submitted documentation to the ERO that the requirements of this exception provision apply. If granted an exception to A(1)(b)(ii), the project sponsor must comply with the requirements of A(1)(c)(iii).

[304] Equipment with engines meeting Tier 4 Interim or Tier 4 Final emission standards automatically meet this requirement, therefore a VDECS would not be required.

iii. If an exception is granted pursuant to A(1)(c)(ii), the project sponsor shall provide the next cleanest piece of off-road equipment as provided by the step down schedules in Table 4.8-13, Off-Road Equipment Compliance Step-Down Schedule.

Table 4.8-13 Off-Road Equipment Compliance Step-Down Schedule

Compliance Alternative	*Engine Emission Standard*	*Emissions Control*
1	Tier 2	ARB Level 2 VDECS
2	Tier 2	ARB Level 1 VDECS
3	Tier 2	Alternative Fuel*

How to use the table: If the requirements of (A)(1)(b) cannot be met, then the project sponsor would need to meet Compliance Alternative 1. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 1, then Compliance Alternative 2 would need to be met. Should the project sponsor not be able to supply off-road equipment meeting Compliance Alternative 2, then Compliance Alternative 3 would need to be met.

* Alternative fuels are not a VDECS.

2. The project sponsor shall require the idling time for off-road and on-road equipment be limited to no more than two minutes, except as provided in exceptions to the applicable state regulations regarding idling for off-road and on-road equipment. Legible and visible signs shall be posted in multiple languages (English, Spanish, Chinese) in designated queuing areas and at the construction site to remind operators of the two minute idling limit.

3. The project sponsor shall require that construction operators properly maintain and tune equipment in accordance with manufacturer specifications.

4. The Plan shall include estimates of the construction timeline by phase with a description of each piece of off-road equipment required for every construction phase. Off-road equipment descriptions and information may include, but is not limited to: equipment type, equipment manufacturer, equipment identification number, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. For VDECS installed: technology type, serial number, make, model, manufacturer, ARB verification number level, and installation date and hour meter reading on installation date. For off-road equipment using alternative fuels, reporting shall indicate the type of alternative fuel being used.

5. The Plan shall be kept on-site and available for review by any persons requesting it and a legible sign shall be posted at the perimeter of the construction site indicating to the public the basic requirements of the Plan and a way to request a copy of the Plan. The project sponsor shall provide copies of Plan to members of the public as requested.

B. *Reporting.* Monthly reports shall be submitted to the ERO indicating the construction phase and off-road equipment information used during each phase including the

information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used.

Within six months of the completion of construction activities, the project sponsor shall submit to the ERO a final report summarizing construction activities. The final report shall indicate the start and end dates and duration of each construction phase. For each phase, the report shall include detailed information required in A(4). In addition, for off-road equipment using alternative fuels, reporting shall include the actual amount of alternative fuel used.

C. *Certification Statement and On-Site Requirements.* Prior to the commencement of construction activities, the project sponsor must certify (1) compliance with the Plan and (2) all applicable requirements of the Plan have been incorporated into contract specifications.

Significance after Mitigation: Less than Significant.

Project-Level Impacts (Growth at the Six Project Sites)

Impact AQ-2.2 **Construction at the six project sites, would generate toxic air contaminants, including diesel particulate matter, but would not expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant with Mitigation**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant with Mitigation**
- **PS-4, 150 Hayes Street: Less than Significant with Mitigation**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

As shown in Table 4.8-4, Project Sites within Air Pollutant Exposure Zones, p. 4.8-16, some of the project sites are within Air Pollutant Exposure Zones. Four of the project sites (PS-1, 2801 Leavenworth Street [The Cannery]; PS-3, 625 Polk Street; PS-4, 150 Hayes Street; and PS-6, 2225 Jerrold Avenue) are located within existing Air Pollutant Exposure Zones. PS-2, 700 Montgomery Street, and PS-5, 121 Wisconsin Street, are not located within an Air Pollutant Exposure Zone. The six project site land uses themselves are not sensitive uses as they are institutional or bus parking. However, construction activities within the Air Pollutant Exposure Zone would have the potential to increase health risk to nearby sensitive receptors. Renovations that began after the 2010 baseline that have since been completed at these project sites did not include the use of diesel equipment and therefore resulted in minor pollutant emissions and did not expose nearby sensitive receptors to significant TAC emissions.

It is anticipated that any future renovations at these sites contemplated as part of the Proposed Project would result in similar emissions and therefore would not expose nearby sensitive receptors

to TAC emissions. However, in the event that diesel equipment is necessary for future renovations at these sites, they would be subject to Mitigation Measure M-AQ-2.1 – Construction Emissions Minimization within an Air Pollutant Exposure Zone, p. 4.8-42, which requires cleaner diesel equipment during construction activities. Implementation of M-AQ-2.1 for future renovations requiring diesel equipment would reduce the impact from renovation activities on nearby sensitive receptors to a less-than-significant level.

Mitigation: Implement Mitigation Measure M-AQ-2.1 – Construction Emissions Minimization within an Air Pollutant Exposure Zone, p. 4.8-42.

Significance after Mitigation: Less than Significant.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact AQ-2.3 **Construction of the Proposed Project, including growth in the 12 study areas and at the six project sites, would generate toxic air contaminants, including diesel particulate matter, that would expose sensitive receptors to substantial pollutant concentrations. (Less than Significant with Mitigation)**

As shown in Table 4.8-3, Study Areas within Air Pollutant Exposure Zones, p. 4.8-11, several of the study areas are located completely or partially in areas that already experience poor air quality and the Proposed Project would generate additional air pollution during construction, potentially affecting nearby sensitive receptors. Compliance with Mitigation Measure M-AQ-2.1 – Construction Emissions Minimization within an Air Pollutant Exposure Zone, p. 4.8-42, requires cleaner diesel equipment and would reduce the impact from renovation activities on nearby sensitive receptors to a less-than-significant level. With respect to the six project sites, as discussed in Impact AQ-2.2 above, renovations that began after the 2010 baseline that have since been completed at these sites did not include the use of diesel equipment and therefore resulted in minor pollutant emissions and did not expose nearby sensitive receptors to significant TAC emissions. In combination with emissions related to growth in the study area, tenant improvements at the project sites would not result in additional emissions requiring mitigation, because of the limited extent of the renovation activities, minor emission of pollutants including $PM_{2.5}$, and the dissipation of pollutant concentrations with distance. Health risks are very localized; therefore, emissions of TACs from construction at study areas and project sites would not combine to affect sensitive receptors.

Mitigation: Implement Mitigation Measure M-AQ-2.1 – Construction Emissions Minimization within an Air Pollutant Exposure Zone, p. 4.8-42.

Significance after Mitigation: Less than Significant.

Operational Air Quality Impacts

Program-Level Impacts (Growth in the 12 Study Areas)

Impact AQ-3.1 **Operation in the 12 study areas could result in emissions of criteria air pollutants but not at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)**

Criteria Pollutant Emissions

Operational emissions generated by both stationary and mobile sources would result from AAU's normal day-to-day activities in the study areas. Stationary area source emissions are generated by the consumption of natural gas for space and water heating devices, and the operation of landscape maintenance equipment. Mobile emissions are generated by motor vehicles traveling to and from study area destinations. As detailed in the "Approach to Analysis" section, p. 4.8-29, operational emissions were modeled using CalEEMod. The modeling assumptions, calculations, and the CalEEMod output are summarized in the Approach to Analysis section above and detail included in the AQTR. As a worst-case emissions assumption, the analysis assumes that the final 200,000 sf are still under renovation while the remaining study area square footage (579,670 sf) is in full operation. Table 4.8-14, Net Change in Study Area Operational Emissions, p. 4.8-48, shows the combined operational emissions for the operation of the 12 study areas (including private vehicle trips), the emissions from the increase in shuttle VMT, and the renovation of 200,000 sf in the study areas. As shown in Table 4.8-14, none of the study area's average daily or annual emissions would exceed the operational significance thresholds for criteria air pollutants. Therefore, the operational emissions associated with AAU uses in the study areas would result in less-than-significant impacts.

Table 4.8-14 Net Change in Study Area Operational Emissions

	ROG	*NO_X*	*PM_{10}*	*$PM_{2.5}$*
Daily Operational Emissions (lb/day)				
Study Areas[a]	17.65	4.47	0.13	0.12
Shuttle Bus Emissions	0.30	1.82	12.46	0.82
Remaining Study Area Renovations[b]	35.72	6.25	0.48	0.47
Total Average Combined Daily[c]	***53.67[d]***	***12.54***	***13.06***	***1.41***
Threshold	54	54	82	54
Significant?	No	No	No	No
Annual Operational Emissions (tons/year)				
Study Areas[a]	3.09	0.78	0.02	0.02
Shuttle Bus Emissions	0.04	0.25	1.74	0.11
Remaining Study Area Renovations[b]	1.07	0.19	0.01	0.01
Total Combined Annual	***4.20***	***1.22***	***1.78***	***0.15***
Threshold	10	10	15	10
Significant?	No	No	No	No

SOURCE: Atkins, *Errata to the Air Quality Technical Report* (2014).

Columns may not add due to rounding.

a. Study areas in this table represent the emissions from the operation of all anticipated development in the study areas with the exception of the last 200,000 sf under renovation.

b. Emissions associated with the renovation of 200,000 sf of Study Area buildings averaged over the construction period.

c. Total Combined Daily is the sum of the Study Area Combined Daily emissions and the Study Area Construction emissions.

d. This calculation represents a conservative estimate, as it includes modeled assumptions of simultaneous construction periods at two sites and assumes full implementation of the Proposed Project in 2015.

Local Carbon Monoxide Emissions

With full implementation of the Proposed Project in the 12 study areas,[305] the intersection of Sixth and Brannan Streets has the greatest reported hourly traffic volume under the existing plus project conditions of 5,868, and future plus project condition of 7,018 vehicles. Under both scenarios, project-specific traffic contributes 42 trips. These traffic volumes are well below the BAAQMD screening criteria, which requires quantified analysis only at intersections that experience more than 44,000 vehicles per hour or 24,000 vehicles per hour where there is limited vertical and/or horizontal mixing. Furthermore, because of the minimal increase in traffic as a result of the project, Project-related traffic increases would be consistent with growth anticipated in Plan Bay Area, which includes the 2040 Regional Transportation Plan. Therefore, the Proposed Project, including growth in the 12 study areas, would not result in significant localized CO impacts.

Mitigation: None required.

[305] Because the trips were assigned at a network-level, trip splits between project site and study areas cannot be determined at an intersection level. Therefore the values here represent the total combined for the project site and study area analysis which represents a conservative analysis.

Project-Level Impacts (Growth at the Six Project Sites)

Impact AQ-3.2 **Operation of the six project sites, would result in emissions of criteria air pollutants, but not at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant)**

Criteria Pollutant Emissions

The operational emissions of the six project sites were modeled using CalEEMod. The modeling assumptions, calculations, and the CalEEMod output are summarized in the Approach to Analysis section above and detail included in the AQTR. Table 4.8-15, Net Change in Project Site Operational Emissions, p. 4.8-50, shows the combined operational emissions for the six project sites (including area and mobile source emissions) plus the emissions from the renovation of study area buildings. As a worst-case emissions estimate, the analysis assumes that an initial 200,000 sf of the study areas are under renovation at the same time as the project sites are operational. During the implementation of the Proposed Project, renovations from the study areas would occur while the six project sites continue to operate therefore there will be an overlap in regional emissions from both the operation of the project sites and the renovation of the study areas. The table includes no shuttle emissions for the project sites because shuttle emissions declined during the time between 2010 (NOP baseline) and 2013 when project site shuttles (including the Jerrold Avenue Express) were fully operational. Therefore, the Proposed Project shuttle routes serving the project sites would not result in greater VMTs than in 2010.

As shown in Table 4.8-15, none of the average daily or annual emissions would exceed the operational significance thresholds for criteria air pollutants. Therefore, the operational emissions resulting from the Proposed Project at the six project sites would result in less-than-significant impacts.

Table 4.8-15 Net Change in Project Site Operational Emissions

	ROG	*NO_X*	*PM_{10}*	*$PM_{2.5}$*
Daily Operational Emissions (lbs/day)				
PS-1, 2801 Leavenworth Street (The Cannery)	4.97	3.07	0.05	0.04
PS-2, 700 Montgomery Street	0.40	0.17	0.00	0.00
PS-3, 625 Polk Street	3.28	1.36	0.02	0.02
PS-4, 150 Hayes Street	2.43	0.98	0.01	0.01
PS-5, 121 Wisconsin Street	0.75	0.45	0.01	0.01
PS-6, 2225 Jerrold Avenue	5.98	4.13	0.05	0.04
Shuttle Bus Emissions[a]	0.00	0.00	0.00	0.00
Study Area Renovations[b]	35.72	6.25	0.48	0.47
Total Average Combined Daily[c]	***53.54[d]***	***16.41***	***0.62***	***0.60***
Threshold	54	54	82	54
Significant?	No	No	No	No
Annual Operational Emissions (tons/year)				
PS-1, 2801 Leavenworth Street (The Cannery)	0.87	0.54	0.01	0.01
PS-2, 700 Montgomery Street	0.07	0.03	0.00	0.00
PS-3, 625 Polk Street	0.57	0.24	0.00	0.00
PS-4, 150 Hayes Street	0.43	0.17	0.00	0.00
PS-5, 121 Wisconsin Street	0.13	0.08	0.00	0.00
PS-6, 2225 Jerrold Avenue	1.05	0.72	0.01	0.01
Shuttle Bus Emissions[a]	0.00	0.00	0.00	0.00
Study Area Renovations	1.07	0.19	0.01	0.01
Total Combined Annual	***4.19***	***1.97***	***0.04***	***0.04***
Threshold	10	10	15	10
Significant?	No	No	No	No

SOURCE: Atkins, *Errata to the Air Quality Technical Report* (December 19, 2014).

Column totals may not add due to rounding.

a. There are no shuttle bus emissions because there was a decrease in VMT between 2010 and 2013, when project site shuttles were fully operational.

b. Study Area Construction represents the annual emissions associated with the renovation of 200,000 sf of Study Area buildings averaged over the number of days of renovation.

c. Total Combined Daily is the sum of the daily Study Area Construction emissions and the Project Site Combined Daily emissions.

d. This calculation represents a conservative estimate, as it includes modeled assumptions of simultaneous construction periods at two sites and assumes full implementation of the Proposed Project in 2015.

Local Carbon Monoxide Emissions

With full implementation of the Proposed Project at the six project sites,[306] the intersection of Sixth and Brannan Streets has the greatest reported hourly traffic volume under the existing plus project conditions of 5,868, and future plus project condition of 7,018 vehicles. Under both scenarios, project-specific traffic contributes 42 trips. These traffic volumes are well below the BAAQMD screening criteria, which requires quantified analysis only at intersections that experience more than 44,000 vehicles per hour or 24,000 vehicles per hour where there is limited vertical and/or horizontal mixing. Furthermore, because of the minimal increase in traffic as a result of the project, Project-related traffic increases would be consistent with growth anticipated in Plan Bay Area, which includes the 2040 Regional Transportation Plan. Therefore, the Proposed Project, including growth at the six project sites, would not result in significant localized CO impacts.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact AQ-3.3 **Operation of the Proposed Project, including growth in the 12 study areas and at the six project sites, would result in emissions of criteria air pollutants, but not at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. (Less than Significant with Mitigation)**

Criteria Pollutant Emissions

The operational emissions of the 12 study areas and six project sites were modeled using CalEEMod. The modeling assumptions, calculations, and the CalEEMod output are summarized in the "Approach to Analysis" section, p. 4.8-29, and detail included in the AQTR.

Partial Study Area Occupancy

Table 4.8-16, Net Change in Partial Study Area Occupancy Operational Emissions, p. 4.8-52, shows the combined operational emissions for the Proposed Project, including growth within the 12 study areas (minus 200,000 sf) and at the six project sites (including nonshuttle vehicle trips), the associated increase in emissions from an increase in AAU shuttle-related VMT, and the emissions from the renovation of 200,000 sf of development within the study areas. As shown in Table 4.8-16, the average daily emissions for ROG would exceed the operational significance thresholds for criteria air pollutants. Emissions from NO_X, PM_{10}, and $PM_{2.5}$ would not exceed the criteria pollutant significance thresholds for daily emissions, and would not exceed the annual significance thresholds.

[306] Because the trips were assigned at a network-level, trip splits between project site and study areas cannot be determined at an intersection level. Therefore the values here represent the total combined for the project site and study area analysis which represents a conservative analysis.

Table 4.8-16 Net Change in Partial Study Area Occupancy Operational Emissions

	ROG	*NO_X*	*PM_{10}*	*$PM_{2.5}$*
Daily Operational Emissions (lb/day)				
Project Sites Total	17.81	10.16	0.14	0.12
Study Areas[a]	17.65	4.47	0.13	0.12
Shuttle Bus Emissions	0.30	1.82	12.46	0.82
Remaining Study Area Renovations[b]	35.72	6.25	0.48	0.47
Total Average Combined Daily[c]	***71.48***	***22.70***	***13.20***	***1.53***
Threshold	54	54	82	54
Significant?	Yes	No	No	No
Annual Operational Emissions (tons/year)				
Project Sites Total	3.12	1.78	0.02	0.02
Study Areas[a]	3.09	0.78	0.02	0.02
Shuttle Bus Emissions	0.04	0.25	1.74	0.11
Remaining Study Area Renovations[b]	1.07	0.19	0.01	0.01
Total Combined Annual[c]	***7.32***	***3.00***	***1.80***	***0.17***
Threshold	10	10	15	10
Significant?	No	No	No	No

SOURCE: Atkins (2014).
Columns may not add due to rounding.

a. Study areas in this table represent the emissions from the operation of all anticipated development in the study areas with the exception of the last 200,000 sf under renovation.
b. Emissions associated with the renovation of 200,000 sf of Study Area buildings averaged over the construction period.
c. Total Combined Daily is the sum of the study area emissions,[a] the project site emissions, shuttle bus emission and the 200,000 sf of Study Area Construction emissions.[b]

Renovation of 200,000 sf of development is a significant source of ROG emissions due to architectural coating. As seen in Table 4.8-17, Mitigated Net Change in Partial Study Area Occupancy Operational Emissions, p. 4.8-53, compliance with Mitigation Measure M-AQ-3.3 – Maximum Daily Construction Activities, p. 4.8-54, would reduce emissions of ROGs to less-than-significant levels by limiting construction activities to the renovation (including architectural coating) of a maximum of 100,000 sf of building space at a time. Therefore, the operational emissions resulting from the Partial Study Area Occupancy Scenario would result in less-than-significant impacts.

Table 4.8-17 Mitigated Net Change in Partial Study Area Occupancy Operational Emissions

	ROG	*NO_X*	*PM_{10}*	*$PM_{2.5}$*
Daily Operational Emissions (lb/day)				
Project Sites Total	17.81	10.16	0.14	0.12
Study Areas[a]	17.65	4.47	0.13	0.12
Shuttle Bus Emissions	0.30	1.82	12.46	0.82
Remaining Study Area Renovations[b]	17.86	3.12	0.24	0.24
Total Average Combined Daily[c]	***53.62[d]***	***19.57***	***12.96***	***1.30***
Threshold	54	54	82	54
Significant?	No	No	No	No
Annual Operational Emissions (tons/year)				
Project Sites Total	3.12	1.78	0.02	0.02
Study Areas[a]	3.09	0.78	0.02	0.02
Shuttle Bus Emissions	0.04	0.25	1.74	0.11
Remaining Study Area Renovations[b]	0.54	0.09	0.01	0.01
Total Combined Annual[c]	***6.78***	***2.91***	***1.80***	***0.16***
Threshold	10	10	15	10
Significant?	No	No	No	No

SOURCE: Atkins (2014).

Columns may not add due to rounding.

a. Study areas in this table represent the emissions from the operation of all anticipated development in the study areas with the exception of the last 200,000 sf under renovation.

b. Emissions associated with the renovation of 100,000 sf of Study Area buildings averaged over the construction period.

c. Total Combined Daily is the sum of the Study emissions,[a] the project site emissions, shuttle bus emission and 200,000 sf of Study Area Construction emissions.[b]

d. This calculation represents a conservative estimate, as it includes modeled assumptions of simultaneous construction periods at two sites and assumes full implementation of the Proposed Project in 2015.

Full Occupancy

Table 4.8-18, Net Change in Full Occupancy Operational Emissions, p. 4.8-54, shows the combined operational emissions for the Proposed Project, including growth within the 12 study areas and at the six project sites (including nonshuttle vehicle trips), and the associated increase in emissions from an increase in AAU shuttle-related VMT. As shown in Table 4.8-18, none of the average daily or annual emissions would exceed the operational significance thresholds for criteria air pollutants. Therefore, the operational emissions at full occupancy resulting from the Proposed Project would result in less-than-significant impacts.

Table 4.8-18 Net Change in Full Occupancy Operational Emissions

	ROG	*NO_X*	*PM_{10}*	*$PM_{2.5}$*
Daily Operational Emissions (lbs/day)				
Project Sites Total	17.81	10.16	0.14	0.12
Study Area Total	23.35	6.51	0.15	0.14
Shuttle Bus Emissions	0.30	1.82	12.46	0.82
Total Combined Daily	***41.46***	***18.49***	***12.74***	***1.08***
Threshold	54	54	82	54
Significant?	No	No	No	No
Annual Operational Emissions (tons/year)				
Project Sites Total	3.12	1.78	0.02	0.02
Study Area Total	4.09	1.14	0.03	0.03
Shuttle Bus Emissions	0.04	0.25	1.74	0.11
Total Combined Annual	***7.25***	***3.17***	***1.79***	***0.16***
Threshold	10	10	15	10
Significant?	No	No	No	No

SOURCE: Atkins (2014).

Local Carbon Monoxide Emissions

With full implementation of the Proposed Project, the intersection of Sixth and Brannan Streets has the greatest reported hourly traffic volume of 7,018 vehicles, with project-specific traffic contributing 42 trips. This cumulative traffic volume is well below the BAAQMD screening criteria, which requires quantified analysis only at intersections that experience more than 44,000 vehicles per hour or 24,000 vehicles per hour where there is limited vertical and/or horizontal mixing. Furthermore, because of the minimal increase in traffic as a result of the Proposed Project, Project-related traffic increases would be consistent with growth anticipated in Plan Bay Area, which includes the 2040 Regional Transportation Plan. Therefore, the Proposed Project, including growth in the 12 study areas and at the six project sites, would not result in significant localized CO impacts. No mitigation is required.

Mitigation Measure

> **Mitigation Measure M-AQ-3.3 – Maximum Daily Construction Activities.** Construction activities shall be limited to the renovation (including architectural coating) of a maximum of 100,000 square feet of building space at a time.

Significance after Mitigation: Less than Significant.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact AQ-4.1 Operation of the 12 study areas could generate toxic air contaminants, including diesel particulate matter, and could expose sensitive receptors to substantial air pollutant concentrations. (Less than Significant with Mitigation)

Stationary Source TAC Emissions

Diesel generators and boilers result in emissions of TACs (specifically DPM and TOG) that can impact both on- and off-site sensitive receptors. As noted in the Operational Emissions section above (p. 4.8-31), the Proposed Project would not ordinarily add such equipment, although AAU might replace existing older equipment with newer diesel generators or natural gas boilers. Emergency generators and boilers over three million British thermal units (Btu) are regulated by the BAAQMD through its New Source Review (Regulation 2, Rule 5) permitting process. If AAU proposes to install a replacement diesel generator in any of the study areas, then AAU would be required to obtain applicable permits to operate from the BAAQMD. Although emergency generators are intended only to be used in periods of power outages, regular testing of the generator would be required; monthly testing is typical. The BAAQMD limits testing to no more than 50 hours per year. Additionally, as part of the permitting process, the BAAQMD would limit the excess cancer risk from any generator to no more than 10 per one million population and requires any source that would result in an excess cancer risk greater than one per one million population to install Best Available Control Technology for Toxics (BACT). With respect to boilers, the BAAQMD considers nondiesel boilers (e.g., natural gas) to be minor low-impact sources of TACs that, when combined with other nearby sources, do not pose a substantial cumulative health risk.[307]

There is also the potential for study area buildings to already operate generators or boilers for which AAU would take over the permits and continue operations. Emissions from these units would be part of the existing conditions as they are currently in operation. Therefore, the continued operation of these units would not have the potential to result in increased health risk to on- or off-site sensitive receptors.

However limited, there is the potential for study area buildings occupied by AAU to require the installation of a new emergency back-up generator or a boiler, both of which have the potential to add pollutant concentrations. Generation of additional pollutants within the Air Pollutant Exposure Zones would be a significant impact. Therefore, in order to minimize the potential impact to existing off-site receptors or to new on-site sensitive receptors, AAU shall implement Mitigation Measures M-AQ-4.1a – Best Available Control Technology for Diesel Generators, p. 4.8-56, and M-AQ-4.1b – Best Available Control Technology for Boilers, p. 4.8-56, at study area sites within Air Pollutant Exposure Zones when the occupation of that site requires the installation of a new generator or boiler. When AAU occupies a new site within study area that is partially within an Air Pollutant

[307] BAAQMD, *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2012), p. 11.

Exposure Zone, the Planning Department will review the specific location to determine applicability of Mitigation Measure M-AQ-2.1 – Construction Emissions Minimization within an Air Pollutant Exposure Zone, p. 4.8-42. Implementation of these mitigation measures would reduce impacts from new stationary sources to less-than-significant levels.

Mitigation Measures

> **Mitigation Measure M-AQ-4.1a – Best Available Control Technology for Diesel Generators.** All new (i.e., not replacement) diesel generators shall have engines that (1) meet Tier 4 Final or Tier 4 Interim emission standards, or (2) meet Tier 2 emission standards and are equipped with a California Air Resources Board (ARB) Level 3 Verified Diesel Emissions Control Strategy (VDECS).
>
> **Mitigation Measure M-AQ-4.1b – Best Available Control Technology for Boilers.** All new (i.e., not replacement) boilers shall be natural gas operated. If infeasible, all boilers shall be equipped with Best Available Control Technologies, such as fuel gas filters, or baghouse or electrostatic precipitators. BACTs shall be approved by BAAQMD through the permitting process.

Significance after Mitigation: Less than Significant.

Mobile Source TAC Emissions

The expansion of AAU's shuttle service would increase shuttle trips throughout the City. Health risk associated with implementation of the Proposed Project in the study areas is represented by the increase in health risk from additional shuttle activities between existing (2010 NOP Baseline) activities and full occupancy (2020) activities. Proposed Project-related risk is based on the risk from the greatest increase in shuttle activity along any given roadway segment. As discussed above, two shuttle options (Option 1, Dispersed Distribution, and Option 2, Transit Corridor Distribution) were modeled to demonstrate the potential range of increases in shuttle trips along roadway segments under the Proposed Project. For the purposes of the analysis it was assumed that the proportion of diesel to gasoline vehicles (42 percent gasoline and 58 percent diesel) at full occupancy would remain the same as the existing fleet. This analysis is conservative because AAU has stated that it will replace diesel buses with gasoline buses as the former are retired.

As there are several routes that overlap, two one-mile-long routes were analyzed. The routes chosen are the two that would be anticipated to have the most overlapping AAU shuttle traffic. Excess cancer risk and $PM_{2.5}$ concentrations were determined based on the increase in shuttle traffic along the routes. Methodologies used to evaluate emissions for the HRA were based on the most recent BAAQMD Protocol,[308] and consultation with City of San Francisco Environmental Planning staff. Cancer risk in the HRA is based on concentrations from diesel exhaust and TOGs from gasoline-

[308] BAAQMD, *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2012).

fueled vehicles. DPM is evaluated assuming all $PM_{2.5}$ emissions are DPM, as indicated in BAAQMD Methodology.[309] For gasoline exhaust, a speciation profile was obtained from BAAQMD.[310]

Table 4.8-19, Cumulative Cancer Risk (per million), p. 4.8-58, reports the range of cancer risk as it relates to the greatest potential exposure of residential receptors within 20 feet of the analyzed roadways. Total risk associated with growth in the study areas is the sum of the excess cancer risk from DPM and TOG, as described in the AQTR. Risk calculations and modeling output are also included in the AQTR. As shown in Table 4.8-19, the total cancer risk for both routes and all but two of the roadway segments, when added to the existing risk, are below the 100 per million excess cancer risk standard used to establish the Air Pollutant Exposure Zone; therefore, impacts to nearby sensitive receptors would be less than significant. For the Kearny Street and Montgomery Street segments, the existing risk is above the 100 per one million excess cancer risk standard, even without the Proposed Project, these segments within Air Pollutant Exposure Zones. While the Proposed Project would add to the pollutants in these areas, their contribution to the cumulative risk is 0.03 and 0.12 percent respectively. Therefore, these roadway segments would not create a new Air Pollutant Exposure Zone or result in a substantial increase in the geography or severity of an existing Air Pollutant Exposure Zone. Therefore, cancer risk impacts to sensitive receptors from mobile source TAC emissions would be less than significant.

Table 4.8-20, Cumulative $PM_{2.5}$ Concentration ($\mu g/m^3$), p. 4.8-58, reports the range of $PM_{2.5}$ concentrations as it relates to residential receptors within 20 feet of the analyzed roadways. $PM_{2.5}$ calculations and modeling output are included in the AQTR. As shown in Table 4.8-20, the total $PM_{2.5}$ added by the increased shuttle service for all routes and segments is less than one percent of the cumulative $PM_{2.5}$ concentration and at no location would cumulative $PM_{2.5}$ concentrations exceed the 10 $\mu g/m^3$ standard used to establish the Air Pollutant Exposure Zone; therefore, impacts to nearby sensitive receptors would less than significant.

[309] BAAQMD, *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2012), p. 6.
[310] BAAQMD, *Recommended Methods for Screening and Modeling Local Risks and Hazards* (May 2012), pp. 87 and 88.

Table 4.8-19 Cumulative Cancer Risk (per million)

Location	Existing[a]		Project		Cumulative[b]		% of Risk	
	Min	Max	Min	Max	Min	Max	Of Min Value	Of Max Value
By Route								
Route 1[c]	31.44	71.54	0.46	0.59	31.90	72.13	1.44%	0.82%
Route 2[d]	31.44	71.54	0.82	0.93	32.26	72.47	2.53%	1.28%
By Roadway Segment								
Sutter St (between Taylor St and Montgomery St)	31.44	71.54	0.38	0.68	31.82	72.22	1.19%	0.94%
Post St (between Jones St and Kearny St)	36.49	75.61	0.07	0.07	36.56	75.68	0.20%	0.10%
Kearny St (between Market St and California St)	46.86	119.73	0.01	0.04	46.87	119.77	0.02%	0.03%
Grant Ave (between Sutter St and Bush St)	58.15	59.87	0.02	0.03	58.17	59.90	0.04%	0.05%
Bush St (between Grant Ave and Kearny St)	45.79	78.80	0.06	0.08	45.85	78.88	0.13%	0.11%
Montgomery St (between Sutter St and Pine St)	38.28	100.75	0.09	0.12	38.37	100.87	0.23%	0.12%

SOURCE: Atkins (2014).

a. Existing Risk Source: City of San Francisco, Citywide Air Pollution Modeling Files (December 2012).

b. Due to rounding, Total Cancer Risk Values may not add across rows.

c. Route 1 starts at Sutter Street and Taylor street, proceeds east along Sutter Street, turns south on Kearny Street, then turns west on Post Street and terminates at the intersection of Post Street and Jones Street.

d. Route 2 runs along Sutter Street between Powell Street and Montgomery Street and has three branches. The first branch of Route 2 runs north along Grant Avenue, turns east onto Bush Street, then North along Kearny Street and terminates at California Street. The second branch runs south along Kearny Street and terminates just south of Market Street. The third branch turns north along Montgomery Street and terminates at Pine Street.

Table 4.8-20 Cumulative $PM_{2.5}$ Concentration ($\mu g/m^3$)

Location	Existing		Project		Cumulative[a]		% of Concentration	
	Min	Max	Min	Max	Min	Max	Of Min Value	Of Max Value
By Route								
Route 1[b]	8.44	9.13	0.054	0.070	8.49	9.20	0.64%	0.76%
Route 2[c]	8.44	9.13	0.096	0.109	8.54	9.24	1.12%	1.18%
By Roadway Segment								
Sutter St (between Taylor St and Montgomery St)	8.44	9.13	0.044	0.080	8.48	9.21	0.52%	0.87%
Post St (between Jones St and Kearny St)	8.59	9.14	0.009	0.009	8.60	9.15	0.10%	0.10%
Kearny St (between Market St and California St)	8.70	9.99	0.001	0.005	8.70	9.99	0.01%	0.05%
Grant Ave (between Sutter St and Bush St)	8.93	8.96	0.003	0.003	8.93	8.96	0.03%	0.04%
Bush St (between Grant Ave and Kearny St)	8.67	9.13	0.007	0.010	8.68	9.14	0.08%	0.11%
Montgomery St (between Sutter St and Pine St)	8.56	9.26	0.010	0.014	8.57	9.27	0.12%	0.15%

SOURCE: Atkins (2013).

a. Due to rounding, Total Cancer Risk Values may not add across rows.

b. Route 1 starts at Sutter Street and Taylor street, proceeds east along Sutter Street, turns south on Kearny Street, then turns west on Post Street and terminates at the intersection of Post and Jones Streets.

c. Route 2 runs along Sutter Street between Powell Street and Montgomery Street and has three branches. The first branch of Route 2 runs north along Grant Avenue, turns east onto Bush Street, then North along Kearny Street and terminates at California Street. The second branch runs south along Kearny Street and terminates just south of Market Street. The third branch turns north along Montgomery Street and terminates at Pine Street.

New Sensitive Receptors Located Within Air Pollutant Exposure Zones

As shown in Table 4.8-3, Study Areas within Air Pollutant Exposure Zones, p. 4.8-11, six of the 12 study areas have the potential to house resident students; therefore, these uses are considered sensitive land uses. Of these, five study areas have the potential to place student residences partially within Air Pollutant Exposure Zones (SA-1, Lombard Street/Divisadero Street; SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-5, Mid Market Street; and SA-12, Ninth Street/Folsom Street). Students would reside on campus for a relatively short period of time (approximately one to four years) in comparison to the typical residential longevity, assumed at 70 years. For the purposes of this analysis, student housing is considered a sensitive land use.

Siting sensitive land uses within Air Pollutant Exposure Zones could expose residents within the student housing to elevated levels of air pollution, resulting in a significant impact. Mitigation Measure M-AQ-4.1c – Air Filtration Measures within an Air Pollutant Exposure Zone, p. 4.8-59, is required to reduce the potential exposure of future AAU students residing within an Air Pollutant Exposure Zone. Implementation of this mitigation measure would reduce impacts to new sensitive receptors to less-than-significant levels. Study area sites not located within an Air Pollutant Exposure Zone (SA-2 and SA-9) would not be subject to the following mitigation.

Mitigation Measure

> **Mitigation Measure M-AQ-4.1c – Air Filtration Measures within an Air Pollutant Exposure Zone.** *Air Filtration and Ventilation Requirements for Sensitive Land Uses.* Prior to receipt of a building permit for a change of use to a sensitive land use, the project sponsor shall submit an enhanced ventilation plan for the proposed building(s). The enhanced ventilation plan shall be prepared and signed by, or under the supervision of, a licensed mechanical engineer or other individual authorized by the California Business And Professions Code Sections 6700-6799. The enhanced ventilation plan shall show that the building ventilation system will be capable of achieving protection from particulate matter ($PM_{2.5}$) equivalent to that associated with a Minimum Efficiency Reporting Value (MERV) 13 filtration, as defined by American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) standard 52.2. The enhanced ventilation plan shall explain in detail how the project will meets the MERV-13 performance standard identified in this measure.
>
> *Maintenance Plan.* Prior to receipt of a building permit for a change of use to a sensitive land use, the project sponsor shall present a plan that ensures ongoing maintenance for the ventilation and filtration systems.
>
> *Disclosure to Renters.* The project sponsor shall also ensure the disclosure to buyers (and renters) that the building is located in an area with existing sources of air pollution and as such, the building includes an air filtration and ventilation system designed to remove 80 percent of outdoor particulate matter and shall inform occupants of the proper use of the installed air filtration system.

Additional AAU uses in the 12 study areas would generate toxic air contaminants, including diesel particulate matter, but with implementation of Mitigation Measures M-AQ-4.1a – Best Available Control Technology for Diesel Generators, p. 4.8-56; M-AQ-4.1b – Best Available Control Technology for Boilers, p. 4.8-56; and M-AQ-4.1c – Air Filtration Measures within an Air Pollutant Exposure Zone, p. 4.8-59, the Proposed Project would not expose sensitive receptors to substantial air pollutant concentrations. Therefore, Proposed Project uses in the 12 study areas would result in a less-than-significant impact with mitigation.

Significance after Mitigation: Less than Significant

Project-Level Impacts (Growth at the Six Project Sites)

Impact AQ-4.2 **Operation at the six project sites would not generate new emissions of toxic air contaminants, including diesel particulate matter, and therefore would not expose sensitive receptors to substantial air pollutant concentrations. (No Impact)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): No Impact**
- **PS-2, 700 Montgomery Street: No Impact**
- **PS-3, 625 Polk Street: No Impact**
- **PS-4, 150 Hayes Street: No Impact**
- **PS-5, 121 Wisconsin Street: No Impact**
- **PS-6, 2225 Jerrold Avenue: No Impact**

Stationary Source TAC Emissions

New diesel boilers and back-up generators result in long-term emissions of TACs (specifically DPM and TOG) that can impact both on- and off-site sensitive receptors. Based on information provided by AAU, there are no boilers or generators currently operating at PS-2, 700 Montgomery Street; PS-5, 121 Wisconsin Street; or PS-6, 2225 Jerrold Avenue. The properties at PS-1, 2801 Leavenworth Street (The Cannery) and PS-3, 625 Polk Street, have an existing boiler. The boilers are natural gas fired units under three million BTU and therefore do not meet the requirements for a permit from the BAAQMD. The property at PS-4, 150 Hayes Street, has a generator. The emergency diesel generator located at PS-4, 150 Hayes Street, is permitted through the BAAQMD. These stationary sources were associated with the site's operation prior to AAU's occupation (before 2010 NOP Baseline), and AAU is not proposing any modifications to these existing boiler or generator, therefore, no new impacts would occur. There are no new boilers, generators or other stationary sources proposed at any of the project sites; therefore, the project sites do not have the potential to increase health risks to on-site or nearby off-site sensitive receptors as a result of stationary sources. Therefore, the project sites would result in no impact with respect to stationary source emissions.

Mitigation: None required.

Mobile Source TAC Emissions

As discussed above, as of 2013 AAU was able to operate full shuttle service to the project sites while reducing total vehicle miles traveled and, therefore, mobile source TAC emissions, compared to 2010 (NOP baseline) would similarly decrease. Therefore, the Proposed Project shuttle routes serving the project sites would not result in greater VMTs than in 2010. Total Proposed Project-related risk from AAU shuttle operation is represented by the increase in health risk from additional shuttle activities between existing (2010 NOP baseline) activities and full occupancy (2020) study area activities (Impact AQ-4.1). Therefore, the operation of shuttle buses to serve the six project sites would result in no impact with respect to mobile source toxics emissions.

Mitigation: None Required.

New Sensitive Receptors Located Within Air Pollutant Exposure Zones

As shown in Table 4.8-4, Project Sites within Air Pollutant Exposure Zones, p. 4.8-16, while four of the project sites are located within Air Pollutant Exposure Zones, none of the six project sites have sensitive land uses. Therefore, operation of these six project sites would not locate new sensitive receptors within Air Pollutant Exposure Zones and would not result in impacts to sensitive receptors. Therefore, growth at the six project sites would result in no impact with respect to the siting of new sensitive receptors at the six project sites.

Mitigation: None Required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact AQ-4.3 **Operation of the Proposed Project, including growth in the 12 study areas and at the six project sites, could generate toxic air contaminants, including diesel particulate matter, and could expose sensitive receptors to substantial air pollutant concentrations. (Less than Significant with Mitigation)**

Stationary Source TAC Emissions

As described above, the Proposed Project would not ordinarily add diesel generators or boilers that could generate significant stationary source TAC emissions. However limited, there is the potential for new study area buildings to require the implementation of a new emergency back-up generator or a boiler, both of which have the potential to add pollutant concentrations to Air Pollutant Exposure Zones. Therefore, in order to minimize the potential impact to existing off-site receptors or to new on-site sensitive receptors, the growth at sites within Air Pollutant Exposure Zones shall implement Mitigation Measure M-AQ-4.1a – Best Available Control Technology for Diesel Generators, p. 4.8-56, and M-AQ-4.1b – Best Available Control Technology for Boilers, p. 4.8-56, when the occupation of a study area site requires the installation of a new generator or boiler. Implementation of these mitigation measures would reduce impacts from new stationary sources to less-than-significant levels. As discussed above, no impact related to the generation of TACs would

occur at the project sites. Therefore, with implementation of the recommended mitigation, impacts from the combined operation of buildings within the 12 study areas and six project sites would result in less-than-significant impacts. Because the emission of toxic air contaminants is a local impact, the distance between the study areas and the fact that the six project sites would not add stationary sources precludes a combined impact being greater than the 12 study areas or six project site individual impacts.

Mobile Source TAC Emissions

While there was a decrease in shuttle trip traffic between 2010 and 2013 and, hence, project site shuttle service would cause no impact in terms of mobile source health risk, total Proposed Project-related risk is represented by the increase in health risk from additional shuttle activities between existing (2010 NOP Baseline) activities and full occupancy (2020) activities. The HRA analysis accounts for all shuttle service including service to each of the six project sites and shows that the total cancer risks and $PM_{2.5}$ concentrations for all routes and segments would not either create a new Air Pollutant Exposure Zone or contribute significantly to an existing Air Pollutant Exposure Zone; therefore, impacts to nearby sensitive receptors are less-than-significant.

New Sensitive Receptors Located Within Air Pollutant Exposure Zones

Siting sensitive land uses in the 12 study areas within an Air Pollutant Exposure Zones could expose those residing within the student housing to elevated levels of air pollution. Mitigation Measure M-AQ-4.1c – Air Filtration Measures within an Air Pollutant Exposure Zone, p. 4.8-59, is required to reduce the potential exposure of future AAU students residing within an Air Pollutant Exposure Zone. Implementation of this mitigation measure would reduce impacts to new sensitive receptors to less-than-significant levels. As there is no impact related to siting of new sensitive receptors at the six project sites within Air Pollutant Exposure Zones, the combined impact from the Proposed Project, growth within the 12 study areas and at the six project sites, would be less than significant with mitigation.

Mitigation: Implement Mitigation Measures M-AQ-4.1a – Best Available Control Technology for Diesel Generators, p. 4.8-56; M-AQ-4.1b – Best Available Control Technology for Boilers, p. 4.8-56; and M-AQ-4.1c – Air Filtration Measures within an Air Pollutant Exposure Zone, p. 4.8-59.

Significance after Mitigation: Less than Significant

Program-Level Impacts (Growth in the 12 Study Areas)

Impact AQ-5.1 The Proposed Project, including growth in the 12 study areas, would not conflict with, or obstruct implementation of, the 2010 Clean Air Plan. (Less than Significant)

The most recently adopted air quality plan for the Bay Area Air Basin is the 2010 CAP. The 2010 CAP is a road map that demonstrates how the San Francisco Bay Area will achieve compliance with the state ozone standards as expeditiously as practicable and how the region will reduce the

transport of ozone and ozone precursors to neighboring air basins. In determining consistency with the 2010 CAP, this analysis considers whether the project would (1) support the primary goals of the CAP, (2) include applicable control measures from the CAP, and (3) avoid disrupting or hindering implementation of control measures identified in the CAP.

The primary goals of the CAP are to (1) reduce emissions and decrease concentrations of harmful pollutants, (2) safeguard the public health by reducing exposure to air pollutants that pose the greatest health risk, and (3) reduce greenhouse gas emissions. To meet the primary goals, the CAP recommends specific control measures and actions. These control measures are grouped into various categories and include stationary and area source measures, mobile source measures, transportation control measures, land use measures, and energy and climate measures. The CAP recognizes that to a great extent, community design dictates individual travel mode, and that a key long-term control strategy to reduce emissions of criteria pollutants, air toxics, and greenhouse gases from motor vehicles is to channel future Bay Area growth into vibrant urban communities where goods and services are close at hand, and people have a range of viable transportation options. To this end, the 2010 CAP includes 55 control measures aimed at reducing air pollution in the Bay Area Air Basin.

The measures most applicable to the Proposed Project are energy and climate control measures. The impacts of AAU growth in the study areas with respect to GHGs are discussed in Section 4.9, Greenhouse Gas Emissions, which demonstrates that the Proposed Project would comply with the applicable provisions of the City's Greenhouse Gas Reduction Strategy.

The expansion of the shuttle system in the study areas and high availability of viable additional City transportation options would ensure that residents could bicycle, walk, and ride public or private transit to and from AAU facilities instead of taking trips via private automobile. These features ensure that the Proposed Project in the study areas would avoid substantial growth in automobile trips and VMT. The study areas' anticipated 2,178 net new average daily vehicle trips would be distributed throughout the City and would not result in a significant increase in air pollutant emissions. Transportation control measures that are identified in the 2010 CAP are implemented by the *General Plan* and the *Planning Code*, for example, through the City's Transit First Policy, bicycle parking requirements, and transit impact development fees. Compliance with applicable City requirements would ensure the Proposed Project would include relevant transportation control measures specified in the 2010 CAP. Therefore, the Proposed Project would include applicable control measures identified in the CAP to meet the CAP's primary goals.

Examples of the type of project that could cause the disruption or delay implementation of CAP control measures are projects that would preclude the extension of a transit line or bike path, or projects that propose excessive parking beyond parking requirements. The Proposed Project study areas are within the urban center of San Francisco. Even peripheral development would be accessible through public transit and AAU shuttle services. All study areas are within City-

designated Transit Priority Areas. The study areas, therefore, are located in a dense, walkable urban area near a concentration of regional and local transit service. AAU uses in the study areas would not preclude the extension of a transit line or a bike path or any other transit improvement, and thus would not disrupt or hinder implementation of control measures identified in the CAP.

For the reasons described above, Proposed Project uses in the study areas would not interfere with implementation of the 2010 CAP, and because uses in the study areas would be consistent with the applicable air quality plan that demonstrates how the region will improve ambient air quality and achieve the state and federal ambient air quality standards, this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact AQ-5.2 **The Proposed Project, including growth at the six project sites, would not conflict with, or obstruct implementation of, the 2010 Clean Air Plan. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

The Proposed Project's compliance with the 2010 Clean Air Plan is discussed under Impact AQ-5.1. The measures most applicable to the Proposed Project, including growth at the six project sites, are energy and climate control measures. The Proposed Project's impacts with respect to GHGs are discussed in Section 4.9, Greenhouse Gas Emissions, which demonstrates that the Proposed Project, including growth at the six project sites, would comply with the applicable provisions of the City's Greenhouse Gas Reduction Strategy. Additionally, the project sites' anticipated 2,289 net new average daily vehicle trips distributed throughout the City would not result in a significant increase in air pollutant emissions. Therefore, the AAU uses at the six project sites would not interfere with implementation of the 2010 CAP, and because the uses at the six project sites would be consistent with the applicable air quality plan that demonstrates how the region will improve ambient air quality and achieve the state and federal ambient air quality standards, this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact AQ-5.3 The Proposed Project, including growth within the 12 study areas and at the six project sites, would not conflict with, or obstruct implementation of, the 2010 Clean Air Plan. (Less than Significant)

The Proposed Project's compliance with the 2010 Clean Air Plan is discussed under Impact AQ-5.1. The measures most applicable to the Proposed Project are energy and climate control measures. The Proposed Project's impacts with respect to GHGs are discussed in Section 4.9, Greenhouse Gas Emissions, which demonstrates that the Proposed Project would comply with the applicable provisions of the City's Greenhouse Gas Reduction Strategy. The Proposed Project's anticipated 4,467 net new average daily vehicle trips distributed throughout the City would not result in a significant increase in air pollutant emissions at full Project implementation. Therefore, the Proposed Project would not interfere with implementation of the 2010 CAP, and because the Proposed Project would be consistent with the applicable air quality plan that demonstrates how the region will improve ambient air quality and achieve the state and federal ambient air quality standards, this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact AQ-6.1 The Proposed Project, including growth in the 12 study areas would not create objectionable odors that would affect a substantial number of people. (Less than Significant)

Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. The Proposed Project would include the renovation and operation of residential and institutional land uses in the study areas, and would therefore not create significant sources of new odors. During tenant improvement activities in the study areas, any diesel exhaust from construction equipment would generate some odors. However, construction-related odors would be temporary and would not persist upon project completion. Therefore, odor impacts in the study areas would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact AQ-6.2 **The Proposed Project, including growth at the six project sites, would not create objectionable odors that would affect a substantial number of people. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

Similar to Impact AQ-6.1, the Proposed Project at the six project sites would include the renovation and operation of institutional and recreational land uses, and would therefore not create significant sources of new odors. During construction, any diesel exhaust from construction equipment would generate some odors. However, construction-related odors would be temporary and would not persist upon project completion. Therefore, odor impacts at the six project sites would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact AQ-6.3 **The Proposed Project, including growth at the six project sites, would not create objectionable odors that would affect a substantial number of people. (Less than Significant)**

Similar to Impact AQ-6.1, the Proposed Project would include the renovation and operation of residential, institutional, and recreational land uses, and would therefore not create significant sources of new odors. During construction, any diesel exhaust from construction equipment would generate some odors. However, construction-related odors would be temporary and would not persist upon project completion. Therefore, odor impacts resulting from the Proposed Project would be less than significant.

Mitigation: None required.

Cumulative Impacts

Impact C-AQ-1 **The Proposed Project, in combination with past, present, and reasonably foreseeable future projects, would result in a considerable contribution to a cumulative regional criteria air pollutant impact. (Less than Significant with Mitigation)**

As discussed above, regional air pollution is by its very nature largely a cumulative impact. Emissions from past, present, and future projects contribute to the region's adverse air quality on a

cumulative basis. No single project by itself would be sufficient in size to result in regional nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulative adverse air quality impacts.[311] The project-level thresholds for criteria air pollutants are based on levels at which new sources are not anticipated to contribute to an air quality violation or result in a considerable net increase in criteria air pollutants. The Proposed Project's construction (Impact AQ-1.1 through Impact AQ-1.3) and operational (Impact AQ-3.1 through Impact AQ-3.2) emissions would not exceed the project-level thresholds for criteria air pollutants NOx, PM_{10}, and $PM_{2.5}$. However unmitigated emissions under Impact AQ-3.3 would exceed ROG thresholds. With the implementation of Mitigation Measure M-AQ-3.3 – Maximum Daily Construction Activities, p. 4.8-54, impacts from ROG for Impact AQ-3.3 would be reduced to below the significance thresholds; therefore, the Proposed Project would not be considered to result in a cumulatively considerable contribution to regional air quality impacts.

Mitigation: Implement Mitigation Measure M-AQ-3.3 – Maximum Daily Construction Activities, p. 4.8-54.

Significance after Mitigation: Less than Significant.

Impact C-AQ-2 The Proposed Project, in combination with past, present, and reasonably foreseeable future projects, would contribute considerably to cumulative health risk impacts. (Less than Significant with Mitigation)

As discussed above in Impact AQ-2.1 through Impact AQ-2.3 and Impact AQ-4.1 through Impact AQ-4.3, some Proposed Project study areas and project sites are located in areas that already experience poor local air quality. The Proposed Project would add new sensitive land uses and new sources of TACs (e.g., construction, new shuttle trips and potentially stationary sources) within some areas already adversely affected by air quality, resulting in a contribution to cumulative health risk impacts on sensitive receptors. This would be a significant cumulative impact. However, the Proposed Project would be required to implement Mitigation Measure M-AQ-2.1 – Construction Emissions Minimization within Air Pollutant Exposure Zone, p. 4.8-42, which could reduce construction period emissions by as much as 94 percent; Mitigation Measure M-AQ-4.1a – Best Available Control Technology for Diesel Generators, p. 4.8-56, which requires best available control technology to limit emissions from any new emergency back-up generator; Mitigation Measure M-AQ-4.1b – Best Available Control Technology for Boilers, p. 4.8-56, which limits emissions from any new boilers; and Mitigation Measure M-AQ-4.1c – Air Filtration Measures Within an Air Pollutant Exposure Zone, p. 4.8-59, which requires that enhanced ventilation be provided for buildings converted to residential use, designed to reduce outdoor infiltration of fine particulate matter indoors by 80 percent. Implementation of these mitigation measures would minimize the Proposed Project's contribution to cumulative air quality impacts, and other projects in the vicinity

[311] BAAQMD, *CEQA Air Quality Guidelines* (May 2011), p. 2-1.

would be required to implement similar measures to avoid or minimize their contributions to the degradation of air quality. Therefore, with mitigation this impact would be less than significant.

Mitigation: Implement Mitigation Measures M-AQ-2.1 – Construction Emissions Minimization within Air Pollutant Exposure Zone, p. 4.8-42; M-AQ-4.1a – Best Available Control Technology for Diesel Generators, p. 4.8-56; M-AQ-4.1b – Best Available Control Technology for Boilers, p. 4.8-56; and M-AQ-4.1c – Air Filtration Measures Within an Air Pollutant Exposure Zone, p. 4.8-59.

Significance after Mitigation: Less than Significant.

4.9 GREENHOUSE GAS EMISSIONS

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect greenhouse gas (GHG) emissions and the existing regulatory framework governing GHG emissions. This section also includes an analysis of the potential impacts related to GHGs associated with the implementation of the Proposed Project. The Proposed Project is evaluated for compliance with San Francisco's *Strategies to Address Greenhouse Gas Emissions*, which is recognized as meeting the criteria of a qualified GHG Reduction Strategy by the Bay Area Air Quality Management District (BAAQMD). Some GHG emissions issues were raised during the NOP scoping period. Specifically, comments were made regarding pollution associated with AAU shuttle buses. These areas of concern are addressed in this section.

4.9.1 Environmental Setting

Gases that trap heat in the atmosphere are referred to as GHGs because they capture heat radiated from the sun as it is reflected back into the atmosphere, much like a greenhouse does. The accumulation of GHGs contributes to global climate change. The primary GHGs are carbon dioxide (CO_2), black carbon, methane (CH_4), nitrous oxide (N_2O), ozone, and water vapor.

Individual projects contribute to the cumulative effects of climate change by emitting GHGs during demolition, construction, and operational phases. While the presence of the primary GHGs in the atmosphere is naturally occurring, CO_2, CH_4, and N_2O are also emitted from human activities, accelerating the rate at which these compounds occur within earth's atmosphere. Emissions of CO_2 are largely by-products of fossil fuel combustion, whereas CH_4 results from off-gassing associated with agricultural practices and landfills. Black carbon has emerged as a major contributor to global climate change, possibly second only to CO_2. Black carbon is produced naturally and by human activities as a result of the incomplete combustion of fossil fuels, biofuels and biomass.[312] N_2O is a byproduct of various industrial processes. Other GHGs include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride, and are generated in certain industrial processes. GHGs are typically reported in "carbon dioxide-equivalent" measures (CO_2e).[313]

There is international scientific consensus that human-caused increases in GHGs contribute to climate change. Many impacts resulting from climate change, including sea level rise, increased fires, floods, severe storms and heat waves, already occur and will only become more severe and

[312] Center for Climate and Energy Solutions, What is Black Carbon? (April 2010), http://www.c2es.org/docUploads/what-is-black-carbon.pdf (accessed September 27, 2012).
[313] Because of the differential heat absorption potential of various GHGs, GHG emissions are frequently measured in "carbon dioxide-equivalents," which present a weighted average based on each gas's heat absorption (or "global warming") potential.

costly.[314] Secondary effects of climate change likely include impacts to agriculture, the state's electricity system, and native freshwater fish ecosystems, an increase in the vulnerability of levees such as in the Sacramento-San Joaquin Delta, changes in disease vectors, and changes in habitat and biodiversity.[315,316]

Greenhouse Gas Emission Estimates and Energy Providers in California

The California Air Resources Board (ARB) estimated that in 2010 California produced about 451.60 million gross metric tons of CO_2e (million MT CO_2e).[317] The ARB found that transportation is the source of 38 percent of the state's GHG emissions, followed by electricity generation (both in-state generation and imported electricity) at 21 percent and industrial sources at 19 percent. Commercial and residential fuel use (primarily for heating) accounted for 10 percent of GHG emissions.[318] In San Francisco, motorized transportation and natural gas sectors were the two largest sources of GHG emissions, accounting for approximately 40 percent (2.1 million MT CO_2e) and 29 percent (1.5 million MT CO_2e) respectively, of San Francisco's 5.3 million MT CO_2e emitted in 2010.[319] Electricity consumption (building operations and transit) accounts for approximately 25 percent (1.3 million MT CO_2e) of San Francisco's GHG emissions.[320]

Electricity in San Francisco is primarily provided by PG&E and the San Francisco Public Utilities Commission (SFPUC). In 2010, electricity consumption in San Francisco was approximately 6.1 million megawatt-hours (MWh). Of this total, PG&E produces approximately 73 percent of electricity distributed (4.5 million MWh; about 79 percent of San Francisco's electricity-driven GHG

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[314] California Climate Change Portal, http://www.climatechange.ca.gov (accessed September 25, 2012). U. Cubasch, D. Wuebbles, D. Chen, M.C. Facchini, D. Frame, N. Mahowald, and J.-G. Winther, Introduction, in: *Climate Change 2013: The Physical Science Basis: Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley [eds.), Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 2013), http://www.climatechange2013.org/images/report/WG1AR5_Chapter01_FINAL.pdf (accessed May 9, 2014).
[315] California Climate Change Portal, http://www.climatechange.ca.gov (accessed September 25, 2012).
[316] California Energy Commission, California Climate Change Center, Our Changing Climate 2012, http://www.energy.ca.gov/2012publications/CEC-500-2012-007/CEC-500-2012-007.pdf (accessed August 21, 2012).
[317] California Air Resources Board (ARB), California Greenhouse Gas Inventory for 2000-2010— by Category as Defined in the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-10_2013-02-19.pdf (accessed June 5, 2013).
[318] California Air Resources Board (ARB), California Greenhouse Gas Inventory for 2000-2010— by Category as Defined in the Scoping Plan, http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-10_2013-02-19.pdf (accessed June 5, 2013).
[319] San Francisco Department of Environment (DOE), *San Francisco Climate Action Strategy* (2013 Update).
[320] San Francisco Department of Environment (DOE), *San Francisco Climate Action Strategy* (2013 Update).

emissions) and the SFPUC produces approximately 14 percent of electricity distributed (0.9 million MWh; about 0.01 percent of San Francisco's electricity-driven GHG emissions).[321]

The majority of land use projects in San Francisco is provided power by PG&E, whose 2010 power mix was as follows: 20 percent natural gas, 24 percent nuclear, 16 percent eligible renewables (described below), 16 percent large hydroelectric, 23 percent unspecified power, one percent coal, and one percent other fossil fuels.[322,323]

Muni, city buildings, and a limited number of other commercial accounts in San Francisco are provided energy by the SFPUC who operates three hydroelectric power plants in association with San Francisco's Hetch Hetchy water supply and distribution system. This system has the lowest GHG emissions of any large electric utility in California.[324]

4.9.2 Regulatory Framework

State

Executive Order S-3-05

Executive Order (EO) S-3-05, sets forth a series of target dates by which statewide emissions of GHGs need to be progressively reduced, as follows: by 2010, reduce GHG emissions to 2000 levels (approximately 457 million MT CO_2e); by 2020, reduce emissions to 1990 levels (estimated at 427 million MT CO_2e); and by 2050 reduce emissions to 80 percent below 1990 levels (approximately 85 million MT CO_2e). As discussed in the Environmental Setting section above, California produced about 452 million MT CO_2e in 2010, thereby meeting the 2010 target date to reduce GHG emissions to 2000 levels.

Assembly Bill 32 and California Climate Change Scoping Plan

In 2006, the California legislature passed Assembly Bill No. 32 (California Health and Safety Code Division 25.5, Sections 38500 et seq., or AB 32), also known as the California Global Warming Solutions Act. AB 32 requires ARB to design and implement emission limits, regulations, and other

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[321] San Francisco Department of Environment (DOE), *San Francisco Climate Action Strategy* (2013 Update). Note: The remainder of the electricity consumption is derived from third-party generators or other suppliers.
[322] Pacific Gas & Electric (PG&E), PG&E's 2010 Electric Power Mix Delivered to Retail Customers, (2013), http://www.pge.com/myhome/edusafety/systemworks/electric/energymix/ (accessed June 10, 2013).
[323] Pending California Public Utilities Commission approval, PG&E would include a "Green Option" program that would allow customers an opportunity to pay into a program that may lead to the development of up to 250 MW of new clean energy projects in the PG&E service area. See PG&E, New Green Option (Community Solar) FAQ (2013), http://www.pge.com/about/environment/pge/greenoption/faq/ (accessed June 10, 2013).
[324] San Francisco Public Utilities Commission (SFPUC), Agenda Item No. 20, Adopt an Enforcement Program as required under the California Renewable Energy Resources Act (December 13, 2011), http://www.energy.ca.gov/portfolio/rps_pou_reports.html (accessed June 10, 2013).

measures, such that feasible and cost-effective statewide GHG emissions are reduced to 1990 levels by 2020.

Pursuant to AB 32, ARB adopted a Scoping Plan in December 2008, outlining measures to meet the 2020 GHG reduction limits. In order to meet the goals of AB 32, California must reduce its GHG emissions by 30 percent below projected 2020 business-as-usual emissions levels, about 15 percent below 2008 levels.[325] The Scoping Plan estimates a reduction of 174 million MT CO_2e from transportation, energy, agriculture, forestry, and other high-global-warming sectors, see Table 4.9-1, GHG Reductions from the AB 32 Scoping Plan Sectors, p. 4.9-4.[326]

Table 4.9-1 GHG Reductions from the AB 32 Scoping Plan Sectors

GHG Reduction Measures by Sector	*GHG Reductions (million MT CO_2e)*
Transportation Sector	62.3
Electricity and Natural Gas	49.7
Industry	1.4
Landfill Methane Control Measure (Discrete Early Action)	1
Forestry	5
High Global Warming Potential GHGs	20.2
Additional Reductions Needed to Achieve the GHG Cap	34.4
Total	***174***
Other Recommended Measures	
Government Operations	1–2
Methane Capture at Large Dairies	1
Additional GHG Reduction Measures:	
■ Water	4.8
■ Green Buildings	26
■ High Recycling/ Zero Waste:	9
> Commercial Recycling	
> Composting	
> Anaerobic Digestion	
> Extended Producer Responsibility	
> Environmentally Preferable Purchasing	
Total	***41.8–42.8***

SOURCES: California ARB, Climate Change Scoping Plan (December 2008), http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf (accessed August 21, 2012); California ARB, California's Climate Plan: Fact Sheet (2012), http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf (accessed August 23, 2012).
MT CO_2e = metric tons of carbon dioxide equivalent

[325] California ARB, California's Climate Plan: Fact Sheet (2012), http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf (accessed August 23, 2012).
[326] California ARB, California's Climate Plan: Fact Sheet (2012), http://www.arb.ca.gov/cc/facts/scoping_plan_fs.pdf (accessed August 23, 2012).

The AB 32 Scoping Plan also anticipates that local government actions will result in reduced GHG emissions because they have the primary authority to plan, zone, approve, and permit development to accommodate population growth and the changing needs of their jurisdictions.[327] The Scoping Plan also relies on the requirements of Senate Bill 375 (SB 375 discussed below) to align local land use and transportation planning for achieving GHG reductions.

The Scoping Plan must be updated every five years to evaluate AB 32 policies and ensure that California is on track to achieve the 2020 GHG reduction goal. A First Update to the Climate Change Scoping Plan was approved by the Board in May 2014. The adopted 2014 AB 32 Scoping Plan update defines ARB's climate change priorities for the next five years and lays the groundwork to reach 1990 levels by 2020 set forth in EO S-3-05 and B-16-2012. The update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals in the original 2008 Scoping Plan. According to the ARB, the State is currently on track to meet its 2020 GHG emission reduction goals.[328]

Senate Bill 375

The Scoping Plan also relies on the requirements of Senate Bill 375 (SB 375), also known as the Sustainable Communities and Climate Protection Act of 2008, to reduce carbon emissions from land use decisions. SB 375 requires regional transportation plans developed by each of the State's 18 Metropolitan Planning Organizations (MPOs) to incorporate a "sustainable communities strategy" (SCS) in each regional transportation plan that will then achieve GHG emission reduction targets set by ARB. For the Bay Area, the per-capita GHG emission reduction target is a seven percent reduction by 2020 and a 15 percent reduction by 2035 from 2005 levels. The Metropolitan Transportation Commission's 2013 Regional Transportation Plan, Plan Bay Area, adopted in July 2013, is the region's first plan subject to SB 375 requirements.

Senate Bills 1078, 107, and X1-2 and Executive Orders S-14-08 and S-21-09

California established aggressive Renewable Portfolio Standards under SB 1078 (Chapter 516, Statutes of 2002) and SB 107 (Chapter 464, Statutes of 2006), which require retail sellers of electricity to provide at least 20 percent of their electricity supply from renewable sources by 2010. EO S-14-08 (November 2008) expanded the State's Renewable Portfolio Standard from 20 percent to 33 percent of electricity from renewable sources by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing EO S-21-09,

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[327] California ARB, Climate Change Scoping Plan (December 2008), http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf (accessed August 21, 2012).
[328] California ARB, AB 32 Scoping Plan (June 23, 2014), http://www.arb.ca.gov/cc/scopingplan/scopingplan.htm (accessed January 19, 2015).

which directed ARB to enact regulations to help California meet the Reviewable Portfolio Standard goal of 33 percent renewable energy by 2020.[329]

To codify the GHG reduction goal of 33 percent by 2020 for energy suppliers, SB X1-2 (Chapter 1, Statutes of 2011) was signed by Governor Edmund G. Brown, Jr., in April 2011. This Renewable Portfolio Standard preempts the ARB's 33 percent renewable sources electricity standard and applies to all electricity suppliers (not just retail sellers) in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new Renewable Portfolio Standard goals of 20 percent of retail sales from renewable sources by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020.[330] Eligible renewable sources include geothermal, ocean wave, solar photovoltaic, and wind, but exclude large hydroelectric (30 MW or more). Therefore, any nonhydroelectric sources of electricity provided by the SFPUC are required to be 100 percent renewable.[331]

California Building Standards Code Title 24, Part 6

Title 24, Part 6 of the California Building Standards Code regulates energy uses including space heating and cooling, hot water heating, and ventilation. The energy code allows new buildings to meet a performance standard that allows a builder to choose the most cost-effective energy saving measures to meet the standard from a variety of measures including added insulation, improved HVAC systems, and more efficient water heating and lighting systems. New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the California Energy Commission. The Code is updated periodically to incorporate and consider new energy efficiency technologies and methodologies as they become available. The most recent amendments to the Code, known as the 2013 Building Energy Efficiency Standards, became effective July 1, 2014. The 2013 standards require 25 percent improved efficiency for residential construction and 30 percent improved efficiency for nonresidential construction compared to the previous (2008) standards.

Regional

The BAAQMD is responsible for attaining and maintaining federal and state air quality standards in the San Francisco Bay Area Air Basin (SFBAAB), as established by the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA), respectively. The CAA and the CCAA require plans to be

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[329] California Energy Commission, Renewables Portfolio Standard (RPS) Proceeding (November 14, 2014), http://www.energy.ca.gov/portfolio/ (accessed June 10, 2013).
[330] California Energy Commission, Renewables Portfolio Standard (RPS) Proceeding (November 14, 2014), http://www.energy.ca.gov/portfolio/ (accessed June 10, 2013).
[331] SFPUC, Agenda Item No. 20, Adopt an Enforcement Program as required under the California Renewable Energy Resources Act *(December 13, 2011), http://www.energy.ca.gov/portfolio/rps_pou_reports.html (accessed June 10, 2013).

developed for areas that do not meet air quality standards, generally. The most recent air quality plan, the 2010 Clean Air Plan, includes a goal of reducing GHG emission to 1990 levels by 2020 and 40 percent below 1990 levels by 2035.

In addition, BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the SFBAAB; the program includes GHG-reduction measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative energy sources.[332]

The BAAQMD also assists lead agencies in complying with the requirements of CEQA regarding potentially adverse impacts to air quality in their CEQA Air Quality Guidelines. The BAAQMD advises lead agencies to consider adopting a Greenhouse Gas Reduction Strategy capable of meeting AB 32 goals and then reviewing projects for compliance with the Greenhouse Gas Reduction Strategy as a CEQA threshold of significance.[333] This is consistent with the approach to analyzing GHG emissions in the CEQA Guidelines Section 15183.5.

Local

San Francisco Greenhouse Gas Reduction Ordinance

In May 2008, the City adopted Ordinance No. 81-08 amending the San Francisco Environment Code to establish GHG emissions targets and departmental action plans and to authorize the San Francisco Department of the Environment to coordinate efforts to meet these targets. The City ordinance establishes the following GHG emissions reduction limits and target dates by which to achieve them: determine 1990 Citywide GHG emissions by 2008, the baseline level, with reference to which target reductions are set; reduce GHG emissions by 25 percent below 1990 levels by 2017; reduce GHG emissions by 40 percent below 1990 levels by 2025; and reduce GHG emissions by 80 percent below 1990 levels by 2050.

San Francisco Greenhouse Gas Reduction Strategy

San Francisco has developed a number of plans and programs to reduce the City's contribution to global climate change and meet the goals of the City's Greenhouse Gas Reduction Ordinance. San Francisco's Greenhouse Gas Reduction Strategy documents its actions to pursue cleaner energy, energy conservation, alternative transportation and solid waste policies. For instance, the City has implemented mandatory requirements and incentives that have measurably reduced GHG emissions including, but not limited to, increasing the energy efficiency of new and existing buildings, installation of solar panels on building roofs, implementation of a green building strategy,

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[332] BAAQMD, Climate Protection Program (December 9, 2014), http://www.baaqmd.gov/?sc_itemid=83004271-3753-4519-8B09-D85F3FC7AE70 (accessed August 23, 2012).

[333] BAAQMD, *California Environmental Quality Act Air Quality Guidelines* (May 2012), http://www.baaqmd.gov/~/media/Files/Planning%20and%20Research/CEQA/BAAQMD%20CEQA%20Guidelines_Final_May%202012.ashx?la=en (accessed September 25, 2012).

adoption of a zero waste strategy, a construction and demolition debris recovery ordinance, a solar energy generation subsidy, incorporation of alternative fuel vehicles in the City's transportation fleet (including buses), and a mandatory recycling and composting ordinance. The strategy also identifies 42 specific regulations for new development that would reduce a project's GHG emissions.

San Francisco's policies and programs have resulted in a reduction in GHG emissions to below 1990 levels, exceeding statewide AB 32 GHG reduction goals. As stated above, San Francisco GHG emissions in 2010 were 5.3 million MT CO_2e, which represents a 14.5 percent reduction in GHG emissions compared to 1990 levels (6.2 million MT CO_2e). The reduction is largely a result of reduced GHG emissions from the electricity sector, from 2.0 million MT CO_2e (1990) to 1.3 million MT CO_2e (2010), and waste sector, from 0.5 million MT CO_2e (1990) to 0.2 million MT CO_2e (2010).[334]

4.9.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to greenhouse gas emissions, if it would:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment
- Conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of GHGs

Approach to Analysis

This analysis analyzes the Proposed Project's impacts to GHG emissions and analyzes the program-level growth, project-level growth, and shuttle expansion. GHG emissions and global climate change represent cumulative impacts. GHG emissions cumulatively contribute to the significant adverse environmental impacts of global climate change. No single project could generate enough GHG emissions to noticeably change the global average temperature; instead, the combination of GHG emissions from past, present, and future projects have contributed and will contribute to global climate change and its associated environmental impacts.

The BAAQMD has prepared guidelines and methodologies for analyzing GHGs. These guidelines are consistent with CEQA Guidelines Sections 15064.4 and 15183.5, which address the analysis and determination of significant impacts from a proposed project's GHG emissions. CEQA Guidelines Section 15064.4 allows lead agencies to rely on a qualitative analysis to describe GHG emissions resulting from a project. CEQA Guidelines Section 15183.5 allows for public agencies to analyze and mitigate GHG emissions as part of a larger plan for the reduction of greenhouse gases and describes the required contents of such a plan. Accordingly, San Francisco has prepared its own Greenhouse

[334] San Francisco Department of Environment (DOE), *San Francisco Climate Action Strategy* (2013 Update).

Gas Reduction Strategy (described above), which the BAAQMD has reviewed and concluded that "Aggressive GHG reduction targets and comprehensive strategies like San Francisco's help the Bay Area move toward reaching the State's AB 32 goals, and also serve as a model from which other communities can learn."[335]

Given that the City's local greenhouse gas reduction targets are more aggressive than the State and region's 2020 GHG reduction targets and consistent with the long-term 2050 reduction targets, the City's Greenhouse Gas Reduction Strategy is consistent with the goals of EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan. Therefore, proposed projects that are consistent with the City's Greenhouse Gas Reduction Strategy would be consistent with the goals of EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan, would not conflict with these plans, and would therefore not exceed San Francisco's applicable GHG threshold of significance.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010, when the NOP for this EIR was published. These sites are, therefore, considered part of the EIR baseline conditions. As such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.9.1, Environmental Setting, p. 4.9-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to GHG emissions. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential effects related to GHG emissions that resulted from pre-NOP changes would be addressed in the Existing Sites Technical Memorandum.

The following analysis of the Proposed Project's impact on climate change focuses on the project's contribution to cumulatively significant GHG emissions. Given the analysis is in a cumulative context, this section does not include an individual project-specific impact statement for each project site.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.

[335] BAAQMD, Letter from J. Roggenkamp, BAAQMD, to B. Wycko, San Francisco Planning Department (October 28, 2010), http://www.sf-planning.org/ftp/files/MEA/GHG-Reduction_Letter.pdf (accessed September 24, 2012).

- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 program-level study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact C-GG-1.1 The Proposed Project, including growth in the study areas, would generate greenhouse gas emissions, but not at levels that would result in a cumulatively considerably impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)

Individual projects contribute to the cumulative effects of climate change by directly or indirectly emitting GHGs during construction and operational phases. Direct operational emissions include GHG emissions from new vehicle trips and area sources (natural gas combustion). Indirect emissions include emissions from electricity providers, energy required to pump, treat, and convey water, and emissions associated with waste removal, disposal, and landfill operations.

The Proposed Project would increase activity at most study area sites by renovating newly occupied buildings and operating these renovated buildings as student housing and institutional uses to support the anticipated growth of AAU through 2020. This includes mobile source generation from both the operation of the facilities' shuttle bus system and the commute vehicles of some students, faculty, and staff. In addition, the day-to-day operations of the facilities would result in the consumption of electricity, natural gas and water as well as the generation of waste water and solid waste. Therefore, the Proposed Project would contribute to annual long-term increases in GHGs as a result of increased vehicle trips (mobile sources) and residential and commercial operations that result in an increase in energy use, water use and wastewater treatment, and solid waste disposal. Renovation activities would also result in temporary increases in GHG emissions.

AAU uses in the study areas would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. The regulations that may be applicable to the Proposed Project include the Bicycle Parking in Residential Buildings Regulation, Residential Water Conservation Ordinance, and Low-emitting Materials Regulation for all residential/dormitory land uses. For nonresidential land uses, growth in the study areas would be subject to the Commercial Water Conservation Ordinance, San Francisco Existing Commercial Buildings Energy Performance Ordinance, and Light Pollution Reduction Regulation. Additionally, future growth may be subject to the Commuter Benefits Ordinance, the Emergency Ride Home Program, the Transit Impact Development Fee, Bicycling Parking, Showers, and Lockers in New and Expanded Buildings Regulation, Parking Requirements for San Francisco's Mixed-Use Zoning Districts requirements (for those Study Areas within the Mixed-Use Zones), Mandatory Recycling

and Composting Ordinance, and/or the San Francisco Green Building Requirements for construction and demolition debris recycling.

These regulations, as outlined in San Francisco's *Strategies to Address Greenhouse Gas Emissions*, have proven effective, as San Francisco's GHG emissions have measurably reduced when compared to 1990 emissions levels, demonstrating that the City has met and exceeded EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan GHG reduction goals for the year 2020. Based on the City's Compliance Checklist Table for Greenhouse Gas Emissions the Proposed Project in the study areas was determined to be consistent with San Francisco's GHG Reduction Strategy.[336] Other existing regulations, such as those implemented through AB 32, will further reduce the Proposed Project's contribution to climate change.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact C-GG-1.2 **The Proposed Project, including growth at the six project sites, would generate greenhouse gas emissions, but not at levels that would result in a cumulatively considerably impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

As noted above, the regulations outlined in San Francisco's *Strategies to Address Greenhouse Gas Emissions* have proven effective in helping to reduce GHG emissions in San Francisco. San Francisco's GHG emissions have measurably reduced when compared to 1990 emissions levels, demonstrating that the City has met and exceeded EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan GHG reduction goals for the year 2020. Based on the City's Compliance Checklist Table for Greenhouse Gas Emissions completed for each project site, growth at each of the six project sites was determined to be consistent with San Francisco's GHG Reduction Strategy.[337] Other existing regulations, such as those implemented through AB 32, will further reduce the Proposed Project's contribution to climate change.

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[336] Greenhouse Gas Analysis: Compliance Checklist for the Study Areas (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

[337] Greenhouse Gas Analysis: Compliance Checklist for each project site (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

Therefore, the Proposed Project at the six project sites would not contribute considerably to GHG emissions or conflict with state, regional, and local GHG reduction plans and regulations. This impact would be less than significant, and no mitigation is required.

PS-1, 2801 Leavenworth Street (The Cannery)

The Proposed Project at PS-1 would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. Regulations applicable to PS-1 include the Commuter Benefits Ordinance, the Emergency Ride Home Program, the Existing Commercial Building Energy Performance Ordinance, and the Mandatory Recycling and Composting Ordinance. Applicable regulations may also include the San Francisco Building Code requirements for light pollution reduction (San Francisco Building Code Chapter 13C5.106.8), requirements for bicycle parking, showers, and lockers (*Planning Code* Sections 155.1–155.4) and the Transit Impact Development Fee.

Mitigation: None required.

PS-2, 700 Montgomery Street

The Proposed Project at PS-2 would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. Regulations applicable to PS-2 include the Commuter Benefits Ordinance, the Emergency Ride Home Program, the Existing Commercial Building Energy Performance Ordinance, and the Mandatory Recycling and Composting Ordinance. Applicable regulations may also include the San Francisco Building Code requirements for light pollution reduction (San Francisco Building Code Chapter 13C5.106.8), requirements for bicycle parking, showers, and lockers (*Planning Code* Sections 155.1–155.4) and the Transit Impact Development Fee.

Mitigation: None required.

PS-3, 625 Polk Street

The Proposed Project at PS-3 would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. Regulations applicable to PS-3 include the Commuter Benefits Ordinance, the Emergency Ride Home Program, the Existing Commercial Building Energy Performance Ordinance, and the Mandatory Recycling and Composting Ordinance. Applicable regulations may also include the San Francisco Building Code requirements for light pollution reduction (San Francisco Building Code Chapter 13C5.106.8), and requirements for bicycle parking, showers, and lockers (*Planning Code* Sections 155.1–155.4).

Mitigation: None required.

PS-4, 150 Hayes Street

The Proposed Project at PS-4 would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. Regulations applicable to PS-4 include the Commuter Benefits Ordinance, the Emergency Ride Home Program, the Existing Commercial Building Energy Performance Ordinance, and the Mandatory Recycling and Composting Ordinance. Applicable regulations may also include the San Francisco Building Code requirements for light pollution reduction (San Francisco Building Code Chapter 13C5.106.8), requirements for bicycle parking, showers, and lockers (*Planning Code* Sections 155.1–155.4) and the Transit Impact Development Fee.

Mitigation: None required.

PS-5, 121 Wisconsin Street

The Proposed Project at PS-5 would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. Regulations applicable to PS-5 include the Commuter Benefits Ordinance, the Emergency Ride Home Program, and the Mandatory Recycling and Composting Ordinance. Applicable regulations may also include the Tenant Bicycle Parking in Existing Commercial Buildings Ordinance and San Francisco Building Code requirements for light pollution reduction (San Francisco Building Code Chapter 13C5.106.8).

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

The Proposed Project at PS-6 would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. Regulations applicable to PS-6 include the Commuter Benefits Ordinance, the Emergency Ride Home Program, the Existing Commercial Building Energy Performance Ordinance, and the Mandatory Recycling and Composting Ordinance. Applicable regulations may also include the San Francisco Building Code requirements for light pollution reduction (San Francisco Building Code Chapter 13C5.106.8), requirements for bicycle parking, showers, and lockers (*Planning Code* Sections 155.1–155.4) and the Transit Impact Development Fee.

Therefore, AAU uses in the study areas would not contribute considerably to GHG emissions or conflict with state, regional, and local GHG reduction plans and regulations. This impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth in the Six Project Sites)

Impact C-GG-1.3 **The Proposed Project, including growth in the study areas and at the six project sites, would generate greenhouse gas emissions, but not at levels that would result in a cumulatively considerably impact on the environment or conflict with any policy, plan, or regulation adopted for the purpose of reducing greenhouse gas emissions. (Less than Significant)**

As detailed above, the Proposed Project would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. These regulations, as outlined in San Francisco's *Strategies to Address Greenhouse Gas Emissions*, have proven effective as San Francisco's GHG emissions have measurably reduced when compared to 1990 emissions levels, demonstrating that the City has met and exceeded EO S-3-05, AB 32, and the Bay Area 2010 Clean Air Plan GHG reduction goals for the year 2020. The Proposed Project as a whole was determined to be consistent with San Francisco's GHG Reduction Strategy.[338] Other existing regulations, such as those implemented through AB 32, would further reduce the Proposed Project's contribution to climate change.

In addition to the regulations listed above, the Proposed Project includes increased shuttle service for students, faculty, and staff to travel to the various AAU facilities throughout the City. The inclusion of the expanded shuttle system would allow for an alternative to students, faculty, and staff to using their own vehicles. While shuttle buses would emit greenhouse gases, the emissions from buses would be offset by the removal of passenger vehicles, therefore resulting in a net reduction in emissions over what would occur without the expansion of the shuttle system.

For these reasons, GHG emissions resulting either directly or indirectly from the Proposed Project would not have a significant impact on the environment, and the Proposed Project would not conflict with state, regional, and local GHG reduction plans and regulations. Therefore, the Proposed Project's contribution to GHG emissions would not be cumulatively considerable, and this impact would be less than significant.

Mitigation: None required.

[338] Greenhouse Gas Analysis: Compliance Checklist (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

4.10 WIND AND SHADOW

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect wind and shadow conditions. No wind or shadow issues were raised during the NOP scoping period.

4.10.1 Environmental Setting

Wind

Wind impacts are generally caused by large building masses extending substantially above neighboring buildings, and by buildings oriented such that a large wall may catch prevailing winds, particularly if such a wall includes little or no articulation. Wind impacts are caused by construction of buildings over 80 feet or adjacent shorter buildings.

Planetary wind systems, normally called prevailing winds, are great moving air masses that dominate whole areas and show constant directional characteristics, varying only with the movement of high- or low-pressure systems and with the seasons of the year. In many locations these are the dominant winds, particularly on exposed hilltops, shorelines facing the prevailing winds, open plains or plateaus, the floor of an open valley running parallel to the prevailing winds, or the windward side of a gently sloping hill.[339] Local winds, by contrast, are caused by temperature differences created by local topographic conditions. Land-sea breezes, for example, will blow from the land towards the sea by night, simply because land temperatures are subject to more frequent temperature changes than the ocean. Long-term wind data in San Francisco are available from historical wind records taken from the U.S. Weather Bureau's weather station, located above the old Federal Building at 50 United Nations Plaza. Table 4.10-1, Seasonal Wind Direction Frequency and Average Speed in Knots, in Percent, p. 4.10-2, shows that average wind speeds are greatest in the summer and least in the fall. Winds also exhibit a diurnal variation with the strongest winds occurring in the afternoon, and lightest winds occurring in the early morning.

Winds in the City occur most frequently from the west to northwest directions, reflecting the persistence of sea breezes. Wind direction tends to be most variable in the winter.[340] The approach of winter storms often results in southerly winds. Although not as frequent as westerly winds, these southerly winds are often strong. The strongest winds in the City are typically from the south during the approach of a winter storm.

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[339] Stephen D. Butz, *Science of Earth Systems*, Cengage Learning (2007).
[340] City and County of San Francisco, *Market and Octavia Neighborhood Plan, Final EIR* (adopted September 2007), p. 4-141.

Table 4.10-1 Seasonal Wind Direction Frequency and Average Speed in Knots, in Percent

Prevailing Wind Direction	*January*		*April*		*July*		*October*		*Annual*	
	Freq	*Speed*	*Freq*	*Speed*	*Freq*	*Speed*	*Freq*	*Speed*	*Freq*	*Speed*
North	12.5	7.9	2.2	11.0	0.3	6.0	3.3	6.6	5.0	7.2
North-northeast	1.3	5.6	0.7	6.1	0.3	6.8	0.7	6.6	0.8	6.0
Northeast	4.5	5.3	1.3	4.7	1.1	7.4	2.2	5.8	1.9	5.6
East-northeast	1.4	6.3	0.6	4.8	0.2	5.1	0.8	5.1	0.8	5.6
East	11.9	4.8	2.6	4.5	0.1	3.9	4.8	4.5	4.8	5.0
East-southeast	2.1	6.4	0.3	5.2	0.1	2.5	0.6	5.8	0.8	5.8
Southeast	9.1	6.4	2.4	7.8	0.2	5.0	3.7	6.6	4.2	6.8
South-southeast	2.8	5.6	0.3	3.8	0.1	3.0	1.3	9.0	1.2	6.4
South	6.7	5.0	4.2	7.1	1.1	4.9	4.5	7.5	4.1	6.4
South-southwest	1.0	4.8	0.4	4.1	0.1	3.0	1.7	12.8	0.9	8.6
Southwest	4.5	8.0	7.7	9.2	15.6	10.1	7.8	9.1	9.3	9.3
West-southwest	1.0	5.9	1.7	7.7	1.2	8.1	2.8	8.8	2.4	8.6
West	13.2	7.2	43.0	10.9	53.0	13.1	34.6	9.1	35.7	10.9
West-northwest	7.5	11.1	20.7	14.1	14.9	14.5	15.2	10.9	13.8	12.7
Northwest	11.5	7.7	9.3	10.7	10.7	11.4	10.8	8.5	10.0	9.7
North-northwest	1.2	5.7	0.6	10.8	0.6	8.5	0.5	7.5	0.7	8.3
Calm[a]	7.7	—	2.1	—	0.3	—	4.6	—	3.7	—
Total	***100.0***		***100.0***		***100.0***		***100.0***		***100.0***	

SOURCE: U.S. Weather Bureau data collected at the U.S. Weather Bureau station above the old Federal Building in United Nations Plaza.

a. The calm category represents the percent of time during the month when wind conditions are calm and no prevailing wind direction is discernible.

The description of wind conditions is focused on the street-level environment. Wind conditions affect pedestrian comfort on sidewalks and in other public areas. In downtown areas, high-rise buildings can redirect wind flows around buildings and divert winds downward to street level; both of these conditions can result in increased wind speed and turbulence at street level. Pedestrian comfort varies under different conditions of sun exposure, temperature, clothing, and wind speed. Winds up to four miles per hour (mph) have no noticeable effect on pedestrian comfort. At speeds of four to eight mph, wind is felt on the face. Winds of eight to 13 mph will disturb hair, cause clothing to flap, and extend a light flag mounted on a pole. Winds from 13 to 19 mph will raise loose paper, dust, and dry soil, and will disarrange hair. At speeds of 19 to 26 mph, the force of the wind will be felt on the body. At wind speeds of 26 to 34 mph, umbrellas are used with difficulty, hair is blown

straight, there is difficulty in walking steadily, and wind noise is unpleasant. Winds exceeding 34 mph increase difficulty with balance and gusts can blow people over.[341]

Winds vary at pedestrian levels within a city. In San Francisco wind strength is generally greater, on average, along streets that run east/west as buildings tend to channel westerly winds along these streets.[342] Streets running north/south tend to have lighter winds, on average, due to the shelter offered by buildings on the west side of the street. Within the City, the street systems north of Market Street and portions of the systems south of Market Street (including those in the Mission District, Potrero Hill, Mission Bay, and Central Waterfront) are mainly on a north/south and east/west grid. However, portions of the street systems south of Market Street (including those in South of Market, South Beach, Bayview Hunters Point, and Visitación Valley) are mainly northwest/southeast and southwest/northeast, which results in a less predictable pattern of wind variation at the pedestrian level.

Shadow

Shadow effects can alter temperature, solar radiation, moisture, and to a lesser extent, wind in the areas where they fall. Maintaining direct sunlight is essential to creating usable, enjoyable open space within San Francisco. The *San Francisco General Plan* (*General Plan*) considers existing open spaces a "major city resource" and the creation and maintenance of adequate open space is considered of "vital importance." *Planning Code* Section 295, the Sunlight Ordinance, was adopted in November 1984, pursuant to voter approval of Proposition K, to regulate new shadows cast on open spaces. Section 295 generally prohibits the issuance of building permits for structures greater than 40 feet that would cast new shadows on open spaces under the jurisdiction of (or designated for acquisition by) the San Francisco Recreation and Park Commission, and that would have a significant adverse impact on the use of such spaces from one hour after sunrise until one hour before sunset. The San Francisco Planning Commission, in consultation with the general manager of the San Francisco Recreation & Parks Department (SFRPD), has the authority to determine that new shadows cast by a proposed development would not have a significant adverse impact on the use of an open space. Although not covered under Section 295, additional open space analyzed in this section includes publicly owned or controlled open space areas and privately owned, publicly accessible open space areas.

Open spaces within two blocks of the study areas and project sites are shown in Figure 4.11-1, Parks and Recreation Centers, and Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 AAU Study Areas and Six Project Sites, in Section 4.11, Recreation.

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[341] E. Arens, Designing for Acceptable Wind Environment, *Transactions Engineering Journal* (ASCE 107, No. TE 2, 1981), pp. 127–141.
[342] City and County of San Francisco, *Market and Octavia Neighborhood Plan, Final EIR* (adopted September 2007), p. 4-141.

4.10.2 Regulatory Framework

Wind

San Francisco Planning Code

The *Planning Code* establishes wind comfort and wind hazard criteria used to evaluate new development in four areas of the City: the C-3 Downtown Commercial Districts (Section 148), the Van Ness Avenue SUD (Section 243(c)(10)), the Folsom-Main Residential/Commercial SUD (Section 249.1), and the Downtown Residential District (Section 825). Parts of Study Area 4 (SA-4), Sutter Street/Mason Street; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; and PS-4, 150 Hayes Street, are within the C-3 Downtown Commercial Districts. Parts of SA-3, Mid Van Ness Avenue are within the Van Ness Avenue SUD. Parts of SA-7, Rincon Hill East, are located within the Folsom-Main Residential/Commercial SUD. Parts of SA-7, Rincon Hill East, and SA-9, Second Street/Brannan Street, are located within the Downtown Residential District.

Section 148 establishes wind comfort and wind hazard criteria for the Downtown (C-3) Districts. Section 148 establishes equivalent wind speeds[343] of seven mph as the comfort criterion for seating areas and 11 mph as the comfort criterion for areas of substantial pedestrian use.

The cited *Planning Code* sections provide that any new building or addition in these areas of the City that would cause wind speeds to exceed the hazard level of 26-mph-equivalent wind speed (as defined in the *Planning Code*) more than 1 hour of any year must be modified to meet this criterion. The 26 mph standard accounts for short-term—three-minute averaged—wind observations at 36 mph as equivalent to the frequency of an hourly averaged wind of 26 mph. Winds over 34 mph make it difficult for a person to maintain balance, and gusts can blow a person over.

Shadow

San Francisco General Plan

The Recreation and Open Space Element of the *San Francisco General Plan* (1996) includes policies that promote solar access and avoid shade to maintain the usability of public open space, in compliance with the requirements of *Planning Code* Section 295. The policies further protect open spaces that are under the jurisdiction of other public agencies or are privately owned, and thus not protected by the *Planning Code* amendments, requiring that they not be shaded during the hours of their most intensive use.

[343] Pursuant to *Planning Code* Section 148, equivalent wind speed is defined as the mean hourly wind speed adjusted to incorporate the effects of gustiness or turbulence on pedestrians.

San Francisco Planning Code

Planning Code Section 295, adopted in 1984 pursuant to voter approval of Proposition K, "The Sunlight Ordinance," prohibits the issuance of building permits for structures over 40 feet in height that would cast shade or shadow on property under the jurisdiction of, or designated to be acquired by, the Recreation and Park Commission between one hour after sunrise to one hour before sunset at any time of year, unless the Planning Commission determines that the shade or shadow would have an insignificant adverse impact on the use of such property. *Planning Code* Section 295 provides that:

> The City Planning Commission shall conduct a hearing and shall disapprove the issuance of any building permit governed by the provisions of this Section if it finds that the proposed project will have any adverse impact on the use of the property under the jurisdiction of, or designated for acquisition by, the Recreation and Park Commission because of the shading or shadowing that it will cause, unless it is determined that the impact would be insignificant. The City Planning Commission shall not make the determination required by the provisions of this Subsection until the general manager of the Recreation and Park Department in consultation with the Recreation and Park Commission has had an opportunity to review and comment to the City Planning Commission upon the proposed project.

As required by *Planning Code* Section 295, the Recreation and Park Commission and the Planning Commission adopted criteria in 1987 and 1989 for the review of shade, solar access, and shadow effects.[344] According to those adopted criteria, shadow is measured by multiplying the area of the shadow by the amount of time the shadow is present on the park, in units called "square-foot-hours." Determining the shadow impact caused by a project begins with a calculation of the number of square-foot-hours a project casts on a protected property over the course of a year during each day an hour after sunrise to an hour before sunset summed over the course of a year, ignoring shadow from any surrounding structures, and from clouds, fog, and solar eclipses. This is called the "Annual Available Sunlight" (AAS) for that park. The shadow impact of a project is defined as the shadow in square-foot-hours cast by a project divided by the AAS, expressed as a percentage. Further, in addition to quantitative criteria, the adopted criteria set forth qualitative criteria for evaluation of shadow. Those criteria for assessing new shadow would be based on existing shadow profiles, important times of day, important seasons in the year, location of the new shadow, size, and duration of new shadows and the public good served by buildings casting new shadow.

Also, the adopted criteria state that small parks, less than two acres in area, with existing shadow loads of 20 percent or larger should not be subjected to additional shadow by new development.

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[344] San Francisco Planning Department, *San Francisco Planning Code* Section 295 (Presentation for Planning Commission Hearing) (October 23, 2003). This report is an overview of current procedures for Planning Department review of applications that are subject to Section 295, and includes a review of the *Planning Code* requirements and of the implementation document adopted jointly by the Recreation and Park and the Planning Commissions, and a description of the technical methodology for analysis of shadow impacts on protected properties.

Larger parks (two acres or more), with shadow loads between 20 percent and 40 percent would have an additional new shadow budget of 0.1 percent. Larger parks with existing shadow loads of less than 20 percent would have an additional new shadow budget of 1.0 percent.

4.10.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to wind and shadow, if it would:

- Alter wind in a manner that substantially affects public areas
- Create new shadow in a manner that substantially adversely affects outdoor recreation facilities or other public areas

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to wind and shadow in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting. Neither the height nor the bulk of these buildings would increase or change.

This section discusses program-level, project-level, combined program-level and project-level, and cumulative environmental impacts. Unlike the specific project sites, where specific buildings have been identified, the program-level analysis assumes that within the designated study areas, AAU could occupy any building to accommodate growth. However, beyond the project-level sites, no specific buildings within these areas have been identified.

This section of the EIR does not evaluate the shuttle service expansion because this project element would have no effect on wind or shadow characteristics, nor would wind or shadow conditions affect the shuttle service. Therefore, no analysis of wind or shadow effects is warranted for this element of the Proposed Project.

With regard to wind impacts, *Planning Code* Section 148 conditions are used by the San Francisco Planning Department to evaluate the CEQA compliance of projects under environmental review. Therefore, project compliance with the wind comfort and wind hazard criteria of Section 148 is used to determine the potential environmental impact of a given project. A significant wind impact

would result if the Proposed Project would exceed the hazard criterion of 26 mph for a single hour of the year as established in *Planning Code* Section 148.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010, when the NOP for this EIR was published. These sites are, therefore, considered part of the EIR baseline conditions. As such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.10.1, Environmental Setting, p. 4.10-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to wind and shadow. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential wind and shadow effects that resulted from pre-NOP changes at the 34 existing sites would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 program-level study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact WS-1.1 The Proposed Project, including growth in the 12 study areas, would not alter wind in a manner that could substantially affect public areas. (No Impact)

The Proposed Project includes AAU growth within 12 study areas, including occupation and change of use of existing buildings for residential, institutional, and recreational uses. Construction activities related to changes in use would be limited to tenant improvements, including interior construction, fire sprinkler/alarm upgrades, seismic retrofit work, and/or the addition of exterior signage, awnings, windows, or lighting. Therefore, the Proposed Project would not involve any new development or additions that would change the height and bulk of existing structures and therefore, would not alter wind environments. Furthermore, any future improvements would be

required to comply with all applicable policies and regulations, including *Planning Code* Section 148, intended to reduce wind impacts. Therefore, the Proposed Project, including growth in the 12 study areas, would not alter wind in a manner that substantially affects public areas, and no impact would occur.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact WS-1.2 **The Proposed Project, including growth at the six project sites, would not alter wind in a manner that could substantially affect public areas. (No Impact)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): No Impact**
- **PS-2, 700 Montgomery Street: No Impact**
- **PS-3, 625 Polk Street: No Impact**
- **PS-4, 150 Hayes Street: No Impact**
- **PS-5, 121 Wisconsin Street: No Impact**
- **PS-6, 2225 Jerrold Avenue: No Impact**

PS-1, 2801 Leavenworth Street (The Cannery)

The project site at PS-1 is located at the eastern half of the block bounded by Leavenworth Street to the east, Jefferson Street to the north, a pedestrian courtyard to the west, and Beach Street to the south within the Fisherman's Wharf/North Beach area. The Proposed Project at PS-1 involves the change of use of an existing 133,675-square-foot (sf), three-story building from retail, commercial, office, and restaurant uses to classrooms, office space, a restaurant, multiuse/event space, and other space (including circulation, storage, trash/recycle facilities, and building mechanical/electrical facilities).

Because the Proposed Project at PS-1 would not involve construction activities that would increase the height of the building or modify the exterior of the building, street-level wind conditions would not be affected or altered, and there would be no impact from changes to wind conditions.

Mitigation: None required.

PS-2, 700 Montgomery Street

The project site at PS-2 is located at the northeast corner of Washington and Montgomery Streets between North Beach and the Financial District. The Proposed Project would involve the change of use of this site from office use to 11,455 sf of institutional space for AAU.

Because the Proposed Project at PS-2 would not involve construction activities that would increase the height of the building or modify the exterior of the building, street-level wind conditions would not be affected or altered, and there would be no impact from changes to wind conditions.

Mitigation: None required.

PS-3, 625 Polk Street

The project site at PS-3 is located at the northeast corner of Polk and Turk Streets. The five-story building is composed of 93,103 sf and the Proposed Project would use this site for institutional space for AAU.

Because the Proposed Project at PS-3 would not involve construction activities that would increase the height of the building or modify the exterior of the building, street-level wind conditions would not be affected or altered, and there would be no impact from changes to wind conditions.

Mitigation: None required.

PS-4, 150 Hayes Street

The project site at PS-4 is located in the mid portion of the block bounded by Ivy (Lech Walesa) Street to the north, Polk Street to the east, Hayes Street to the south, and Van Ness Avenue to the west. The Proposed Project at PS-4 would involve a change of use from existing office space to include 80,330 sf of institutional office space for AAU and 49,482 sf of parking that would continue to be operated by an independent parking vendor.

Because the Proposed Project at PS-4 would not involve construction activities that would increase the height of the building or modify the exterior of the building, street-level wind conditions would not be affected or altered, and there would be no impact from changes to wind conditions.

Mitigation: None required.

PS-5, 121 Wisconsin Street

The project site at PS-5 is located in the center portion of the block bounded by 16th Street to the north, Arkansas Street to the east, 17th Street to the south, and Wisconsin Street to the west in the Mission District. The Proposed Project at PS-5 would include the use of the 20,000 sf lot for storage of AAU shuttle buses. This would include two small trailers at the east end of the site, used by the staff for a lounge, office, restroom, and storage space. Under the Proposed Project, the site would accommodate approximately two staff in the trailers and 30 shuttle buses.

Because the Proposed Project at PS-5 would not involve construction activities that would increase the height of a building or modify the exterior of a building as there are no permanent structures at the site, street-level wind conditions would not be affected or altered, and there would be no impact from changes to wind conditions.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

The project site at PS-6 is located at the southeasterly portion of a trapezoidal block bounded by Jerrold Avenue to the north, Upton Street to the east, McKinnon Avenue to the south, and Barneveld Avenue to the west in the Bayshore area. The Proposed Project at PS-6 would involve a change of use from 91,367 sf of offices and vehicle storage for AAU to include 17,533 sf of recreational uses, including a basketball/volleyball court to be utilized by students and staff. Office and storage uses would continue.

Because the Proposed Project at PS-6 would not involve construction activities that would increase the height of the building or modify the exterior of the building, street-level wind conditions would not be affected or altered, and there would be no impact from changes to wind conditions.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact WS-1.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not alter wind in a manner that could substantially affect public areas. (No Impact)**

The Proposed Project includes AAU growth by occupancy and change of use of existing buildings within 12 study areas and at six project sites, including for residential and institutional uses. Construction activities in the study areas and at the project sites related to changes in use would be limited to minor tenant improvements, including interior construction, fire sprinkler/alarm upgrades, seismic retrofit work, and/or the addition of exterior signage, lighting, awnings, or windows. The Proposed Project does not include any new development or major additions. The Proposed Project would not change the height or bulk of existing buildings and therefore, would not alter wind environments. Furthermore, any future change of use and/or improvements to an existing building would comply with all applicable policies and regulations including *Planning Code* Section 148, intended to reduce wind impacts. Therefore, the Proposed Project would result in no impact from changes to wind conditions.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact WS-2.1 **The Proposed Project, including growth in the 12 study areas, would not create new shadow in a manner that could substantially affect outdoor recreation facilities or other public areas. (No Impact)**

The Proposed Project includes AAU growth within 12 study areas through the occupation and change of use of existing buildings for residential, recreational, and institutional uses. Construction activities would be limited to tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), fire sprinkler/fire alarm upgrades, seismic retrofit work, and/or addition of

exterior signage, or other exterior improvements such as awnings, lighting, or windows, and would not involve any new development or major additions. Therefore, the Proposed Project would not involve construction of new above grade structures or construction activities that would change the height and bulk of existing structures, and would not alter shadows or be subject to the requirements of *Planning Code* Section 295. Furthermore, any future improvements and/or change of use of existing buildings would comply with all applicable policies and regulations intended to reduce shadow impacts. Therefore, the Proposed Project's change of use of existing buildings in the 12 study areas would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas, and would result in no impact from shadows.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact WS-2.2 **The Proposed Project, including growth at the six project sites, would not create new shadow in a manner that could substantially affect outdoor recreation facilities or other public areas. (No Impact)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): No Impact**
- **PS-2, 700 Montgomery Street: No Impact**
- **PS-3, 625 Polk Street: No Impact**
- **PS-4, 150 Hayes Street: No Impact**
- **PS-5, 121 Wisconsin Street: No Impact**
- **PS-6, 2225 Jerrold Avenue: No Impact**

PS-1, 2801 Leavenworth Street (The Cannery)

The Proposed Project at PS-1 would involve the change of use from retail, commercial, office, and restaurant uses to classrooms, office space, a restaurant, multiuse/event space, and other space. The Proposed Project at PS-1 would be limited to interior improvements associated with the change of use and installation of exterior signage, and would not involve construction activities that would increase the height or bulk of the existing building. Therefore, the Proposed Project at PS-1 would not create new shadow in a manner that substantially affects outdoor recreation facilities, or other public areas. As the Proposed Project as PS-1 would not construct any new structures, it would not be subject to the requirements of Section 295. Therefore, the Proposed Project would result in no impact related to shadows.

Mitigation: None required.

PS-2, 700 Montgomery Street

The Proposed Project at PS-2 is change of use of a three-story building from office and restaurant use to institutional office and storage uses. The only exterior alterations proposed at PS-2 are the addition of the AAU signage above the building entry doorways on Washington and Montgomery Streets, and painting. The Proposed Project at PS-2 would not involve construction activities that

would increase the height or bulk of the existing building. As the Proposed Project at PS-2 would not construct any new structures, it would not be subject to the requirements of Section 295. Therefore, the Proposed Project would result in no impact related to shadows.

Mitigation: None required.

PS-3, 625 Polk Street

The Proposed Project at PS-3 is the use of this five-story building for classroom space and institutional uses. The only exterior alterations would include installing signs on the individual doors of the major four-door entry on Polk Street, as well as on the two-door entry on Turk Street and partial roof replacement. No construction activities that would increase the height or bulk of the existing building would occur at PS-3. As the Proposed Project at PS-3 would not construct any new structures, it would not be subject to the requirements of Section 295. Therefore, the Proposed Project would result in no impact related to shadows.

Mitigation: None required.

PS-4, 150 Hayes Street

The Proposed Project at PS-4 is change of use of a six-story building from office to institutional uses. The only exterior alterations proposed at PS-4 are the addition of the AAU signage on the doors at the entrance to the building. Construction activities that would increase the height or bulk of the existing building would not occur at PS-4. As the Proposed Project at PS-4 would not construct any new structures, it would not be subject to the requirements of Section 295. Therefore, the Proposed Project would result in no impact related to shadows.

Mitigation: None required.

PS-5, 121 Wisconsin Street

The Proposed Project at PS-5 is the use of this site for a 20,000 sf lot used for storage of AAU shuttle buses. The Proposed Project at PS-5 would include the use of the site for bus storage yard, along with lounge, office, restroom, and storage space. This would include the addition of AAU signage and parking area repaving. At full use, the site would accommodate approximately two staff in the trailers. AAU occupancy at PS-5 would not involve construction activities that would increase the height or bulk of the existing trailers. As the Proposed Project at PS-5 would not construct any new structures, it would not be subject to the requirements of Section 295. Therefore, the Proposed Project would result in no impact related to shadows.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

The Proposed Project at PS-6 consists of the change of use of a 91,367 sf warehouse to provide offices, as well as vehicle storage for AAU. Under the Proposed Project, office and storage uses would remain, and 17,533 sf of recreational uses would be added. The Proposed Project at PS-6 would include new signs on the four doors (along with an existing above-door sign) along Jerrold Avenue and a new building sign facing Upton Street, as well as replacement of sidewalk, street curbs, and landscaping along McKinnon Avenue. No construction activities that would increase the height or bulk of the existing building would occur at PS-6. As the Proposed Project at PS-6 would not construct any new structures, it would not be subject to the requirements of Section 295. Therefore, the Proposed Project would result in no impact related to shadows.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact WS-2.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not create new shadow in a manner that could substantially affect outdoor recreation facilities or other public areas. (No Impact)**

The Proposed Project consists of AAU growth through change of use and occupancy of existing buildings within the 12 study areas and at the six project sites, including occupation and use of existing buildings for residential, institutional, and recreational uses. Construction activities in the study areas and at the project sites would be limited to tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), fire sprinkler/fire alarm upgrades, seismic retrofit work, and/or addition of exterior signage, or other exterior improvements such as awnings, lighting, or windows, and would not involve any new development or major additions. Therefore, the Proposed Project would not involve construction of new above grade structures or construction activities that would change the height and bulk of existing structures, and would not alter shadows or be subject to the requirements of Section 295. Furthermore, any future improvements and/or change of use of existing buildings would comply with all applicable policies and regulations, including *Planning Code* Section 295, intended to reduce shadow impacts. Therefore, the Proposed Project would not create new shadow in a manner that substantially affects outdoor recreation facilities or other public areas, and would result in no impact related to shadows.

Mitigation: None required.

Cumulative Impacts

As discussed above, the Proposed Project would not have any impact on wind or shadows. Therefore, the Proposed Project would not cause or contribute to any cumulative impact on such resources.

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4.11 RECREATION

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect the provision of recreational facilities. This section also describes existing recreational facilities and examines the impacts related to increased use from AAU students, faculty and staff, and their families that could result in substantial physical deterioration or physical degradation of existing recreational facilities or result in the need for construction or expansion of recreational facilities. No recreation issues were raised during the NOP scoping period.

4.11.1 Environmental Setting

For purposes of this analysis, parks are generally defined as areas of land set aside for various recreational opportunities for the public. Recreational facilities are those structures and/or improvements that are built at parks (e.g., benches, picnic tables, tennis courts, etc.). Open space areas are typically unimproved parkland. Therefore, parks and recreational facilities are typically used interchangeably, whereas open space areas refer to those areas where the land is either kept in its natural state or enhanced in order to return the land to its natural state. However, when calculating the City's overall park acreage, open space areas are considered part of the overall total. Recreational facilities operated by AAU for the use of AAU students, faculty, and staff also are described. The environmental setting at the six project sites represents conditions preceding the 2010 NOP for this EIR.

Regional Recreational Resources

Property in San Francisco that is permanently dedicated to publicly accessible park and recreational uses totals approximately 5,890 acres.[345] The provisional population estimate for San Francisco as of January 1, 2012, was 812,538,[346] yielding a ratio of approximately 7.0 acres of open space per 1,000 San Francisco residents. The City has not established a citywide target ratio of parkland to residents because San Francisco's population density, small land mass, and other development constraints make such policies infeasible.

A majority of local-serving parks and recreation facilities within San Francisco are owned and operated by the San Francisco Recreation and Parks Department (SFRPD). The SFRPD maintains over 220 parks, playgrounds, and open spaces throughout the City. The park system also includes 15 recreation centers, nine swimming pools, and five golf courses, as well as tennis courts, baseball

[345] San Francisco Planning Department, *San Francisco General Plan*, Draft Recreation & Open Space Element, Final Draft (April 2014), http://openspace.sfplanning.org/docs/Recreation-and-Open-Space-Element-2014-March13-WEB.pdf (accessed July 21, 2014). This number includes San Francisco Recreation and Park Department, state, federal, and other open space land in the City and County of San Francisco.
[346] California Department of Finance, E-2 Press Release, Sacramento, California (December 9, 2010), http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php (accessed June 20, 2012).

diamonds, athletic fields, and basketball courts. The SFRPD also manages the Marina Yacht Harbor, Candlestick Park, the San Francisco Zoo, and the Lake Merced Community Complex. The SFRPD currently owns and manages a total of approximately 3,400 acres of recreational and open space.[347] In addition, the State owns approximately 171 acres at Candlestick Point State Recreation Area and the federal government owns approximately 619 acres primarily at the Presidio, which are managed by the U.S. Department of Interior's National Park Service (NPS) as part of the Golden Gate National Recreation Area (GGNRA).[348]

Within San Francisco, publicly accessible open spaces and recreational facilities are categorized according to their size and particular amenities as serving the City, district, neighborhood, or sub-neighborhood. Several larger open space areas, including Golden Gate Park (1,017 acres), the Lake Merced complex (700 acres; 368-acre lake) and John McLaren Park (317 acres) compose about one-half of the total City-owned acreage of recreational use. These larger areas provide programs, activities, or recreation opportunities that serve the City as a whole. These spaces, in addition to smaller areas with unique attributes such as water features or hilltop vista points, function as city-serving open spaces because they attract residents from the entire City.

Smaller recreational facilities are primarily used by residents in the immediate surrounding area and are categorized by size and intended service area. District-serving parks are generally larger than 10 acres and have a service area consisting of a three-eighths-mile radius around the park, while neighborhood-serving parks are generally one to 10 acres and have a service area of 0.25 mile around the park. Sub-neighborhood-serving open spaces, often referred to as mini parks, are too small to accommodate athletic facilities. These parks tend to include seating areas, small landscaped spaces, tot-lots targeting preschool children, and playgrounds with amenities generally for elementary school children. The service area for sub-neighborhood parks is a 0.125 mile radius around the park.

Study Area Recreational Resources

For the purposes of this EIR, only those recreational facilities and open spaces within a two-block radius[349] of each of the 12 study areas and six project sites are discussed below. Based on SFRPD's Recreation and Parks Map, the parks and recreation centers that are in the vicinity of the 12 study areas and six project sites are identified in Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, and on Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6.

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[347] San Francisco Recreation and Park Department, Who We Are, http://sfrecpark.org/WhoWeAre.aspx (accessed January 13, 2012).
[348] San Francisco Planning Department, *San Francisco General Plan*, Draft Recreation & Open Space Element, Final Draft (April 2014), http://openspace.sfplanning.org/docs/Recreation-and-Open-Space-Element-2014-March13-WEB.pdf (accessed July 21,2014).
[349] This is considered to be the distance that AAU students would travel to utilize nearby parks and recreational resources.

Table 4.11-1 Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites

Recreational Resource[a]	*Distance from Study Area*	*Description*	*Land Owner/ Manager*
STUDY AREAS			
SA-1, Lombard Street/Divisadero Street			
Presidio	2 blocks west	The 1,491-acre Presidio is both a national park site and a National Historic Landmark District. Amenities include hiking and biking trails, open space, over 400 historic properties, diverse habitats, restaurants, museums, school, and recreational facilities.	NPS/GGNRA[b]
Cow Hollow Playground	2 blocks southwest	Mini park with playground facilities	SFRPD[c]
SA-2, Lombard Street/Van Ness Avenue			
Allyne Park	1 block south	Fenced in park with grass and picnic areas	SFRPD
Alice Marble Tennis Courts/George Sterling Park	2 blocks east	Four tennis courts, one basketball court, picnic areas	SFRPD
SA-3, Mid Van Ness Avenue			
Sergeant John Macaulay Park	1 block east	Mini park with playground facilities	SFRPD
Turk and Hyde Mini Park	2 blocks east	Mini park with playground facilities	SFRPD
Jefferson Square Park	Borders SA-3 to the southwest	5.6-acre open space	SFRPD
Civic Center Plaza	2 blocks south	Civic Center Plaza and United Nations Plaza. The San Francisco Civic Center was designated a National Historic Landmark in 1987 and is also a City-designated historic district under *Planning Code* Article 10. Two play structures are within the Civic Center.	SFRPD
Margaret Hayward Playground	Borders Jefferson Square Park to the south	Play structure, two tennis courts, two baseball fields, and open space.	SFRPD
Japan Center Peace Plaza and Pagoda	2 blocks west	Benches, open space, and Peace Pagoda.	SFRPD
SA-4, Sutter Street/Mason Street			
Union Square	Borders SA-4 to the southeast	2.6-acre square, elevated central plaza, stage, terraced performance seating, café, and outdoor seating.	SFRPD
SA-5, Mid-Market Street			
Civic Center Plaza	2 blocks north	Civic Center Plaza and United Nations Plaza. The San Francisco Civic Center was designated a National Historic Landmark in 1987 and is also a City-designated historic district under *Planning Code* Article 10. Two play structures are within the Civic Center.	SFRPD
Father E. Boeddeker Park	2 blocks north	Half a basketball court, play structures, and a clubhouse	SFRPD

Table 4.11-1 Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites

Recreational Resource[a]	*Distance from Study Area*	*Description*	*Land Owner/ Manager*
Howard and Langton Mini Park	1 block south	Community gardens with benches and tables	SFRPD
South of Market/Gene Friend Recreation Center	2 blocks south	A basketball court, playground with sand pit, art sculptures, open space, indoor gymnasium, activity room, weight room, and recreation room.	SFRPD
UN Plaza	Borders SA-5 to the north	Featuring historic statues, a fountain, and BART and MUNI stations	SFRPD
SA-6, Fourth Street/Howard Street			
Yerba Buena Gardens	1 block east	5.5 acres of open space, gardens, public art, a waterfall, and carousel	SFRPD
South of Market/ Gene Friend Recreation Center	2 blocks south	A basketball court, playground with sand pit, art sculptures, open space, indoor gymnasium, activity room, weight room, and recreation room.	SFRPD
SA-7, Rincon Hill East			
Rincon Park	2 blocks north	Tidal steps and bayfront promenade; inland park planned.	Port of San Francisco
SA-8, Third Street/Bryant Street			
South Park	2 blocks south	Playground with sand pit, picnic areas, and open space	SFRPD
SA-9, Second Street/Brannan Street			
South Park	1 block north	Playground with sand pit, picnic areas, and open space	SFRPD
South Beach Harbor	2 blocks south	Recreational and commercial docking facilities, a yacht club, and Pier 40 Maritime Center	Built by the SFRA[d] on land leased by the Port of San Francisco
South Beach Park	2 blocks south	Lawn, benches, public art; sand pit, and climbing structure.	Built by the SFRA on land leased by the Port of San Francisco
AT&T Park	1 block south	46,000-seat baseball stadium	San Francisco Giants
SA-10, Fifth Street/Brannan Street			
No recreation facilities within a two block radius of SA-10.			
SA-11, Sixth Street/Folsom Street			
Victoria Manalo Draves Park	Within SA-11	Basketball court, baseball field, playground, picnic area, benches, community gardens, and open space.	SFRPD
South of Market/Gene Friend Recreation Center	Borders SA-11 to the northeast	A basketball court, playground with sand pit, art sculptures, open space, indoor gymnasium, activity room, weight room, and recreation room.	SFRPD
SA-12, Ninth Street/Folsom Street			
No recreation facilities within a two block radius of SA-12.			

Table 4.11-1 Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites

Recreational Resource[a]	*Distance from Study Area*	*Description*	*Land Owner/ Manager*
PROJECT SITES			
PS-1, 2801 Leavenworth Street (The Cannery)			
San Francisco Maritime National Historical Park	1 block west	Fleet of historic vessels, a visitor center, man-made lagoon, gardens, a maritime museum, and a library/research facility, among other recreational opportunities. In addition, the park contains a municipal pier, Aquatic Park, Hyde Street Pier, the Aquatic Park Bathhouse Building, and bocce ball courts	NPS
Joseph Conrad Square	Borders SA-3 to the south	Landscaping and associated benches	SFRPD
PS-2, 700 Montgomery Street			
Portsmouth Square	1 block west	Playground, benches, and open space	SFRPD
Redwood Park	0.5 block east	Benches, a waterfall and sculptures	Privately Owned
PS-3, 625 Polk			
Civic Center Plaza	2 blocks south	Civic Center Plaza and United Nations Plaza. The San Francisco Civic Center was designated a National Historic Landmark in 1987 and is also a City-designated historic district under *Planning Code* Article 10. Two play structures are within the Civic Center.	SFRPD
Turk and Hyde Mini Park	2 blocks east	Mini park with playground facilities	SFRPD
PS-4, 150 Hayes Street			
Civic Center Plaza	1 block northeast	Civic Center Plaza and United Nations Plaza. The San Francisco Civic Center was designated a National Historic Landmark in 1987 and is also a City-designated historic district under *Planning Code* Article 10. Two play structures are within the Civic Center.	SFRPD
PS-5, 121 Wisconsin Street			
Jackson Park and Playground	0.5 block south	Combined softball/baseball field, a tennis court, a basketball court, a playground with sand pit, and a recreation area.	SFRPD
PS-6, 2225 Jerrold Avenue			
No recreation facilities within a two block radius of PS-6.			

SOURCE: City and County of San Francisco, Recreation and Parks Department, http://sfrecpark.org/ (January 2012).

a. Recreational resources may be repeated if they are in the vicinity of more than one study area or project site.
b. National Park Service/Golden Gate National Recreation Area (NPS/GGNRA)
c. San Francisco Recreation and Parks Department (SFRPD)
d. San Francisco Redevelopment Agency (SFRA)

SOURCE: City of San Francisco GIS, 2010; AAU, 2013; Atkins, 2013.

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FIGURE 4.11-1: NEARBY PARKS AND RECREATION FACILITIES WITHIN THE VICINITY OF THE PROPOSED PROJECT

Recreational Resources Utilized by AAU

AAU athletic programs use 25 athletic facilities throughout the Bay Area for intercollegiate games, practices, and student activities. AAU rents 22 of these facilities from the SFRPD, or other public agencies, institutions, and private entities. AAU also operates gyms at 620 Sutter Street and 1069 Pine Street, and sports facilities at 601 Brannan Street, which are used by both intercollegiate athletes and other students. These facilities are integrated with other on-site uses, such as student housing and classrooms. Table 4.11-2, Existing Athletic Facilities Used by AAU, p. 4.11-7, summarizes for each facility the locations, athletic programs and use, number of athletes that use each facility, hours per week, and yearly periods of use.

Table 4.11-2 Existing Athletic Facilities Used by AAU

Facility	*Athletic Program*	*Use*	*Number of Athletes by Type of Athletic Program*	*Hours per Week*	*Dates*
AAU RECREATIONAL FACILITIES					
1069 Pine St (1,875 sf)[a] San Francisco, CA 94109	Student Use	Dance, Yoga, and General Fitness	250–300 per week	12:00 p.m.–10:00 p.m. (M/W/F); 5:00 p.m.–10:00 p.m. (T/Th); and 11:00 a.m.–4:00 p.m. (Sat)	Year Round
601 Brannan (17,069 sf)[a] San Francisco, CA 94107	Student Use	Skatepark, Batting Cages, and Basketball Court	30–35 per week for the skatepark; 39–49 per week for the batting cages and basketball court	During daylight hours for the skatepark (every day); 5:00 p.m.–10:00 p.m. (for the batting cages and basketball court)	Year Round
620 Sutter St (5,035 sf)[a] San Francisco, CA 94102	Student Use	Dance, Yoga, and General Fitness	900–1,300 per week	6:00 a.m.–10:00 p.m. (every day)	Year Round
NON-AAU RECREATIONAL FACILITIES					
Treasure Island YMCA 749 Ninth St San Francisco, CA 94130	Women's Basketball	Practice	10	10–16	September–April
Treasure Island Soccer Field Avenue H and 11th St San Francisco, CA 94130	Women's Soccer	Practice	14	14–16	September–April
X-Level Batting Cages 800 Avenue H San Francisco, CA 94130	Softball/Baseball	Practice	12/17[b]	10	September–April
Sports Club LA 747 Market St San Francisco, CA 94103	Volleyball/ Men's Basketball/ Women's Basketball	Practice	9/13/10	12	August–April
Stuart Hall High School 1715 Octavia St San Francisco, CA 94109	Volleyball	Practice	9	12	August–April

Table 4.11-2 Existing Athletic Facilities Used by AAU

Facility	*Athletic Program*	*Use*	*Number of Athletes by Type of Athletic Program*	*Hours per Week*	*Dates*
Crocker-Amazon Playground 1537 Geneva Ave San Francisco, CA 94112	Men's Soccer/ Women's Soccer	Practice/ Games	23/14	14–16	September–April
UCSF Bakar Fitness and Recreation Center at Mission Bay 1675 Owens St San Francisco, CA 94158	Men's Basketball/ Women's Basketball	Practice/ Games	13/10	10	September–April
Mission Blue Field 475 Mission Blue Dr Brisbane, CA 94005	Softball	Practice/ Games	12	10	September–April
Gene Friend Recreation Center 270 Sixth St San Francisco, CA 94103	Men's Basketball	Practice	13	10	September–April
Kezar Stadium 755 Stanyan St San Francisco, CA 94117	Men's Soccer/ Women's Soccer	Games	23/14	Varies	August–October
Kezar Pavilion 755 Stanyan St San Francisco, CA 94117	Volleyball/ Men's Basketball/ Women's Basketball	Practice/ Games	13/10/9	14–16	August–March
Boxer Stadium 2100 San Jose Ave San Francisco, CA 94112	Men's Soccer/ Women's Soccer	Games	23/14	Varies	September–October
San Francisco Tennis Club 645 Fifth St San Francisco, CA 94107	Tennis	Practice/ Games	6	8–10	September–April
Presidio Golf Course 300 Finley Rd San Francisco, CA 94129	Men's Golf/ Women's Golf	Practice	4/5	20–22	September–April
San Geronimo Golf Course 5800 Sir Francis Drake Blvd San Geronimo, CA 94963	Men's Golf	Practice	4	20	September–April
California Golf Club 844 W. Orange Ave South San Francisco, CA 94080	Men's Golf	Practice	4	20	September–April
Golden Gate Park San Francisco, CA 94117	Men's Cross-Country/ Women's Cross-Country	Practice	7/8	10–12	August–November and January–April
Marina Green Marina Green Dr San Francisco, CA 94123	Men's Cross-Country/ Women's Cross-Country	Practice	7/8	10–12	August
City College of San Francisco 50 Phelan Ave San Francisco, CA 94112	Men's Track & Field/Women's Track & Field	Practice	15/13	6–8	September–October and January–May

Table 4.11-2 Existing Athletic Facilities Used by AAU

Facility	*Athletic Program*	*Use*	*Number of Athletes by Type of Athletic Program*	*Hours per Week*	*Dates*
Merritt College Track 12500 Campus Dr Oakland, CA 94619	Men's Track & Field/Women's Track & Field	Practice	15/13	6–8	September–October and January–May
San Pablo Park 2800 Park St Berkeley, CA 94702	Baseball	Practice	17	10	September–April
Laney College 900 Fallon St Oakland, CA 94607	Baseball	Games	17	10	September–April

SOURCE: AAU (2013).

a. There are other AAU uses at these sites, beyond the recreational uses. Refer to Table 3-2, Existing Institutional Facilities, and Table 3-3, Existing Residential Facilities, for the total square footage.

b. This column corresponds to the sports listed in the Athletic Program column in all cases. For example, at the batting cages site, there are 12 athletes in the softball program and 17 athletes in the baseball program.

4.11.2 Regulatory Framework

The following acts, codes, and local plans are relevant to recreational uses in the study areas.

Local

San Francisco General Plan

The *San Francisco General Plan* provides general policies and objectives to guide land use decisions and development throughout the City. The *General Plan*'s Recreation & Open Space Element (ROSE) emphasizes the accessibility of parks (location, walking distance) and whether a facility provides needed services to the population in question, rather than focusing on the raw acreage of parks. Furthermore, the ROSE states that the most critical provision of open space is its distribution. All types of open space activity—from sports fields to playgrounds—should be accessible to and within walking distance of every resident of the City. A distance of 0.5 mile is commonly accepted as a distance that can be comfortably walked in 10 minutes and as a distance most people are willing to walk to access community uses. For most open space activities, including active ones such as hiking, biking and sports activities, or for passive ones, like picnicking, this walking distance is acceptable. However, for activities that involve small children, such as a playground, or require moving through denser areas, a 0.25-mile, or five-minute, walk is more appropriate.[350] The most recent ROSE was adopted in April 2014.

[350] San Francisco Planning Department, *San Francisco General Plan*, Recreation & Open Space Element (April 2014), http://openspace.sfplanning.org/docs/Recreation-and-Open-Space-Element_APRIL-2014-ADOPTED.pdf (accessed July 21, 2014).

Open Space Needs Evaluation

The San Francisco Planning Department, in conjunction with the SFRPD, the Mayor's Office, and the Neighborhood Parks Council, is currently evaluating the open space needs of the entire city over the next 100 years. As part of the Open Space 2100 project, a Draft Open Space Framework is being developed that includes several components: the Draft Citywide Vision for Open Space, which provides a broad outline of the City's ideal open space network over the next 100 years; the Open Space Framework, which expands the traditional definition of open space and introduces the concept of a high-performing open space network; and the Final Draft Update of the ROSE of the *San Francisco General Plan*.

These documents were released for public review in May 2009, and comments were accepted through October 2009. Community focus groups have been conducted since then to discuss specific comment areas for inclusion into a final draft for adoption. An Action Plan will also be drafted consisting of a set of five- and 10-year programs that describe how the City will implement the vision for open space as well as the objectives and policies of the ROSE.

San Francisco Planning Code

The *Planning Code* requires usable open space in conjunction with development projects. As a part of the permitting process, project sponsors are required to incorporate certain amounts of open space, depending on a project's use and size as well as the use district in which the site is located, to serve future project residents and/or employees. *Planning Code* Section 135 indicates the square footage of open space required for new residential units, ranging from 36 to 300 square feet (sf) per unit. The requirement is generally higher in single-use residential districts than in mixed-use residential districts. Commonly accessible open space (designed for use jointly by two or more units) is permitted at a ratio typically 1.33:1 sf of the required amount of private open space.

Sections 102.36 and 135 (Ordinance 188-12)

Planning Code Section 135 also addresses open space requirements with respect to student housing and specifies that for dwelling units that measure less than 350 sf plus a bathroom, the minimum amount of usable open space provided for use by each bedroom shall be one-third the amount otherwise required for a dwelling unit. For purposes of these calculations, the number of bedrooms on a lot shall in no case be considered to be less than one bedroom for each two beds. Where the actual number of beds exceeds an average of two beds for each bedroom, each two beds shall be considered equivalent to one bedroom.

Open Space Fund and Recreation and Park Acquisition Policy

In 2000, San Francisco voters approved Proposition C, extending the Open Space Fund that is used to finance acquisitions and capital improvements for SFRPD. The legislation created an annual set-aside of two and one-half cents for each one hundred dollars assessed valuation from the property

tax levy. The Open Space Fund is funded through Fiscal Year 2030/31. The legislation stipulates that at least five percent of the revenue raised through the set-aside be allocated to new land acquisition. In 2006, the SFRPD, at the request of the Recreation and Park Commission, published the Recreation and Park Acquisition Policy to provide clear guidelines for the expenditure of acquisition funds under the Recreation and Park Commission's jurisdiction. The first objective stated in this policy is to align the SFRPD acquisition priorities with Map 9 of the *San Francisco General Plan* ROSE, which identifies high need areas based on population, density, age, and income.[351] However, the SFRPD ultimately used a separate map modeled after Map 9 and included demographic statistics (high residential, senior, and children densities per net acre, as well as high and low household incomes relative to the city median household income) from Census 2000 data to determine high and highest priority need areas. In addition, using neighborhood service areas, the SFRPD conducted a gap analysis for the policy report. Ultimately, the SFRPD produced Neighborhood Recreation and Open Space Improvement Priority Plan Maps showing the areas of highest need according to demographic statistics and the areas that are also underserved in terms of existing recreational resources.

San Francisco Park Code

The San Francisco Park Code regulates public use of the city parks including vehicle use within the parks, permit requirements, and regulations concerning the use of United Nations Plaza, Hallidie Plaza, and Yerba Buena Gardens, all located in the City.

4.11.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to recreation, if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment
- Physically degrade existing recreational resources

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to recreation in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing

[351] San Francisco Planning Department, *San Francisco General Plan*, Recreation & Open Space Element (April 2014), http://openspace.sfplanning.org/docs/Recreation-and-Open-Space-Element_APRIL-2014-ADOPTED.pdf (accessed July 21, 2014).

buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting.

This EIR includes a program-level review of AAU growth within the 12 study areas and a project-level review of six specific sites. In determining whether growth within the 12 study areas and at the six project sites would have a significant adverse impact on recreational facilities, this analysis considers the existing recreational facilities as presented in Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6, which identifies public recreation facilities within the vicinity of each of the study areas and project sites, and the existing and proposed recreational facilities owned and operated by AAU for student, faculty, and staff use, as identified in Table 4.11-2, Existing Athletic Facilities Used by AAU, p. 4.11-7. In addition, the uses associated with each recreational facility were assessed to determine the likelihood that AAU students would utilize the identified facilities. This information is used to determine whether the increases in population projected by AAU's program- and project-level growth would have a significant impact on recreational resources surrounding the study areas and project sites. Because the City does not have an established target ratio of parkland to residents, a qualitative analysis of the Proposed Project's impact on parks and recreation facilities identified above under "Environmental Setting" is described below.

Additionally, the Proposed Project's potential contributions to cumulative recreation impacts are evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the project vicinity.

This section of the EIR does not evaluate the effects of the shuttle service expansion, including the associated addition of shuttle stops and/or signage in the study areas or at project sites, because this element of the Proposed Project would have no effect on recreational resources. Therefore, no analysis of recreational resource effects is warranted for this element of the Proposed Project.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010, when the NOP for this EIR was published. These sites are, therefore, considered part of the EIR baseline conditions. As such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.11.1, Environmental Setting, p. 4.11-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to

recreation. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential effects to recreational resources that resulted from pre-NOP changes would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in the 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 program-level study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact RE-1.1 **The Proposed Project, including growth in the 12 study areas, would not increase the use of or physically degrade existing recreational facilities such that substantial physical deterioration of those facilities would occur or be accelerated, or require construction or expansion of recreational facilities in a way that would adversely affect the environment. (Less than Significant)**

The Proposed Project would be limited to the occupation and change of use of existing buildings in already developed areas of the City and would not result in new development or major additions. However, the Proposed Project would result in growth of AAU uses within the 12 study areas with the addition of up to 669,670 sf of institutional space and 110,000 sf (or 400 beds) of student housing. As described in Section 4.4, Population, Housing, and Employment, growth under the Proposed Project, including both program-level and project-level growth, would result in a population increase of approximately 4,209 new student residents and approximately 1,191 new faculty and staff residents and their families by 2020,[352] resulting in a net population growth of 5,400 new residents within San Francisco. The Proposed Project would have an adverse environmental impact if it were to cause the deterioration or degradation of existing recreational resources through increased use by new residents or include or require the construction or expansion of recreational facilities that may have an adverse effect on the environment. It can be anticipated that increases in the number of residents without development of additional recreational resources could result in

[352] Generation factor is based on the historical trend that 69 percent of AAU students and 43 percent of faculty/staff are new residents to the City. For Faculty/Staff, this assumes that there would be an average household size of 2.27 pph. See Section 4,4, Population, Housing, and Employment for further discussion.

proportionately greater use of parks and recreational facilities in the 12 study areas, which may result in physical deterioration. However, population growth associated with the Proposed Project could contribute minimally to the deterioration of existing facilities; other variables include park design, age, infrastructure, how the park is being used, and whether adequate levels of maintenance are occurring. Further, while much of the net population growth associated with the Proposed Project would occur within the 12 study areas, any additional use of recreational facilities would occur gradually over time until the year 2020 and would be distributed throughout the City.

As demonstrated by Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6, and Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, p. 4.11-3, which show and describe parks and other recreational facilities located within the vicinity of each of the 12 study areas, the areas identified for AAU growth currently are well-served by local recreational facilities. Additionally, as identified in Table 4.11-2, Existing Athletic Facilities Used by AAU, p. 4.11-7, AAU provides recreational facilities in the form of gymnasiums and related facilities open for use by students, faculty, and staff at 1069 Pine Street, 620 Sutter Street, and 601 Brannan Street. AAU also facilitates access for students, faculty, and staff at other nearby facilities, as listed in Table 4.11-2, where practice and game space is provided for various AAU athletic programs. The student housing facilities would be required to meet the open space requirements for student housing, as specified in *Planning Code* Section 135. AAU is also proposing recreational uses at PS-6, 2225 Jerrold Avenue, that could decrease the demand over time for use of City-owned parks and recreational facilities by AAU students and staff. Proposed uses at PS-6 are discussed further below under the project-level analysis.

The CEQA criteria also address whether a project would require construction or expansion of recreational facilities such that it would result in adverse environmental effects. As noted above, AAU growth under the Proposed Project would result in a net population increase of approximately 5,400 new residents in San Francisco, which would minimally increase the demand for park and recreational facilities. While these additional residents and employees may use surrounding parks and other recreational facilities, the additional demand associated with AAU growth is not expected to result in the need to expand or construct new facilities.

Because the Proposed Project would result in only a gradual increase of net population throughout the 12 study areas, and ample recreational facilities are available for student, faculty and staff use within and immediately adjacent to the study areas, the increase in population as a result of the Proposed Project would not result in the degradation or deterioration of existing recreational facilities, or include or result in the need to expand or construct new facilities. Additionally, future occupation and change of use of existing buildings would be required to comply with *Planning Code* Sections 135 and 102.36 for open space requirements. Therefore, this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact RE-1.2 **The Proposed Project, including growth at the six project sites, would not increase the use of or physically degrade existing recreational facilities such that substantial physical deterioration of those facilities would occur or be accelerated, or require construction or expansion of recreational facilities in a way that would adversely affect the environment. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: No Impact**

Student, faculty, and staff population increases associated with the project sites are assessed as part of overall Proposed Project growth in Impact RE-1.1. Growth at the project sites is analyzed this way because overall AAU growth would be dispersed, with most new students and some faculty and staff moving among different AAU facilities during a typical day. Since the AAU population using the project sites is analyzed as part of overall Proposed Project growth, the analyses below address the daytime population of each project site in relation to the use of existing recreational resources nearby.

PS-1, 2801 Leavenworth Street (The Cannery)

At PS-1, the Proposed Project would convert office, retail, and restaurant space, some of which was vacant before AAU occupied the site, to AAU uses, including classrooms, office space, a restaurant, multiuse/event space, and other space on the first, second, and third floors of the building. This growth would result in daytime occupancy of up to 1,600 students and 18 faculty and staff.

The proposed intensification of uses at PS-1 would generate some increase in the demand for nearby recreational facilities. As shown in Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6, and Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, p. 4.11-3, PS-1 is located one block east of the San Francisco Maritime National Historic Park and adjacent to Joseph Conrad Square. Institutional and office uses typically generate relatively low impacts to nearby parks and recreational facilities and, as such, do not tend to result in substantial deterioration of these facilities that could rise to the level of significance, as employees tend to use nearby parks at lower intensities than residents. The addition of classrooms as part of the planned institutional uses also would likely generate some increase in the level of use at nearby facilities. However AAU student and staff population usage at PS-1 would be incremental, and any associated increase in park use would not substantially contribute to the physical deterioration or degradation of existing recreation facilities. Further, demand for open space would be met in part through the availability of interior and exterior plazas

and courtyards on-site. These open spaces are privately owned, but publicly accessible, and would be available for use by AAU employees and students.

Because various parks and recreational facilities and privately owned open spaces are available to serve this site, the Proposed Project at PS-1 would not increase the use of existing recreational resources such that substantial physical deterioration of recreational facilities would occur or be accelerated, or include or require construction or expansion of recreational facilities in a way that would adversely affect the environment. Therefore, this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

Before AAU occupied a portion of the site, PS-2 contained a restaurant and law offices. Under the Proposed Project, PS-2 would contain 11,455 sf of office, classroom, restaurant, storage, and lounge space to accommodate 15 students and 20 faculty and staff at full occupancy. There are no recreational facilities at PS-2. As noted above, institutional and office uses typically generate relatively low impacts to nearby parks and recreational facilities and, as such, do not tend to result in substantial deterioration of these facilities, as employees tend to use nearby parks at lower intensities than residents. Further, while the addition of classrooms as part of the planned institutional uses could generate a small increase in the level of use at nearby facilities, growth in AAU student and staff population at PS-2 would be incremental, and any associated increase in park use would not be substantial enough to result in the physical deterioration or degradation of existing recreation facilities.

As described above, ample recreational facilities are available in the immediate vicinity of PS-2 for student, staff, and faculty use. As shown in Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6, and Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, p. 4.11-3, PS-2 is one block east of Portsmouth Square and across the street from the privately owned and publicly-accessible Redwood Park.

Thus, while some increases in park use could occur with full occupancy at PS-2, it is not expected that the increase in occupancy would lead to heavy use of local parks and recreational facilities in a way that would result in their deterioration or degradation. Nor would growth at PS-2 include or necessitate the construction of new or expanded recreational facilities such that adverse environmental effects would occur. Therefore, this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

Prior to AAU occupancy, PS-3 was the site of the California Culinary Academy, an institutional use. Under the Proposed Project, the site would include 93,103 sf of institutional space (primarily

classroom space) for AAU to accommodate up to 1,675 students and 168 faculty and staff. There are currently no recreational facilities located on-site. Such growth would result in some additional demand for recreational facilities. However, growth in AAU student and staff population would be incremental, and any associated increase in park use would not be substantial enough to result in the physical deterioration or degradation of existing recreation facilities.

As described above, institutional and office uses typically generate relatively low impacts to nearby parks and recreational facilities and, as such, do not tend to result in substantial deterioration of these facilities. Further, while the addition of classroom space at PS-3 could generate an increase in the level of use at nearby facilities, ample recreational facilities are available in the immediate vicinity of PS-3 for student, staff, and faculty use. As shown in Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6, and Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, p. 4.11-3, PS-3 is two blocks north of the Civic Center and two blocks west of the Turk and Hyde Mini Park.

Thus, while some increases in park use could occur with full occupancy at PS-3, the increase in occupancy would not increase the use of local parks and recreational facilities in a way that would result in their deterioration or degradation. In addition, growth at PS-3 would not include or necessitate the construction of new or expanded recreational facilities such that adverse environmental effects would occur. Therefore, this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

Prior to AAU occupancy of PS-4, the site was vacant and had been previously occupied by the American Automobile Association and other office uses. Under the Proposed Project, PS-4 would include 80,330 sf of AAU office uses, which would result in some additional demand for recreational facilities. The site would accommodate up to 390 faculty and staff. There are no recreational facilities at PS-4.

As shown in Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6, and Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, p. 4.11-3, PS-4 is near the Civic Center Plaza, which provides open space for employees at PS-4. As noted above, office uses typically generate relatively low impacts to nearby parks and recreational facilities and, as such, do not tend to result in substantial deterioration of these facilities. Thus, while some increases in park use could occur with full occupancy at PS-4, it is not expected that the increase in occupancy would lead to heavy use of local parks and recreational facilities in a way that would result in their deterioration or degradation. Nor would growth at PS-4 include or necessitate the construction of new or expanded recreational facilities such that adverse environmental effects would occur. Therefore, this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

The Proposed Project at PS-5 would include the use of this site as a bus storage yard, along with lounge, office, restroom, and storage space. At full use, the site would accommodate approximately two staff in the trailers. Given that AAU would only employ two staff at this site, no substantial increase in the use of nearby parks and recreational facilities would result due to the Proposed Project at PS-5. Any increase in usage of local facilities would be accommodated by existing recreational resources. As shown in Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6, and Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, p. 4.11-3, PS-5 is half a block north of Jackson Park and Playground. Given the negligible increase in occupancy that would occur at the site, no deterioration or degradation of existing facilities would occur under the Proposed Project at PS-5 nor would improvements at PS-5 include or necessitate construction of any new or expanded recreational facilities such that adverse environmental effects would occur. Therefore, this impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

Prior to publication of the 2010 NOP for this EIR, PS-6 was used as a corporation yard for AAU. Under the Proposed Project, uses at PS-6 would include 17,533 sf of new recreational uses, 11,244 sf of office uses, and 62,590 sf of general storage, vehicle storage, and miscellaneous storage. The site would accommodate 110 students and 20 faculty and staff. As shown in Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6, and Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, p. 4.11-3, PS-6 is not in the immediate vicinity of any park or recreational facility. PS-6 would not contribute to heavy use of existing local parks and recreational facilities in a way that would result in their deterioration or degradation since there are no nearby parks and the site is proposed, in part, for recreational uses. In fact, the 17,533 sf of recreational facilities proposed at PS-6 could decrease the demand over time for use of City-owned parks and recreational facilities by AAU student and staff.

Construction at PS-6 for recreational uses would include laying down flooring for athletic courts (basketball/volleyball), renovation of bathrooms, creation of locker room facilities, and painting of the building and interior spaces. Internal utility upgrades, including electrical and plumbing, would be required to service the expanded use of the site. Structural improvements are not anticipated at this time. ADA accessibility would require improvements to pedestrian access points, bathroom facilities, and locker rooms.

As noted above, AAU does not propose to build beyond the footprint of the existing building at PS-6. Physical impacts associated with renovation activities to construct the recreational facilities are

discussed and mitigation is proposed to minimize construction related impacts, as needed, in Section 4.6, Transportation and Circulation; Section 4.7, Noise; Section 4.8, Air Quality; and Section 4.15, Geology and Soils. As such, the proposed recreational facilities at PS-6 would not have an adverse physical effect on the environment.

The Proposed Project at PS-6 would not increase the use of or physically degrade existing recreational resources such that substantial physical deterioration of recreational facilities would occur or be accelerated, or include or require construction or expansion of recreational facilities in a way that would adversely affect the environment. Therefore, this impact would be less than significant.

Mitigation: None required.

Overall, AAU uses at the six project sites would not increase the use of or physically degrade existing recreational resources such that substantial physical deterioration of recreational facilities would occur or be accelerated, or include or require construction or expansion of recreational facilities in a way that would adversely affect the environment. Therefore, project-level impacts to recreational facilities would be less than significant.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact RE-1.3 **The Proposed Project, including growth in 12 study areas and at the six project sites, would not increase the use of or physically degrade existing recreational facilities such that substantial physical deterioration of those facilities would occur or be accelerated, or require construction or expansion of recreational facilities in a way that would adversely affect the environment. (Less than Significant)**

As stated above, the Proposed Project, including growth in 12 study areas and six project sites would be limited to the occupation and change of use of existing buildings in already developed areas of the City and would not result in new development. The Proposed Project would include AAU growth in the 12 study areas combined with the growth at the six project sites, resulting in the addition of a total of 1,063,207 sf of institutional uses, 17,533 sf of recreational uses, and 110,000 sf (or 400 beds) of residential uses. As described in Section 4.4, Population, Housing, and Employment, this growth would result in a net population increase of approximately 4,209 new student residents and approximately 1,191 (525 new faculty and staff and 666 of their families) nonstudent residents by 2020.[353] Thus total AAU growth could result in a net population growth in the City of 5,400 new residents.

[353] Generation factor is based on the historical trends that 69 percent of AAU students and 43 percent of faculty/staff are new residents to the City. For Faculty/Staff, this assumes that there would be an average household size of 2.27 pph. See Section 4,4, Population, Housing, and Employment for further discussion.

This increase in population would likely result in a small increase in the use of local parks. However, growth within the 12 study areas and at the six project sites would occur gradually over time until the year 2020 and would be distributed throughout the City. A gradual increase of approximately 5,400 persons citywide over a 10-year period would not substantially contribute to the deterioration of nearby recreational resources, nor would such growth be substantial enough to necessitate the expansion or construction of new facilities.

As noted above, and shown in Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, p. 4.11-3, the study areas and project sites are well served by local recreational facilities. Such facilities include a range of recreational resources, including, but not limited to, plazas, parks, and other open spaces, various types of ball courts and playfields, picnic areas, and play structures. Additionally, as identified in Table 4.11-2, Existing Athletic Facilities Used by AAU, p. 4.11-7, AAU provides recreational facilities in the form of gymnasiums and related facilities open for use by students, faculty, and staff at 1069 Pine Street, 620 Sutter Street, and 601 Brannan Street. AAU also facilitates access for students, staff, and faculty at other nearby facilities, as listed in Table 4.11-2, where practice and game space is provided for various AAU athletic programs. Additionally, future occupied AAU student housing facilities would be required to meet the open space requirements for new residential units specified in *Planning Code* Section 135. AAU is also proposing 17,533 sf of recreational uses at PS-6, 2225 Jerrold Avenue, which could decrease the demand over time for use of City-owned parks and recreational facilities. The site would accommodate 110 students and 20 faculty and staff.

The proposed development of recreational facilities at PS-6 would construct the new recreational facilities within the existing structure. Construction at PS-6 would be limited to laying down flooring for athletic courts (basketball/volleyball), renovation of bathrooms, creation of locker room facilities, and painting of the building and interior spaces. Internal utility upgrades, including electrical and plumbing, would be required to service the expanded use of the site. Structural improvements are not anticipated at this time. ADA accessibility would require improvements to pedestrian access points, bathroom facilities, and locker rooms.

As noted above, AAU does not propose to build beyond the footprint of the existing building at PS-6. Physical impacts associated with renovation activities are discussed and mitigation is proposed to minimize construction related impacts, as needed, in Section 4.6, Transportation and Circulation; Section 4.7, Noise; Section 4.8, Air Quality; and Section 4.15, Geology and Soils. As such, the proposed recreational facilities at PS-6 would not have an adverse physical effect on the environment.

Because the Proposed Project would result in only a gradual increase of net population throughout the 12 study areas and at the six project sites, and various recreational facilities are available for student, faculty, and staff use within and immediately adjacent to the study areas, the Proposed Project would not increase the use of or physically degrade existing recreational resources such that

substantial physical deterioration of recreational facilities would occur or be accelerated, or include or require construction or expansion of recreational facilities in a way that would adversely affect the environment. Therefore, this impact would be less than significant.

Mitigation: None required.

Cumulative Impacts

The cumulative context for the Proposed Project is the 12 study areas and six project sites, and the general vicinity surrounding them. This includes the recreational resources identified on Table 4.11-1, Parks and Recreational Facilities in the Vicinity of the 12 Study Areas and Six Project Sites, p. 4.11-3 as well as the demand from specific proposed development projects such as the 5M Project, the Moscone Center Expansion Project, 598 Brannan, and the 350 Eighth Project, as well as implementation of planning efforts for the Western SoMa Plan, the Central SoMa Plan, the Rincon Hill Plan, and the East SoMa Plan. Further detail regarding these and other cumulative projects considered in this analysis is included in Table 4-1, Cumulative Projects.

Impact C-RE-1 **The Proposed Project, in combination with other past, present, and reasonably foreseeable future projects, would not result in a significant cumulative impact related to the provision of recreational facilities. (Less than Significant)**

Based on the analysis provided above, recreation impacts of the Proposed Project, including growth in the 12 study areas and at the six project sites, would be considered less than significant. Growth associated with the Proposed Project may result in an increase in demand for parks, open space, and recreational facilities in the City. However, given the proximity of each study area, as shown in Figure 4.11-1, Nearby Parks and Recreation Facilities within the Vicinity of the Proposed Project, p. 4.11-6, to existing recreational resources, any incremental increase in such demand could be accommodated by existing parks and recreational facilities in the area without resulting in substantial degradation of such facilities or necessitating the construction of new or expanded facilities.

Growth in the Proposed Project area and within the surrounding neighborhoods would result in an increased demand for parks and recreation facilities due to anticipated population growth. However, as with the Proposed Project, other projects in the vicinity would be required to adhere to City policies related to the provision and protection of recreational resources. This would include adherence to *Planning Code* requirements related to open space. Although the City has not established level of service standards for parks based on population density, policies and programs currently being implemented by the City, including the *Draft Citywide Vision for Open Space*, the Final Approved ROSE, and park acquisitions funded through Proposition C, would serve the growing population in the Proposed Project area and adjacent neighborhoods. In addition, passage of the 2008 Clean and Safe Neighborhood Parks Bond is funding renovations of many existing parks, park

trail reconstructions, playfield renovations and replacements, as well as upgrades of the urban forest.

As such, when considered in combination with other cumulative projects anticipated in the Proposed Project vicinity, the Proposed Project's incremental contribution to any cumulative impact would not be cumulatively considerable and this impact would therefore be considered less than significant.

4.12 UTILITIES AND SERVICE SYSTEMS

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect utilities and service systems. The impacts examined include potential impacts to wastewater treatment requirements, facilities, and capacity; impacts to the City's stormwater drainage system; sufficiency of water supplies; landfill capacity; and compliance with federal, state, and local statutes and regulations related to utilities and service systems. The following analysis of utilities and service systems is based on existing information regarding utilities and service systems in the City. No utilities and service systems issues were raised during the NOP scoping period.

4.12.1 Environmental Setting

Water

The following section provides an overview of San Francisco Public Utilities Commission (SFPUC) services related to the provision of water supplies and distribution. Information in this section is based on the SFPUC's 2010 Urban Water Management Plan (UWMP),[354] and 2013 Water Availability Study,[355] The information used in this analysis represents the best available data on SFPUC services.

The SFPUC provides water services to approximately 2.5 million people in San Francisco, Santa Clara, Alameda, and San Mateo Counties; SFPUC also provides wastewater collection and treatment within the City. Eighty-five percent of the water delivered to SFPUC customers comes from Sierra Nevada snowmelt stored in the Hetch Hetchy Reservoir on the Tuolumne River in Yosemite National Park. The remaining 15 percent comes from runoff in the Alameda and Peninsula watersheds captured in reservoirs located in San Mateo and Alameda Counties. The entire regional system delivers approximately 265 million gallons of water per day (mgd) to its customers. The local water system provides distribution and storage for water and fire protection within the City. This system includes 10 reservoirs, eight water tanks, 18 pump stations, and approximately 1,250 miles of transmission lines and water mains within the City.[356] SFPUC manages distribution of potable water through two systems: a low-pressure water main system provides water for domestic and commercial uses at about 1,000 gallons per minute (gpm), and a high-pressure system provides a dedicated water source for fire suppression at about 10,000 gpm. Citywide water use totaled approximately 71 mgd in 2010, a figure that was lower than previously projected, due to factors including cool weather, water use reductions due to earlier dry years, and the economic downturn

[354] San Francisco Public Utilities Commission (SFPUC), *2010 Urban Water Management Plan (UWMP) for the City and County of San Francisco* (June 2011).
[355] San Francisco Public Utilities Commission, *2013 Water Availability Study for the City and County of San Francisco* (May 2013). This document is available for review at http://www.sfwater.org.
[356] SFPUC, *2010 UWMP* (June 2011), p. 10.

that resulted in decreased nonresidential consumption.[357] In an effort to streamline the water supply planning process, the SFPUC adopted resolutions in 2002 and 2006 to allow for all development projects requiring a Water Supply Assessment (WSA) under Water Code Sections 10910 et seq. to rely on the adopted UWMP as long as the anticipated growth was contained in the current UWMP. Likewise, in connection with the adoption of the 2010 UWMP in June 2011, the SFPUC adopted a similar resolution, finding that 2010 UWMP accounts for projected growth in the City through the year 2035 and thereby satisfies the water supply and demand assessment requirements for specified developments pursuant to the CEQA and the California Water Code.[358]

According to the 2010 UWMP, the SFPUC can meet the current and future demand in years of average or above average precipitation, and in single dry years. During a multiple dry year event, the SFPUC would not be able to meet 100 percent of demand in 2030 and would therefore have to impose reductions on its supply to wholesale water users outside San Francisco. Accordingly, the SFPUC adopted a Water Shortage Allocation Plan, which outlines procedures for allocating water from the SFPUC regional system during systemwide shortages up to 20 percent. The ability to meet the demand of the customers is in large part due to the anticipated development of 10 mgd of local supplies in the City through implementation of the Water Supply Improvement Program (WSIP). These additional sources of groundwater, recycled water, and conservation supplies are essential to providing the City with adequate supply in dry year periods, as well as improving supply reliability during years with normal precipitation. With the Water Shortage Allocation Plan in place, and the addition of local WSIP supplies, the SFPUC concluded that it has sufficient water available to serve existing retail customers and planned future uses through 2035 in San Francisco even in multiple-year droughts (UWMP, Table 31), though it projects a shortfall of up to 28 percent of demand for wholesale customers outside of San Francisco in 2035 during a multiple-year drought (UWMP, Table 34).

Wastewater

San Francisco's wastewater collection, treatment, and disposal system consists of a combined sewer system (which collects both sewer and stormwater), three wastewater treatment plants, and effluent outfalls to San Francisco Bay and the Pacific Ocean. The collection and conveyance system consists of approximately 900 miles of underground pipes throughout the city. The City discharges approximately 84 mgd of treated wastewater during dry weather. Two of the City's treatment plants, the Southeast Water Pollution Control Plant (Southeast Plant) and Oceanside Water Pollution Control Plant, operate year-round, while the third plant, the North Point Wet Weather Facility, operates only during rainy periods. The Southeast Plant, which serves the study areas and project sites, treats all eastside sewage flows during dry weather. Treated wastewater is discharged to San Francisco Bay through a deep water outfall at Pier 80, north of Islais Creek.

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[357] SFPUC, *2010 UWMP* (June 2011), p. 34.

[358] San Francisco Public Utilities Commission Resolution No. 11-0090 (approved June 14, 2011).

System Capacity and Discharges

When wet-weather flows exceed the capacity of the overall system, the excess is discharged from 36 permitted combined sewer discharge (CSD) structures located along the waterfront. All discharges, whether through the dry-weather outfall or the CSD structures, are operated in compliance with permits issued by the Regional Water Quality Control Board and with the United States Environmental Protection Agency (USEPA) Combined Sewer Overflow Control Policy.

Wastewater Master Planning Process and Sewer System Improvement Plan

In 2005, the SFPUC initiated a wastewater master planning process to develop long-term strategies for managing the City's wastewater and stormwater; to address system deficiencies, community impacts, public interests, and future needs; and to maximize system reliability and flexibility. The two primary problems related to aging infrastructure are structural integrity and seismic reliability. The principal overall collection system deficiencies are related to the foreseeable impacts of climate change. These impacts include potential flooding and bay water intrusion into the collection system through the CSD structures. As part of SFPUC's master planning process, a Sewer System Improvement Program (SSIP) is being developed to identify capital improvement projects to address the city's wastewater needs for the next 30 years.[359] The SSIP is a collection of capital improvements that will address systemwide challenges such as aging infrastructure; seismic deficiencies; lack of redundancy; and limited operational flexibility. Because several projects have already been identified during development of the program, the SFPUC allocated $150 million for a Capital Improvement Program (CIP) to address immediate wastewater needs. Over the past four years, the Wastewater CIP has improved the reliability and efficiency of the wastewater system through programs designed to maximize collection and conveyance of sewage and stormwater; maximize control of odor emissions; and improve the reliability of critical treatment facilities.

Solid Waste

San Francisco generates about 5,600 tons of solid waste each day, including materials from residents and businesses. Less than one-third of this material, approximately 1,800 tons a day, is disposed of in landfills. Waste picked up in the City for disposal must be collected by permitted haulers. Recology (formerly Norcal Waste Systems) holds virtually all the permits in San Francisco, and collection is handled by Recology Sunset Scavenger and Recology Golden Gate. Recology transports waste to a consolidation center, referred to as a transfer station. Recycling and transfer services are provided by Recology San Francisco. All waste taken to the transfer station (approximately 82 percent of all waste generated in the City) is transported to Waste Management's Altamont Landfill, located approximately 60 miles from the City at 10840 Altamont Pass Road in Livermore.

[359] SFPUC, *Sewer System Improvement Program Report: Draft Report for SFPUC Commission Review*, Prepared by Wastewater Enterprise Staff (July 27, 2010, revised August 10, 2010).

The landfill is owned and operated by Waste Management of Alameda County. The balance of the waste ends up in a number of other landfills in the region.[360]

The Altamont Landfill is permitted to receive a maximum of 1.6 million tons of solid waste per year and a maximum daily disposal rate of 11,150 tons per day. In 2008, the most recent data year available, the Altamont Landfill received an average of 4,727 tons per day on a five-day-week basis. As of January 2009, the estimated remaining refuse capacity for the Altamont Landfill was 43 million tons. At the 2008 rate of fill, the facility has approximately 31 years of remaining capacity.

The City entered into a long-term landfill disposal agreement effective November 1, 1988, with the Sanitary Fill Company (now SF Recycling & Disposal) and the Oakland Scavenger Company (now Waste Management of Alameda County). The agreement provides for the disposition of up to 15 million tons of the City's municipal solid waste in the Altamont Landfill or 65 years of disposal, whichever comes first.[361] The remaining capacity in the disposal contract is approximately 1.9 million tons.[362] At current waste disposal rates, the 15-million-ton limit will be reached toward the end of year 2015.[363] In anticipation of the end of the current landfill agreement, on July 26, 2011, the San Francisco Board of Supervisors adopted Resolution No. 322-11, the Landfill Disposal and Facilitation Agreement, which stipulates that upon expiration of the current disposal agreement, Recology would grant the City the right to deposit solid waste at Recology's Ostrom Road landfill in Yuba County until December 31, 2025, or until five million tons have been deposited.[364] The City is currently preparing an EIR on the use of the Ostrom Road landfill.[365] For the purposes of this analysis, it is assumed that after the current landfill agreement ends, the City will transport solid waste to Recology's Ostrom Road landfill.

Recycling, composting, and waste reduction are expected to increasingly divert waste from the Altamont Landfill, per California and local requirements. The City was required by the state's Integrated Waste Management Act (AB 939) to divert 50 percent of its waste stream from landfill disposal by 2000. The City met this threshold in 2003 and has since increased its diversion rate to 69 percent in 2005 and 70 percent in 2006. The Board of Supervisors adopted a plan in 2002 to reach

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[360] City and County of San Francisco, Department of the Environment, Landfill Contract Set for Hearing at Board, http://sfenvironment.org/news/press-release/landfill-contract-set-for-hearing-at-board (accessed June 24, 2012).
[361] City and County of San Francisco, Department of the Environment, Landfill Contract Set for Hearing at Board, http://sfenvironment.org/news/press-release/landfill-contract-set-for-hearing-at-board (accessed June 24, 2012).
[362] John Glaub, response from Recology to service letter request (November 18, 2010).
[363] Alameda County Waste Management Authority, *Alameda County Integrated Waste Management Plan* (amended January 26, 2011).
[364] San Francisco Board of Supervisors, Budget and Finance Committee, Landfill Disposal and Facilitation Agreements—Recology San Francisco, File No. 101225 (February 9, 2011), http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/committees/materials/bf020911_101225.pdf (accessed June 24, 2012).
[365] San Francisco Chronicle, SF's 10-year Recology trash deal dumped (January 1, 2013), http://www.sfgate.com/bayarea/article/SF-s-10-year-Recology-trash-deal-dumped-4160059.php (accessed June 10, 2013).

a diversion rate of 75 percent by 2010. The City achieved a 77 percent diversion rate in 2008, thereby surpassing the diversion goal established in the 2002 legislation.[366]

Total waste disposal for the City began dropping in 1999, from 872,707.49 tons in 2000 to 455,331.84 tons in 2010, while diversion has increased over the same period.[367] Waste disposal in 2013, the latest year for which data is available, was up from 2010 levels to 476,423.83 tons.[368]

4.12.2 Regulatory Framework

The adequate provision of utilities and service systems is governed by state and local jurisdictions. The following acts, codes, and local plans are relevant to utilities and service systems in the study areas and project level sites.

Federal

Clean Water Act

The Clean Water Act assists in the development and implementation of waste treatment management plans and practices by requiring provisions for treatment of waste using the best practicable technology before there is any discharge of pollutants into receiving waters, as well as the confined disposal of pollution so that it would not migrate to result in water or other environmental pollution.

National Pollutant Discharge Elimination System

The Water Permits Division (WPD) within the USEPA Office of Wastewater Management leads and manages the NPDES permit program which oversees stormwater management and sewer and sanitary sewer overflows.

Safe Drinking Water Act

The federal Safe Drinking Water Act (SDWA) established standards for contaminants in drinking water supplies. Maximum contaminant levels or treatment techniques were established for each of the contaminants. The listed contaminants include metals, nitrates, asbestos, total dissolved solids, and microbes.

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[366] City and County of San Francisco, Department of the Environment, Landfill Contract Set for Hearing at Board, http://sfenvironment.org/news/press-release/landfill-contract-set-for-hearing-at-board (accessed June 24, 2012).
[367] California Department of Resources Recycling and Recover, Disposal Reporting System, Jurisdiction Disposal by Facility, http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=OriginJurisdictionIDs%3d438%26ReportYear%3d2010%26ReportName%3dReportEDRSJurisDisposalByFacility (accessed June 14, 2012).
[368] City and County of San Francisco, Department of the Environment, Landfill Contract Set for Hearing at Board, http://www.calrecycle.ca.gov/LGCentral/Reports/Viewer.aspx?P=OriginJurisdictionIDs%3d438%26ReportYear%3d2013%26ReportName%3dReportEDRSJurisDisposalByFacility (accessed July 21, 2014)

Federal Combined Sewer Overflow Control Policy

On April 11, 1994, the USEPA adopted the Combined Sewer Overflow Control Policy, which became part of the Clean Water Act in December 2000. This policy establishes a consistent national approach for controlling discharges from combined sewers. Using the NPDES permit program, the policy initiates a two-phased process with higher priority given to more environmentally sensitive areas. During the first phase, the permittee is required to implement the controls that constitute the technology-based requirements of the Clean Water Act and can reduce the frequency of CSOs and their effects on receiving water quality.

The City is currently implementing these controls as required by the CSO control policy. This includes development of a Water Pollution Prevention Program which focuses on minimizing pollutants from entering the City's combined sewer system and addresses pollutants from residential, commercial, industrial, and nonpoint pollutant sources.

State

Department of Health Services

In California, water reclamation is regulated under Title 22 California Code of Regulations, Division 4, Sections 60301 et seq. (Title 22), promulgated in 1978 by the Department of Health Services to assure protection of public health where water use is involved. Title 22 criteria include water quality standards, as well as treatment process, operational, and treatment reliability requirements. In addition, the State Water Resources Control Board has adopted Resolution No. 77-1, Policy with Respect to Water Reclamation in California. This policy states that the State Board and Regional Boards will consider and recommend for funding, water reclamation projects that do not impair water rights or beneficial in-stream uses. The Department of Health Services establishes the recycled water uses allowed in the state, and designates the level of treatment (i.e., un-disinfected secondary, disinfected secondary, or disinfected tertiary) required for each of these designated uses (Title 22, California Code of Regulations).

California Integrated Waste Management Act of 1989 (AB 939)

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed Assembly Bill 939 (AB 939), the California Integrated Waste Management Act of 1989, which required all cities and counties in California to divert 50 percent of all solid waste to recycling facilities from landfill or transformation facilities by January 1, 2000. California Integrated Waste Management Board's (CIWMB) Department of Resources Recycling and Recovery (now CalRecycle) is the state department designated to oversee, manage, and track California's 92 million tons of waste generated each year. The City achieved a 77 percent diversion

rate in 2008, thereby surpassing the City's own diversion goal established in 2002 legislation.[369] Solid waste plans are prepared by each jurisdiction to explain how each city's AB 939 plan is integrated with its county plan. The plans must promote in order of priority: source reduction, recycling and composting, and finally, environmentally safe transformation, and land disposal.

Urban Water Management Plan

In 1983, the California Legislature enacted the Urban Water Management Planning Act (California Water Code Sections 10610 through 10656). The act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The act describes the contents of the UWMP as well as how urban water suppliers should adopt and implement the plans. The plan must be updated at least every five years on or before December 31 in years ending in five and zero. The provisions of the UWMPs for the SFPUC are described above in Section 4.12.1, Environmental Setting, p. 4.12-1.

California Senate Bill 610 (SB 610)

California Senate Bill 610 (SB 610) requires that water retailers demonstrate whether their water supplies are sufficient to meet the projected demand of certain large development projects. A WSA under SB 610 is required if a project meets one of the following criteria:

- A proposed residential development of more than 500 dwelling units
- A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet (sf) of floor space
- A proposed commercial office building employing more than 1,000 persons or having more than 250,000 sf of floor space
- A hotel or motel, or both, having more than 500 rooms
- An industrial, manufacturing, or processing plan, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 sf of floor area
- A mixed-use project that includes one or more of the projects specified in this subdivision

  Or
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project

The Proposed Project does not meet any of the above criteria such that a WSA would be required. In addition, SFPUC has developed guidelines to determine when a project would be required to

[369] City and County of San Francisco, Department of the Environment, Landfill Contract Set for Hearing at Board, http://sfenvironment.org/news/press-release/landfill-contract-set-for-hearing-at-board (accessed June 24, 2012).

prepare a WSA.[370] These guidelines were also consulted to support the determination that a WSA assessment is not required for the Proposed Project.

Water Code Sections 13550–13557 (Reclaimed Water)

The California Water Code declares that the use of potable water for certain nonpotable uses "is a waste or an unreasonable use of water." Use of potable water for the irrigation of residential landscaping, floor-trap priming, cooling towers, or air-conditioning devices, is wasteful and unsound if reclaimed water suitable for these purposes is available. The recycled water must be of adequate quality and available at reasonable cost. Its use must not be detrimental to public health, adversely affect downstream water rights, degrade water quality, or be injurious to plant life, fish or wildlife.

Regional

Water Quality Control Plan for the San Francisco Bay Basin

The SFBRWQCB regulates water quality in San Francisco Bay under the Porter-Cologne Water Quality Control Act through regulatory standards and objectives in the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The Basin Plan identifies existing and potential beneficial uses and provides numerical and narrative water quality objectives to protect those uses. The Basin Plan identifies the following existing beneficial uses for the San Francisco Bay: ocean, commercial and sport fishing; estuarine habitat; industrial service supply; fish migration; navigation; preservation of rare and endangered species; water contact recreation; noncontact water recreation; shellfish harvesting; and wildlife habitat. Pollutants that have been identified as causing impairments in San Francisco Bay include chlordane, DDT, diazinon, dieldrin, dioxin compounds, furan compounds, mercury, exotic species, and PCBs. The law requires the development of total maximum daily loads (TMDLs) to identify the maximum concentration of particular pollutants that will impair water quality and to identify pollution prevention, control, or restoration strategies. The SFBRWQCB has developed TMDL reports for pollutants including PCBs and mercury, and has proposed Basin Plan amendments regarding TMDL.

Local

San Francisco General Plan

The *San Francisco General Plan* provides general policies and objectives to guide land use decisions and development throughout the City. *General Plan* objectives and policies relevant to utilities and service systems are discussed in Section 4.1, Plans and Policies. *General Plan* objectives and policies discussed in this section are as follows:

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[370] SFPUC, Memo Re Project Demand Memo for Preparation of WSA, from Fan Lau and Sarah Rhodes, Water Resources Division (March 13, 2013).

Community Safety Element

Objective 10 Locate wastewater facilities in a manner that will enhance the effective and efficient treatment of storm and wastewater.

Objective 11 Locate solid waste facilities in a manner that will enhance the effective and efficient treatment of solid waste.

San Francisco Green Building Ordinance (SFGBO)

On November 3, 2008, the San Francisco Building Code was amended to include Chapter 13C, Green Building Requirements, known as the Green Building Ordinance. The purpose of the requirements is to promote the health, safety, and welfare of San Francisco residents, workers, and visitors by minimizing the use and waste of energy, water, and other resources in the construction and operation of the city's buildings, and by providing a healthy indoor environment. The ordinance requires compliance with the applicable Leadership in Energy and Environmental Design® (LEED) performance standards for new construction and major alterations that are 25,000 gross sf or more in existing buildings of Group B, M, or R occupancies, where interior finishes are removed and significant upgrades to structural and mechanical, electrical and/or plumbing systems are proposed.

San Francisco Green Landscaping Ordinance

The Green Landscaping Ordinance (*Planning Code* Sections 102.3, 132, 138.1, 142, 156, and 223 and Public Works Code Section 802.1) aims to enhance new development and significant alterations. It seeks to achieve the following environmental and aesthetic goals: *(a)* healthier and more plentiful plantings through screening, parking lot, and street tree controls; *(b)* increased permeability through front yard and parking lot controls; *(c)* encouragement of responsible water use through increasing climate appropriate plantings; and *(d)* improved screening by creating an ornamental fencing requirement and requiring screening for newly defined vehicle use areas.

Stormwater Design Guidelines

The *San Francisco Stormwater Design Guidelines* were developed by the SFPUC and the Port of San Francisco in 2010 (Ordinance No. 83-10). The guidelines set forth a planning process for stormwater management and guidance for developing integrated, Low Impact Design (LID) solutions using site- and neighborhood-scale Best Management Practices (BMPs).[371] Per requirements of the *Stormwater Design Guidelines*, this project must achieve LEED Sustainable Sites (SS) c6.1, "Stormwater Design: Quantity Control." Therefore, the Proposed Project must implement a stormwater management approach that reduces existing stormwater runoff flow rate and volume by 25 percent for a two-year 24-hour design storm.

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[371] San Francisco Public Utilities Commission and Port of San Francisco, *San Francisco Stormwater Design Guidelines* (effective May 22, 2010; adopted January 12, 2010). This document is available for review at http://sfwater.org/index.aspx?page=446.

San Francisco Residential Water Conservation Ordinance

San Francisco's Residential Water Conservation Ordinance generally requires a homeowner to install water conservation equipment (such as low-flow showerheads, faucets, and toilets) prior to selling a home or making a major improvement to the home.[372] In 2008, the City adopted the San Francisco Green Building Ordinance. This requires green building practices and LEED certification for new residential and commercial buildings in the City. The Ordinance requires residential buildings over 75 feet to be LEED Certified and earn specific credits addressing water efficiency, stormwater management, and construction waste management (designated WEc1.1, WEc3.1, MRc2.1, SSc6.1 and SSc6.2). The water conservation requirements (WEc1.1) seek to reduce the quantity of water used.

San Francisco Public Works Code

Under San Francisco Public Works Code Article 21, potable water shall not be used for soil compaction or dust control activities undertaken in conjunction with any construction or demolition project occurring within the boundaries of the City and County of San Francisco, unless permission is obtained from the City Water Department in accordance with Article 21 and all applicable Water Department policies and regulations. This provision is in response to California's drought condition. The Commission found that the use of high-quality potable water for construction and demolition purposes in San Francisco is widespread and that the use of such water supplies is not necessary for many construction and demolition purposes. Nonpotable water is available for such purposes from various sources, including wastewater reclamation facilities and permitted groundwater wells.

San Francisco Construction and Demolition Waste Ordinance

The City adopted an ordinance (No. 27-06) effective on July 1, 2006, that creates a mandatory program to maximize the recycling of mixed construction and demolition (C&D) debris. The Ordinance requires that mixed C&D debris must be transported off-site by a Registered Transporter and taken to a Registered Facility that can process and divert from landfill a minimum of 65 percent of the material generated from construction, demolition or remodeling projects. The SFGBO would require a 75 percent diversion of C&D material for some projects.

San Francisco Public Utilities Commission Water Pollution Prevention Program

The City has a Water Pollution Prevention Program to avoid and minimize pollutants entering the City's sewer system and storm drains, thereby reducing pollutant loading to San Francisco Bay and the Pacific Ocean. The program includes education components for businesses, residents, and City employees. The program also includes several initiatives that are meant to reduce water pollution, including initiatives to reduce toxic chemicals used for landscaping, reduce dental mercury, reduce

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[372] San Francisco Department of Building Inspection, *What You Should Know about San Francisco's Residential Energy and Water Conservation Requirements* (July 2009). This document is available for review at www.sfdbi.org/Modules/ShowDocument.aspx?documentid=124.

fats/oils/greases, minimize construction-related water pollution, minimize stormwater pollution, minimize pet-waste related water pollution, dispose of medications properly, and support green design and operation measures for businesses and households. San Francisco Public Works Code Articles 4, 4.1, and 4.2 contain many components of the program.

The City has been working for many years to reduce fats, oil, and grease in the wastewater stream from commercial and residential kitchens, especially from restaurants. These materials clog pipes and treatment processes. The City has recently adopted a new fats, oil, and grease ordinance, which would strengthen Article 4.1.

San Francisco Mandatory Recycling and Composting Ordinance

To help San Francisco move closer to its goal of zero waste by 2020, the Mandatory Recycling and Composting Ordinance requires everyone in San Francisco to separate their refuse into recyclables, compostables, and trash.[373] No one may mix recyclables, compostables, or trash, or deposit refuse of one type in a collection container designated for another type. All property owners are required to maintain and pay for adequate refuse service.

Owners or managers of apartments, condominiums, tenancies in common (TICs), food establishments, and events are required to maintain appropriate, color-coded (blue for recyclables, green for compostables, and black for trash), labeled containers in convenient locations, and to educate tenants, employees, and contractors, including janitors, on what materials go in each container. Vendors that provide disposable food service ware or to-go containers must have appropriate containers for use by customers and visitors, placed inside near a main exit.

San Francisco Zero Waste Policy

Resolution No. 679-02, adopted by the San Francisco Board of Supervisors in September 2002, adopted a citywide landfill diversion goal of 75 percent by the year 2010 and a long-term zero waste (100 percent diversion) goal. The San Francisco Department of the Environment passed Resolution No. 002-03-COE in March 2003, setting a target date of 2020 for achieving zero waste.

4.12.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to utilities and service systems, if it would:

- Not have sufficient water supply available to serve the project from existing entitlements and resources, or require new or expanded water supply resources or entitlements

[373] City and County of San Francisco, Mandatory Recycling and Composting Ordinance, http://www.sfenvironment.org/downloads/library/sf_mandatory_recycling_composting_ordinance.pdf (accessed May 2, 2011).

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board
- Require or result in the construction of new water or wastewater treatment or collection facilities or expansion of existing facilities, the construction of which could cause significant environmental effects
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant effects
- Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments
- Be served by a landfill without sufficient permitted capacity to accommodate the project's solid waste disposal needs
- Not comply with federal, state, and local statutes and regulations related to solid waste

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to utilities and service systems in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting.

This section identifies program-level, project-level, combined program-level and project-level, and cumulative environmental impacts. Unlike the project sites, where specific buildings have been identified, the program-level analysis assumes that within the designated study areas, AAU could occupy any existing building to accommodate future growth. The project-level analysis evaluates each project site.

The analysis of water supply capacity is based on review of SFPUC data on water supply (principally the commission's current 2010 UWMP and an update thereto prepared in 2013); demand is calculated largely based on SFPUC-generated rates. For the water demand calculation, it was assumed that all of the planned residential growth would consist of conversion of occupied commercial space to residential use, and that all of the planned institutional growth would consist of conversion of vacant commercial space, which represents the most conservative approach. None of the proposed growth includes new construction. The project sites were occupied and had water service at some time prior to AAU's occupancy and therefore, for purposes of water demand

analysis, do not represent new or substantially increased water demand. This approach of accounting for prior occupancy of the project sites is limited to water demand analysis under SB 610.

This section of the EIR does not evaluate the shuttle service expansion because this element of the Proposed Project would have no effect on utilities and service systems, nor would such systems affect the shuttle service. Therefore, no analysis of utilities and service systems is warranted for this element of the Proposed Project.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010, when the NOP for this EIR was published. These sites are, therefore, considered part of the EIR baseline conditions. As such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.12.1, Environmental Setting, p. 4.12-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to utilities. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential utilities related effects that resulted from previous unauthorized change of uses or tenant improvements at the 34 existing sites will be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the project, which includes both the 12 program-level study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact UT-1.1 **The Proposed Project, including growth in the 12 study areas, would not require or result in the construction of substantial new water treatment facilities, and the City would have sufficient water supply available to serve the project from existing entitlements and resources, and would not require new or expanded water supply resources or entitlements. (Less than Significant)**

The SFPUC forecasted future water demand using regional growth projections that incorporate existing land use designations and reasonably foreseeable future projects within San Francisco and other areas served by the SFPUC. According to the 2010 UWMP and the updated retail demand forecasts contained in the 2013 Water Availability Study, the SFPUC would be able to meet the future demand in years of average precipitation as well as in a single dry year and a multiple dry year event, for each five-year projection beginning in 2020.[374] However, in the near term (2015), the 2013 Water Availability Study projects a very small retail deficit (0.25 percent of demand) for a normal year and single dry year, and a retail deficit of two percent of demand during a multiple-dry-year event, as a result of development and occupancy of new projects in advance of improvements planned in the SFPUC's water supply. SFPUC notes in the 2013 report that a two-percent shortfall in water supplies "can be easily managed through voluntary conservation measures or rationing," and further states that "retail" demand (water provided to individual customers, as opposed to "wholesale" demand from other water agencies) has declined by more than 10 percent in the last 10 years.[375] For the regional system as a whole, in a single dry year and multiple dry years, it is possible that the SFPUC would not be able to meet 100 percent of demand and would therefore have to impose reductions on its deliveries. Under the Water Shortage Allocation Plan (WSAP), retail customers would experience no reduction in regional water system deliveries within a 10 percent shortage. During a 20 percent systemwide shortage, customers would experience a 1.9 percent reduction in deliveries. Retail allocations would be reduced to 79.5 mgd (98.1 percent of normal year supply), and wholesale allocations would be reduced to 132.5 mgd (72 percent of normal year supply).[376] The ability to meet the demand of the customers is in large part due to the development of 10 mgd of local supplies in the City through implementation of the WSIP. These additional supplies of groundwater, recycled water, and conservation are essential to providing the City with adequate supply in dry year periods, as well as improving supply reliability during years with normal precipitation. With the WSAP in place, and the addition of local WSIP

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[374] SFPUC, *2013 Water Availability Study (WAS) for the City and County of San Francisco* (May 2013). Available online at http://www.sfsewers.org/modules/showdocument.aspx?documentid=4168 (accessed August 15, 2013). The 2013 Water Availability Study was prepared as an update to the 2010 UWMP to evaluate water demand based on updated growth projections completed by the Planning Department in 2012 in response to the ABAG Sustainable Community Strategy Jobs-Housing Connections Scenario.

[375] SFPUC, *2013 Water Availability Study (WAS) for the City and County of San Francisco* (May 2013). Available online at http://www.sfsewers.org/modules/showdocument.aspx?documentid=4168 (accessed August 15, 2013).

[376] SFPUC, *2013 Water Availability Study (WAS) for the City and County of San Francisco* (May 2013). Available online at http://www.sfsewers.org/modules/showdocument.aspx?documentid=4168 (accessed August 15, 2013).

supplies, the SFPUC concluded that it has sufficient water available to serve existing customers and planned future uses.[377]

Water Demand for the Program Level Growth

The Proposed Program-level growth would consist of approximately 110,000 sf of additional residential uses (to house approximately 400 students, equivalent to about 220 rooms) and 669,670 sf of additional institutional space in 12 areas where AAU could occupy existing buildings. For the water demand calculation, it was assumed that all of the planned residential growth would consist of conversion of occupied commercial space to residential use, and that all of the planned institutional growth would consist of conversion of vacant commercial space. None of the proposed growth includes new construction.

Based on the most intensive land use development scenario, development pursuant to the program-level growth, the Proposed Project would consume up to about 10.4 million gallons of potable water per year (or 28,600 gallons per day [gpd]).[378] The demand calculation is conservative in that it is assumes that the timing of AAU's building occupancy and change of use is not known, and all increased use from the program level growth was assumed to occur in a single phase. CEQA Guidelines Section 15155(a) and California Water Code Section 10912 define a "project" as being subject to a WSA if it entails more than 500 dwelling units, among other thresholds for other types of land uses. However, no such thresholds are identified for institutional development such as that included in the Proposed Project. An "equivalent" project threshold is described in Water Code Section 10912(a)(7) as a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project. This "equivalent" project threshold is determined by SFPUC to be 50,000 gpd in its service area. The project's demand of 28,600 gpd would be well below this level, and the project therefore does not require a WSA.

Additionally, subsequent occupied buildings would be required to comply with the San Francisco's Residential Water Conservation Ordinance that would require installation of water conservation equipment (such as low-flow showerheads, faucets, and toilets) prior to making major improvements.[379] Because the program level growth is included in the growth forecasts on which the 2013 Water Availability Study is based and because the SFPUC has a WSAP in place and has determined that it has sufficient water to serve existing and planned future uses, development resulting from implementation of the Proposed Project would be sufficiently served by the SFPUC water supply system. Therefore, implementation of the Proposed Project in the 12 study areas

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[377] SFPUC, *2013 Water Availability Study (WAS) for the City and County of San Francisco* (May 2013). Available online at http://www.sfsewers.org/modules/showdocument.aspx?documentid=4168 (accessed August 15, 2013).
[378] Academy of Art University (AAU) Master Plan Project Water Supply Assessment Request Memorandum, from Elizabeth Purl, Environmental Planning, San Francisco Planning Department, to Fan Lau, SFPUC (January 20, 2015).
[379] San Francisco Department of Building Inspection, *What You Should Know about San Francisco's Residential Energy and Water Conservation Requirements* (July 2009). This document is available for review at www.sfdbi.org/Modules/ShowDocument.aspx?documentid=124.

would not require major expansion of the SFPUC's water facilities, nor would it adversely affect the City's water supply. This impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact UT-1.2 **The Proposed Project, including growth at the six project sites would not require or result in the construction of substantial new water treatment facilities, and the City would have sufficient water supply available to serve the project from existing entitlements and resources, and would not require new or expanded water supply resources or entitlements. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 121 Wisconsin Street: Less than Significant**
- **PS-5, 150 Hayes Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

The Proposed Project includes the change of use of existing buildings at six project sites that AAU proposes to occupy with students, faculty and staff. Project-level growth consists of six buildings that have been occupied, identified, or otherwise changed by AAU since publication of the NOP in September 2010, but for which no permits have yet been issued. Based upon the Water Supply Assessment Request prepared by Planning for the Proposed Project, it's assumed for the water demand calculations that the six project sites had water service at some time prior to AAU's occupancy and therefore do not represent new or substantially increased water demand. As discussed under Impact UT-1.1, the Proposed Project would be sufficiently served by the SFPUC water supply system. Therefore, implementation of the Proposed Project at the six project sites would not require major expansion of the SFPUC's water facilities, nor would it adversely affect the City's water supply. This impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact UT-1.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not require or result in the construction of substantial new water treatment facilities, and the City would have sufficient water supply available to serve the project from existing entitlements and resources, and would not require new or expanded water supply resources or entitlements. (Less than Significant)**

The combination of AAU's program-level growth and the growth associated with the six project-level sites would not exceed SFPUC's available water supply. Based on the most intensive land use

development scenario, development pursuant to the Proposed Project would consume up to about 10.4 million gallons of potable water per year (or 28,600 gpd).[380] Project-level growth consists of six buildings that have been occupied, identified, or otherwise changed by AAU since publication of the NOP in September 2010, but for which no permits have yet been issued. Based upon the Water Supply Assessment Request prepared by the Planning Department for the Proposed Project it is assumed for the water demand calculations that the six project sites had water service prior to AAU's occupancy and therefore do not represent new or substantially increased water demand.

CEQA Guidelines Section 15155(a) and California Water Code Section 10912 define a "project" as being subject to a WSA if it entails more than 500 dwelling units, among other thresholds for other types of land uses. However, no such thresholds are identified for institutional development such as that included in the Proposed Project. An "equivalent" project threshold is described in Water Code Section 10912(a)(7) as a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500-dwelling-unit project. This "equivalent" project threshold is determined by SFPUC to be 50,000 gpd in its service area. The Proposed Project's demand of 28,600 gpd would be well below this level, and the Proposed Project therefore does not require a WSA.

Additionally, subsequent occupied buildings would be required to comply with the San Francisco's Residential Water Conservation Ordinance that would require installation of water conservation equipment (such as low-flow showerheads, faucets, and toilets) prior to making major improvements.[381] Because the program level growth is included in the growth forecasts on which the 2013 Water Availability Study is based and because the SFPUC has a WSAP in place and has determined that it has sufficient water to serve existing and planned future uses, development resulting from implementation of the Proposed Project would be sufficiently served by the SFPUC water supply system. Therefore, implementation of the Proposed Project in the 12 study areas and six project sites would not require major expansion of the SFPUC's water facilities, nor would it adversely affect the City's water supply. This impact would be less than significant.

Mitigation: None required.

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[380] Academy of Art University (AAU) Master Plan Project Water Supply Assessment Request Memorandum, from Elizabeth Purl, Environmental Planning, San Francisco Planning Department, to Fan Lau, SFPUC, (January 20, 2015).
[381] San Francisco Department of Building Inspection, *What You Should Know about San Francisco's Residential Energy and Water Conservation Requirements* (July 2009). This document is available for review at www.sfdbi.org/Modules/ShowDocument.aspx?documentid=124.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact UT-2.1 **The Proposed Project, including growth in the 12 study areas, would not require or result in the expansion or construction of new wastewater treatment or stormwater facilities, exceed capacity of the wastewater treatment provider when combined with other commitments, or exceed wastewater treatment requirements of the Regional Water Quality Control Board. (Less than Significant)**

The Proposed Project, including AAU program-level growth, would increase San Francisco's residential and daytime population in the study areas by the year 2020, resulting in the generation of a greater volume of wastewater requiring collection and treatment. The residential and daytime population growth is discussed under Impact UT-1.1, above. The Proposed Project would occupy existing buildings in already developed areas of the City, and the Proposed Project would not result in the construction of new or expanded buildings. Project-related wastewater flows would be conveyed to the SEWPCP for treatment and discharge to the Bay. Stormwater demands are not projected to increase because the Proposed Project does not include any substantial changes in the amount of impervious surface.

The Proposed Project's population growth and change in use of buildings in the 12 study areas would be accommodated under existing wastewater and stormwater capacity. The current citywide sewer system effectively collects, conveys, treats, and discharges all of the dry-weather domestic wastewater and urban runoff flows and wet-weather flows, and meets all discharge permit requirements of the state and the USEPA.[382] Over the past four years, the SFPUC, the state, and the USEPA assured the reliability and efficiency of the wastewater system through programs designed to maximize collection and conveyance of sewage and stormwater, maximize control of odor emissions, and improve the reliability of critical treatment facilities. With systemwide wastewater improvements continuing under the CIP, existing sewage collection and treatment services would meet expected demand in San Francisco and in the study areas. Further, because the Proposed Project proposes the change of use of existing facilities, it would not result in substantial increases in wastewater and stormwater generation beyond that which is associated with projected citywide population growth, the Proposed Project would be accommodated by existing wastewater treatment facilities and planned improvements identified in the SSIP.[383] Therefore, the impact on wastewater services resulting from the Proposed Project within the 12 study areas would be less than significant.

Mitigation: None required.

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[382] SFPUC, *Sewer System Improvement Program Report: Draft Report for SFPUC Commission Review*, prepared by Wastewater Enterprise Staff (July 27, 2010, revised August 10, 2012).

[383] Melissa Moehle, email communication from Wastewater Enterprise, SFPUC, (November 8, 2010).

Project-Level Impacts (Growth at the Six Project Sites)

Impact UT-2.2 **The Proposed Project, including growth at the six project sites, would not require or result in the expansion or construction of new wastewater treatment or stormwater facilities, exceed capacity of the wastewater treatment provider when combined with other commitments, or exceed wastewater treatment requirements of the Regional Water Quality Control Board. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

The Proposed Project at the six project sites would involve the change of use to institutional use, recreational, and offices uses and would not substantially increase stormwater and wastewater generation because all of the project sites are completely covered with impervious surfaces and would remain so with implementation of the Proposed Project.

The change in use of the six project sites would be accommodated in existing and planned wastewater facilities. Over the past four years, the SFPUC's CIP has improved the reliability and efficiency of the wastewater system, and systemwide wastewater improvements as well as long-term projects would ensure the adequacy of sewage collection and treatment services to meet expected demand in San Francisco, including the project sites.

Therefore, the Proposed Project at the six project sites would not require or result in the expansion or construction of new wastewater treatment or stormwater facilities, exceed capacity of the wastewater treatment provider when combined with other commitments, or exceed wastewater treatment requirements of the Regional Water Quality Control Board, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact UT-2.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not require or result in the expansion or construction of new wastewater treatment or stormwater facilities, exceed capacity of the wastewater treatment provider when combined with other commitments, or exceed wastewater treatment requirements of the Regional Water Quality Control Board. (Less than Significant)**

The Proposed Project including the combination of AAU's growth in the 12 study areas and at the six project sites would not exceed the capacity of the City's wastewater treatment or stormwater

facilities. The current citywide sewer system effectively collects, conveys, treats, and discharges all of the dry-weather domestic wastewater and urban runoff flows and wet-weather flows, and meets all discharge permit requirements of the state and the USEPA.[384] Over the past four years, the SFPUC's CIP has improved the reliability and efficiency of the wastewater system through programs designed to maximize collection and conveyance of sewage and stormwater, maximize control of odor emissions, and improve the reliability of critical treatment facilities. Systemwide wastewater improvements continuing under the CIP as well as long-term projects to be initiated under the SFPUC's SSIP would ensure the adequacy of sewage collection and treatment services to meet expected demand in San Francisco, including the study areas and project sites.

Further, because the Proposed Project would not result in substantial increases in wastewater and stormwater generation beyond that which is associated with projected population growth, the Proposed Project would be accommodated by existing wastewater treatment facilities and planned improvements identified in the SSIP.

Stormwater demand is not projected to increase because the Proposed Project does not include any substantial changes in the amount of impervious surface. Therefore, the Proposed Project would not require or result in the expansion or construction of new wastewater treatment or stormwater facilities, exceed capacity of the wastewater treatment provider when combined with other commitments, or exceed wastewater treatment requirements of the Regional Water Quality Control Board, and this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact UT-3.1 **The Proposed Project, including growth in the 12 study areas, would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste. (Less than Significant)**

AAU would accommodate growth in the study areas through the occupancy and change in use of existing buildings served by the City's solid waste collection system (Recology). Solid waste generation is estimated using generation rates from the California Department of Resources Recycling and Recovery (CalRecycle). For solid waste associated with residential uses, a disposal rate of approximately three pounds per resident per day is applied. For institutional and recreational uses a disposal rate of 0.007 pounds per sf per day is applied. As shown in Table 4.12-1, Estimated Range of Solid Waste Generation by AAU Study Areas, p. 4.12-21, shows the range of solid waste disposal that could be generated within each of the 12 program-level study areas. As explained below, it is important to note that the total solid waste generated by all program-level

[384] SFPUC, *Sewer System Improvement Program Report: Draft Report for SFPUC Commission Review*, prepared by Wastewater Enterprise Staff (July 27, 2010, revised August 10, 2012).

study areas should not be calculated by aggregating the individual study areas shown in Table 4.12-1. Rather, this is a range and maximum for each study area.

Table 4.12-1 Estimated Range of Solid Waste Generation by AAU Study Areas

Study Area	*Residential (beds)*	*Institutional (sf)*	*Disposal Rate*		*Solid Waste (tons/year)*
			Residential (lb/resident/day)	*Institutional (lb/sf/day)*	
Maximum Assumptions for Individual Study Areas					
Study Area 1	82–100	—	3		45–55
Study Area 2	400		3		219
Study Area 3	400		3		219
Study Area 4	400	15,000–30,000	3	0.007	219 (residential) 19–38 (institutional)
Study Area 5	400	200,000–480,000	3	0.007	219 (residential) 256–613 (institutional)
Study Area 6	—	100,000–190,000	—	0.007	128–243
Study Area 7	—	350,000–400,000	—	0.007	447–511
Study Area 8	—	100,000–150,000	—	0.007	128–192
Study Area 9	—	30,000–50,000	—	0.007	38–64
Study Area 10	—	70,000–160,000	—	0.007	89–204
Study Area 11	—	30,000–40,000	—	0.007	38–51
Study Area 12	27–45	—	3		15–25

SOURCE: Academy of Art University (2012).
The study areas identify areas of San Francisco where AAU may occupy a building (or buildings) for re-use to accommodate growth; it does not mean that AAU will seek use of a building in every one of the 12 study areas.
A ton is 2,000 lb.

As shown in Table 4.12-1, Estimated Range of Solid Waste Generation by AAU Study Areas, p. 4.12-21, the maximum increase in solid waste disposal in any one of the study areas would be 219 tons/year for residential uses and 613 tons/year for institutional uses. The table shows a conservative estimation because Table 4.12-1 illustrates the maximum amount of solid waste generated by any one study area, and AAU would not occupy the maximum amount of space in each study area. Instead, AAU would occupy space within some combination of the 12 study areas to result in an additional 669,670 sf of institutional uses and 400 beds (or 110,000 sf of residential space) to accommodate the projected AAU program-level growth. The solid waste associated with the total AAU program-level growth would be approximately 1,075 tons per year.[385]

[385] Total solid waste generated by accommodation of AAU program-level growth is calculated using a rate of 0.007 lb/sf/day for institutional uses and a rate of 3 lbs/resident/day for residential uses. Total solid waste generation from program-level growth would be 1,075 tons/year (0.007 lb/sf/day x 669,670 sf institutional + 3 lb/resident/day x 400 beds multiplied by 365 days a year and divided by 2,000 lb in one ton).

Although the increased residential population and business activities resulting from implementation of the Proposed Project would increase the total waste generated by the City, the increasing rate of diversion through recycling, composting, and other methods would result in a decreasing share of total waste that would be disposed in the Altamont Landfill, or in the Ostrom Road Landfill when the current contract with the Altamont Landfill expires. Given this fact, and given the long-term capacity available at these landfills, the Proposed Project would not result in either a landfill exceeding its permitted capacity or noncompliance with federal, state, and local statutes and regulations related to solid waste. Therefore, the Proposed Project's population growth and change in use of existing buildings in the 12 study areas would be served by a landfill with sufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste, and this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact UT-3.2 **The Proposed Project, including growth at the six project sites would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

The proposed occupancy and change in use of the six project sites would generate solid waste. To determine the amount of solid waste generated by occupancy of the six project sites, generation rates were taken from CalRecycle. Table 4.12-2, Estimated Solid Waste Generated at the Project Sites, p. 4.12-23, summarizes the generation rates used for each project site and the quantity of solid waste estimated.

Table 4.12-2 Estimated Solid Waste Generated at the Project Sites

Study Area	*Site Location*	*Proposed Use*	*Area (sf)*	*Generation Rate (lbs/sf/day)*	*Solid Waste (tons/year)*
SA-1	2801 Leavenworth Street-The Cannery	Institutional	133,675	0.007	171
SA-2	700 Montgomery Street	Institutional	11,455	0.007	15
SA-3	625 Polk Street	Institutional	93,103	0.007	119
SA-4	150 Hayes Street	Institutional	80,330	0.007	103
SA-5	121 Wisconsin Street	Institutional	1,140	0.007	1
SA-6	2225 Jerrold Avenue	Institutional/Recreational	91,367	0.007	117
Total					***526***

SOURCE: CalRecycle, Estimated Solid Waste Generation Rates for Institutions and Service Establishments (2009).

The solid waste associated with the six project sites is approximately 526 tons per year. Although the increased occupancy would incrementally increase the total waste generated by the City, at each of the project sites, AAU would be required to adhere to the applicable federal, state, and local regulations associated with reduction of construction-related and operational solid waste, including the Mandatory Recycling and Composting Ordinance, which requires everyone in San Francisco to separate their refuse into recyclables, compostables, and trash. With adherence to applicable regulations, the increasing rate of diversion through recycling, composting, and other methods would result in a decreasing share of total waste that would be disposed in the Altamont Landfill, or at the Ostrom Road Landfill when the current landfill contract expires.

Therefore, the Proposed Project at the six project sites would be served by a landfill with sufficient permitted capacity to accommodate the site's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact UT-3.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste. (Less than Significant)**

The Proposed Project, including AAU's growth in the 12 study areas and at the six project sites when combined, would result in solid waste generation of approximately 1,601 tons/year (1,075 tons/year associated with AAU program-level growth, and 526 tons/year associated with the six project sites). Although the increased residential population and business activities resulting from implementation of the Proposed Project would increase the total waste generated by the city,

the increasing rate of diversion through recycling, composting, and other methods would result in a decreasing share of total waste that would be disposed in the Altamont Landfill, or in the Ostrom Road Landfill when the current contract with the Altamont Landfill expires. Given this fact, and given the long-term capacity available at these landfills, the Proposed Project would not result in either landfill exceeding its permitted capacity or noncompliance with federal, state, and local statutes and regulations related to solid waste.

Therefore, the Proposed Project would be served by a landfill with sufficient permitted capacity to accommodate projected solid waste disposal needs and would comply with federal, state, and local statutes and regulations related to solid waste, and this impact would be less than significant.

Mitigation: None required.

Cumulative Impacts

The Proposed Project, including the 12 study areas and six project sites, as well as the service areas utility services providers serve is the geographical context for cumulative impact analysis for these topics. This includes specific proposed development projects such as the 5M Project, the Moscone Center Expansion Project, 598 Brannan, and the 350 Eighth Project, as well as implementation of planning efforts for the Western SoMa Plan, the Central SoMa Plan, the Rincon Hill Plan, and the East SoMa Plan. Further detail regarding these and other cumulative projects considered in this analysis is included in Table 4-1, Cumulative Projects.

Impact C-UT-1 **The implementation of the Proposed Project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not contribute considerably to a significant cumulative impact on utilities. (Less than Significant)**

Based on the analysis provided above, impacts to utilities and services systems in the study areas and at the specific project sites would be considered less than significant. Over time, AAU growth and growth in San Francisco as a whole would result in an increased demand for water, wastewater, and solid waste disposal services. Buildout of the Proposed Project, in conjunction with reasonably foreseeable projects, would increase overall demand for water services within the City. However, the SFPUC has determined through its 2013 Water Availability Study, that with implementation of the WSIP and its conservation efforts and associated water infrastructure improvements, the Proposed Project and other reasonably foreseeable developments in the City are expected to be adequately served by existing water supply resources. New or expanded water facilities would not be required as a result of construction of the Proposed Project. Therefore, the Proposed Project's contribution to water demand would not adversely affect the City's water supply and would not be cumulatively considerable.

The Proposed Project, in conjunction with reasonably foreseeable projects, would also increase the demands on water infrastructure and combined stormwater and wastewater infrastructure and treatment facilities. However, the Proposed Project's contribution to increased impervious service

area is minimal and would not substantially affect stormwater or wastewater facilities. As with the Proposed Project, reasonably foreseeable cumulative projects would also need to meet the wastewater pre-treatment requirements of the SFPUC and Water Board. In addition, similar to the Proposed Project, other large-scale development projects would be required to verify that existing water, wastewater, and stormwater infrastructure can accommodate increased demand, or contribute to any needed upgrades to existing facilities. Therefore, the cumulatively considerable contribution to cumulative impacts on the treatment of and capacity of stormwater and wastewater treatment facilities and infrastructure would not be cumulatively considerable.

Moreover, all new development projects within the City are required to comply with applicable requirements of the City's Sustainability Plan, Climate Action Plan, Green Building Ordinances, and Title 24 requirements.

The increases in demand attributable to the Proposed Project would be met by existing facilities; and, the Proposed Project would not contribute considerably to cumulative impacts on utilities and service systems, and this impact would be less than significant.

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4.13 PUBLIC SERVICES

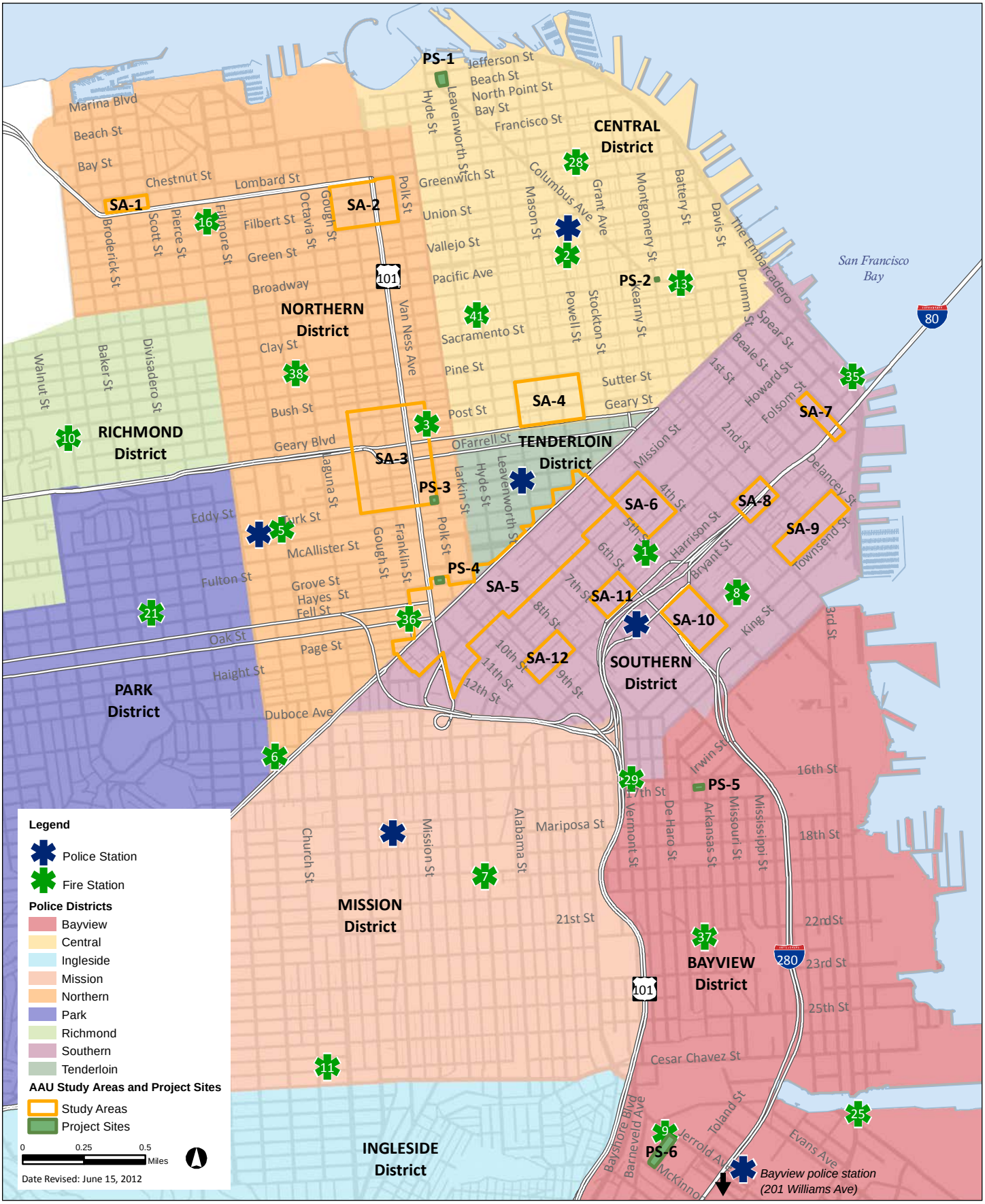
This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to generate a need for new or expanded facilities associated with the provision of fire, police, school, and library services. This section describes the public services and facilities within the City, including fire protection and emergency medical assistance, police protection, schools, libraries, and the relevant regulatory framework. Park services and recreation are discussed in Section 4.11, Recreation. No public services issues were raised during the NOP scoping period.

4.13.1 Environmental Setting

Fire Protection and Emergency Medical Services

The San Francisco Fire Department (SFFD) provides fire protection and emergency medical services and serves an estimated 1.5 million people.[386,387] These services include fire suppression, advanced emergency medical treatment and transport, heavy rescue, fire prevention and investigation, and community education and emergency preparedness training. According to the San Francisco Annual Report Fiscal Year (FY) 2012/13,[388] the SFFD is made up of 1,392 uniformed and 57 civilian personnel at 44 stations citywide.[389] Resources for the SFFD include 41 engine companies, 19 truck companies, ambulances, two heavy rescue squads, and two fire boats, along with multiple special purpose units. See Figure 4.13-1, Fire Stations and Police District Stations, p. 4.13-2, which shows the location of fire stations within the City, relative to the study areas and project sites, and Table 4.13-1, SFFD Fire Stations Serving the AAU Study Areas, p. 4.13-3, which lists the station numbers and addresses of SFFD stations serving the study areas and project sites. Table 4.13-2, San Francisco Fire Department Response Times, 2011, p. 4.13-4, provides information regarding average response times associated with the stations that would serve the study areas and project sites.

[386] San Francisco Fire Department, About Us, http://www.sf-fire.org/index.aspx?page=9 (accessed June 7, 2012).
[387] Service population includes residents and visitors.
[388] This is the most recent data available.
[389] San Francisco Fire Department, *FY 2012–2013 Annual Report*, p. 6, http://www.sf-fire.org/modules/showdocument.aspx?documentid=3584 (accessed January 19, 2015).



SOURCE: City of San Francisco GIS, 2010; AAU, 2013; Atkins, 2013.

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FIGURE 4.13-1: FIRE STATIONS AND POLICE DISTRICT STATIONS

Table 4.13-1 SFFD Fire Stations Serving the AAU Study Areas and Project Sites

Station No.	*Location*	*Study Areas/Project Sites Served*
1	935 Folsom St at Fifth St	SA-6, Fourth Street/Howard Street SA-7, Rincon Hill East SA-8, Third Street/Bryant Street
2	1340 Powell St at Broadway	SA-4, Sutter Street/Mason Street PS-2, 700 Montgomery Street
3	1067 Post St at Polk St	SA-3, Mid Van Ness Avenue SA-4, Sutter Street/Mason Street SA-5, Mid Market Street PS-3, 625 Polk Street PS-4, 150 Hayes Street
5	1301 Turk St at Webster St	SA-3, Mid Van Ness Avenue SA-5, Mid Market Street PS-3, 625 Polk Street PS-4, 150 Hayes Street
8	36 Bluxome S at Fourth St	SA-5, Mid Market Street SA-6, Fourth Street/Howard Street SA-8, Third Street/Bryant Street SA-9, Second Street/Brannan Street SA-10, Fifth Street/Brannan Street SA-11, Sixth Street/Folsom Street SA-12, Ninth Street/Folsom Street PS-4, 150 Hayes Street
9	2245 Jerrold Ave at Upton St	PS-6, 2225 Jerrold Avenue
13	530 Sansome St at Washington St	SA-4, Sutter Street/Mason Street PS-2, 700 Montgomery Street
16	2251 Greenwich St at Fillmore St	SA-1, Lombard Street/Divisadero Street SA-2, Lombard Street/Van Ness Avenue
28	1814 Stockton St at Greenwich St	PS-1, 2801 Leavenworth Street (The Cannery) PS-2, 700 Montgomery Street
29	299 Vermont St at 16th St	PS-5, 121 Wisconsin Street
35	Pier 22½, The Embarcadero at Harrison St	SA-7, Rincon Hill East SA-8, Third Street/Bryant Street SA-9, Second Street/Brannan Street
36	109 Oak St at Franklin St	SA-3, Mid Van Ness Avenue SA-5, Mid Market Street PS-3, 625 Polk Street PS-4, 150 Hayes Street
37	798 Wisconsin St at 22nd St	PS-5, 121 Wisconsin Street PS-6, 2225 Jerrold Avenue
38	2150 California St at Laguna St	SA-2, Lombard Street/Van Ness Avenue SA-3, Mid Van Ness Avenue PS-3, 625 Polk Street
41	1325 Leavenworth St at Jackson St	SA-2, Lombard Street/Van Ness Avenue SA-3, Mid Van Ness Avenue SA-4, Sutter Street/Mason Street PS-2, 700 Montgomery Street PS-3, 625 Polk Street

Table 4.13-2 San Francisco Fire Department Response Times, 2011

SFFD Stations	*Study Areas and Project Sites Located within Each District*	*Calls*	*Response Time Average (minute/seconds)*	*90th Percentile (minutes/seconds)*	*Calls*	*Response Time Average (minutes/seconds)*	*90th Percentile (minutes/seconds)*
		2 (Nonemergency)			*3 (Emergency)*		
Station 1	SA-6, Fourth Street/Howard Street SA-7, Rincon Hill East SA-8, Third Street/Bryant Street	3,787	**8:41**[b]	14:47	11,299	3:25	**4:48**
Station 2	SA-4, Sutter Street/Mason Street PS-2, 700 Montgomery Street	392	**8:57**	**15:44**	1,414	3:07	4:16
Station 3	SA-3, Mid Van Ness Avenue SA-4, Sutter Street/Mason Street SA-5, Mid Market Street PS-3, 625 Polk Street PS-4, 150 Hayes Street	3,286	8:03	14:26	6,981	3:04	4:21
Station 5	SA-3, Mid Van Ness Avenue SA-5, Mid Market Street PS-3, 625 Polk Street PS-4, 150 Hayes Street	740	7:58	14:09	2,471	3:02	3:54
Station 8	SA-5, Mid Market Street SA-6, Fourth Street/Howard Street SA-8, Third Street/Bryant Street SA-9, Second Street/Brannan Street SA-10, Fifth Street/Brannan Street SA-11, Sixth Street/Folsom Street SA-12, Ninth Street/Folsom Street PS-4, 150 Hayes Street	857	**9:51**	**16:56**	2,445	**3:38**	**4:55**
Station 9	PS-6, 2225 Jerrold Avenue	233	8:00	**16:56**	817	**3:40**	**5:11**
Station 13	SA-4, Sutter Street/Mason Street PS-2, 700 Montgomery Street	564	**9:29**	**17:09**	2,550	3:12	4:25
Station 16	SA-1, Lombard Street/Divisadero Street SA-2, Lombard Street/Van Ness Avenue	360	8:20	**16:02**	1,507	3:13	4:31
Station 28	PS-1, 2801 Leavenworth Street (The Cannery) PS-2, 700 Montgomery Street	478	**9:27**	**16:13**	1,969	**4:22**	**6:22**
Station 29	PS-5, 121 Wisconsin Street	377	8:03	13:37	1,268	3:25	**4:54**

Table 4.13-2 San Francisco Fire Department Response Times, 2011

SFFD Stations	*Study Areas and Project Sites Located within Each District*	*Calls*	*Response Time Average (minute/seconds)*	*90th Percentile (minutes/seconds)*	*Calls*	*Response Time Average (minutes/seconds)*	*90th Percentile (minutes/seconds)*
		2 (Nonemergency)			*3 (Emergency)*		
Station 35	SA-7, Rincon Hill East SA-8, Third Street/Bryant Street SA-9, Second Street/Brannan Street	261	**10:39**	**16:33**	961	**4:07**	**5:42**
Station 36	SA-3, Mid Van Ness Avenue SA-5, Mid Market Street PS-3, 625 Polk Street PS-4, 150 Hayes Street	1,624	8:24	14:24	4,810	3:16	4:33
Station 37	PS-5, 121 Wisconsin Street PS-6, 2225 Jerrold Avenue	201	**9:18**	**15:16**	773	**3:32**	**4:50**
Station 38	SA-2, Lombard Street/Van Ness Avenue SA-3, Mid Van Ness Avenue PS-3, 625 Polk Street	510	6:47	12:31	1,662	3:04	4:14
Station 41	SA-2, Lombard Street/Van Ness Avenue SA-3, Mid Van Ness Avenue SA-4, Sutter Street/Mason Street PS-2, 700 Montgomery Street PS-3, 625 Polk Street	448	7:27	14:08	1,796	2:57	4:06
City Total/Average		***22,915***	***8:34***	***14:55***	***78,158***	***3:25***	***4:47***

SOURCE: SFFD (2012).
Bold denotes response times that are above the City average.

During calendar year 2011,[390] the SFFD received a total of 22,915 nonemergency calls and 78,158 emergency calls. As shown in Table 4.13-2, San Francisco Fire Department Response Times, 2011, p. 4.13-4, the average citywide response time (dispatch to on-scene) was eight minutes and 34 seconds for nonemergency calls and 3 minutes and 25 seconds for emergency calls. In addition, the SFFD has a dynamically deployed ambulance system, meaning that ambulances are positioned at geographically relevant posting locations, and scheduled to accommodate the busiest times of the day, creating a more mobile response force to cover the City. Ambulances are staffed to meet demand in the City and the total number of ambulances varies throughout the day. The goal for transport units for a Code 3 (emergency), which is a potentially life threatening incident, is to arrive on scene within five minutes of dispatch 90 percent of the time. This goal complies with the National Fire Protection Association (NFPA) 1710 Standard. As noted in Table 4.13-2, the SFFD's average emergency response time was three minutes and 25 seconds and the 90th percentile average was four minutes and 47 seconds. On average, the citywide transport units slightly exceed the desired performance standard (e.g., five minutes) by approximately 13 seconds. Current SFFD expansion plans include the construction of a new fire station at Mission Bay[391] and the relocation of Station 1 to 935 Folsom Street.[392]

Police Protection

San Francisco Police Department

The San Francisco Police Department (SFPD) is divided into four bureaus: Administration, Airport, Field Operations, and Investigations. During 2012, SFPD averaged 1,644 total full-duty sworn officers – 327 below the mandated number. During this period of reduced full-duty staffing, SFPD changed how it assigns its officers to ensure adequate staff is available to provide minimum safety services, as well as to staff special events and deploy officers to meet unexpected needs.[393] In June 2013, SFPD drafted a six-year hiring plan, approved by the Mayor, which will return the Department to its Charter-mandated staffing level of 1,971 sworn officers.[394]

The area served by SFPD is divided into ten separate districts in order to efficiently serve the City's residents. The 12 study areas and six project sites are located within five of these districts, which are described further below. Each of the study areas and project sites is located exclusively within one district, with the exception of SA-5, Mid Market Street, which extends into three different districts.

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[390] 2011 is the latest year for which this information is available.
[391] As of January 2015, this station was not yet active.
[392] Jesus Mora, email communication from Information Services Project Director, SFFD, to Atkins (January 6, 2012).
[393] San Francisco Police Department, District Station Boundaries Analysis (May 13, 2008), p. 45, http://sf-police.org/Modules/ShowDocument.aspx?documentid=14683 (accessed June 7, 2012).
[394] San Francisco Police Department Annual Report 2012, available on the internet at https://dl.dropboxusercontent.com/u/76892345/Annual%20Reports/2012%20Annual%20Report.pdf (access June 19, 2014).

Figure 4.13-1, Fire Stations and Police District Stations, p. 4.13-2, depicts the SFPD district boundaries relative to the study areas and the project sites.

- **Northern District Station (1125 Fillmore Street):** SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-3, Mid Van Ness Avenue; a portion of SA-5, Mid Market Street; PS-3, 625 Polk Street; and PS-4, 150 Hayes Street
- **Central District Station (766 Vallejo Street):** SA-4, Sutter Street/Mason Street; PS-1, 2801 Leavenworth Street (The Cannery); and PS-2, 700 Montgomery Street
- **Tenderloin District Station (301 Eddy Street):** A portion of SA-5, Mid Market Street
- **Southern District Station (850 Bryant Street):** A portion of SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; and SA-12, Ninth Street/Folsom Street
- **Bayview District Station (201 Williams Street):** PS-5, 121 Wisconsin Street, and PS-6, 2225 Jerrold Avenue

In 2006, officers responded to approximately 1.1 million calls for service and arrested over 32,000 suspects.[395] Calls for services are categorized as Priority A (life threatening), Priority B (potential for harm to life and/or property), and Priority C (crime committed with no threat to life or property), with Priority A calls the most urgent and Priority C calls taking the least precedence. The SFPD's response time goals are 4 minutes for Priority A calls, 7 minutes and 30 seconds for Priority B calls, and 10 minutes for Priority C calls. In 2011, the average response time for highest priority calls, such as reports of homicide, robbery, or crimes involving weapons, was 1 minute and 17 seconds. The average response time for second priority and third priority calls was 6 minutes and 33 seconds and 10 minutes and 18 seconds, respectively.[396] Table 4.13-3, San Francisco Police Department Response Times, January 2011–December 2011, p. 4.13-8, shows average police response times for the SFPD by 2011 quarters. As shown, 91 percent of Priority A calls, 82 percent of Priority B, and 97 percent of Priority C calls were responded to within the district's goals.

[395] San Francisco Police Department, *2006 Annual Report*, pp. 94 and 95, http://sf-police.org/Modules/ShowDocument.aspx?documentid=14900 (accessed June 7, 2012).
[396] Jim Dimodica, electronic communication from San Francisco Police Department (December 21, 2011).

Table 4.13-3 San Francisco Police Department Response Times, January 2011–December 2011

	Entry to Dispatch Time (Avg.)			*Percent Meeting Goal*		
	Priority A	*Priority B*	*Priority C*	*Priority A*	*Priority B*	*Priority C*
January–March	1:06	5:59	8:15	92%	83%	98%
April–June	1:09	6:30	9:26	91%	81%	97%
July–September	1:08	6:12	10:04	91%	83%	97%
October–December	1:15	6:41	13:00	90%	81%	96%
2011 Average	***1:10***	***6:20***	***10:11***	***91%***	***82%***	***97%***

SOURCE: SFPD (2011).
Priority dispatch goals: Priority A = 2 min; Priority B = 10 min; Priority C = Dispatch as soon as conditions permit. The dispatch goal is for call entry to dispatch time.

Academy of Art University Security System

The AAU Department of Campus Safety (Campus Safety) is a service-oriented department trained to respond to the needs of University students, faculty, and administration. The Department of Campus Safety is headquartered at 180 New Montgomery Street and is comprised of the following four divisions: Uniform Patrol, Campus Host Program, Communication Center, and Crime Prevention Unit. These four divisions work collaboratively with the San Francisco Police Department and the California Highway Patrol.[397]

Campus Safety has nonsworn uniform patrol officers patrolling all AAU sites. The officers are sanctioned by AAU and the State of California Consumer Affairs Department to serve and protect the AAU community. The Patrol Team includes five nonsworn uniform patrol officers distributed between all AAU campuses 24 hours a day, seven days a week. Officers patrol in marked vehicles and by foot. AAU maintains two vehicles for use by patrol officers. The Patrol Team officers are trained in first aid/CPR, laws of arrest, crime prevention, and as a Neighborhood Emergency Response Team.

The Campus Host Program staff act as intermediaries between the public and Department of Campus Safety. Campus Host staff are placed in each AAU building as liaisons between the public and Campus Safety. Campus Hosts provide the following services:[398]

- Welcoming guests to and describing the building in which they work
- Limiting access to buildings to students and invited guests
- Providing answers to common questions regarding the AAU
- Calling Campus Safety, 911, the police, or fire departments when necessary

[397] Academy of Art University, Campus Information: Department of Campus Safety, http://my.academyart.edu/campusinfo/campus_safety.html (accessed June 8, 2012).
[398] Academy of Art University, Campus Information: Department of Campus Safety, http://my.academyart.edu/campusinfo/campus_safety.html (accessed June 8, 2012).

- Describing the neighborhood and campus buildings in order to direct students to AAU properties and locations of importance (e.g., post offices, banks, bus lines, etc.)
- Providing AAU brochures and collateral to parents, guests, and students
- Describing emergency standard operating procedures and disaster recovery plans
- Conveying information about the AAU's private campus buses

In addition, the Communication Center is responsible for monitoring campus activity at all times and coordinating efforts between the four divisions of the Department of Campus Safety, the AAU population, and local emergency response departments. The Communication Center provides call-taking services for students and staff and administers the Campus Safety Mass Notification System in response to potential threats to the AAU community. The Communication Center is also responsible for being the Emergency Operations Center for AAU if a disaster strikes the City of San Francisco.

The Crime Prevention Unit is comprised of Management, Patrol, Dispatch, and Campus Hosts. The function of this unit is to develop safety programs and disseminate information to the AAU community on crime prevention. The unit utilizes Campus Safety units as well as other outside resources to ensure a safe AAU community.[399]

Table 4.13-4, Yearly Comparison of Crimes, 2009 to 2010, includes crime statistics at AAU campuses in 2009 and 2010, the most recent data available.[400] These crimes required assistance from the SFPD, along with AAU Department of Campus Safety, as described in more detail below.

All AAU buildings are locked 24 hours per day and seven days per week, with the exception of 180 New Montgomery Street and 79 New Montgomery Street. These two buildings are locked in accordance with published building operation hours distributed to students and faculty and staff. Students, faculty, and staff gain entry to each building with the use of the card access system using AAU issued identification cards. Most AAU properties also have security alarms and video surveillance systems, which are monitored by the Communications Center.

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[399] Academy of Art University, Campus Information: Department of Campus Safety, http://my.academyart.edu/campusinfo/campus_safety.html (accessed June 8, 2012).
[400] Academy of Art University, *Annual Campus Safety Report and Annual Campus Fire Safety Report 2011–2012*, http://my.academyart.edu/assets/pdf/Revised_security_report.pdf (accessed June 8, 2012). This report is available as part of the Administrative Record.

Table 4.13-4 Yearly Comparison of Crimes, 2009 to 2010

Type of Criminal Offense	*Institutional*[a]			*Student Housing*		
	2009	*2010*	*Change*	*2009*	*2010*	*Change*
Crime Statistics[b]						
Murder	0	0	0	0	0	0
Robbery	2	4	+2	0	0	0
Aggravated Assault	1	1	0	1	1	0
Forcible Sex Offense	2	6	+4	2	5	+3
Non-Forcible Sex Offense	0	0	0	0	0	0
Burglary	4	18	+14	1	10	+9
Motor Vehicle Theft	0	2	+2	0	1	+1
Arson	0	0	0	0	0	0
Arrests for Drug Law Violation	1	0	-1	0	0	0
Disciplinary Actions						
Liquor Law Violations	110	105	-5	108	105	-3
Drug Law Violations	58	18	-40	58	18	-40

SOURCE: Academy of Art University, *Annual Campus Safety & Fire Safety Report 2011–2012*.

a. This includes all classrooms and administrative and academic offices including the primary administrative and counseling offices at 79 New Montgomery. This also includes residential buildings owned and operated by AAU, per the Non Campus Location Maps, starting on p. 39 of the Annual Campus Safety Report,[401] and as included in Table 3-1, Existing AAU Facilities—EIR Baseline (September 2010), in Chapter 3, Project Description.

b. This includes crimes that occur within 500 feet of AAU buildings.

Campus Safety personnel staff are located in the lobbies of the administrative buildings during posted business hours. There are seven high-density residential halls that are staffed at all times with full-time, part-time, and contract guard services. The mission of these staff is to monitor the building lobbies and report issues to the Communication Center. Twelve AAU residential halls are not staffed with security personnel.

AAU has a partnership with the SFPD and SFFD in that they share real-time video, radio, text messages, phone, and voice information on an integrated network provided by MUTUALINK.[402]

Schools

The San Francisco Unified School District (SFUSD) operates San Francisco's public schools. SFUSD is the primary public school provider in the City, accommodating approximately 98 percent of the

[401] Academy of Art University, *Annual Campus Safety Report and Annual Campus Fire Safety Report 2011–2012*, http://my.academyart.edu/assets/pdf/Revised_security_report.pdf (accessed June 8, 2012). This report is available as part of the Administrative Record.

[402] Mutualink, Inc. is a communications interoperability and resource sharing provider based in Wallingford, CT. Its services are intended to facilitate real-time, anywhere, anytime multimedia collaboration between first responders and critical infrastructure agencies—like utilities—across wired, commercial broadband, satellite, and public safety Long Term Evolution (LTE) networks.

total public school enrollment. Additional public school facilities include court-sponsored facilities (correctional institutions, court ward facilities, etc.) and public charter schools.

In 2012, the latest year for which enrollment data is available, SFUSD managed 112 schools and 34 state-funded pre-school sites, during the 2009/2010 academic year, including: 74 elementary schools, 12 middle schools, 15 high schools, and 11 charter schools, with a total enrollment of 52,989. From 1995 to 2007, student enrollment within the SFUSD declined from 61,889 to 55,069, a drop of 11 percent. Enrollment began to stabilize in 2007, and began to increase in 2009. Overall capacity exceeds current enrollment, but in some areas of the city the enrollment exceeds capacity for elementary, middle, and high schools. SFUSD anticipates that elementary school enrollment will grow due to the large birth cohorts earlier in the decade. Middle school enrollment is anticipated to rise, as well, with a projected enrollment of 15,100 in 2014, as compared to 11,640 in 2009.

High school enrollment, which experienced a continuous decline between 2009 and 2012 due to the declining birth rates of the 1990s, is projected to rise again to roughly 18,000 students in 2014.

SFUSD has held discussions to build additional school sites in Mission Bay, Treasure Island, and Bayview Hunter's Point, as well as building a campus for the Asawa School of the Arts in the Civic Center, but no final decisions have been made.

SFUSD had 3,392 teachers during the 2011/12 school year[403] with a ratio of approximately one teacher to 17 students. Average teaching experience within the SFUSD for kindergarten through 12th grade teachers is 11.3 years.[404] The SFUSD employs a student generation rate of 0.203 students per new housing unit for planning purposes.[405]

Libraries

San Francisco Public Library

The San Francisco Public Library (SFPL) consists of 27 branch libraries, the Main Library located in the Civic Center area, and a book mobile program. Table 4.13-5, San Francisco Public Library Branch Information within AAU Study Areas and near Project Sites, p. 4.13-12, denotes the size and service population of the Main Library and each branch library that would serve the study areas and project sites. Figure 4.13-2, Libraries near the Study Areas and Project Sites, p. 4.13-14, shows the location of library branches within the vicinity of the study areas and project sites. The citywide library

[403] California Department of Education, Certified Staff by Ethnicity for 2010–11, Staff Type: Teachers, Educational Demographics Unit, DataQuest System (2011), http://data1.cde.ca.gov/dataquest (accessed June 26, 2013).
[404] SFUSD, About SFUSD, Did you know? http://www.sfusd.edu/en/employment/certificated-careers/teaching-careers/why-teach-with-sfusd/our-district-snapshot.html (accessed June 24, 2012).
[405] San Francisco Redevelopment Agency and San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan Environmental Impact Report* (Final EIR certified June 2010), Redevelopment Agency File No. ER06.05.07, Planning Department File No. 2007.0946E, State Clearinghouse No. 2007082168, San Francisco, CA, p. III.O-29.

collection for FY 2010/11 included a total of 2,984,107 books, magazines, newspapers, government documents, and other materials. Of the total citywide collection, 1,571,052 SFPL-owned materials are contained in the Main Library. During 2010/11, the various libraries were visited by patrons 7,042,971 times, of which 2,225,291 visits were to the Main Library. Also during this time, the library system organized and hosted 6,349 events at which 274,224 visitors attended. These programs consisted of classes, lectures, panel discussions, author readings, exhibits, films, meetings, performances, celebrations, school visits, and summer reading programs.[406] Many libraries are open seven days a week and are open later on some weeknights until 9:00 p.m.

Table 4.13-5 San Francisco Public Library Branch Information within AAU Study Areas and near Project Sites

Branch	*Study Areas*	*Size of Library (sf)*	*Service Population*[a]	*BLIP Program*[c]
Chinatown	SA-4, Sutter Street/Mason Street PS-2, 700 Montgomery Street	17,858	49,438	N/A
Golden Gate Valley	SA-1, Lombard Street/Divisadero Street SA-2, Lombard Street/Van Ness Avenue SA-3, Mid Van Ness Avenue PS-3, 625 Polk Street	6,737	18,619	Completed
Presidio	SA-1, Lombard Street/Divisadero Street SA-2, Lombard Street/Van Ness Avenue SA-3, Mid Van Ness Avenue PS-3, 625 Polk Street	10,205	15,962	Completed
Western Addition	SA-1, Lombard Street/Divisadero Street SA-2, Lombard Street/Van Ness Avenue SA-3, Mid Van Ness Avenue PS-3, 625 Polk Street	8,000	42,526	Completed
Main	SA-3, Mid Van Ness Avenue SA-4, Sutter Street/Mason Street SA-5, Mid Market Street SA-6, Fourth Street/Howard Street SA-7, Rincon Hill East SA-8, Third Street/Bryant Street SA-9, Second Street/Brannan Street SA-10, Fifth Street/Brannan Street SA-11, Sixth Street/Folsom Street SA-12, Ninth Street/Folsom Street PS-3, 625 Polk Street PS-4, 150 Hayes Street	376,000	805,235[d]	N/A
Marina	SA-1, Lombard Street/Divisadero Street SA-2, Lombard Street/Van Ness Avenue PS-1, 2801 Leavenworth Street (The Cannery)	7,633	20,471	Completed
Mission	PS-6, 2225 Jerrold Avenue	7,500	14,163	Completed
North Beach	SA-2, Lombard Street/Van Ness Avenue PS-1, 2801 Leavenworth Street (The Cannery) PS-2, 700 Montgomery Street	5,530	21,487	Completed

[406] San Francisco Public Library, About the Library, Statistics System-Wide, FY 2010–2011, http://www.sfgov.org/site/frame.asp?u=http://www.sfpl.org/ (accessed June 24 2012).

Table 4.13-5 San Francisco Public Library Branch Information within AAU Study Areas and near Project Sites

Branch	*Study Areas*	*Size of Library (sf)*	*Service Population*[a]	*BLIP Program*[c]
Mission Bay	SA-6, Fourth Street/Howard Street SA-8, Third Street/Bryant Street SA-9, Second Street/Brannan Street SA-10, Fifth Street/Brannan Street SA-11, Sixth Street/Folsom Street PS-5, 121 Wisconsin Street	7,500	14,163	Completed
Potrero	PS-5, 121 Wisconsin Street PS-6, 2225 Jerrold Avenue	5,428	10,542	Completed
Citywide Total		***583,821***	***805,235***[e]	

SOURCES: Jill Bourne, response to service letter request from Deputy City Librarian, San Francisco Public Library (November 18, 2010); San Francisco Public Library, Library Commission, *Bond Program Manager's Report* (November 17, 2011), website: http://sfpl.org/pdf/blip/bondmgrreport.pdf (accessed January 6, 2012).

N/A = No construction, renovation, or replacement is planned at these branches under the BLIP Program.

a. Service population areas overlap between neighborhood branch libraries. As such, the service populations are larger than the population of the City since some people use more than one branch.

b. Measured by square feet of library space per person.

c. Branch Library Improvement Program (BLIP) status as of May 2014.

d. The Main Library serves the entire City population.

e. Service population does not sum to the total since some of the areas overlap between neighborhood branch libraries and not all SFPL branches are included in this table. The total population of San Francisco is used.

In November 2000, voters passed a bond measure (the Branch Library Improvement Program [BLIP]) for $105.9 million, which calls for 16 branches to be renovated, four leased facilities to be replaced with City-owned buildings, and three branches to be replaced with new buildings. The construction of the Mission Bay branch is the first new branch in 40 years, which opened in 2006.[407] As of May 2014, all 16 branches have been completed. The BLIP provides the public with seismically safe, accessible, technologically updated, and code compliant City-owned branch libraries in every neighborhood.[408]

[407] San Francisco Public Library, Branch Library Improvement Program, http://sfpl.org/index.php?pg=2000002301 (accessed June 24, 2012).

[408] City and County of San Francisco Branch Library Improvement Program, Branch Library Improvement Program Frequently Asked Questions (April 2010), http://sfpl.org/pdf/blip/blipfaq.pdf (accessed July 28, 2014).

SOURCE: City of San Francisco GIS, 2010; AAU, 2013; Atkins, 2013.

FIGURE 4.13-2: LIBRARIES NEAR THE STUDY AREAS AND PROJECT SITES

AAU Library

In addition to the public library system, AAU has a private library for use by its students and faculty. The library is located at 180 New Montgomery Street and holds a collection of over 50,000 volumes that focus on the visual and technical arts. The library also maintains a periodical collection with over 275 current subscriptions as well as access to 18 online databases, and a digital image library with over 250,000 images. The library is open seven days a week and is open on some weeknights until 10:00 p.m.[409]

4.13.2 Regulatory Framework

Protection of life and property and provision of adequate public facilities are governed by state and local jurisdictions. The following acts, codes, and local plans are relevant to public services issues in the City, including the 12 study areas and six project sites.

State

California Fire Code

State fire regulations are set forth in California Health and Safety Code Sections 13000 et seq., which includes regulations concerning building standards (as set forth in California Code of Regulations Title 24, the California Building Code), fire protection and notification systems, fire protection devices (such as fire extinguishers and smoke alarms), high-rise building and child care facility standards, and fire suppression training. California Fire Code Section 403.2 (in California Code of Regulations Title 24, Part 9) addresses public safety for both indoor and outdoor gatherings, including emergency vehicle ingress and egress, fire protection, emergency medical services, public assembly areas and the directing of both attendees and vehicles (including the parking of vehicles), vendor and food concession distribution, and the need for the presence of law enforcement and fire and emergency medical services personnel at the event.

Senate Bill 50 and Proposition 1A

Senate Bill 50 (SB 50) and Proposition 1A enacted a comprehensive school facilities financing and reform program. The provisions of SB 50 prohibit local agencies from denying land use approvals on the basis that school facilities are inadequate and reinstate the school facility fee cap for legislative actions. Government Code Section 65996 states that the development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation."

[409] Academy of Art University Library, About the Library, http://elmo.academyart.edu/library-information/about.html (accessed June 24, 2012).

California Education Code

California Education Code Section 17620(a)(1) states that the governing board at any school district is authorized to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the district, for the purpose of funding the construction or reconstruction of school facilities.

Local Regulations

Community Facilities Element of the General Plan

The Community Facilities Element of the *General Plan* describes San Francisco's regulatory framework for public services. The *General Plan* Community Facilities Element establishes objectives and policies for meeting the City's need for community facilities such as police facilities, firehouses, libraries, schools, neighborhood centers, and public health centers, as well as institutional, wastewater, and solid waste facilities.

San Francisco Police Code

The San Francisco Police Code contains regulations for various types of activities such as automobile use, permitting and licensing, use of ports, and disorderly conduct.

San Francisco Fire Code

The San Francisco Fire Code incorporates by reference the California Fire Code, with certain local amendments. The San Francisco Fire Code was revised in 2007 to regulate and govern the safeguarding of life and property from fire and explosion hazards arising from the storage, handling, and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises; and to provide for the issuance of permits, inspections, and other SFFD services; and the assessment and collection of fees for those permits, inspections, and services. The SFFD reviews building plans to ensure that fire and life safety is provided and maintained in the buildings that fall under its jurisdiction. SFFD plan review applies to all of the following occupancy types:[410]

- All Assembly Occupancies (including restaurants and other gathering places for 50 or more occupants)
- All Educational Occupancies (including commercial day care facilities)
- All Hazardous Occupancies (including repair garages, body shops, fuel storage, and emergency generator installation)
- All Storage Occupancies where potential exists for high-piled storage as defined by Fire Code

[410] San Francisco Fire Department, Plan Check, http://www.sf-fire.org/index.aspx?page=1012 (accessed January 6, 2012).

- All Institutional Occupancies
- All High-rise building of all types of occupancies
- Residential Occupancies, such as hotels, motels, lodging houses, residential care facilities, apartment houses, small- and large-family day care homes, and R-1 artisan buildings (excluding minor residential repairs such as kitchen and bath remodeling and dry rot repair)
- Certified family-care homes, out-of-home placement facilities, halfway house, drug and/or alcohol rehabilitation facilities
- Tents, awnings, or other fabric enclosures used in connection with any occupancy
- All fire alarm and fire suppression systems

In coordination with the San Francisco Department of Building Inspection (DBI), the SFFD conducts plan checks to ensure that all structures, occupancies, and systems outlined above are designed in accordance with the San Francisco Building Code.

San Francisco Public Library Strategic Plan (2010/11)

The San Francisco Public Library Strategic Plan (SFPL Strategic Plan) was adopted in 2003, and updated for FY 2010/11, and remains the guiding document for SFPL. As stated in the SFPL Strategic Plan, there is no national standard for library service. Instead, each library must evaluate how it may best meet the needs of the community. To this end, SFPL has developed the SFPL Strategic Plan, which provides every library facility and program with a unifying organizational vision and systemwide goals. These goals are broad and flexible to tailor services to each unique neighborhood. The SFPL Strategic Plan also provides a framework to consider opportunities for new programs and services.[411]

4.13.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to public services, if it would:

- Result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services such as fire protection, police protection, schools, or other services.

[411] San Francisco Public Library, *Fiscal Year 2012–2013 SFPL Priority Areas and Goals*, http://sfpl.org/pdf/about/policies/strategic_planning.2012.pdf (accessed August 1, 2014).

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to fire protection, law enforcement, schools, and library services in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting.

This analysis assumes that the Proposed Project would be limited to occupancy and change of use of 1,063,207 sf of intuitional space, 110,000 sf of residential space, and 17,533 sf of recreational space in existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting. Unlike the project sites, where specific buildings have been identified, the program-level analysis assumes that within the designated study areas, AAU could occupy any building to accommodate future growth. However, beyond the project-level sites, no specific buildings within these areas have been identified.

As described in Section 4.4, Population, Housing, and Employment, total San Francisco daytime population growth under the Proposed Project, including both program-level and project-level growth, would comprise approximately 6,100 new students, 1,220 new faculty and staff, and 666 new resident household members, for a total of 7,986 new people. Breaking down this total of 7,986 new people between new San Francisco residents and AAU commuters, AAU growth would add 5,400 new San Francisco residents (including 525 faculty/staff residents, 666 faculty/staff household residents and 4,209 student residents)[412] and 2,586 new daytime occupants (i.e., commuters) at AAU facilities. The six project sites are included as part of the projected Proposed Project growth, and did not result in increased AAU enrollment during the 2011–2012 school years when these six sites were occupied. As described in Section 4.4, Population, Housing, and Employment, the project sites were occupied by AAU not to accommodate new enrollment but to meet changing program needs and to accommodate atypical classroom layouts. In the future, it is anticipated that enrollment growth and any associated increase in faculty and staff cannot be ascribed to any particular building and for this

[412] Generation factor is based on the historical trend that 69 percent of AAU students and 43 percent of faculty/staff are new residents to the City. For faculty/staff, this assumes that there would be an average household size of 2.27 pph. See Section 4.4, Population, Housing, and Employment, for further discussion.

reason, the analysis lists all population and employment growth under program-level growth and does not attempt to separate project-site from program-level population and employment growth. Table 4.13-6, San Francisco Population Growth Generated by the Proposed Project, summarizes the population assumptions used in this analysis for the program-level analysis, the project-level analysis, and the combined program-level/project-level analysis.

Table 4.13-6 San Francisco Population Growth Generated by the Proposed Project

	Proposed Project Growth	*Population Not Moving to San Francisco*	*Population Who Would Become New San Francisco Residents*
Students	6,100	1,891 (31%)	4,209 (69%)
Faculty and Staff	1,220	695 (57%)	525 (43%)
Household Members	—	—	666
Total	***7,320***	***2,586***	***5,400***

SOURCE: AAU, Department of Institutional Research (June 2014).

This section of the EIR does not separately evaluate the shuttle service expansion because the proposed expanded shuttle service would only transport students, faculty and staff among the various AAU campus locations, and the demand for public services associated with the shuttle service is subsumed within the demand for public services provided to those persons and locations. Therefore, no analysis of public services is warranted for this element of the Proposed Project.

As explained above, this section includes a project-level review of six project sites. Table 4.13-7, Summary of Project Site Daytime Population, p. 4.13-19, summarizes the daytime occupancy for each project-level site. As noted above, it is assumed that growth at the project sites would not result in net new enrollment growth at these locations above program-level growth. The students and faculty, and staff associated with each site are included as part of the projected program-level growth of 6,100 students and 1,220 faculty/staff. In general, AAU growth would be incremental and would be distributed throughout the city.

Table 4.13-7 Summary of Project Site Daytime Population

Project Sites	*Use*	*Square Feet*	*Students*	*Faculty/Staff*
PS-1, 2801 Leavenworth Street (The Cannery)	Institutional	133,675	1,600	18
PS-2, 700 Montgomery Street	Administrative offices	11,455	15	20
PS-3, 625 Polk Street	Institutional	93,103	1,675	168
PS-4,150 Hayes Street	Administrative offices	80,330	0	390
PS-5,121 Wisconsin Street	Shuttle bus storage yard	1,140	0	2
PS-6, 2225 Jerrold Avenue	Office, storage and recreational	91,367	110	20

SOURCE: AAU (2014).

This represents the maximum number of students that could be expected in any one facility over the course of a given day, assuming students move from site to site throughout the day. This number does not represent a total population increase at the site; rather, it is part of overall Proposed Project population growth.

Impacts on public services (with the exception of schools) were determined by analyzing both impacts resulting from new San Francisco residents (students, and faculty and staff and their families) and daytime occupancy at AAU facilities.

- **Total New San Francisco Residents**—The estimated direct increase in the residential population in the City as a result of AAU growth from the future growth in the study areas and at the project sites is 4,209 students and 525 faculty/staff. This includes the new student, faculty, and staff that would move to the City as a result of the Proposed Project. Along with the 525 faculty/staff, it is assumed that faculty/staff moving to the City would have an average household size of approximately 2.27 persons per household (pph), resulting in 666 additional new residents. It is also assumed that the existing San Francisco residents who would either attend or work for AAU by 2020 are already served by public service providers.[413] As such, the analysis focuses on the 5,400 new residents distributed throughout the City as a result of the Proposed Project, and how they will impact public services. Total new resident population as a result of the Proposed Project is reflected in Table 4.13-6, San Francisco Population Growth Generated by the Proposed Project, p. 4.13-19 (similar to Table 4.4-9, San Francisco Population Growth and Housing Demand from the Proposed Project, in Section 4.4, Population, Housing, and Employment).
- **Daytime Population**—In addition to studying the 5,400 new San Francisco residents, this analysis studies the addition of 2,586 new daytime occupants at AAU facilities across the study areas and the project sites. As described above, the daytime population at the project sites is part of all population and employment program-level growth and would not result in an independent increase in enrollment. Occupancy of the project sites by AAU resulted from changes in academic programs and associated space needs. While occupancy of the project sites would not itself separately generate new residents to the City, potential impacts could occur on existing City services where those sites are located due to increased intensity and use of these sites. As such, the daily population on-site of students, faculty and staff utilizing the six project sites, as detailed in Table 4.13-7, Summary of Project Site Daytime Population, p. 4.13-19, is the basis for the assessment of impacts on City services associated with the project sites.

Fire and Police Protection

Impacts on fire and police protection services are considered significant if an increase in the service population would result in inadequate staffing levels, response times, and/or increased demand for services that would require the construction or expansion of new or altered facilities that might have an adverse physical effect on the environment. As discussed above, impacts are evaluated for the 12 study areas and for the six project sites.

Increased demand for law enforcement, fire protection, and emergency medical services could have economic impacts that are unrelated to the construction of new or altered facilities. However, as

[413] Refer to Section 4.4, Population, Housing, and Employment, for further explanation of the population assumptions and calculations.

discussed above, economic and social effects absent a physical change to the environment are not considered environmental impacts under CEQA. For purposes of the impact analysis, it is assumed that all tenant improvements would be designed and constructed in compliance with all applicable building and fire codes, which include requirements for fire alarms, smoke detectors, sprinkler systems, fire extinguishers, and the number and location of exits.

Schools

The SFUSD assigns schools based on a lottery system. This lottery system ensures that student enrollment is distributed to facilities that have sufficient capacity to adequately serve the educational needs of students. In March 2009, the SFUSD Board of Education approved new guidelines for attendance boundaries around schools. Therefore, directing growth to certain areas of the City would not affect all schools because students can be assigned citywide or to a neighborhood-serving school. As such, this analysis is not examined by study area. Additionally, only new residents to the City would add students to the SFUSD; therefore, only citywide population growth is analyzed.

Impacts on schools were determined on a citywide basis by analyzing the estimated increase in SFUSD student population as a result of the Proposed Project. This analysis compares the increase in the Project population to the current capacity of schools to determine whether new or altered facilities would be required, and whether the construction of such facilities could result in a substantial adverse environmental effect. As discussed in Section 4.4, Population, Housing, and Employment, demographic profiles of current AAU students indicate that most new AAU students relocating to San Francisco would be unmarried and would not have offspring. Therefore, the analysis also assumes that few, if any AAU students would have school-age children. As such, this analysis only focuses on the impacts to SFUSD that could occur due to a citywide increase in population associated with the addition of up to 525 new faculty and staff who could add to the number of school-age children in the City.

Libraries

Given that related residential demand would be spread throughout San Francisco, it is reasonable to assume that an increase in library patrons would also be similarly distributed citywide. Impacts on library services are considered significant if an increase in residential population would result in an increased demand for library services that would require the need for new or physically altered library facilities in order to maintain an acceptable service ratio, the construction of which could result in substantial adverse environmental effects. As discussed above, impacts are evaluated for the 12 study areas and for the six project sites. The analysis also considers that AAU has its own library system that students and faculty and staff are likely to utilize.

As presented in Table 3-1, Existing AAU Facilities—EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010 when the NOP for this

EIR was published. AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.13.1, Environmental Setting, p. 4.13-1, and as described in Chapter 3, Project Description. In addition, AAU activities at the 34 sites are considered part of the Proposed Project because AAU still requires certain City permits for changes of use completed at most of these locations before the September 2010 NOP, as described further in Chapter 3, Project Description. As previously mentioned, implementation of the Proposed Project would not change existing uses at those sites, but would legalize such uses. Therefore, the continued occupancy of these existing sites would result in no impact related to public services. Additionally, any potential public services effects that resulted from pre-NOP unauthorized change of uses and/or appearance or tenant improvements at the 34 existing sites would be addressed in the Existing Sites Technical Memorandum.

Additionally, the Proposed Project's potential contribution to cumulative public services impacts are evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the Proposed Project vicinity.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 program-level study areas, and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact PS-1.1 **The Proposed Project, including growth in the 12 study areas, would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire or police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection. (Less than Significant)**

The Proposed Project would result in the occupation and change of use of existing buildings and would not result in the construction of new institutional or residential buildings. Growth in the study areas would consist of approximately 110,000 net square feet (sf) of additional residential and 669,670 gross sf of additional institutional space, and the Proposed Project would result in

approximately 6,100 new students, 1,220 new faculty and staff, and 666 new resident household members, for a total increase in daytime population of 7,986, which would be required to be served by SFFD and SFPD. Among this total population increase would be a City population increase of approximately 5,400 new San Francisco residents.

Generally, impacts related to police and fire protection are considered significant if the project results in the need for additional police or fire protection in areas that are underserved and other areas that could not accommodate additional growth, thereby requiring the construction or expansion of police or fire protection facilities. Although the Proposed Project would not result in new construction, AAU's growth within the 12 study areas, including the introduction of classroom, office, and student housing uses to previously vacant buildings, would increase the daytime and residential City population by bringing new students and faculty and staff families to the area, thereby resulting in an increase in the demand for fire and police services.

While the increase in student, faculty and staff populations would result in an increase in the demand for fire and police protection services within the 12 study areas, SFFD and SFPD each have adequate resources to meet demand for fire and police protection that would be associated with growth under the Proposed Project. The Proposed Project would result in incremental, dispersed growth that could be accommodated without resulting in an adverse effect to police or fire protection services. Police surveillance at the sites would continue, for instance, with routine patrols and responses to calls for assistance.

SFFD, on average, meets its desired performance standard, and has indicated that they have adequate resources to meet demand for fire protection that would be associated with growth under the Proposed Project within the 12 study areas.[414] To ensure that adequate levels of service are maintained, occupancy of buildings would be required to occur in compliance with the previously discussed State and local regulations, including the San Francisco Fire Code. The Fire Code requirements for the change of use of buildings include (but are not limited to): building type and height; building renovations; occupancy type and load; proximity to other emergency services; topographical challenges; and ingress/egress concerns. As the existing buildings in the study areas are converted into new uses, SFFD would analyze and evaluate occupant loads, response times, and other operational objectives to ensure adequate fire protection. SFFD also would review all plans during the building permit approval process for the renovation of all buildings in the study areas to ensure adequate fire flows and hydrants. In addition, it is expected that the SFFD will expand its service by 2020 as its service population grows. Therefore, no new or expanded fire protection facilities would need to be constructed due to the Proposed Project.

As with fire protection services, the SFPD will continue to evaluate its performance based on response times, and when appropriate will reallocate resources to accommodate needs for services

[414] Matthew Burke (Atkins) email communication with Jesus Mora (SFFD) (October 18, 2011).

in specific parts of the City, if and when conditions warrant. However, it is expected that the Proposed Project would be adequately served without the construction of new police facilities. Additionally, the demand for SFPD services within the 12 study areas would be lessened by the provision of AAU campus security. All criminal offenses are responded to by the security team, with assistance from the SFPD. As the AAU student population grows, additional security personnel would be hired.[415] In 2010, there were 31 institutional (22 on-campus and nine noncampus) as well as 17 campus housing criminal offenses. These numbers were up by 21 (12 and nine) and 13 criminal offenses, respectively, since 2009. As AAU expands and adds new students to the study areas,[416] these offenses would likely increase. However, compared to the demand of the rest of the City, these increases would not result in a substantial effect on SFPD service provision. In addition, AAU campus security would absorb some of the additional demand. Therefore, no new or expanded police protection facilities would be required.

Program-level impacts on fire and police protection services are further assessed below based on the projected increase in daytime population, the number of new San Francisco residents generated by the Proposed Project, and the effect of growth on emergency access in the study areas.

Daytime Population Increase

AAU growth in the 12 study areas could increase the number of calls for fire and police service received within and around these areas and the level of regulatory oversight necessary to serve the increased population and employment. New on-site student and faculty and staff populations at the future AAU residential and institutional facilities could increase the demand for fire and police protection services at stations located within proximity of the study areas, as shown in Figure 4.13-1, Fire Stations and Police District Stations, p. 4.13-2. In total, growth within the 12 study areas would consist of up to 669,670 sf of institutional uses. As indicated in Table 3-8, EIR Program-Level Growth Assumptions, 2011–2020—Study Areas, the daytime population at institutional sites would be concentrated within SA-4, Sutter Street/Mason Street; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; and SA-11, Sixth Street/Folsom Street, thereby increasing demand at Fire Stations 1, 2, 3, 5, 8, 13, 35, 36, and 41. Residential growth of up to 400 beds would occur primarily within SA-1, Lombard Street/Divisadero Street; SA-2,Lombard Street/Van Ness Avenue; SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-5, Mid Market Street; and SA-12, Ninth Street/Folsom Street, and would increase demand at Fire Stations 2, 3, 5, 8, 13, 16, 36, 38, and 41. Growth in student housing would impact the Northern, Central, Tenderloin, and Southern SFFD Districts, and institutional uses would impact the Northern, Central, Tenderloin, and Southern SFFD Districts.

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[415] Matthew Burke (Atkins) email communication with Jesus Mora (SFFD) (October 18, 2011).
[415] Email communication from Leilani Moisa (Hathaway Dinwiddie) to Greta Brownlow (Atkins) (June 2, 2014).
[416] Academy of Art University, *Annual Campus Safety Report and Annual Campus Fire Safety Report 2010–2011*, http://my.academyart.edu/assets/pdf/Revised_security_report.pdf (accessed June 8, 2012).

Compared to the projected growth in these areas, demand on these fire stations resulting from the Proposed Project would not be substantial. Further, the increased demand for fire protection services would occur incrementally over the 10-year time period of AAU growth, and the increase would not be substantial in comparison to the existing demand and capacity for such fire and police services in the study areas. Additionally, the population increase associated with AAU growth would be distributed across the study areas, and thus would not disproportionately affect any particular fire or police station.

Impacts from New Residents

AAU growth in the 12 study areas would result not only in an increase in daytime on-site residential population, but also an increase in the citywide population. As stated above, the Proposed Project would not result in new construction. However, AAU's growth within the 12 study areas, including the occupation and use of existing buildings for classroom, office, and student housing from previously vacant buildings, would increase the total number of AAU students, faculty, staff, and their families occupying buildings within the City. Such growth also would increase the City population as a whole by bringing new students and faculty and staff to the area, increasing the City's population by 5,400 residents.

While such growth would result in an increased demand for police and fire services, AAU growth would be incremental and would be distributed throughout the City. Further, new residents associated with the Proposed Project would not substantially increase the overall citywide population. Therefore, the increase in demand for fire and police services would not be substantial in comparison to the existing demand and capacity for such services throughout the City.

Furthermore, as noted above, compliance with the San Francisco Fire Code, which regulates and governs the safeguarding of life and property from fire and explosion hazards arising from the storage, handling, and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the occupancy of buildings and premises, would be required at all buildings occupied by AAU. Compliance with the San Francisco Fire Code would reduce the potential for increased demand for fire protection services at AAU-occupied buildings. Additionally, as noted above, the demand for SFPD services within the 12 study areas would be lessened by the provision of AAU campus security, which would be expanded as necessary as enrollment grows.

Emergency Access

As described in more detail in Section 4.6, Transportation and Circulation, it is unlikely that AAU's growth plans would have any impact on emergency access to or from any of the study areas. As noted above, no new construction would occur as part of implementation of the Proposed Project within the 12 study areas. Further, growth in the study areas would not involve any modifications to the roadway network and the increased shuttle service would not substantially impact existing

traffic patterns. In addition, the Proposed Project is not anticipated to contribute a significant amount of vehicle traffic to the surrounding roadway network during the PM peak.

Overall Impacts

As discussed above, no new buildings would be constructed under the Proposed Project, and the increase in population associated with AAU growth in enrollment and associated faculty and staff would be distributed across the study areas and would not be expected to result in a substantial increase in demand for either SFFD or SFPD services, or require construction of new facilities. Furthermore, as explained in Section 4.6, Transportation and Circulation, the changes to the shuttle routes are not anticipated to impact emergency response times.

In addition, it is expected that SFFD will expand its service by 2020 as its service population grows. SFPD also has plans to increase its force. In June 2013, SFPD drafted a six-year hiring plan, approved by the Mayor, which will return the Department to its Charter-mandated staffing level of 1,971 sworn officers.[417] As such, growth within the 12 study areas would not necessitate the expansion of either existing SFFD or SFPD facilities, nor would the construction of new facilities be required, such that significant environmental impacts associated with the expansion or construction of fire or police protection facilities would occur. Therefore, the Proposed Project, including growth in the 12 study areas, would have a less-than-significant impact on fire and police protection services.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact PS-1.2 **The Proposed Project, including growth at the six project sites, would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire and police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

Occupancy and change of use at most of the project sites would result in an increase in daytime occupancy. However, the associated increase in student, faculty, and staff population is assessed in

[417] San Francisco Police Department Annual Report 2012, available on the internet at https://dl.dropboxusercontent.com/u/76892345/Annual%20Reports/2012%20Annual%20Report.pdf (access June 19, 2014).

Impact PS-1.1 as part of the Proposed Project program-level enrollment and associated growth in faculty and staff. Therefore, the six project sites would not result in additional enrollment or require additional faculty and staff, and there would not be additional growth from occupancy and use of the project sites above that studied in Impact PS-1.1.

Operation of the project sites under the Proposed Project would require additional fire protection services due to the increased daytime population. However, as noted above, SFFD has indicated that the Proposed Project, including growth at the six project sites, could be accommodated without resulting in an adverse effect on fire protection services.[418] As the City grows, service areas would be reevaluated by the SFFD and resources would be reallocated to accommodate needs for services in specific parts of the City, if and when conditions warrant. Additionally, occupation of the six project sites would be required to comply with the State and local regulations, including the San Francisco Fire Code. The Fire Code requirements for the change of use of buildings include (but are not limited to) building type and height, building renovations, occupancy type and load, proximity to other emergency services, topographical challenges, and ingress/egress concerns. Operation of the project sites under the Proposed Project also would require continued police protection services. However, as noted above under Impact PS-1.1, enrollment growth from the Proposed Project, including the six project sites, would result in incremental, dispersed growth that could be accommodated without resulting in an adverse effect to police protection services. Police surveillance at the sites would continue, for instance, with routine patrols and responses to calls for assistance. As the City grows, service areas would be reevaluated by the SFPD and resources would be reallocated to accommodate needs for services in specific parts of the City, if and when conditions warrant. Therefore, no significant changes to the demand for SFPD services, such that new or expanded police facilities would be required that would result in significant environmental impacts associated with the expansion or construction of fire or police facilities, are expected as a result of the new uses at the project sites.

In addition, SFPD services at the project sites would continue to be augmented by AAU campus security, as discussed above. All criminal offenses are responded to by the security team, with assistance from the SFPD. As the AAU student and faculty/staff population grows, additional security personnel would be hired, and campus security would continue to absorb some of the impacts to the SFPD.

As noted above, impacts related to fire and police protection are considered significant if the construction of housing or other new development results in the need for additional fire protection in areas that are underserved and other areas that could not accommodate additional growth, thereby requiring the construction or expansion of police protection facilities in order to maintain performance objectives. Since growth at the six project sites could be accommodated under SFFD and SFPD's existing capacities, it would not necessitate the expansion of existing SFFD or SFPD

[418] Matthew Burke (Atkins) email communication with Jesus Mora (SFFD) (October 18, 2011).

facilities, nor would the construction of new facilities be required. Therefore, the Proposed Project impacts associated with the expansion or construction of fire or police protection facilities would not occur as a result of AAU uses at the six project sites.

PS-1, 2801 Leavenworth Street (The Cannery)

Under the Proposed Project, PS-1 would accommodate 1,600 students and 18 faculty and staff at maximum daily capacity. Life safety upgrades at this site include a new fire alarm system that was installed throughout the building.[419] PS-1 is served by Fire Station 28, located at 1814 Stockton Street, approximately 0.7 mile from the project site, and SFPD Central District Station, located at 766 Vallejo Street, approximately 1 mile from the project site.

Operation of the Proposed Project at PS-1 would require SFFD and SFPD services. However, this site has historically been served by both SFFD and SFPD, and the Proposed Project at PS-1 would be accommodated without resulting in an adverse effect to fire or police protection services, and would not require construction or expansion of new or altered fire or police protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire or police protection. As the City grows, service areas will be reevaluated by the SFFD and SFPD and resources will be reallocated to accommodate needs for services in specific parts of the City, if and when conditions warrant.

Additionally, the campus security for AAU would continue to address some of the crime associated with on-campus activities, thereby reducing some of the impacts to the SFPD. This building would have networked card access, video and alarm installation, onsite 24/7 patrol presence with one officer on duty for three daily shifts, and a radio system that would be integrated to receive the local FISHNET emergency ratio network for the wharf. All of these onsite security features would reduce the impact to the SFPD.[420]

Therefore, the Proposed Project at PS-1 would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire or police protection facilities, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

Under the Proposed Project, PS-2 would accommodate 15 students and 20 faculty and staff. PS-2 is served by Fire Stations 2 (1340 Powell Street), 13 (530 Sansome Street), 28 (1814 Stockton Street), and 41 (1325 Leavenworth Street), and by SFPD Central District Station (766 Vallejo Street). Each of these stations is between 0.1 and 1 mile from the project site.

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[419] These improvements were completed under Building Permit No. 201312043366.

[420] Gordon North, Business Operations Manager, email correspondence with Atkins (June 20, 2012).

Operation of the Proposed Project at PS-2 would require SFFD and SFPD services. However, this site has historically been served by both SFFD and SFPD, and the Proposed Project at PS-2 could be accommodated without resulting in an adverse effect to fire or police protection services, and would not require construction or expansion of new or altered fire or police protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire or police protection. As the City grows, service areas will be reevaluated by the SFFD and SFPD and resources will be reallocated to accommodate needs for services in specific parts of the City, if and when conditions warrant. Further, as noted above, AAU campus security, including maintenance/installation of onsite security features at PS-2, would reduce the impact to the SFPD.

Therefore, the Proposed Project at PS-2 would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire or police protection facilities, and this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

Under the Proposed Project, growth at PS-3 would accommodate 1,675 students and 168 faculty and staff. PS-3 is served by Fire Stations 3 (1067 Post Street), 5 (1301 Turk Street), 36 (109 Oak Street), 38 (2150 California Street), and 41 (1325 Leavenworth Street), and by SFPD Northern District Station (1125 Fillmore Street). Each of these stations is approximately 1 miles or less from the project site.

Operation of the Proposed Project at PS-3 would require SFFD and SFPD services. However, this site has historically been served by both SFFD and SFPD, and the Proposed Project at PS-3 could be accommodated without resulting in an adverse effect to fire or police protection services, and would not require construction or expansion of new or altered fire or police protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire or police protection. As the City grows, service areas will be reevaluated by the SFFD and SFPD and resources will be reallocated to accommodate needs for services in specific parts of the City, if and when conditions warrant. Further, as noted above, AAU campus security, including maintenance/installation of onsite security features at PS-3, would reduce the impact to the SFPD.

Therefore, the Proposed Project at PS-3 would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire or fire protection facilities, and this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

Under the Proposed Project, PS-4 would accommodate 390 faculty and staff. PS-4 is served by Fire Stations 3 (1067 Post Street), 5 (1301 Turk Street), 8 (36 Bluxome Street), and 36 (109 Oak Street), and

by SFPD Northern (1125 Fillmore Street) District Station. All of these stations are located approximately 0.5 to one mile from the project site.

Operation of the Proposed Project at PS-4 would require SFFD and SFPD services. However, this site has historically been served by both SFFD and SFPD, and the Proposed Project at PS-4 could be accommodated without resulting in an adverse effect to fire or police protection services, and would not require construction or expansion of new or altered fire or police protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire or police protection. As the City grows, service areas will be reevaluated by the SFFD and SFPD and resources will be reallocated to accommodate needs for services in specific parts of the City, if and when conditions warrant. Further, as noted above, AAU campus security, including maintenance/installation of onsite security features at PS-4, would reduce the impact to the SFPD.

Therefore, the Proposed Project at PS-4 would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire or police protection facilities, and this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

Growth at PS-5 would accommodate two staff. PS-5 is served by Fire Stations 29 (299 Vermont Street) and 37 (798 Wisconsin Street), and by the SFPD Bayview District Station (201 Williams Avenue). Each of the SFFD stations is located less than one mile from the project site, and the SFPD Bayview Station is located approximately 3.5 miles from the site.

Operation of the Proposed Project at PS-5 would require SFFD and SFPD services. However, this site has historically been served by both SFFD and SFPD, and the Proposed Project at PS-5 could be accommodated without resulting in an adverse effect to fire or police protection services, and would not require construction or expansion of new or altered fire or police protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire or police protection. As noted above, service areas will be reevaluated by the SFFD and SFPD as the City grows, and resources will be reallocated to accommodate needs for services in specific parts of the City, if and when conditions warrant. Therefore, the Proposed Project at PS-5 would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire or police protection facilities, and this impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

Implementation of the Proposed Project at PS-6 would accommodate 110 students and 20 faculty and staff. These students would be existing or future students using the site for recreation. PS-6 is served by Fire Stations 9 (2245 Jerrold Avenue), and 37 (798 Wisconsin Street), and by the SFPD

Bayview District Station (201 Williams Avenue). SFFD Station 9 is located approximately 135 feet from the project site, and Station 37 is located approximately 1.2 miles from the site. SFPD Bayview District Station is located approximately 1.7 miles from the site.

Operation of the Proposed Project at PS-6 would require SFFD and SFPD services. However, this site has historically been served by both SFFD and SFPD, and the Proposed Project at PS-6 could be accommodated without resulting in an adverse effect to fire or police protection services, and would not require construction or expansion of new or altered fire or police protection facilities in order to maintain acceptable service ratios, response times, or other performance objectives for fire or police protection. As the City grows, service areas will be reevaluated by the SFFD and SFPD and resources will be reallocated to accommodate needs for services in specific parts of the City, if and when conditions warrant. Further, as noted above, AAU campus security, including maintenance/installation of onsite security features at PS-6, would reduce the impact to the SFPD.

Therefore, the Proposed Project at PS-6 would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire and police protection facilities, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact PS-1.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire and police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection. (Less than Significant)**

The Proposed Project, including growth in the 12 study areas and at the six project sites, would result in San Francisco daytime population growth of approximately 7,986 new people (6,100 new students, 1,220 new faculty and staff, and 666 new resident household members). As discussed above, this would result in a City population increase of approximately 5,400 new San Francisco residents and also would result in the addition of 2,586 new daytime occupants at AAU facilities.

As indicated above, this increase in student, faculty and staff populations would result in an increase in the demand for fire protection services within the 12 study areas and at the six project sites. However, given the level of growth relative to overall population growth in the City, and the fact that growth in the study areas and at the project sites would be incremental and distributed throughout the City, it is expected that both SFFD and SFPD would have adequate resources to meet demand for fire and police protection resulting from the Proposed Project. In addition, it is expected that SFFD will expand its service by 2020 as its service population grows. SFPD also has plans to

increase its force. In June 2013, SFPD drafted a six-year hiring plan, approved by the Mayor, which will return the Department to its Charter-mandated staffing level of 1,971 sworn officers.[421] Therefore, no new or expanded fire or police protection services would need to be constructed.

To ensure that adequate levels of service are maintained, future occupation and change of use of buildings would be required to comply with the previously discussed State and local regulations, including the San Francisco Fire Code. SFFD's concerns with change of use of buildings include (but are not limited to) building type and height; building renovations; occupancy type and load; proximity to other emergency services; topographical challenges; and ingress/egress concerns. As the existing buildings at the study areas are converted into institutional uses, the SFFD would analyze and evaluate occupant loads, response times, and other operational objectives to ensure adequate fire protection. SFFD also would review all plans during the building permit approval process for renovation of all buildings in the study areas to ensure adequate fire flows and hydrants are provided to any newly occupied building and comply with the Fire Code.

As with fire protection services, the SFPD will continue to evaluate their performance based on response times, and when appropriate will reallocate resources to accommodate needs for services in specific parts of the City, if and when conditions warrant. However, it is expected that the Proposed Project would be adequately served without the construction of new police facilities. Further, as noted above, the demand for SFPD services within the 12 study areas would be lessened by the provision of AAU campus security.

Because the Proposed Project would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire or police protection facilities, this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact PS-2.1 **The Proposed Project, including growth in the 12 study areas, would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools. (Less than Significant)**

The Proposed Project would result in an increase in the citywide population, and an associated increase in student population, which could result in an additional need for schools. If SFUSD does not have the capacity to accommodate new students within existing facilities, the construction or

[421] San Francisco Police Department Annual Report 2012, available on the internet at https://dl.dropboxusercontent.com/u/76892345/Annual%20Reports/2012%20Annual%20Report.pdf (access June 19, 2014).

expansion of school facilities would be required. Such construction could result in significant adverse physical impacts.

It is assumed that AAU students would not have school-age children.[422] However, the new faculty and staff that would live in the City could have school-age children. AAU growth would result in an increase of up 1,220 faculty and staff as a result of the Proposed Project. Approximately 57 percent of these employees are assumed to already be living in the City at the time of employment, or living in nearby jurisdictions and commuting to the City. These faculty and staff would not increase the student population in San Francisco. However, approximately 43 percent, or 525 faculty and staff are projected to move to the City with their families. Using the SFUSD student generation rate of 0.203 students per household, the Proposed Project would generate approximately 107 new school-age students within the district.

The Proposed Project would not result in the construction of any new buildings; and, as an academic institution, AAU would be exempt from SB 50 School Impact Fees (established by the Leroy F. Greene School Facilities Act of 1998). Therefore, no school impact fees would be assessed as a result of the Proposed Project.

As noted, the Proposed Project would add approximately 107 students to the SFUSD. The elementary schools and middle schools have sufficient capacity to meet the indirect SFUSD demand from the Proposed Project. Although the high schools are beyond capacity, the SFUSD as a whole is generally under capacity, and experienced enrollment declines over the decade between 1998 and 2008. Elementary and middle school enrollment is projected to increase by 2013. However, high school enrollment will continue to decline.[423] In addition, the increase in students would occur gradually over time and would be disbursed throughout the City, and a portion of those students would be anticipated to attend various private schools in the City.

Therefore, growth generated by the Proposed Project would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered school facilities, and this impact would be less than significant.

Mitigation: None required.

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[422] AAU does not have official data substantiating this assumption. Rather, based on anecdotal information and given the age of most AAU students, AAU believes that the vast majority of students are unmarried. The median age of incoming AAU students is 21 years for undergraduate students, 25 years for international graduate students, and 27 years for American graduate students. In the United States, the average marrying age for women is 26.9 year and for men it is 29.8 years (http://www.pewsocialtrends.org/files/2010/11/pew-social-trends-2010-families.pdf, Pew Research Center, 2010).

[423] SFUSD, 2010–2019 Capital Plan, http://www.sfusd.edu/en/assets/sfusd-staff/about-SFUSD/files/capital-plan-final-2010-2019.pdf (accessed May 17, 2011).

Project-Level Impacts (Growth at the Six Project Sites)

Impact PS-2.2 **The Proposed Project, including the growth at the six project sites, would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools. (No Impact)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): No Impact**
- **PS-2, 700 Montgomery Street: No Impact**
- **PS-3, 625 Polk Street: No Impact**
- **PS-4, 150 Hayes Street: No Impact**
- **PS-5, 121 Wisconsin Street: No Impact**
- **PS-6, 2225 Jerrold Avenue: No Impact**

The Proposed Project uses at the six project sites (PS-1, 2801 Leavenworth Street [The Cannery]; PS-2, 700 Montgomery Street; PS-3, 625 Polk Street; PS-4, 150 Hayes Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue) would not directly impact schools. Growth at the six project sites would result in a daytime student and faculty and staff population which is accounted for in the analysis of program-level growth in Impact PS-2.1, above, and the change of use of the project sites would not result in additional faculty and staff employment or associated school-age children. The school-age children from the growth in faculty and staff employment as a result of the Proposed Project within the 12 study areas are discussed above in Impact PS-2.1. Since occupancy of the six project sites would not result in an additional student population that would increase SFUSD enrollment, the Proposed Project at the project sites would not trigger the need for new school facilities. Therefore, there would be no increase in the school-age population and no demand for additional school capacity. As such, the Proposed Project at the project sites would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered school facilities, and would result in no impact related to school facilities.

Mitigation: None required.

Proposed Project Impacts (Future Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact PS-2.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered school facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for schools. (Less than Significant)**

The Proposed Project would result in approximately 6,100 new students and 1,220 new faculty and staff. Using the demographic profile of AAU students, it is assumed that the new AAU students relocating to San Francisco would be unmarried and would not have offspring and, therefore,

would not impact the SFUSD, or contribute to an increased student population.[424] The faculty and staff would have an average of 2.27 persons per household (City average). Assuming that 57 percent of faculty and staff would be existing City residents or would live in nearby jurisdictions and commute to the City, and the remaining 43 percent would not be existing residents and would move to the City with their families, the Proposed Project would result in a City population increase of approximately 525 faculty and staff members, as shown in Table 4.13-6, San Francisco Population Growth Generated by the Proposed Project, p. 4.13-19. The SFUSD employs a student generation rate of 0.203 students per new housing unit for planning purposes.[425] This would equate to approximately 107 new students in the SFUSD. This relatively minor increase in students would not be anticipated to substantially affect the demand for schools likely to be attended by the new residents generated as a result of the Proposed Project. In addition, the increase in students would occur gradually over time and would be disbursed throughout the City, and a portion of those students would be anticipated to attend various private schools in the City.

Further, SFUSD generally is under capacity, having experienced a decline in enrollment between 1998 and 2008. Elementary and middle school enrollment is projected to increase by 2013. However, high school enrollment will continue to decline.[426] As such, the Proposed Project would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered school facilities, and this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact PS-3.1 **The Proposed Project, including growth in the 12 study areas, would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for libraries. (Less than Significant)**

The Proposed Project, including AAU growth within the 12 study areas, would result in approximately 6,100 new students, 1,220 new faculty and staff, and 666 new resident household

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[424] AAU does not have official data substantiating this assumption. Rather, based on anecdotal information and given the age of most AAU students, AAU believes that the vast majority of students are unmarried. The median age of incoming AAU students is 21 years for undergraduate students, 25 years for international graduate students, and 27 years for American graduate students. In the United States, the average marrying age for women is 26.9 year and for men it is 29.8 years (http://www.pewsocialtrends.org/files/2010/11/pew-social-trends-2010-families.pdf, Pew Research Center, 2010).

[425] San Francisco Redevelopment Agency and San Francisco Planning Department, *Candlestick Point–Hunters Point Shipyard Phase II Development Plan Environmental Impact Report* (Final EIR certified June 2010), Redevelopment Agency File No. ER06.05.07, Planning Department File No. 2007.0946E, State Clearinghouse No. 2007082168, San Francisco, CA, p. III.O-29.

[426] SFUSD, 2010–2019 Capital Plan, http://www.sfusd.edu/en/assets/sfusd-staff/about-SFUSD/files/capital-plan-final-2010-2019.pdf (accessed May 17, 2011).

members, for a total of 7,986 new people, a portion of which would be new residents in the City. As a result, AAU growth in the study areas would increase the City population by a total of 5,400 new residents, and 2,586 new daytime occupants at AAU facilities. This would result in an increase in the demand for library services. However, while AAU growth would result in increased student and faculty and staff populations, which would ultimately result in an increase in the citywide population, such growth would be incremental and would be distributed throughout the City. Therefore, the increase in demand for library services would not be substantial in comparison to the existing demand and capacity for such services throughout the City.

As discussed in the Section 4.13.1, Environmental Setting, p. 4.13-1, the completed BLIP resulted in expanded and updated services in each neighborhood currently served by a branch library, plus a new facility in Mission Bay for the growing community in that area. All libraries that serve the study areas, except for the Main Library, have undergone BLIP improvements. The North Beach branch opened in May 2014. These BLIP expansions will help to maintain service ratios as the population within the City and study areas increase.

In addition, AAU provides its students with access to the AAU library at 180 New Montgomery Street. It is expected that students would use this library because it supports AAU's art and design curriculum. Students would likely visit SFPL branches for a library collection other than course material. In addition, new faculty and staff and their families would be expected to use the SFPL.

Currently there is adequate capacity at the libraries in the SFPL system to support existing and future demand. With SFPL expansions and improvements under the BLIP, and the fact that students would use AAU's library, no new or expanded library facilities would be required. Therefore, the Proposed Project would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered library facilities, and this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact PS-3.2 **The Proposed Project, including growth at the six project sites, would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for libraries. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**

- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

As discussed above, there would be no additional new enrollment growth associated with AAU growth at the six project sites, since all such growth is accounted for in the analysis of program-level Impact PS-3.1, above. Therefore, the project sites would not generate any additional population increase that could increase the demand for library services that could affect existing library service ratios. Nor would the Proposed Project at the project sites result in an increase of library use due to the new students, faculty, or staff at the project sites.

Operation of the Proposed Project at the six project sites would require continued access for student, faculty, and staff to library services. However, the increase in demand for library services would be negligible when compared to overall City growth, and could be accommodated without resulting in the need for new or expanded services. Under the Proposed Project, PS-1, 2801 Leavenworth Street (The Cannery), would continue to be served by the Marina Library and North Beach Library; PS-2, 700 Montgomery Street, by the Chinatown Library and North Beach Library; PS-3, 625 Polk Street, by the Golden Gate Valley Library, Presidio Library, Western Addition Library, and the Main library; PS-4, 150 Hayes Street, by the Main library; and PS-5, 121 Wisconsin Street, and PS-6, 2225 Jerrold Avenue, by the Potrero Library and the Mission Library.

As discussed above, the ongoing BLIP will result in expanded and updated services in each neighborhood currently served by a branch library, plus a new facility in Mission Bay for the growing community in that area. All libraries that serve the project sites, except for the Main Library, have undergone BLIP improvements. These BLIP expansions will help to maintain service ratios as the population within the City and study areas increase.

In addition, AAU provides its students access to the AAU library at 180 New Montgomery Street, which is located no more than 1.8 miles from any of the project sites (excluding PS-5, 121 Wisconsin and PS-6, 2225 Jerrold Avenue). It is expected that students would use this library because it supports AAU's art and design curriculum. Students would likely visit SFPL branches for a library collection other than course material. In addition, the new faculty and staff and their families would be expected to use the SFPL.

Currently there is adequate capacity at the libraries in the SFPL system to support existing and future demand. Given the lack of net new growth at the project sites, the planned SFPL expansions and improvements under the BLIP, and the fact that students would use AAU's library, no new or expanded library facilities would be required. Therefore, the Proposed Project at the six specific project sites would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered library facilities, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact PS-3.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for libraries. (Less than Significant)**

The Proposed Project, including AAU growth within the 12 study areas and at the six project sites, would result in approximately 6,100 new students, 1,220 new faculty and staff, and 666 new resident household members, for a total increase in San Francisco's daytime population of 7,986 people. AAU growth would increase the City resident population by a total of 5,400 new residents, including 525 faculty/staff residents, 666 faculty/staff family residents and 4,209 student residents. This would result in an increase in the demand for library services. However, while AAU growth would result in increased student, faculty, and staff populations, which would ultimately result in an increase in the citywide population, such growth would be incremental and would be distributed throughout the City. Therefore, the increase in demand for library services would not be substantial in comparison to the existing demand and capacity for such services throughout the City.

Therefore, the increase in student, faculty, and staff populations in the City is not expected to increase the need for additional library space. With recent and future expansion plans, the SFPL will have enough space for additional residents. In addition, AAU provides its students with access to the AAU library at 180 New Montgomery Street. As such, the Proposed Project would not result in substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered library facilities, and this impact would be less than significant.

Mitigation: None required.

Cumulative Impacts

The 12 study areas, six project sites, and 34 existing sites, as well as the service territories of the public service providers, serve as the geographical context for cumulative impact analysis for these topics. This includes specific proposed development projects such as the 5M Project, the Moscone Center Expansion Project, 598 Brannan, and the 350 Eighth Project, as well as implementation of planning efforts for the Western SoMa Plan, the Central SoMa Plan, the Rincon Hill Plan, and the East SoMa Plan. Further detail regarding these and other cumulative projects considered in this analysis is included in Table 4-1, Cumulative Projects.

Impact C-PS-1 **The implementation of the Proposed Project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not contribute considerably to a significant cumulative impact on public services. (Less than Significant)**

Over time, AAU growth and growth in San Francisco as a whole would result in an increased demand for police and fire protection services, schools, and library services. Future cumulative projects that are anticipated within the study area also could require some expansion of public services to meet increased demand. However, as part of planning and environmental review phases of each of these cumulative projects, the ability of public service providers to meet increased demand would be assessed, and mitigation would be recommended, as necessary. Therefore, the Proposed Project would not contribute considerably to cumulative impacts on public services. This impact would be less than significant.

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4.14 BIOLOGICAL RESOURCES

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect biological resources. This section describes potential biological resources located in the study areas and project sites and examines the impacts related to sensitive or special-status species, habitats or natural communities, wildlife corridors, and movement of species. No biological resources issues were raised during the NOP scoping period.

4.14.1 Environmental Setting

San Francisco is a highly developed urban area. Land uses within the City are characterized primarily by moderate- to high-density urban uses, including residential, commercial, and industrial uses. Many areas within the northern, eastern, and northeastern portions of the City, specifically the areas located along the waterfront, were formerly part of the San Francisco Bay. The shoreline along the aforementioned portions of the City is depicted as being further inland according to survey maps of the mid-1800s. Extensive filling took place in the 1800s, which greatly reduced the marshland and Bay habitat.

Regional Setting

San Francisco comprises an integral component of the Franciscan landscape, a distinct biogeographic area of the northern San Francisco Peninsula (Peninsula) that ranges from Montara Mountain and Coyote Point to the Golden Gate.[427] This unique landscape forms the northernmost reach of the Santa Cruz Mountains subregion within the much larger Bay-Delta Region. The Franciscan landscape shares some clear affinities with other nearby landscape units such as the Marin Headlands, the Tiburon Peninsula, and Point Richmond, all of which are low, narrow peninsulas that are strongly shaped by maritime conditions.

The Bay-Delta Bioregion contains a variety of natural communities that range from the open waters of the Bay and Delta to salt and brackish marshes to grassland, chaparral, and oak woodlands. The temperate climate is Mediterranean in nature, with relatively mild, wet winters and warm, dry summers. The high diversity of vegetation and wildlife found in the region is a result of soil, topographic, and micro-climate diversity that combines to promote relatively high levels of location specific species. This, in combination with a long history of uses resulting in alteration of the natural environment and the increasingly rapid pace of development in the region, has resulted in a relatively high degree of endangerment for local flora and fauna.

The San Francisco Bay-Delta is the second largest estuary in the United States and supports numerous aquatic habitats and biological communities. It encompasses 479 square miles, including

[427] San Francisco Recreation & Parks, *Significant Natural Resource Areas Management Plan, Final Draft* (February 2006), p. 3-3.

shallow mudflats, tidal marshes, and open waters. The San Francisco Bay-Delta is an important wintering and migratory stopover site for the Pacific Flyway, and more than 300,000 wintering waterfowl use the region.

The study areas and project sites are fully developed with structures and roadways. No natural communities remain within the 12 study areas or at the six project sites, and there is currently very little open space throughout this fully urban area.

Biological Resources In and Around the Study Areas and Project Sites

As shown in Figure 4.14-1, Sensitive Species Occurrences and Natural Areas, p. 4.14-3, no sensitive or special-status species have been accurately identified within one block of the 12 study areas and six project sites. The species identified in Figure 4.14-1 belong to CNDDB Accuracy Class 9, meaning that the location where these species were initially reported is considered accurate within a one-mile radius. Therefore, the likelihood of any of these species occurring within one block of a study area is low. Furthermore, of these identified species, only fragrant fritillary and San Francisco owl's clover (both plants) are expected to exist today. The study areas, project sites, and surrounding vicinities are highly urbanized and, except for the shoreline and natural open spaces identified above, do not typically support or provide habitat for any rare, endangered, or protected wildlife or plant species. In addition to Figure 4.14-1, documented occurrences of sensitive and special-status species within a one-block radius of the 12 study areas and six project sites as identified in the CNDDB search are summarized in Table 4.14-1, Biological Resources in and Adjacent to Study Areas and Project Sites, p. 4.14-4. Table 4.14-1 also uses the Nature in the City map and the known migratory areas within the City to determine if sensitive natural communities, riparian habitats, or riparian corridors exist within a one-block radius of the study areas. Wetland occurrences within a one-block radius of the study areas are also included in Table 4.14-1, and are based on the distance to the Bay shoreline, which could potentially include wetland features.

As shown in Table 4.14-1, there are no sensitive and special-status species within a one-block radius of any of the 12 study areas or six project sites. SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; and PS-1, 2801 Leavenworth Street (The Cannery), extend to within one block of the Bay shoreline and, therefore, are considered adjacent to a potential sensitive natural community or wetland.

SOURCE: California Dept. Fish & Game, June 2012; Nature in the City, 2007; Atkins, 2013.

FIGURE 4.14-1: SENSITIVE SPECIES OCCURRENCES AND NATURAL AREAS

Table 4.14-1 Biological Resources in and Adjacent to Study Areas and Project Sites

Study Area/Location	*Sensitive and Special-Status Species as Identified in the CNDDB[a] (within one-block radius)*	*Sensitive Natural Communities, Riparian Habitats, Riparian Corridors (within one-block radius)*	*Wetland (within one-block radius)*
Study Areas			
SA-1, Lombard Street/Divisadero Street	No	No	No
SA-2, Lombard Street/Van Ness Avenue	No	No	No
SA-3, Mid Van Ness Avenue	No	No	No
SA-4, Sutter Street/Mason Street	No	No	No
SA-5, Mid Market Street	No	No	No
SA-6, Fourth Street/Howard Street	No	No	No
SA-7, Rincon Hill East	No	Yes[b]	Yes[b]
SA-8, Third Street/Bryant Street	No	No	No
SA-9, Second Street/Brannan Street	No	Yes[b]	Yes[b]
SA-10, Fifth Street/Brannan Street	No	No	No
SA-11, Sixth Street/Folsom Street	No	No	No
SA-12, Ninth Street/Folsom Street	No	No	No
Project Sites			
PS-1, 2801 Leavenworth Street (The Cannery)	No	Yes[b]	Yes[b]
PS-2, 700 Montgomery Street	No	No	No
PS-3, 625 Polk Street	No	No	No
PS-4, 150 Hayes Street	No	No	No
PS-5, 121 Wisconsin Street	No	No	No
PS-6, 2225 Jerrold Avenue	No	No	No

SOURCE: CNDDB (2014); Nature in the City (2007).

a. Although sensitive and/or special-status species have been documented as occurring in and or around particular study areas, it is unlikely that such species exist currently due to the highly urbanized and developed nature of the study areas.

b. SA-7, SA-9, and PS-1 are within two blocks of the Bay shoreline, which likely contains wetland features.

Sensitive and Special-Status Species

Special-status species are plants and animals that are legally protected under the California Endangered Species Act (CESA) and/or Federal Endangered Species Act (FESA) or other regulations. Additionally, species can be considered special-status if they are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat.

A search of the California Natural Diversity Database (CNDDB)[428] was conducted to identify sensitive plant and wildlife species historically noted in the City. The CNDDB report includes San Francisco North and San Francisco South USGS 7.5-Minute Quads; it identifies the species, their specific habitat requirements, and their locations of occurrences in the City. Based on examination of the results of the CNDDB search, it is unlikely that any of the special-status species listed in the search occur on or in the immediate vicinity (within one block) of the study areas. Many occurrences are confined to areas in the Presidio or are located on lands under the control of the Department of Recreation and Parks.

As shown in Figure 4.14-1, Sensitive Species Occurrences and Natural Areas, p. 4.14-3, none of the study areas are within areas of historic sensitive species occurrences (e.g., species have been spotted within a 5-mile radius and possibly as long as 70 years ago). While two of the project sites (PS-5 and PS-6) are within an area of historic sensitive species occurrences, the majority of these species are either presumed extirpated or their status is unknown. For example, the California black rail, *laterallus jamaicensis coturniculus*, was documented in 1937 and 1945. It is assumed extirpated. If not extirpated, it prefers marshlands with unrestricted tidal influence (estuarine, intertidal, emergent, regularly flooded), and areas dominated by pickleweed, bulrushes, matted salt grass, and other marsh vegetation. This habitat does not exist within one block of any study area or project site. Further, for many of the listed sensitive or special-status species, the location at which they were documented is considered accurate within a five-mile radius. The only species in the study areas that are presumed to exist currently are the fragrant fritillary and the San Francisco owl's clover, which are both plants.

Fragrant fritillary is associated with Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland, and often associated with serpentine soils. Fragrant fritillary was observed in Twin Peaks in 1892 and Potrero Hill in 1898. While this plant was observed within five miles of PS-6, 2225 Jerrold Avenue, it is extremely unlikely that this plant exists within one block of PS-6.

San Francisco owl's clover is associated with Coastal prairie, coastal scrub, and valley and foothill grassland, and is usually associated with serpentine soils and nonserpentine substrate. San Francisco owl's clover was documented in the Presidio in 2002, and extirpated occurrences were documented in Lake Merced and Potrero. While this plant was observed within five miles of PS-5, 121 Wisconsin Street, and PS-6, 2225 Jerrold Avenue, it is extremely unlikely that this plant exists within one block of PS-5 or PS-6.

[428] California Department of Fish and Wildlife, Natural Diversity Database, Academy of Art University EIR, CNDDB Query for the San Francisco North and San Francisco South 7.5-Minute USGS Topographic Quadrangles (commercial version: August 1, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

Future change of use of existing buildings by AAU in the study areas or at the six project sites would occur in the urban context and not within areas identified as open space or administered by the Department of Recreation and Parks.

Sensitive Natural Communities, Riparian Habitat, and Habitat Corridors

Urban development and human activities within the City limit its value for wildlife species. Species found in the City today are generally those capable of surviving in a complex urban environment, such as raccoons (*Procyon lotor*), Virginia opossum (*Didelphis virginiana*), striped skunks (*Mephitus mephitus*), etc. In addition, bird species have been recorded in San Francisco County including resident, migratory, pelagic, and vagrant species.[429] Street trees provide resting places for common bird species, but continual vehicle and pedestrian traffic limits the ability to nest and roost. Most of the bird species within the City are present during fall and winter, and leave in early spring to breed elsewhere.

Many of the open space areas in the City include developed and regularly maintained recreation facilities, oriented towards various types of active and passive use and enjoyment. Nature in the City, a project of Earth Island Institute and in collaboration with the San Francisco Recreation and Parks Department, created a map of natural areas, park facilities, and other open space areas containing significant biological resources in San Francisco. Natural areas harbor the City's native habitats in restored areas and original landscapes, which are managed for biological diversity. As shown on this map, there are over 50 identified natural areas in San Francisco.[430,431]

Although there are several parks located adjacent to the study areas (see Section 4.11, Recreation, for more details), the study areas would not be located in the vicinity of designated natural areas. Out of the over 50 natural areas, three are within 0.5 mile of a study area. Tennessee Hollow, which is part of the Presidio, is located approximately 0.55 mile west of SA-1, Lombard Street/Divisadero Street. In addition, the northern shore of Fort Mason is located approximately 0.5 mile north of SA-2, Lombard Street/Van Ness Avenue. Two of the six project sites identified above are in proximity to a natural area: PS-1, 2801 Leavenworth Street (The Cannery), is less than 0.1 mile from the northern shore of Fort Mason and PS-6, 2225 Jerrold Avenue, is within 0.5 mile of the Bernal Heights Natural Area.

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[429] San Francisco Recreation & Parks, *Significant Natural Resource Areas Management Plan (Final Draft)* (February 2006), p. 3-12; original source: H. Cotter, *Official Bird List for San Francisco County* (1998).
[430] Nature in the City, *Nature in the City: A Guide to San Francisco's Natural Heritage*, 2nd Edition (July 2007), http://www.natureinthecity.org/NIC_Map_Front_0707.pdf (accessed June 16, 2012).
[431] Note that the map individually lists 49 *visitable* natural areas; however, this list is not comprehensive of *all* natural areas in San Francisco. All of the natural areas in the City are denoted on the map in red text and/or outlined in dark green. For example, the northern shoreline of Fort Mason (Black Point) is not individually listed as a natural area since it is not accessible for public use, but it is still considered a natural area (SOURCE: Peter Brastow, Founding Director, Nature in the City, electronic communication with Atkins [January 4, 2011]).

In addition, environmental review has recently been conducted for the Significant Natural Resource Areas Management Plan (SNRAMP). The Draft EIR/EIS was released on August 31, 2011. These Resource Areas are on Department of Recreation and Parks property in the City, which are different from the natural areas previously discussed. The SNRAMP would be used by the resource managers over the next 20 years. The 31 Natural Areas located within the City are scattered mostly throughout the central and southern portions of the City and constitute approximately four percent of the total City area.[432] The Bernal Heights Natural Area is included in the SNRAMP.

Habitat Corridors and Wildlife Movement

The movement and migration of wildlife in urban and suburban areas has been substantially altered due to habitat fragmentation over the past century. This fragmentation is most commonly caused by development, which can result in large patches of land becoming inaccessible and forming a virtual barrier between undeveloped areas, or resulting in additional roads, which, although narrow, may result in barriers to smaller or less mobile wildlife species. Fragmented habitat corridors are located throughout the City. Habitat fragmentation results in isolated "islands" of habitat, which prevents the exchange of genetic material within species populations in different geographic areas necessary to maintain the genetic variability to withstand major environmental disturbances such as fire or climate change.[433]

Migratory birds and their active nests, eggs, and young are protected by the federal Migratory Bird Treaty Act, and other nesting birds are protected by the California Fish and Game Code (CFGC). The movements of migratory birds in San Francisco are generally poorly known, but flyways are assumed to exist along the primary ridgeline from San Bruno Mountain State Park to the Presidio and along the ocean shoreline. Although bird flyways are not traditionally considered wildlife movement corridors, San Francisco's shoreline serves as important habitat for bird species during migration through the Pacific Flyway. In addition, the San Francisco Recreation and Parks Department identifies several natural areas as migratory areas including: Lake Merced, McLaren Park, Mount Davidson, Glen Canyon Park, Brooks Park, Pine Lake, Billy Goat Hill, Buena Vista Park, Golden Gate Park, the 15th Avenue Steps, Bayview Park, and India Basin Shoreline Park.[434] None of the study areas or project sites is near these bird flyways since migratory birds fly mainly along the shoreline rather than through the City.

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[432] City of San Francisco Recreation and Parks Department, *Significant Natural Resource Areas Management Plan, Final Draft* (February 2006), p. 1-1.
[433] California Wilderness Coalition et al., *Missing Linkages: Restoring Connectivity to the California Landscape*, http://www.calwild.org/linkages/Sec4.pdf (accessed June 16, 2012).
[434] City of San Francisco Recreation and Parks Department, *Significant Natural Resource Areas Management Plan, Final Draft* (February 2006).

Wetlands

Wetlands are generally considered to be areas that are periodically or permanently inundated by surface water or groundwater, and support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration, and purification functions. Technical standards for delineating wetlands have been developed by the U.S. Army Corps of Engineers (USACE) and the U.S. Fish and Wildlife Service (USFWS), which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

The USACE and the California Department of Fish and Wildlife (CDFW) have jurisdiction over modifications to stream channels, river banks, lakes, and other wetland features. Due to the extent of development and past filling within the City, jurisdictional wetlands and other water features are not prevalent within the City. However, wetlands are present in areas of the City such as Crissy Field, Fort Point, Heron's Head Park, India Basin Shoreline Park, and Presidio Hills.[435]

In addition to the aforementioned documented areas listed, wetlands are likely present intermittently in any shoreline areas that contain coastal salt marsh and intertidal mudflats and in subtidal areas that provide shorebird foraging habitat (e.g., Aquatic Park, shoreline areas of the Marina District and yacht harbor, etc.). Sites that potentially feature wetlands along shorelines include Crissy Field, Fort Mason, China Basin, South Beach Harbor, the mouth of Mission Creek, Mission Creek Park, South Beach Harbor, Islais Creek, Muwekma Ohlone Sanctuary, Tulare Park, and Islais Creek Park. None of the study areas or project sites is near these shoreline areas.

4.14.2 Regulatory Framework

Protection of biological resources and reduction of habitat loss are governed by federal, state, and local jurisdictions. The following acts, codes, and local plans are relevant to biological issues in the study areas and at the project sites.

Federal

Federal Endangered Species Act (FESA)

The FESA of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has four major components: provisions for listing species, requirements for consultation with the USFWS and the National Marine Fisheries Service (NOAA Fisheries), prohibitions against "taking" of listed species, and provisions for permits that allow incidental "take." The definition of take includes harassing,

[435] Nature in the City, *Nature in the City: A Guide to San Francisco's Natural Heritage*, 2nd Edition (July 2007), http://www.natureinthecity.org/NIC_Map_Front_0707.pdf (accessed June 24, 2012).

harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct. Projects that would result in take of any species that is federally listed as threatened or endangered must obtain authorization for incidental take from NMFS or USFWS through either the Section 7 (interagency consultation) process or Section 10(a) (incidental take permit) process of the FESA. The FESA also discusses recovery plans and the designation of critical habitat for listed species. Both the USFWS and the NOAA Fisheries share the responsibility for administration of the FESA.

Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (16 USC, Sections 703–712, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. The act protects the majority of birds (more than 800 species) in the United States and their active nests, eggs, and young.

State

California Endangered Species Act (CESA)

Under the California Endangered Species Act (CESA), the CDFW has the responsibility for maintaining a list of threatened and endangered species (CFGC Section 2070). The CDFW also maintains a list of "candidate species," which are species formally noticed as being under review for addition to either the list of endangered species or the list of threatened species. In addition, the CDFW maintains lists of "species of special concern," which serve as "watch lists." Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present on the project site and determine whether a proposed project could have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may impact a candidate species.

California Fish and Game Code

Under California Fish and Game Code (CFGC) Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Section 3503.3 prohibits take, possession, or destruction of any birds in the orders Falconiformes (hawks) or Strigiformes (owls), or of their nests and eggs.

CFGC Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) allow the designation of a species as "fully protected." This is a greater level of protection than is afforded by the California Endangered Species Act, since such a designation means the listed species cannot be taken at any time, except, under certain circumstances, in association with a species recovery plan.

Porter-Cologne Water Quality Control Act

Waters of the State are defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the state." The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope, but has special responsibility for isolated wetlands and headwaters. These water bodies have high resource value, are vulnerable to filling, and may not be regulated by other programs, such as Section 404 of the CWA. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require an USACE permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a federal license or permit, but does involve activities that may result in a discharge of harmful substances to Waters of the State, the RWQCB has the option to regulate such activities under its state authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

CEQA Guidelines Section 15380

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been modeled after the definition in FESA and the section of the CFGC dealing with rare or endangered plants and animals, and allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (i.e., species of concern) would occur. Whether a species is rare, threatened, or endangered can be legally significant because, under CEQA Guidelines Section 15065, an agency must find an impact to be significant if a project would "substantially reduce the number or restrict the range of an endangered, rare or threatened species." Thus, CEQA provides an agency with the ability to protect a species from a proposed project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

Local

San Francisco Urban Forestry Ordinance

The City and County of San Francisco's Urban Forestry Ordinance (Article 16 of the Public Works Code) protects San Francisco's street trees, significant trees, and landmark trees regardless of species. The three categories of trees protected by the ordinance are defined as follows:

- **Street trees** are "any tree growing within the public right-of-way, including unimproved public streets and sidewalks, and any tree growing on land under the jurisdiction of the Department [of Public Works]" as defined in Section 802 of Article 16 of the San Francisco

Tree Ordinance. The removal of street trees by persons other than the Department of Public Works is restricted by Section 806(b) of Article 16, wherein a permit is required for removal.

- **Significant trees** are defined in Section 810A of Article 16 as trees (1) on property under the jurisdiction of the Department of Public Works or on privately owned property with any portion of its trunk within 10 feet of the public right-of-way, and (2) that satisfy at least one of the following criteria: *(a)* a diameter at breast height (DBH) in excess of 12 inches, *(b)* a height in excess of 20 feet, or *(c)* a canopy in excess of 15 feet. The removal of significant trees by persons other than the Department of Public Works requires a permit from the department, according to the process described in Section 806(b) of Article 16.
- **Landmark trees** are trees that have been nominated as landmark trees by a member of the public, the landowner, the San Francisco Planning Commission, the San Francisco Board of Supervisors, or the Landmarks Preservation Advisory Board, and that have been subsequently designated as a landmark tree by the Urban Forestry Council. Trees that have been nominated and are undergoing review are protected according to the same standards as designated landmark trees while going through the review process, according to Section 810 of Article 16 of the San Francisco Tree Ordinance. Trees protected under the Urban Forestry Ordinance require a permit for removal. Application, accompanied by a fee, must be made to the San Francisco Department of Public Works (DPW) to obtain a tree removal permit. When removal is related to new construction, site plans showing tree locations must be included with the application. Prior to removal, the tree(s) should be evaluated by an International Society of Arboriculture Certified Arborist and a written report submitted to DPW. A DPW inspector will evaluate trees to be removed and if the inspector recommends removal, a notice will be posted on the tree for 30 days. A public hearing may be scheduled if any objections to the removal are received.

San Francisco's Bird-Safe Building Standards

The Planning Commission adopted the Standards for Bird-Safe Buildings and incorporated it as *Planning Code* Section 139, Standards for Bird-Safe Buildings. Its purpose is to establish bird-safe standards for new building construction and replacement facades to reduce bird mortality from circumstances known to pose a high risk to birds. It focuses on buildings, both public and private, that create location-specific hazards and building feature-related hazards. Bird-safe standards apply, with some exceptions, to new construction, building additions that create certain defined bird hazards, or the replacement of 50 percent or more of the glazing on an existing bird hazard. For such construction work, Section 139 imposes two categories of standards that must be met. The first category addresses location-specific hazards, which occur on buildings in, or within 300 feet of and having a direct line of sight to, an Urban Bird Refuge; Urban Bird Refuge is defined as "open spaces two acres and larger dominated by vegetation, including vegetated landscaping, forest, meadows, grassland, or wetlands, or open water." The second category is feature-related standards, which apply to defined bird hazards, including free-standing glass walls, wind barriers, skywalks, balconies, and greenhouses on rooftops that have unbroken glazed segments 24 sf and larger in size. Feature-related hazards can occur throughout the City.

The location–specific controls require, for buildings to which the bird-safe standards apply, that 90 percent of glazing in the "Bird Collision Zone" (60 feet above grade, plus 60 feet above an adjacent vegetated roof two acres or larger) be treated (fritted, stenciled, frosted, or covered with netting, screens, grids, or bird-visible UV patterns). Lighting must also be minimized, and any wind generators must comply with Planning Department requirements, "including any monitoring of wildlife impacts that the Department may require." The feature-related controls require, for buildings to which the bird-safe standards apply, that "any structure that contains these elements shall treat 100 percent of the glazing on Feature-Specific hazards."[436]

San Francisco Green Landscaping Ordinance

The Green Landscaping Ordinance (*Planning Code* Sections 102.3, 132, 138.1, 142, 156, 223 and Public Works Code Section 802.1) aims to enhance new development and significant alterations. It seeks to achieve the following environmental and aesthetic goals: *(a)* healthier and more plentiful plantings through screening, parking lot, and street tree controls; *(b)* increased permeability through front yard and parking lot controls; *(c)* encourage responsible water use through increasing climate appropriate plantings; and *(d)* improved screening by creating an ornamental fencing requirement and requiring screening for newly defined vehicle use areas.

4.14.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to biological resources, if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites

[436] San Francisco Planning Department, *Standards for Bird-Safe Buildings* (adopted July 14, 2011), http://www.sf-planning.org/ftp/files/publications_reports/bird_safe_bldgs/Standards_for_Bird-Safe_Buildings_8-11-11.pdf (accessed March 8, 2012).

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to biological resources in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting.

The analysis examines whether biological resources could be directly or indirectly affected by the Proposed Project. To determine potential effects of the Proposed Project that relate to biological resources during occupancy of existing buildings, the 12 study areas and six project sites are evaluated with respect to identified special-status species, critical habitat, and protected trees.

This EIR includes a program-level review of AAU growth that could be implemented at any of the 12 study areas and any potential impacts to biological resources. The analysis also identifies any biological resources impacts that could occur at the six project sites. This analysis relies upon the setting information as presented above, including information from the CNDDB and Nature in the City. Additionally, the Proposed Project's potential contribution to cumulative biological resources impacts are evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the relevant areas surrounding the Proposed Project.

Based on the physical setting of the 12 study areas and six project sites, and the extent of the Proposed Project (tenant improvements and change of use of existing buildings), the Proposed Project would not result in impacts related to the following criteria, and no impact discussion is provided for these topics for the following reasons:

- **Effect on Riparian Habitat or Other Sensitive Natural Community.** No riparian habitat or other sensitive natural community occurs within the 12 study areas or six project sites. Therefore, the Proposed Project would have no impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.
- **Effect on Federally Protected Wetlands.** No federally protected wetlands or navigable waters occur within the 12 study areas or six project sites. Therefore, the Proposed Project would have no impact on any federally protected wetlands or other sensitive natural

community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS.

- **Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.**

  Ornamental and street trees are in the study areas and at some project sites. Although unlikely, the Proposed Project could require the removal or pruning of trees. Nonetheless, AAU would be required to comply with the previously discussed regulations and plans, including the *General Plan* Open Space Element, Chapter 8 of the San Francisco Environment Code, San Francisco's Green Building Ordinance, San Francisco's IPM Ordinance, San Francisco's Urban Forest Plan, and San Francisco's Urban Forestry Ordinance. Therefore, the Proposed Project would have no impact with respect to conflicts with local plans or ordinances protecting biological resources.

  Additionally, the Proposed Project would not involve construction or operational activities that would directly or indirectly conflict with any policies protecting biological resources within the City. Any development or redevelopment would be required to comply with the previously discussed regulations and plans, including applicable provisions of the *General Plan* Open Space Element, Chapter 8 of the San Francisco Environment Code, San Francisco's Green Building Ordinance, San Francisco's Green Landscaping Ordinance, San Francisco's IPM Ordinance, San Francisco's Urban Forest Plan, and San Francisco's Urban Forestry Ordinance.

- **Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.**

  There are no adopted Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans that apply to the 12 study areas or six project sites. Therefore, the Proposed Project would not conflict with a Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Consequently, no impact to such plans would occur.

This section of the EIR does not include an analysis of the shuttle service expansion. Shuttle service expansion would expand AAU's existing shuttle system to streets that already serve high volumes of traffic where special-status species or their habitats are not expected to occur. Therefore, this portion of the Proposed Project would not be expected to result in any significant biological impacts.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010, when the NOP for this EIR was published. These sites are, therefore, considered part of the EIR baseline conditions. As such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.14.1, Environmental Setting, p. 4.14-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of

previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to biological resources. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential effects to biological resources that resulted from pre-NOP changes at the 34 existing sites would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 program-level study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact BI-1.1 **The Proposed Project, including the growth in 12 study areas, would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)**

The 12 study areas are located within highly urbanized areas and do not support or provide habitat for any rare, endangered, or protected wildlife or plant species. Because the study areas are in fully developed urban areas with no natural vegetation communities remaining, the Proposed Project would not affect any special-status plants. According to Figure 4.14-1, Sensitive Species Occurrences and Natural Areas, p. 4.14-3, the study areas are not located within areas that contain sensitive species or natural areas. Further, the Proposed Project within the 12 study areas would be limited to tenant improvements such as interior construction, security system installation, fire sprinkler/fire alarm upgrades, seismic retrofit work, and exterior signage, awnings, windows, or lighting. Therefore, the Proposed Project would not result in impacts from habitat modifications or impacts to special-status species.

A number of ornamental/street trees exist within the City that could provide nesting habitats for bird species. Nesting birds, their nests, and eggs are protected under CFGC (Sections 3503, 3503.5),

and migratory birds are protected under the Migratory Bird Treaty Act of 1918 (MBTA). As discussed in the Regulatory Framework, the MBTA protects over 800 species, including geese, ducks, shorebirds, raptors, songbirds, and many common species. Destruction or disturbance of an active nest would be a violation of these regulations.

Since the Proposed Project includes the occupancy and change of use of existing buildings and would not involve any major construction activities, it is unlikely that any trees would be removed. In addition, any birds in the vicinity will have acclimated to a noisy and busy urban environment and likely have a high threshold for disturbance. The construction noise associated with the Proposed Project would be largely restricted to the interior of buildings and would not be expected to disturb nesting birds.

Nonetheless, if any trees or shrubs would be removed, MBTA and CFGC avoidance measures for native and migratory birds, eggs, and nests would be incorporated, as applicable, during the environmental review process for individual projects within the study areas. These requirements include pre-removal nesting bird surveys during nesting season and, if trees have active nests, establishment of appropriate buffers from construction to prevent take of nesting birds or their eggs.

Per MBTA and CFGC requirements, any tree removal would be conducted outside bird nesting season (January 15 through August 15) to the extent feasible. If tree removal activities are conducted during the breeding season (March through August), preconstruction surveys would be conducted by a qualified biologist approved by the City to conduct such activities, to determine if any birds are nesting in or in the vicinity of the trees to be removed. The preconstruction survey would be conducted within 15 days prior to the start of work from March through May (since there is higher potential for birds to initiate nesting during this period), and within 30 days prior to the start of work from June through August. If active nests are located during the preconstruction bird nesting survey, the project sponsor would contact the CDFW for guidance on avoiding take. Such guidance, which would be implemented, may include setting up and maintaining a line-of-sight buffer area around the active nest and prohibiting construction activities within the buffer; modifying construction activities; and/or removing or relocating active nests. Compliance with these regulations would ensure that AAU's use of buildings within the program-level study areas would not cause a significant adverse effect to nesting birds.

Therefore, while the growth in the 12 study areas could result in an adverse effect, either directly or through habitat modifications, on species identified as candidate, sensitive, or special-status species, implementation of the CFGC and MBTA avoidance measures described above would ensure that impacts on native and migratory birds with tree removal would be avoided or minimized. This impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact BI-1.2 **The Proposed Project, including growth at the six project sites, would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

PS-1 is adjacent to Fort Mason and the Bay shoreline, which provide habitat for various wildlife species. However, due to the highly developed and urbanized nature of PS-1, it is unlikely that any habitat exists in this site. Additionally, site alterations related to AAU's change of use of PS-1 would be limited to tenant improvements including installation of signage, painting, replacement of ceiling tiles, limited concrete repairs in the interior courtyard, upgrades to the fire alarm system and installation of a security system, and would not be expected to remove any existing trees.

These types of activities are not likely to result in any impacts to biological resources that may be present in the vicinity of the project site or disturb any nesting birds. Further, if any trees were to be removed, any potential impacts on native or migratory birds would be avoided or minimized with implementation of the CFGC and MBTA avoidance measures described under Impact BI-1.1 above. Therefore, the Proposed Project at PS-1 would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

PS-2 is located in a highly urbanized part of the City. PS-2 is completely surrounded by development and impervious surface cover and, therefore, does not provide any habitat for special-status species. Further, site alterations related to AAU's use of PS-2 would be limited to tenant improvements including installation of signage, interior and exterior painting, installation of a security system, and interior construction associated with the conversion of space to AAU use and would not remove any existing trees. These types of activities are not likely to result in any impacts to biological resources that may be present in the vicinity of the project site or disturb any nesting birds.

Therefore, the Proposed Project at PS-2 would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species, and this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

The project site at PS-3 is located in a highly urbanized part of the City. PS-3 is completely surrounded by development and impervious surface cover and, therefore, does not provide any habitat for special-status species. Further, site alterations related to AAU's use of PS-3 would be limited to tenant improvements including painting, lighting replacement, installation of a new security system, partial roof replacement, and signage installation and would not remove any existing trees. These types of activities are not likely to result in any impacts to biological resources that may be present in the vicinity of the project site or disturb any nesting birds.

Therefore, the Proposed Project at PS-3 would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species, and this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

The project site at PS-4 is located in a highly urbanized part of the City. PS-4 is completely surrounded by development and impervious surface cover. As such, it is unlikely that PS-4 or the surrounding vicinity support sensitive or special-status species. Site alterations related to AAU's use of PS-4 would be limited to tenant improvements including painting and installation of carpeting, a new security system, and signage and would not remove any existing trees. These types of activities are not likely to result in any impacts to biological resources that may be present in the vicinity of the project site or disturb any nesting birds.

Therefore, the Proposed Project at PS-4 would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species, and this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

As shown on Figure 4.14-1, Sensitive Species Occurrences and Natural Areas, p. 4.14-3, PS-5 is within the area of documented occurrence for the San Francisco owl's clover, alkali milk-vetch, adobe sanicle, and fragrant fritillary. Of these listed plant species, only the San Francisco owl's-clover and the fragrant fritillary are expected to exist today. However, even in the unlikely event that one of these species is present within the vicinity of the project site, site alterations related to

AAU's use of PS-5 (shuttle bus storage yard) would be limited to signage and parking area repaving and would not remove any existing trees. These activities would not adversely affect these listed plant species, nor would these activities result in any impacts to other biological resources that may be present in the vicinity of the project site or disturb any nesting birds.

Therefore, the Proposed Project at PS-5 would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species, and this impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

The project site at PS-6 is within the area of documented occurrence for the San Francisco owl's clover, alkali milk-vetch, adobe sanicle, and fragrant fritillary. Of these listed plant species, only the San Francisco owl's-clover and the fragrant fritillary are expected to exist today. However, even in the unlikely event that one of these species is present within the vicinity of the project site, site alterations related to AAU's use of PS-6 would be limited to interior construction associated with installation of recreational uses, signage installation, painting (both interior and exterior), addition of a new fire alarm, installation of a security system, and replacement of sidewalk, street curbs and landscaping along McKinnon Avenue. The project would not remove any existing trees. These types of activities would not adversely affect these listed plant species, nor would these activities result in any impacts to other biological resources that may be present in the vicinity of the project site or disturb any nesting birds.

Therefore, the Proposed Project at PS-6 would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact BI-1.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. (Less than Significant)**

The 12 study areas and six project sites consist of urbanized and fully developed areas supporting a variety of land uses including residential, commercial, institutional and office uses. Implementation of the Proposed Project would result in the occupancy and re-use of existing buildings in the 12 study areas and six project sites. As described in the Environmental Setting, above, based on

examination of the results of the CNDDB search, it is unlikely that any identified sensitive or special-status species currently exist on or in the immediate vicinity of developed areas of the City. Further, the six project sites and 12 study areas are all highly developed and do not contain habitat that is likely to support wildlife. Tenant improvements such as interior construction, security system installation, fire sprinkler/fire alarm upgrades, seismic retrofit work, and of exterior signage and lighting at an existing building are types of activities that would not likely result in any impacts to biological resources that may be present in the project vicinity. As such, in the event that sensitive or special-status species are identified at any of the study areas, implementation of the Proposed Project would not adversely affect these species through direct disturbance or habitat modification.

A number of ornamental/street trees exist within the City and provide nesting habitats for migratory bird species. Nesting birds, their nests, and eggs are protected under CFGC (Sections 3503, 3503.5) and the MBTA. As discussed in the Regulatory Framework, the MBTA protects over 800 species, including geese, ducks, shorebirds, raptors, songbirds, and many common species. Destruction or disturbance of a nest would be a violation of these regulations. However, since the Proposed Project includes the occupancy and change of use of existing buildings and would not involve any major construction activities, it is unlikely that any trees would be removed. In addition, construction noise would be largely restricted to the interior of buildings and would not be expected to disturb nesting birds. If tenant improvement activities under the Proposed Project would result in the removal of trees or shrubs, MBTA and CFGC avoidance measures for native and migratory birds, eggs, and nests would be incorporated, as applicable, during the environmental review process for individual projects within the study areas. These requirements include pre-removal nesting bird surveys during nesting season and, if trees have active nests, establishment of appropriate buffers from construction to prevent take of nesting birds or their eggs.

Per MBTA and CFGC requirements, any tree removal would be conducted outside bird nesting season (January 15 through August 15) to the extent feasible. If tree removal activities are conducted during the breeding season (March through August), preconstruction surveys would be conducted by a qualified biologist to conduct such activities, to determine if any birds are nesting in or in the vicinity of the trees to be removed. The preconstruction survey would be conducted within 15 days prior to the start of work from March through May (since there is higher potential for birds to initiate nesting during this period), and within 30 days prior to the start of work from June through August. If active nests are located during the preconstruction bird nesting survey, the project sponsor would contact the CDFW for guidance on avoiding take. Such guidance, which would be implemented, may include setting up and maintaining a line-of-sight buffer area around the active nest and prohibiting construction activities within the buffer; modifying construction activities; and/or removing or relocating active nests. This would ensure that AAU's use of buildings within the program-level study areas would not cause a significant adverse effect to nesting birds.

With implementation of these measures, the Proposed Project would not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species, and this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact BI-2.1 **The Proposed Project, including growth in the 12 study areas, would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)**

As described above, due to the highly developed and urbanized nature of the project setting, it is unlikely that any of the 12 study areas serve as wildlife corridors or nursery sites. Accordingly, the Proposed Project would not substantially interfere with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. In addition, although most of the study areas and project sites do contain a number of ornamental/street trees that could provide nesting habitat for migratory birds, the Proposed Project would not result in exterior renovations that would require removal of such trees as the exterior alterations would be limited to seismic improvements and installation or replacement of signage, awnings, and lighting. The Proposed Project also could involve interior renovations. However, noise generated by such construction activities would be largely restricted to the interior of buildings and would not be expected to disturb nesting birds.

The 12 study areas include heavily traveled roadways and extensive residential, commercial, and other urban development that are unlikely to serve as wildlife corridors or nursery sites. This setting, and the lack of any creeks or other waterways passing through the program-level study areas, precludes the opportunity for established wildlife movement corridors. Additionally, the Proposed Project would utilize existing buildings, and would not increase building heights or result in major alterations to existing buildings in the study areas. The Proposed Project therefore would likely have limited or no impacts to migration patterns or migratory wildlife corridors, or increase any bird hazards. In addition, in the event that substantial façade work was undertaken, *Planning Code* Section 139 would ensure that bird hazards would not be substantially increased. The Standards impose requirements for both location-related hazards, and feature-related hazards for the development of new buildings in the City. The study areas are highly urbanized, and the Proposed Project would involve minimal building renovations. In the event façade renovations would raise the possibility of affecting bird movement corridors by creating hazards, *Planning Code* Section 139 would ensure no such substantial hazards would be created. Additionally, the Proposed Project would not interfere with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Additionally, compliance with *Planning Code* Section 139 for growth in the 12 study areas would have a less-than-significant impact with respect to special-status species and habitats.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact BI-2.2 **The Proposed Project, including growth at the six project sites, would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

PS-1 is not located in a wildlife corridor. PS-1 is located in an urbanized area and contains structures and impermeable surfaces. Adjacent to PS-1 are six street trees that may provide nesting habitat for migratory birds, but these would not be removed or affected as a result of the Proposed Project, as construction activities would be limited to interior improvements associated with the change of use and installation of exterior signage.

The project site is highly urbanized, and the Proposed Project at PS-1 would involve minimal site renovations. Accordingly, the renovations at the project site would not interfere with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Any potential impacts on native or migratory birds would be avoided or minimized with implementation of the CFGC and MBTA avoidance measures described under Impact BI-1.1 above.

Therefore, the Proposed Project at PS-1 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

PS-2 is not located in a wildlife corridor. PS-2 is located in an urbanized area and contains structures and impermeable surfaces. Adjacent to PS-2 are two street trees that may provide nesting habitat for

migratory birds, but these would not be removed or affected as a result of the Proposed Project. Construction activities would be limited to installation of signage, interior and exterior painting, installation of a security system, and interior construction associated with the conversion of space to AAU use.

The project site is highly urbanized, and the Proposed Project at PS-2 would involve minimal site renovations. No trees would be removed and construction noise would be largely restricted to the interior of buildings and would not be expected to disturb nesting birds. Accordingly, the renovations at the project site would not interfere with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites insofar as nesting birds are concerned.

Therefore, the Proposed Project at PS-2 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

PS-3 is not located within a wildlife corridor. Adjacent to PS-3 are a few street trees, located along Turk Street, that may provide nesting habitat for migratory birds, but these would not be removed or affected as a results of the Proposed Project.

The project site is highly urbanized, and the Proposed Project at PS-3 would involve minimal site renovations. No trees would be removed and construction noise would be largely restricted to the interior of buildings and would not be expected to disturb nesting birds. Accordingly, the renovations at the project site would not interfere with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites insofar as nesting birds are concerned.

Therefore, the Proposed Project at PS-3 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

PS-4 is not located within a wildlife corridor. The site adjacent to PS-4 contains eight street trees that may provide nesting habitat for migratory birds, but these would not be removed or affected as a

result of the Proposed Project. The exterior alterations of the Proposed Project would be limited to signage installation.

The project site is highly urbanized, and the Proposed Project at PS-4 would involve minimal site renovations. No trees would be removed and construction noise would be largely restricted to the interior of buildings and would not be expected to disturb nesting birds. Accordingly, the renovations at the project site would not interfere with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites insofar as nesting birds are concerned. Therefore, the Proposed Project at PS-4 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

PS-5 is not located within a wildlife corridor. The sites adjacent to PS-5 do not contain street trees that may provide nesting habitat for migratory birds. Therefore, since PS-5 is highly urbanized and contains no street trees, the Proposed Project at PS-5 would have less-than-significant impact with respect to wildlife corridors or native wildlife nursery sites.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

PS-6 is not located within a wildlife corridor. Adjacent to PS-6 are six street trees that may provide nesting habitat for migratory birds. In addition, exterior renovations would be limited to exterior signage and replacement of sidewalk, street curbs and landscaping along McKinnon Avenue. Renovation work at the site would be subject to the requirements and regulations referenced in the discussion of Impact B1-2.1.

The project site is highly urbanized, and the Proposed Project at PS-6 would involve minimal site renovations. No trees would be removed and construction noise would be largely restricted to the interior of buildings and would not be expected to disturb nesting birds. Accordingly, the renovations at the project site would not interfere with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites insofar as nesting birds are concerned.

Therefore, the Proposed Project at PS-6 would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact BI-2.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (Less than Significant)**

As described above, due to the highly developed and urbanized nature of the project setting, it is unlikely that any of the 12 study areas or six project sites serve as wildlife corridors or nursery sites. Accordingly, the Proposed Project would not substantially interfere with the movement of a native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. In addition, although most of the study areas and project sites do contain a number of ornamental/street trees that could provide nesting habitat for migratory birds, the Proposed Project would not result in exterior renovations that would require removal of such trees as the exterior alterations would be limited to seismic improvements and installation or replacement of signage, awnings, and lighting. If any tree would be removed, any potential impacts on native or migratory birds would be avoided or minimized with implementation of the CFGC and MBTA avoidance measures. These requirements include pre-removal nesting bird surveys during nesting season and, if trees have active nests, establishment of appropriate buffers from construction to prevent take of nesting birds or their eggs. The Proposed Project also could involve interior renovations. However, noise generated by such construction activities would be largely restricted to the interior of buildings and would not be expected to disturb nesting birds. In addition, in the event that substantial façade work was undertaken, *Planning Code* Section 139 would ensure that bird hazards would not be substantially increased. The Standards impose requirements for both location-related hazards, and feature-related hazards for the development of new buildings in the City.

Therefore, the Proposed Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and this impact would be less than significant.

Mitigation: None required.

Cumulative Impacts

The geographic context for this analysis includes the 12 study areas and six project sites, and those parcels located immediately adjacent to them, and the range of bird species that might nest in or near the study areas or project sites. The cumulative context for the Proposed Project is downtown San Francisco, the Van Ness Avenue corridor, the Market Street corridor, the South of Market district, the Lombard Street corridor, the Fisherman's Wharf area, the Showplace Square/Potrero

neighborhood, and parts of Bayview Hunters Point. This includes specific proposed development projects such as the 5M Project, the Moscone Center Expansion Project, 598 Brannan, and the 350 Eighth Project, as well as implementation of planning efforts for the Western SoMa Plan, the Central SoMa Plan, the Rincon Hill Plan, and the East SoMa Plan. Further detail regarding these and other cumulative projects considered in this analysis is included in Table 4-1, Cumulative Projects.

Impact C-BI-1 **Implementation of the Proposed Project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, could make a considerable contribution to a significant cumulative impact on biological resources. (Less than Significant)**

As development in San Francisco continues, habitat for plant and wildlife species native to the region is lost through conversion to urban development. Although more mobile species may be able to survive these changes in their environment by moving to new areas, less mobile species would be extirpated. With continued conversion of natural habitat to human use, the availability and accessibility of remaining foraging and natural habitats in this ecosystem would dwindle and those remaining natural areas would not be able to support additional plant or animal populations above their current carrying capacities through increased competition for resources, displacement, and development-induced introduction of nonnative species.

However, the study areas and project sites occur in highly developed and urbanized areas that lack undisturbed natural habitats. The Proposed Project would convert existing buildings for institutional uses and there would be no new development; in addition, the Proposed Project would result in the removal of few, if any, trees, and would result in less-than-significant impacts to biological resources. When considered in combination with other projects anticipated in the Proposed Project vicinity, the Proposed Project's incremental contribution to any potentially significant cumulative impact related to the loss of plant and wildlife habitat in the region would not be cumulatively considerable and this impact would therefore be considered less than significant.

4.15 GEOLOGY AND SOILS

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to be affected by geologic and soils conditions. This section describes the geologic and seismic setting of the 12 study areas and six project sites, including regional and local geology, soils, and the regulatory framework relevant to the Proposed Project. The impacts examined include risks related to geologic hazards such as earthquakes, liquefaction, expansive soils, and impacts on the environment related to soil erosion and topographic changes. This section provides an analysis of Proposed Project effects in relation to geological and seismic conditions. No geology and soils issued were raised during the NOP scoping period.

4.15.1 Environmental Setting

Regional Geology

The City of San Francisco is within the San Francisco Bay Area, which is located within the Coast Ranges Geomorphic Province. The geology of the San Francisco Bay Area is dominated by the Franciscan Complex, a mixed assemblage of different bedrock types that are layered and have been deformed by tectonic activity. This tectonic activity, which occurred 65 to 165 million years ago during the Cretaceous and Jurassic geologic time periods, folded and faulted the bedrock, creating the regional topography characterized by northwest-trending ridges and valleys on each side of San Francisco Bay. The San Francisco Bay itself and shorelines occupy a basin bounded by faults in the hills and mountains to the east and west. Late Pleistocene and Holocene sediments (less than one million years old) were deposited in the basin as it subsided.

Project Area Geology

The 12 study areas and six project sites are located throughout the City and are underlain by sedimentary bedrock of the Franciscan Complex (sandstone, shale, and conglomerate), Quaternary alluvium, dune sand, and artificial fill. The artificial fill is present on the topographically lower areas bordering the Bay and extends inland at varying distances where elevations remain low. Bay Mud may be present beneath the artificial fill, depending on the location. Table 4.15-1, Geologic Units in AAU Study Areas and Project Sites, p. 4.15-2, summarizes the generalized geologic unit for each study area and project site.

Table 4.15-1 Geologic Units in AAU Study Areas and Project Sites

Location	*Geologic Unit*
Study Areas	
SA-1, Lombard Street/Divisadero Street	Artificial fill
SA-2, Lombard Street/Van Ness Avenue	Sedimentary bedrock and alluvium
SA-3, Mid Van Ness Avenue	Dune sand
SA-4, Sutter Street/Mason Street	Dune sand
SA-5, Mid Market Street	Dune sand and artificial fill
SA-6, Fourth Street/Howard Street	Dune sand
SA-7, Rincon Hill East	Artificial fill
SA-8, Third Street/Bryant Street	Artificial fill
SA-9, Second Street/Brannan Street	Artificial fill
SA-10, Fifth Street/Brannan Street	Artificial fill
SA-11, Sixth Street/Folsom Street	Artificial fill
SA-12, Ninth Street/Folsom Street	Artificial fill and dune sand
Project Sites	
PS-1, 2801 Leavenworth Street (The Cannery)	Artificial fill
PS-2, 700 Montgomery Street	Artificial fill
PS-3, 625 Polk Street	Dune sand
PS-4, 150 Hayes Street	Dune sand
PS-5, 121 Wisconsin Street	Artificial fill
PS-6, 2225 Jerrold Avenue	Artificial fill

SOURCE: Compiled from Geologic Map of the San Francisco-San Jose Quadrangle, 1:250,000, California Division of Mines and Geology, Regional Geologic Map 5A (1991); and Final Technical Report: Detailed Mapping of Artificial Fills, San Francisco Bay Area, California, prepared for U.S. Geological Survey, by William Lettis & Associates (2008); and San Francisco Department of Public Health, Hazardous Waste – Analyzing Soil for Hazardous Waste, Maher Site Map, http://www.sfdph.org/dph/eh/HazWaste/hazWasteAnalyzeSoil.asp

The Franciscan Complex consists primarily of graywacke, shale, greenstone (altered volcanic rocks), basalt, chert (ancient silica-rich ocean deposits), sandstone, shale, and serpentinite. Most of these rock units originated as ancient sea floor sediments and were displaced and deformed through long periods of tectonic forces. In addition, the younger Colma Formation locally forms a thin veneer over rocks of the Franciscan Complex on the northern San Francisco Peninsula. The formation extends to Angel Island and to the southern peninsula, where it overlies the Merced Formation from Fort Funston south. The Colma Formation is mostly composed of sandy deposits laid down from 80 to 125 thousand years ago during an interglacial period when sea level was slightly higher than today and the northern San Francisco Peninsula was an island separated from the southern peninsula by the narrow "Colma Strait." More recently deposited dune sand mantles the Colma Formation and the Franciscan Complex over large areas of San Francisco. The sand dunes of San

Francisco once formed one of the most extensive coastal dune systems on the West Coast, underlying about one-third of San Francisco.

For more than a century, and especially following the 1906 earthquake and fire, tens of millions of cubic meters of fill have been placed along bay margins, including infilling of the Marina District, creation of Treasure Island and Alameda Naval Air Station, and expansion of the San Francisco and Oakland airports. Much of the fill used along the San Francisco waterfront consists of clay to cobble-sized materials, including former dune sand that was excavated during the building of San Francisco, hauled to the waterfront, and dumped on top of the Bay Mud or other surface material. Typical fill also consists of rubble (concrete, bricks, and wood) from building demolition, notably after the 1906 earthquake and fire, as well as assorted organic and nonorganic debris, refuse, some hazardous substances, and other materials. Much of the artificial fill materials was emplaced prior to regulations beginning in the mid-1960s and would not qualify as engineered fill. Because they were not emplaced using modern engineering compaction techniques to increase their liquefaction resistance, these largely unconsolidated to semi-consolidated sediments are vulnerable to liquefaction and amplification of strong ground motions. Some areas with artificial fill have yet to be shaken strongly during a major earthquake. There is considerable variation in the type, depth, age and nature of fill, depending on the source of the fill and original configuration of the Bay shoreline.

In some Bay margin areas, these artificial fills are underlain by soft compressible estuarine deposits known as Bay Mud. The Bay Mud can be further divided into younger Bay Mud and older Bay Mud, which can vary in engineering properties depending on thicknesses and degrees of consolidation. Bay Mud is generally found along the shorelines within the Project area, and generally consists of uniform gray, soft, saturated clay and silt with organic material and some sand. Lenses of sand, silt, and organic material (peat) are present within the mud. Younger Bay Mud is commonly divided into an upper "soft" member and an underlying semi-consolidated member. It is present near the ground surface (under the fill cover), and forms the Bay bottom. It is saturated, soft, and compressible. When loads (such as buildings) are placed on it, the soft mud can compress and settle. Placement of the loads could also result in plastic deformation and lateral movement, sometimes accompanied by upthrusting in adjacent areas (creation of so-called "mud waves") or underwater landsliding. Younger Bay Mud has low shear strength (resistance to downslope movement of rock and soil). For these reasons, Younger Bay Mud is not considered suitable material for bearing foundations of anything but very light structures and is usually not relied upon to support vertical loads.

Soils

The study areas and project sites are located in developed urban land where the near-surface soils have been extensively modified by construction of buildings, roads, and other impermeable structures, and by cut and fill for these structures. Based on soil mapping performed by the U.S.

Department of Agriculture's Natural Resources Conservation Service,[437] two main soil types are mapped in the City: Urban Land[438] and Orthent soils.[439] These soil types are found throughout the City in varying mixes of the two to form soil complexes. There is no topsoil located within the City.

Geologic Hazards

Expansive Soils

Expansive soils are characterized by significant volume changes (shrink and swell) caused by variation in soil moisture content. Changes in soil moisture could result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater. Soils with high clay content, in particular, tend to exhibit high shrink/swell characteristics. Expansion and contraction of expansive soils in response to changes in moisture content can lead to differential and cyclical movements that can cause damage and/or distress to structures and equipment.

The sedimentary bedrock and/or dune sand underlying Study Area 2 (SA-2), Lombard Street/Van Ness Avenue; SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-12, Ninth Street/Folsom Street; Project Site 3 (PS-3), 625 Polk Street; and PS-4, 150 Hayes Street, generally do not exhibit expansive soil properties. As indicated in Table 4.15-1, Geologic Units in AAU Study Areas and Project Sites, p. 4.15-2, the surficial geology at SA-1, Lombard Street/Divisadero Street; SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; SA-12, Ninth Street/Folsom Street; PS-1, 2801 Leavenworth Street (The Cannery); PS-2, 700 Montgomery Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue, is artificial fill, the depth of which is unknown. The Bay Mud sediments underlying the artificial fill are assumed to have moderate to high expansive properties because of their clay composition. Therefore, there is the potential for expansive soils to be present in some locations where Bay Mud underlies the fill. Because the City is highly urbanized and underlying soils have been extensively modified as a result of development, expansive properties can be highly variable within a short distance. The presence of expansive soils can only be determined through site-specific laboratory analysis of soil samples.

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[437] U.S. Department of Agriculture, Natural Resources Conservation Service, Web Soil Survey, Soil Survey of San Mateo County, Eastern Part, and San Francisco County, California (1991), http://websoilsurvey.nrcs.usda.gov/app/ (accessed June 24, 2012).

[438] Urban land consists of areas where more than 85 percent of the surface is covered by asphalt, concrete, buildings and other structures. This designation refers to homesite, urban, and recreational development.

[439] Orthents consist of soils that have been cut and filled for urban development and are typically made up of soil material, gravel, broken cement and asphalt, bay mud, and solid waste material. In many areas, the texture of the surface layers varies greatly due to grading or mixture with fill.

Compressible and Collapsible Soils

Compressible and collapsible soils have specific soil properties related to clay and water content that can cause the soil structure to weaken. These soils can settle or subside as a result of the weight placed on top of them, or they can subside or settle as a result of groundshaking. This is primarily a concern for new construction, but existing structures can also be susceptible to damage from these kinds of weak soils. Bay Mud is generally regarded by engineering geologists as moderately to highly compressible. As noted above, because artificial fill is present within SA-1, Lombard Street/Divisadero Street; SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; SA-12, Ninth Street/Folsom Street; PS-1, 2801 Leavenworth Street (The Cannery); PS-2, 700 Montgomery Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue, and the artificial fill may overlie Bay Mud, there is a potential for compressible soils to be present in those locations.

Erosion

The properties of soil that influence erosion from rainfall and runoff are those that affect the infiltration capacity of a soil and the resistance to detachment by falling or flowing water. Areas of the City more susceptible to erosion are limited to those locations with steep topography and undeveloped/vacant sites in those locations. All of the study areas are urbanized and covered with impervious surfaces (e.g., buildings, sidewalks, and paved roadways). None of the study areas or project sites is located in areas of steep, undeveloped slopes with exposed bedrock or soil cover where erosion hazards are present.

Regional Seismicity and Seismic Hazards

The San Francisco Bay Area is in a seismically active region near the boundary between two major tectonic plates, the Pacific Plate to the southwest and the North American Plate to the northeast. These two plates move relative to each other in a predominantly lateral manner, with the San Andreas Fault Zone at the junction. The Pacific Plate, on the west side of the fault zone, is moving north relative to the North American Plate on the east. Since approximately 23 million years ago, about 200 miles of right-lateral slip has occurred along the San Andreas Fault Zone to accommodate the relative movement between these two plates.

The region's seismic faults are classified as active, sufficiently active and well defined, or inactive, as described below:[440]

- *Active* faults show geologic evidence of movement during Holocene time (approximately the last 11,000 years). This classification includes historically active faults: those that have generated earthquakes accompanied by surface rupture during approximately the last

[440] California Geological Survey, *Fault-Rupture Hazard Zones in California, Interim Revision 2007*, Special Publication No. 42 (Sacramento, CA, 2007), p. 5.

200 years, or that exhibit seismic fault creep (slow incremental movement along a fault that does not reach the activity level of an earthquake).

- *Sufficiently active and well-defined* faults show geologic evidence of movement during the Holocene along one or more of their segments or branches, and their trace may be identified by direct or indirect methods.
- *Inactive* faults show direct geologic evidence of inactivity (that is, no displacement) during all of Quaternary time or longer.

The intensity of seismic shaking, or strong ground motion, during an earthquake depends on the distance and direction between a particular area and the epicenter of the earthquake, the magnitude of the earthquake, and the geologic conditions underlying and surrounding that area. Earthquakes occurring on faults closest to the 12 study areas and six project sites probably would generate the largest ground motions.

The major regional active (historic) faults considered likely to produce damaging earthquakes felt in San Francisco are the San Andreas, San Gregorio, Hayward, and Calaveras faults, as shown in Figure 4.15-1, Regional Faults, p. 4.15-7. The active faults closest to San Francisco are listed in Table 4.15-2, Active and Potentially Active Faults. The closest known active fault to the study areas and project sites is the Peninsula branch of the San Andreas fault, approximately seven miles to the west.

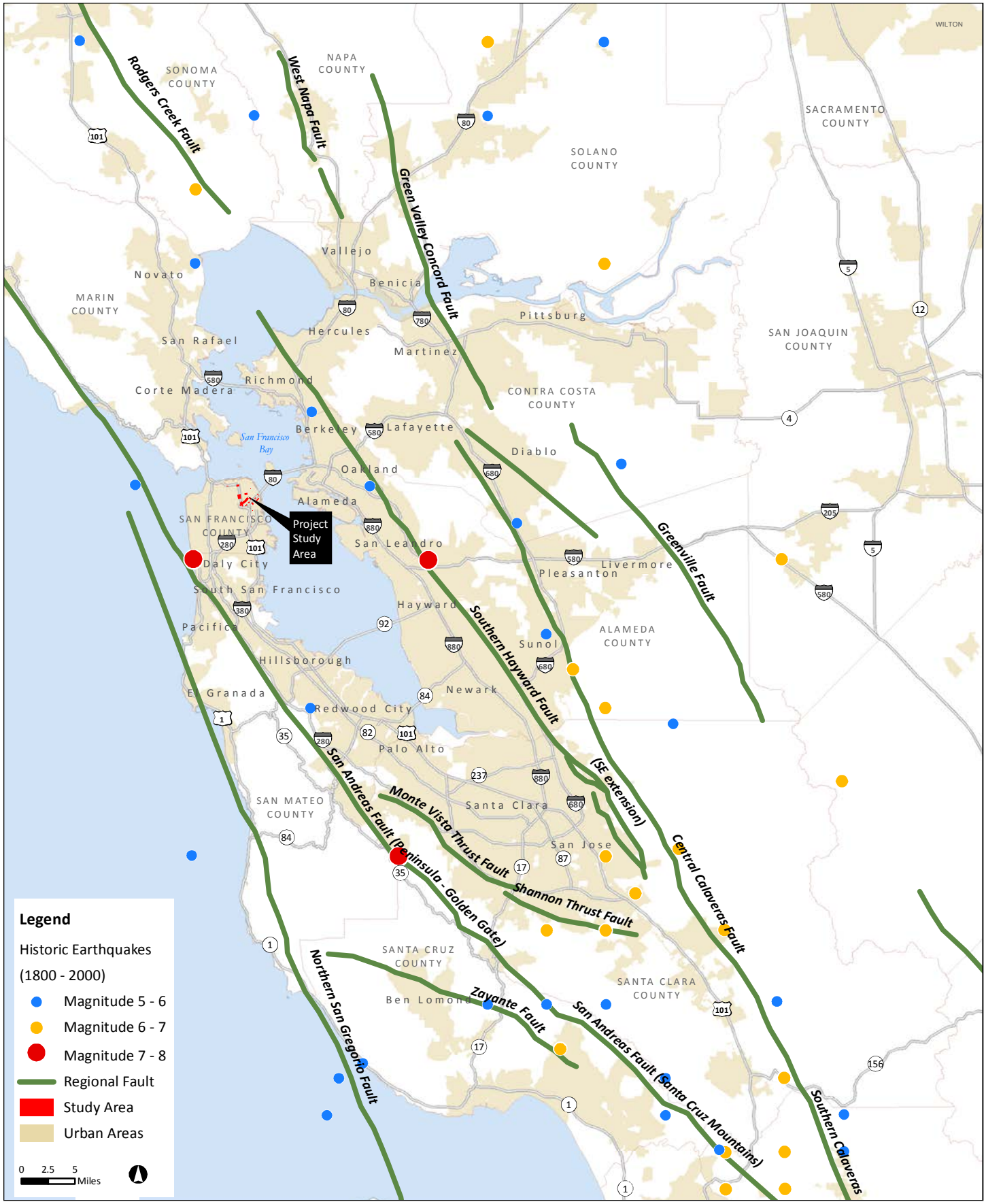
Table 4.15-2 Active and Potentially Active Faults

Fault	*Approximate Distance from Study Areas and Project Sites*	*Estimated Maximum Moment Earthquake Magnitude (Mw)*[a]	*Historic Earthquakes*[b]	
			Year	*Magnitude*
San Andreas	7 miles	7.9	1906	7.8
Hayward	10 miles	7.1	1868	6.8
Calaveras	25 miles	6.8	1861	6.5
Healdsburg-Rodgers Creek	25 miles	7.0	1898	6.3
Concord-Green Valley	27 miles	6.9	1955	5.4
San Gregorio (Seal Cove)	20 miles	7.3	1270–1400 A.D.	3–6.4

SOURCES:

a. California Geological Survey, Probabilistic Seismic Hazard Assessment of the State of California, Appendix A (Fault Source Parameters), CDMG Open-File Report 96-08, http://www.consrv.ca.gov/cgs/rghm/psha/ofr9608/Pages/index.aspx (accessed June 24, 2012).

b. U.S. Geological Survey, Historic United States Earthquakes, http://earthquake.usgs.gov/earthquakes/states/historical_state.php#california (accessed June 24, 2012).



SOURCE: ABAG, 2003; California Department of Conservation and California Geological Survey Historical Earthquake Database (1800-2000); Atkins 2012..

FIGURE 4.15-1: REGIONAL FAULTS

Fault Rupture

Faults are geologic zones of weakness. Surface rupture occurs when movement on a fault deep in the earth breaks through to the ground surface. Surface ruptures associated with the 1906 San Francisco earthquake extended for more than 260 miles with displacements of up to 21 feet. Not all earthquakes result in surface rupture. The 1989 Loma Prieta earthquake caused major damage in the San Francisco Bay Area, but the fault trace does not appear to have broken at the ground surface in the vicinity of San Francisco. Fault rupture almost always follows preexisting faults, which are zones of weakness. Rupture may occur suddenly during an earthquake or slowly in the form of fault creep. There are no known active faults crossing the study areas and project sites, and due to the distance from known active faults, fault rupture is unlikely to affect the study areas and project sites.

Groundshaking

An earthquake is classified by the amount of energy released, which traditionally has been quantified using the Richter scale. Recently, seismologists have begun using a moment magnitude (Mw or M) scale because it provides a more accurate measurement of the size of major and great earthquakes. For earthquakes of less than M 7.0, the moment and Richter magnitude scales are nearly identical. For earthquake magnitudes greater than M 7.0, readings on the moment magnitude scale are slightly higher than a corresponding Richter magnitude.

A review of historic earthquake activity from 1800 to 2005 indicates that 13 earthquakes of magnitude M 6.0 or greater have occurred in the vicinity of the study areas and project sites during this time frame. The two most consequential were the earthquakes of April 18, 1906, and October 17, 1989. The April 18, 1906, earthquake caused building collapses and fires, approximately 3,000 deaths, and $524 million in damage as far as 350 miles from the epicenter. The earthquake of October 17, 1989, caused 63 deaths, more than 3,000 injuries, and an estimated $6 billion in property damage from San Francisco to Monterey and in the East Bay, including damage and destruction of buildings, roads, bridges, and freeways. There have been 25 earthquakes with magnitudes between M 5.5 and M 6.0 in this area during the time period of 1800 to 2005 including numerous aftershocks of larger earthquakes.[441]

The U.S. Geological Survey's 2007 Working Group on California Earthquake Probabilities estimated that there is a 63 percent probability that one or more M 6.7 or greater earthquakes will occur in the Bay Area in the next 30 years. The probability of an M 6.7 or greater earthquake occurring along individual faults was estimated to be 31 percent on the Hayward fault and 21 percent along the San Andreas fault.[442]

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[441] California Geologic Survey, Regional Geologic Mapping Program, Significant California Earthquakes, http://www.consrv.ca.gov/cgs/rghm/quakes/Pages/eq_chron.aspx (accessed June 24, 2012).
[442] U.S. Geological Survey, 2007 Working Group on Earthquake Probabilities, *The Uniform California Earthquake Rupture Forecast, Version 2 (UCERF 2)*, U.S. USGS Open File Report 2007-1437 (2008), http://pubs.usgs.gov/of/2007/1437/of2007-1437_text.pdf (accessed June 24, 2012).

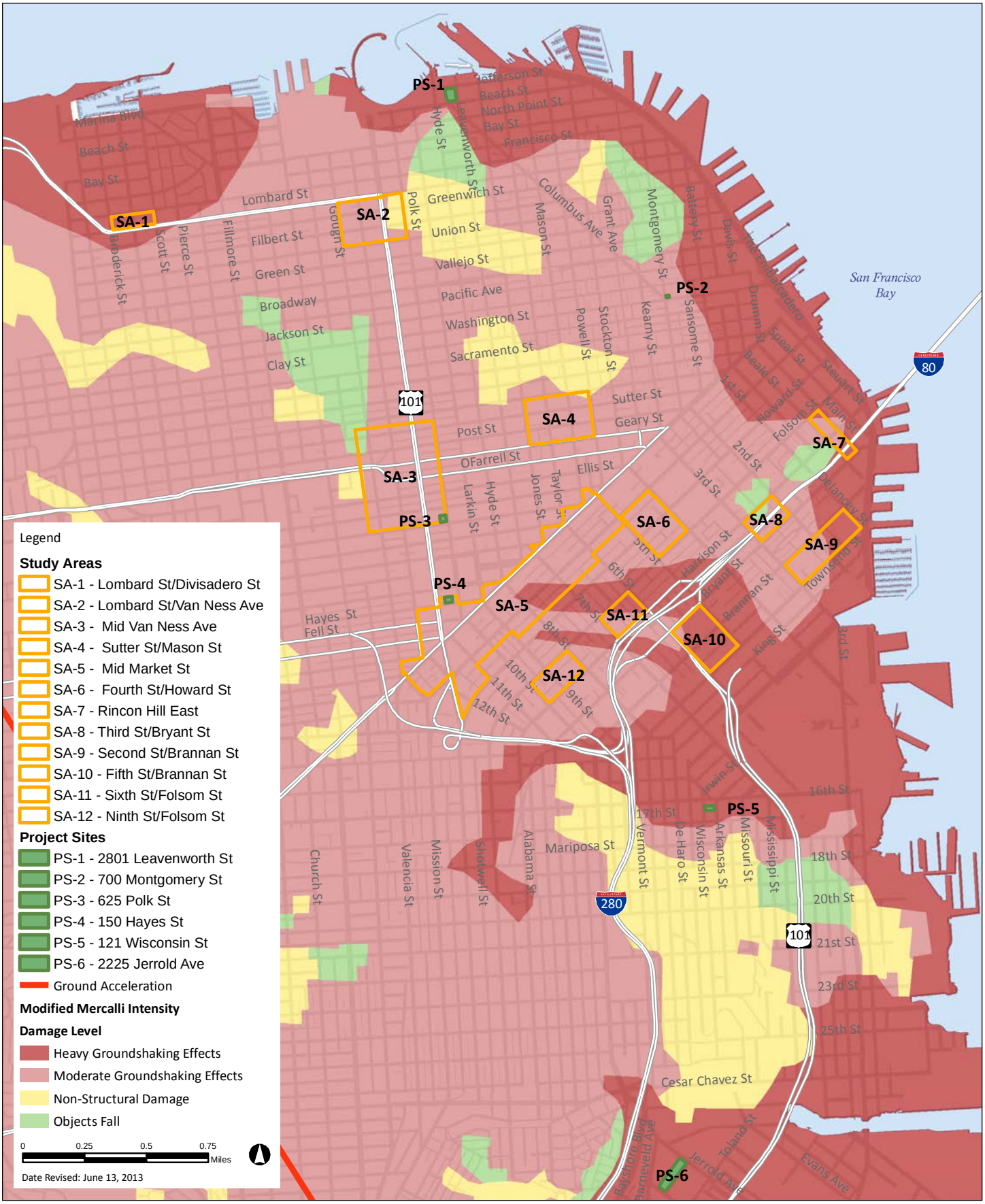
As shown in Figure 4.15-2, Groundshaking Intensity (San Andreas), p. 4.15-10, and Figure 4.15-3, Groundshaking Intensity (Hayward), p. 4.15-11, the 12 study areas and six project sites would be susceptible to moderate to heavy groundshaking from earthquakes on the San Andreas and Hayward faults.

Groundshaking associated with an earthquake on the Hayward fault is predicted to affect a smaller area of the City. Groundshaking associated with an earthquake on the San Andreas fault is predicted to have effects of an M 7.2 earthquake. However, portions of all study areas and project sites (except PS-3, 625 Polk Street and PS-4, 150 Hayes Street) would be expected to be susceptible to moderate to heavy damage from a M 6.9 earthquake on the Hayward fault. Potential damage at PS-3, 625 Polk Street, and PS-4, 150 Hayes Street, from an earthquake on the Hayward fault would be expected to be limited to nonstructural damage (see Figure 4.15-3, Groundshaking Intensity (Hayward), p. 4.15-11).

Liquefaction

Liquefaction is a phenomenon in which saturated granular, nonplastic sediments temporarily lose their shear strength during periods of earthquake-induced, strong groundshaking. The susceptibility of a site to liquefaction is a function of the uniformity, depth, density, and water content of the granular sediments beneath the site and the magnitude of earthquakes likely to affect the site. Saturated, unconsolidated silts, sands, silty sands, and gravels within 40 feet below the ground surface are most susceptible to liquefaction. There are two general levels of liquefaction hazards: (1) large-scale displacement and (2) localized failures including lateral spreading, vertical settlement from densification, sand boils, ground oscillation, flow failures, loss of bearing strength, and buoyancy effects, as described below. Liquefaction zones are widespread in the City of San Francisco near the coastal and bay side areas underlain by saturated young sedimentary units and artificial fill.[443] Ground failure associated with liquefaction has occurred during historical earthquakes in San Francisco. The California Seismic Hazards Mapping Program has identified areas of liquefaction hazard in the City, which are shown on Figure 4.15-4, Liquefaction Hazards, p. 4.15-12.

[443] City of San Francisco Planning Department, *San Francisco General Plan Community Safety Element*, Map 4 (Seismic Hazards Study Zones—Areas of Potential Liquefaction).



SOURCE: ABAG; AAU, 2013; Atkins, 2013.

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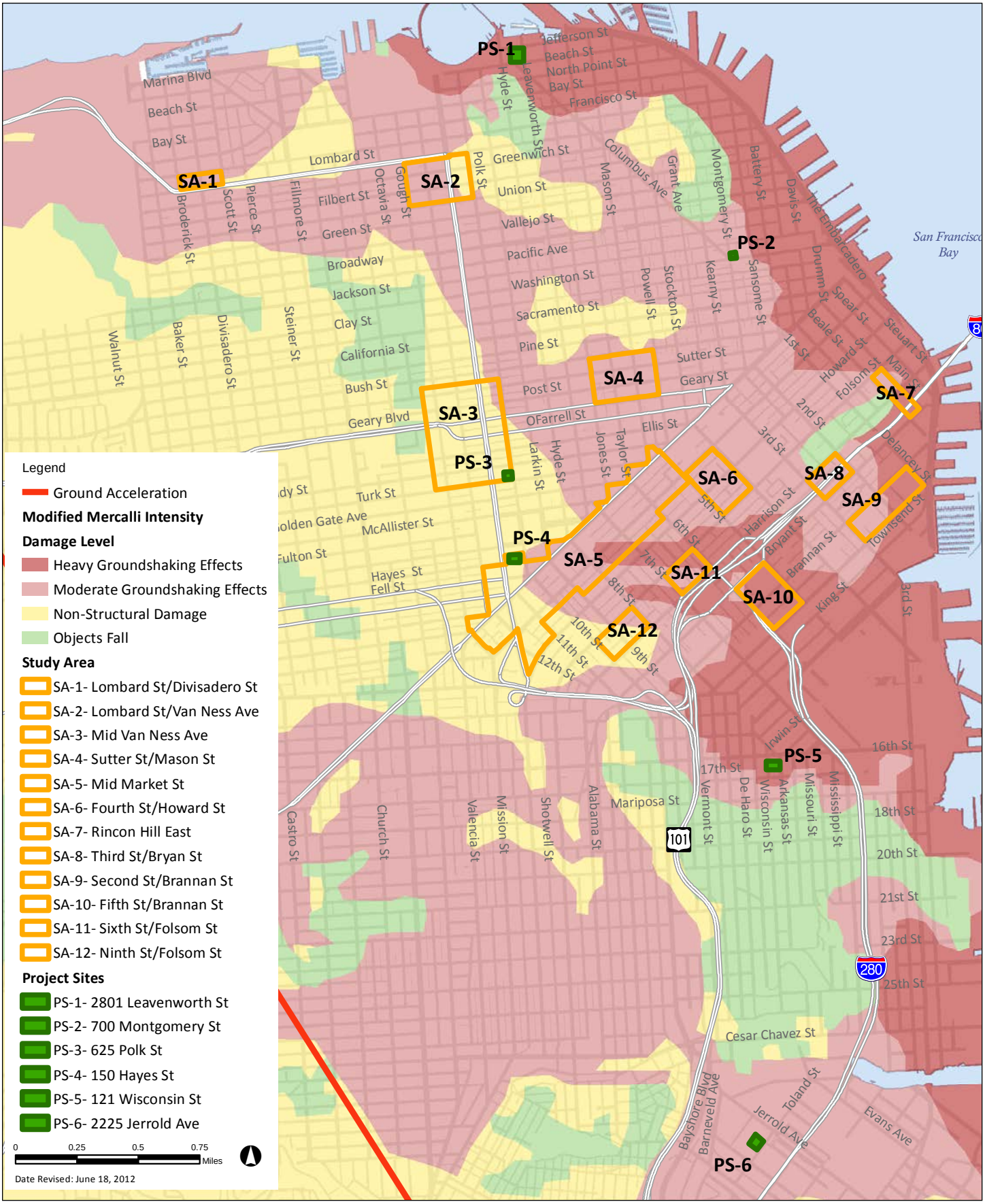
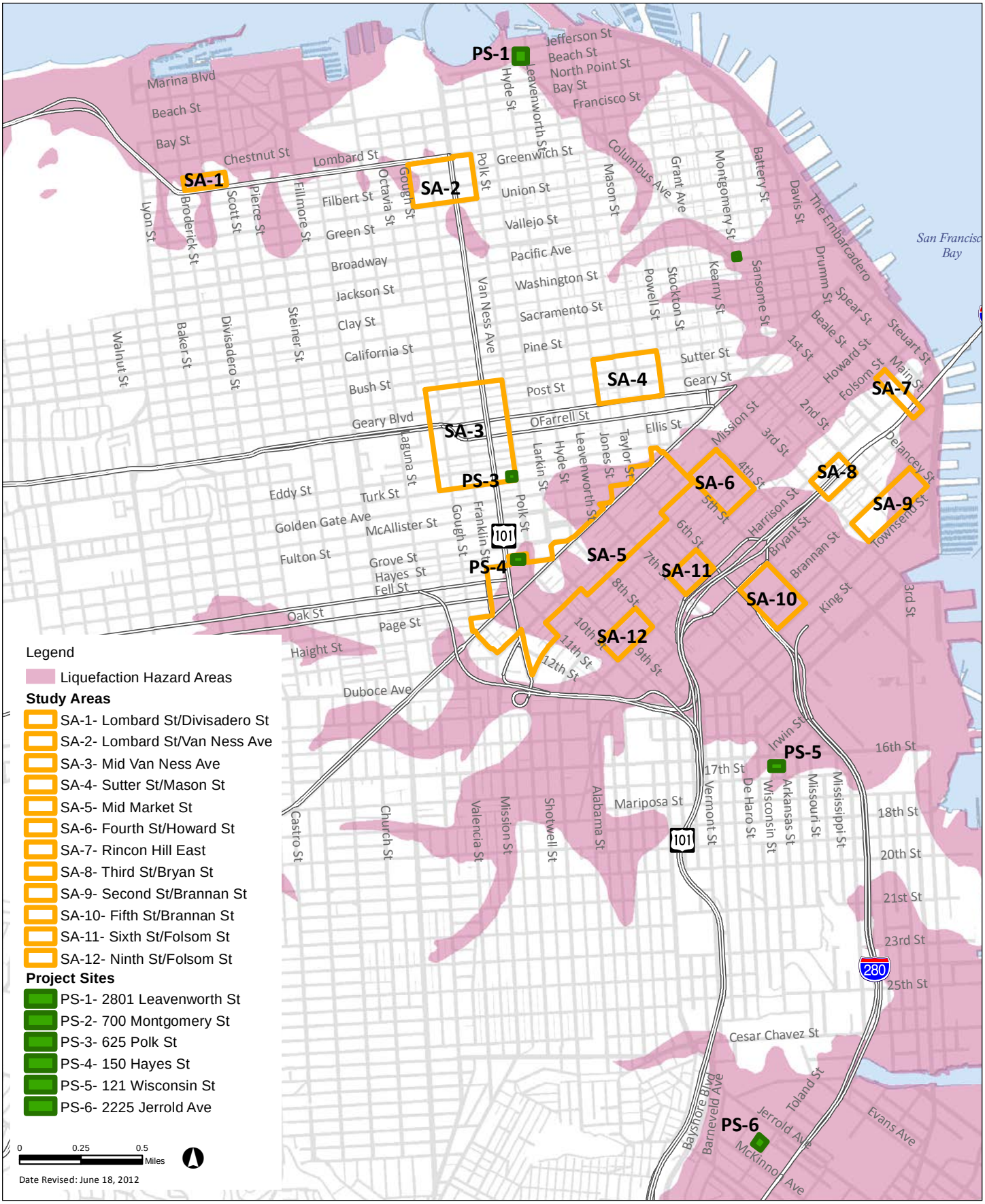
FIGURE 4.15-2: GROUNDSHAKING INTENSITY (SAN ANDREAS)



SOURCE: ABAG; AAU, 2013; Atkins, 2013.

ACADEMY OF ART UNIVERSITY EIR

FIGURE 4.15-3: GROUNDSHAKING INTENSITY (HAYWARD)



SOURCE: AAU, 2013; Atkins, 2013, ABAG; SF MOT Report.

FIGURE 4.15-4: LIQUEFACTION HAZARDS

As illustrated in Figure 4.15-4, SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; and SA-12, Ninth Street/Folsom Street, are entirely or partially within a potential liquefaction hazard area. PS-1, 2801 Leavenworth Street (The Cannery); PS-2, 700 Montgomery Street; PS-4, 150 Hayes Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue, are in a liquefaction hazard zone. PS-3, 625 Polk Street, is not within a liquefaction hazard zone.

Lateral Spreading

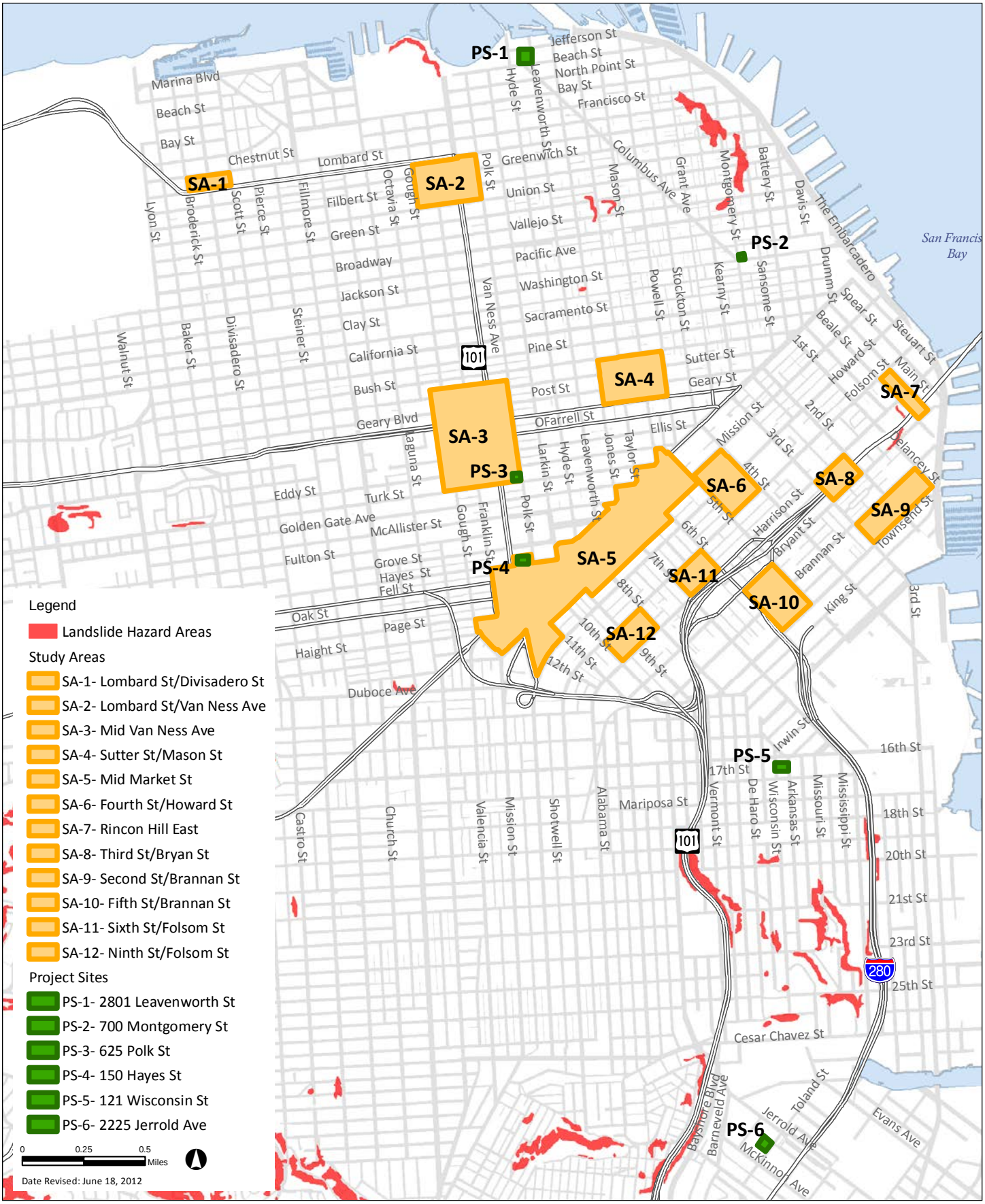
Lateral spreading is a phenomenon where large blocks of intact, nonliquefied soil move downslope riding on a liquefied substrate of large extent. Lateral spreading may occur in sloping areas where liquefaction is likely to occur in the event of a large earthquake, such as those locations shown on Figure 4.15-4, Liquefaction Hazards, p. 4.15-12. Much of the City's liquefiable soils are in the South of Market (SoMa) area, which is flat, and where most of the soil in this area is artificial fill. Because of these factors, there is a potential for lateral spreading in this area. SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; SA-12, Ninth Street/Folsom Street; PS-1, 2801 Leavenworth Street (The Cannery); PS-2, 700 Montgomery Street; PS-4, 150 Hayes Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue, overlie soils that could be susceptible to lateral spreading.

Settlement, Subsidence, and Ground Cracking

Settlement, subsidence, or cracking of the ground surface can be accelerated and accentuated by earthquakes. During an earthquake, settlement can occur as a result of the relatively rapid rearrangement, compaction, and settling of subsurface materials (particularly loose, uncompacted, and variable sandy sediments). Settlement can occur both uniformly and differentially (i.e., where adjoining areas settle at different rates).

Landslides

Earthquake-induced landslides can occur in areas with steep slopes that are susceptible to strong ground motion during an earthquake. The 1989 Loma Prieta earthquake triggered thousands of landslides over an area of 770 square miles. A large earthquake affecting San Francisco may cause movement of active slides and could trigger new slides similar to those that have already occurred. However, as illustrated in Figure 4.15-5, Landslide Hazards, p. 4.15-14, none of the study areas or project sites are located in areas of landslide hazard, as mapped by the California Seismic Hazards Mapping Program.



SOURCE: AAU, 2013; City of San Francisco, 2010; Atkins 2013.

FIGURE 4.15-5: LANDSLIDE HAZARDS

Unreinforced Masonry Buildings

Older buildings in San Francisco constructed of masonry (typically brick) without the benefit of reinforcing structural elements are referred to as unreinforced masonry buildings (UMBs). UMBs are considered "hazardous" in an earthquake because they often fail structurally, resulting in the collapse of walls or the entire building. The City regulates design and occupancy of UMBs through its UMB Ordinance (refer to Section 4.15.2, Regulatory Framework, p. 4.15-16).

The specific buildings AAU could occupy in the study areas are not known. When AAU occupies buildings in the study areas, the determination whether a UMB is present would be made at that time.

PS-1, 2801 Leavenworth Street (The Cannery), is listed in the City's records as having been surveyed as part of the UMB survey. PS-1 is a brick building constructed in 1907. Seismic upgrades were completed in 1967/68, which consisted of enclosing the brick walls of the original building with a reinforced concrete structure.[444] The building is no longer on the City's UMB list.[445,446]

City records indicate PS-2, 700 Montgomery Street, has been surveyed as part of the UMB survey. PS-2 is a stone and stuccoed brick construction built in 1905.[447] This building was brought into compliance with the UMB ordinance in 2011.[448]

According to City records, PS-3, 625 Polk Street; PS-4, 150 Hayes Street; and PS-6, 2225 Jerrold Avenue (there is no occupied building structure at PS-5, 121 Wisconsin Street), are not classified as UMBs.[449] Additionally, structural reports have been completed by third-party structural engineers for PS-3, PS-4, and PS-6, which indicate that because these are not masonry buildings, they are not classified as UMBs.

As indicated in the structural report prepared by Santos and Urrutia, Inc. for PS-3, 625 Polk Street, this building is not a UMB. Rather, it is a steel-frame structure with concrete-encased columns and

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[444] San Francisco Planning Department, San Francisco Property Information Map. Search criterion: 2801 Leavenworth Street, Preservation. www.sfplanning.org; http://ec2-50-17-237-182.compute-1.amazonaws.com/PIM//?dept=planning.
[445] City and County of San Francisco UMB Report, December 1, 2014.
[446] Conversation with DBI Inspector Green on December 15, 2014.
[447] San Francisco Planning Department, San Francisco Property Information Map. Search criterion: 700 Montgomery Street, Preservation. www.sfplanning.org; http://ec2-50-17-237-182.compute-1.amazonaws.com/PIM//?dept=planning.
[448] Permit #200301286101.
[449] San Francisco Planning Department, San Francisco Property Information Map. Search criteria: 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, 2225 Jerrold Avenue. Preservation. www.sfplanning.org; http://ec2-50-17-237-182.compute-1.amazonaws.com/PIM//?dept=planning (accessed January 14, 2012). This document is available for public review under Case No. 2008.0586E at 1650 Mission Street, Suite 400, San Francisco, CA, 94103

concrete floor slabs built in 1911.[450] Similarly, according to the structural report prepared for 150 Hayes Street by Murphy Burr Curry, the building at PS-4, 150 Hayes Street, built in 1968, is a steel-frame structure with concrete floors and shallow reinforced concrete spread footings and is not a UMB.[451] Per the structural report prepared by ESE Consulting Engineers, Inc., 2225 Jerrold Avenue has been structurally reinforced, and therefore is not a UMB. As described in the report, the building at PS-6, 2225 Jerrold Avenue, is a variation of tilt-up construction on a concrete foundation and was constructed in 1982.[452]

4.15.2 Regulatory Framework

Protection of geologic resources and reduction of geologic hazards are governed by state and local jurisdictions. Seismic hazards are addressed by state and local requirements for identifying and avoiding faults and the effects of seismic groundshaking when considering new development. Federal standards, such as those promulgated through the National Earthquake Hazards Reduction Program (NEHRP), apply to new or renovated federally owned, constructed, or assisted buildings. The following acts, codes, and local plans are relevant to geologic and seismic issues in the study areas and at the project sites.

State

Alquist-Priolo Earthquake Fault Zoning Act

The State Geologist has established regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. Buildings for human occupancy are not permitted to be constructed across the surface trace of active faults. The City of San Francisco is not in an Alquist-Priolo Earthquake Fault Zone, and no new developments or major construction activities are proposed as part of the Proposed Project. Therefore, the Proposed Project would not be subject to this Act.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 (Public Resources Code [PRC] Sections 2690–2699.6) was passed following the Loma Prieta earthquake to reduce threats to public health and safety and to minimize property damage caused by earthquakes. The Act directs the California Geological Survey to identify and map areas prone to the earthquake hazards of liquefaction and earthquake-induced landslides. The maps indicate where zones of required investigation (also referred to as seismic hazard zones) are present and require compliance with applicable provisions of the Act. The Act

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[450] Santos and Urrutia, Inc., Structural Engineers, *Structural Report for 625 Polk Street, San Francisco, California* (August 18, 2008), S&U Job No. 7425.
[451] Murphy Burr Curry, *Structural Report California State Automobile Association of America-SF Headquarters* (2007).
[452] ESE Consulting Engineers, Inc., *Structural Observation Report for Building at 2225 Jerrold Avenue, San Francisco, California* (April 16, 2009).

requires that the local permitting authority must regulate certain development projects within the zones. See discussion below for more information regarding local implementation of the Act.

California Building Code

The California Building Code (CBC), which is codified in California Code of Regulations Title 24, Part 2, was promulgated to safeguard the public health, safety, and general welfare by establishing minimum standards related to structural strength, egress facilities, and general building stability. The purpose of the CBC is to regulate and control the design, construction, quality of materials, use/occupancy, location, and maintenance of all building and structures within its jurisdiction. Title 24 is administered by the California Building Standards Commission, which, by law, is responsible for coordinating all building standards. Under state law, all building standards must be centralized in Title 24 or they are not enforceable.

The CBC is based on the International Building Code. The 2013 CBC is based on the 2012 International Building Code published by the International Code Conference. In addition, the CBC contains necessary California amendments that are based on the American Society of Civil Engineers (ASCE) Minimum Design Standards 7-05. ASCE 7-05 provides requirements for general structural design and includes means for determining earthquake loads as well as other loads (flood, snow, wind, etc.) for inclusion in building codes. The provisions of the CBC apply to the construction, alteration, movement, replacement, and demolition of every building or structure or any appurtenances connected or attached to such buildings or structures throughout California.

Local

San Francisco General Plan

The *General Plan* provides long-term guidance and policies maintaining and improving the quality of life and the man-made and natural resources of the community. The Community Safety Element includes policies for the avoidance of geologic hazards and/or the protection of unique geologic features. The Community Safety Element requires detailed site-specific geologic hazard assessments in areas delineated with geologic hazards (seismic hazards, landslides, and liquefaction). Filled land and geologic hazards, such as landslides and shoreline erosion, are addressed in the *General Plan* Environmental Protection Element. The Element includes policies for the promotion of the highest standards of soils engineering, the correction of landslide and shore erosion conditions, and the avoidance of construction on land subject to slide or erosion.

San Francisco Building Code

The 2013 San Francisco Building Code (SFBC)[453] consists of the 2012 IBC, as amended by the 2013 CBC, and as further modified by San Francisco amendments designed to be used in conjunction with the 2013 CBC and the 2013 California Green Building Standards Code. The SFBC amendments were adopted by the Board of Supervisors and became effective January 1, 2014. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through structural strength, means of egress facilities, stability, access to persons with disabilities, sanitation, adequate lighting and ventilation and energy conservation, and safety to life and property from fire and other hazards attributed to the built environment; to regulate and control the demolition of all buildings and structures, and the quarrying, grading, excavation, and filling of land; and to provide safety to fire fighters and emergency responders during emergency operations.

SFBC Chapter 16 deals with structural design requirements governing seismically resistant construction (Section 1604), including (but not limited to) factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building location (Sections 1613.5 through 1613.7). Other chapters of the SFBC establish requirements for activities that would involve earthwork and building construction, which would not apply to the Proposed Project.

Compliance with the SFBC is mandatory in San Francisco. Planning Department staff, Department of Building Inspection (DBI) engineers, and DBI building inspectors confirm that the SFBC is being implemented by project architects, engineers, and contractors.

As part of this permitting process, building plans would be reviewed by DBI. In reviewing building plans, DBI refers to a variety of information sources to determine existing hazards and assess requirements for reducing or avoiding those hazards. Sources reviewed include maps of Special Geologic Study areas and known landslide areas in San Francisco, as well as the building inspectors' working knowledge of areas of special geologic concern. If the need were indicated by available information, DBI would require that additional site-specific soils reports be prepared by a California-licensed geotechnical engineer prior to construction, and may require additional consultation with the project sponsor and peer review of the proposed design of the building plans to ensure that they meet the seismic safety requirements of the SFBC. Project applicants can comply with SFBC requirements either prescriptively (by following exactly the requirements of the code), or nonprescriptively (designing buildings to perform to the standards specified in the code). A nonprescriptive design may specify alternative materials and/or methods of construction to meet the requirements of the SFBC, but cannot use an alternative method for establishing the seismic forces on the building or the distribution of those forces unless the corresponding internal forces and

[453] American Legal Publishing Corporation, Library, San Francisco, California Building Inspection Commission Codes, http://www.amlegal.com/library/ca/sanfrancisco.shtml (accessed July 24, 2014).

deformations in the building members are determined using a model that is consistent with adopted procedures. If a nonprescriptive design is used, then substantiating evidence is required to demonstrate that the proposed design and materials will be at least equivalent to what is prescribed in the SFBC regarding suitability, strength, effectiveness, fire resistance, durability, safety, and sanitation.

Unreinforced Masonry Buildings Ordinance

Adopted by the Board of Supervisors in 1992 and codified in the SFBC Chapter 16B, (Ordinance No. 225-92), the Earthquake Hazard Reduction in Unreinforced Masonry Bearing Wall Buildings Ordinance (UMB Ordinance) requires the City to notify all owners of UMBs and requires all property owners to retain a licensed civil structural engineer or architect to file a Building Inventory Form with the City to identify the "hazard class" of a particular UMB building. The ordinance also required all owners of UMBs to seismically upgrade buildings by February 15, 2006.[454] Building owners are responsible for financing the cost of the work.

The UMB ordinance spells out four different alternative standards for seismic strengthening of UMBs. Each standard requires a different level of construction and range of costs. The ordinance also specifies conditions that must be met if either of the two less extensive and costly approaches is used to seismically upgrade a UMB. The DBI, who is charged with oversight and enforcement of the program, also has the authority to initiate abatement proceedings in cases where an owner fails to seismically upgrade a building.

Exterior alterations, seismic retrofit and/or demolition of UMBs must be evaluated by the Planning Department in order to determine the type of review process required prior to the authorization of a building permit application. Some projects, however, may be approved administratively. Seismic retrofitting of UMBs is guided by the *Architectural Design Guidelines for the Exterior Treatment of Unreinforced Masonry Buildings During Seismic Retrofit*, developed by the American Institute of Architects.

SFBC Chapter 16D requires that parapets or appendages that are supported on or attached to an exterior wall of a building adjacent to a property line, passageway, open courtyard or public way or that occur in any other location where failure of such parapet or appendage would be hazardous to life or limb in such areas must, when required by the Building Official, be subject to inspection by a licensed architect or civil engineer employed by the owner. The code is retroactive and applies to and includes buildings erected prior to the adoption of the code.

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[454] Limited exceptions to the applicability of Ordinance No. 225-92 include the following: (1) buildings housing Group R Occupancies containing less than five dwelling units or guest rooms and used solely for residential purposes; (2) buildings accessory to and on the same lot as those described in Exception 1; and (3) buildings that have been brought into full compliance with the requirements of Section 3401.10 in effect on or after May 21, 1973.

As noted above, PS-1, 2801 Leavenworth Street (The Cannery), and PS-2, 700 Montgomery Street, are listed in the City's records as having been surveyed as part of the UMB survey. However, as of 2001, all required seismic upgrades had been completed at PS-1; and, as of 2011, all required upgrades at PS-2 had been completed. Therefore, these buildings are no longer listed as UMBs by the City. The other project sites (PS-3, 625 Polk Street; PS-4, 150 Hayes Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue) do not contain UMB's; therefore, the Proposed Project at these sites would not be required to comply with the UMB ordinance. In addition, it is possible that the AAU may occupy a UMB building in one of the study areas.

Mandatory Soft Story Retrofit Requirements (San Francisco Building Code Chapter 34B)

On April 18, 2013, the City adopted San Francisco's Mandatory Soft Story Retrofit Program (Soft Story Program), codified as SFBC Chapter 34B. It requires the evaluation and retrofit of "multiunit soft-story buildings," defined as wood-frame structures, containing five or more residential units, having two or more stories over a "soft" or "weak" story, and permitted for construction prior to January 1, 1978. Chapter 34B requires the Department of Building Inspection to notify all properties potentially within the scope of this ordinance. Chapter 34B does not apply to any of the six project sites, but may apply to future AAU sites within the study areas that meet program requirements. Study areas wherein the City has identified buildings subject to Soft Story Program requirements include SA-1, SA-2, SA-3, SA-5, SA-8, and SA-12.[455] As discussed below, for any buildings occupied by AAU in the future, AAU would be required to go through the City's screening process, which will determine a building's status within this program, and obtain a permit to complete any required building retrofitting, as required by the City.

Seismic Hazards Mapping Act

Seismic Hazards Mapping Act Section 2697 mandates that, prior to the approval of a "project" in a seismic hazard zone, the City must require the preparation of a geotechnical report defining and delineating any seismic hazard. Accordingly, for projects in a hazard zone, DBI requires that the geologic and soil conditions of the project site are investigated and appropriate mitigation measures, if any, incorporated into development plans.[456] "Mitigation" is defined as those measures that are consistent with established practice and reduce seismic risk to acceptable levels. A "project" is defined as an alteration or addition to any structure intended for human occupancy (except for certain single-family dwellings) within a seismic hazard zone that would exceed either 50 percent of the value of the structure or 50 percent of the existing floor area of the structure.

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[455] City and County of San Francisco, Department of Building Inspection Mandatory Soft Story Retrofit Program, http://sfdbi.org/mandatory-soft-story-program (accessed December 17, 2014).

[456] The requirements for investigations are established in *California Geological Survey Guidelines for Evaluation and Mitigation Seismic Hazards in California* (2008), CGS Special Publication 117A.

In addition, the Act requires that sellers of real property within a mapped hazard zone, and their agents, must disclose that the property lies within a zone at the time of sale.

As described above (see Figure 4.15-4, Liquefaction Hazards, p. 4.15-12), there are locations within the study areas and project sites that are mapped within a liquefaction zone of required investigation.[457] More specifically, SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; SA-12, Ninth Street/Folsom Street; PS-1, 2801 Leavenworth Street (The Cannery); PS-2, 700 Montgomery Street; PS-4, 150 Hayes Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue, are entirely or partially within a seismic hazard zone for liquefaction potential; therefore, such notice would be required by any seller of property to AAU, or the seller's agent.

4.15.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to geology and soils, if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (Refer to California Geological Survey Special Publication 42.)
  - Strong seismic groundshaking
  - Seismic-related ground failure, including liquefaction
  - Landslides
- Result in substantial soil erosion or the loss of topsoil
- Be located on geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater

[457] California Geological Survey, State of California Seismic Hazard Zones, City and County of San Francisco, Official Map (November 17, 2000).

- Change substantially the topography or any unique geologic or physical features of the site

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to geology and soils in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting.

While the Proposed Project would not result in the construction of new buildings or facilities, the change of use of buildings could expose a greater population to existing seismic and soils hazards. Refer to Section 4.4, Population, Housing, and Employment, for a description of population increase assumptions. Regional and local geologic maps and reports were reviewed to ascertain seismic hazards, such as groundshaking, liquefaction, and unstable geologic units or soils that have the potential to affect future occupants and visitors at the study areas and project sites.

This section identifies program-level, project-level and combined program-level and project-level environmental impacts. Unlike the project sites, where specific buildings have been identified, the program-level analysis assumes that within the designated study areas, AAU could occupy any building to accommodate future growth. However, beyond the project-level sites, no specific buildings within these areas have been identified. Additionally, the Proposed Project's potential contribution to cumulative geology and soils impacts is evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the vicinity of the Proposed Project.

Based on the physical setting of the 12 study areas and six project sites, the Proposed Project would not result in impacts related to the following criteria, and no impact discussion is provided for these topics for the following reasons:

- **Fault Rupture.** The closest known active fault is the Peninsula branch of the San Andreas Fault, approximately seven miles to the west of San Francisco. No known active faults cross the City, including the study areas and project sites, and San Francisco is not within an Alquist-Priolo Earthquake Fault Zone. Therefore, there would be no impact with respect to rupture of a known earthquake fault because there are no active faults in the study areas or project sites and the closest active fault is approximately seven miles away.
- **Landslides.** Earthquake-induced landslides can occur in areas with steep slopes that are susceptible to strong ground motion during an earthquake. As illustrated in Figure 4.15-5, Landslide Hazards, p. 4.15-14, none of the study areas or project sites are located in areas of

landslide hazard, as mapped by the California Seismic Hazards Mapping Program. Therefore, there would be no impact due to landslides.

- **Erosion and Loss of Topsoil.** All of the study areas and project sites are urbanized and are covered with impervious surfaces (e.g., buildings, sidewalks, and paved roadways). where there is no exposed soil or topsoil. There are no steep undeveloped slopes within or adjoining the study areas or project sites that are susceptible to erosion. The Proposed Project would involve tenant improvements that would generally be limited to building interiors. If seismic upgrades require exterior bracing, the bracing would minimally, if at all, expose underlying soil material to erosion or loss of topsoil. There would be no impact.
- **Wastewater Disposal.** AAU proposes to use existing buildings, which are already connected to the City's existing wastewater treatment and disposal system. The Proposed Project would not require or involve the use of septic tanks or alternative wastewater disposal systems. There, would be no impact from use of use septic tanks.
- **Change in Topography.** AAU proposes to use existing buildings in the City in locations that are urbanized and are situated on terrain that ranges from relatively flat to hilly. There are no unique geologic features at any of the study areas or project sites. The Proposed Project would not involve major construction or extensive ground disturbance at any location that would change existing topography or physical features. Therefore, there would be no impact from change in topography.

This section of the EIR does not evaluate the shuttle service expansion because this element of the Proposed Project would have no effect on geology and soils nor would geology and soils conditions affect the shuttle service. Therefore, no analysis of geology and soils is warranted for this element of the Proposed Project.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010 when the NOP for this EIR was published. These sites are therefore considered part of the EIR baseline conditions. As such, AAU activities at those 34 sites are part of the existing conditions accounted for in Section 4.15.1, Environmental Setting, p. 4.15-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to geology or soils. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential effects to geology or soils that resulted from pre-NOP changes at the 34 existing sites would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 program-level study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact GE-1.1 **The Proposed Project, including growth in 12 study areas, would not expose people or structures to the risk of loss, injury, or death involving strong seismic groundshaking and seismic-related ground failure such as liquefaction. (Less than Significant)**

Groundshaking

The Proposed Project would involve AAU growth within existing buildings in 12 identified study areas. All of the study areas could be affected by moderate to heavy groundshaking in the event of an earthquake on an active fault in the region (refer to Figure 4.15-2, Groundshaking Intensity (San Andreas), p. 4.15-10, and Figure 4.15-3, Groundshaking Intensity (Hayward), p. 4.15-11). Damage from earthquake-induced ground failure could be high in buildings constructed on improperly engineered fills or saturated alluvial sediments that have not received adequate compaction or treatment. Groundshaking could have particularly severe consequences for occupants of any unreinforced masonry building (UMB) that would be used by AAU. Unreinforced masonry buildings have a high potential for structural failure during earthquake events if the buildings have not been retrofitted or exempted from the upgrades required by SFBC Section 1604B.

Buildings subject to the City's Soft Story Program also could be vulnerable to the effects of groundshaking. As discussed above, buildings subject to the Soft Story Program include buildings that are wood-framed, permitted for construction prior to 1978, contain five or more residential dwelling units and are three or more stories or two stories over a basement or underfloor area that have any portion extending above grade, and have not yet been seismically strengthened. These buildings are not necessarily seismically unsafe, but rather fit the scope and criteria of buildings known to have weaknesses that the Soft Story Retrofit Ordinance 66-13 seeks to address.

The Proposed Project in the 12 study areas would include typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, potentially seismic retrofit work, and addition of exterior signage and

lighting to existing buildings. These changes would not be expected to degrade a building's performance under moderate to heavy groundshaking. However, the Proposed Project would result in additional or new occupants to existing buildings. If a major earthquake occurs on one of the region's faults and the building AAU occupies does not meet then-current SFBC regulations, this could expose building occupants to risk of injury or death if the building is damaged or destroyed.

Liquefaction

Liquefaction is a phenomenon in which saturated granular, nonplastic sediments temporarily lose their shear strength during periods of earthquake-induced, strong groundshaking. The susceptibility of a site to liquefaction is a function of the uniformity, depth, density, and water content of the granular sediments beneath the site and the magnitude of earthquakes that affect the site. Soils may lose their ability to support structures, and this loss of bearing strength may cause structures founded on the liquefied materials to tilt or possibly collapse. Lighter-weight items, such as pipelines, sewers, and empty fuel tanks that are buried in the ground, can float to the surface when they are surrounded by liquefied soil. Lateral spreading is often associated with the liquefaction hazard for a given site, thus, there is the potential for lateral spreading in those locations as well.

As shown Figure 4.15-4, Liquefaction Hazards, p. 4.15-12, nine of the study areas (SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; and SA-12, Ninth Street/Folsom Street) are entirely or partially within a potential liquefaction hazard area. Because liquefaction and related hazards could cause structural damage and affect infrastructure, there is the potential for risk of loss, injury, or death in nine of the study areas, which would be a significant impact.

AAU would be required to ensure buildings are structurally safe for occupants at AAU facilities and are protected from groundshaking and liquefaction through compliance with the SFBC. If a City permit from DBI is required prior to AAU's occupancy of the building, potential seismic hazards and any necessary remediation would be addressed through compliance with the SFBC, as implemented by DBI. Compliance with the SFBC would require that such a building undergo a site-specific structural evaluation prepared by a third-party professional engineer or certified engineering geologist licensed by the State of California. The structural survey report would contain the following: description of the structure (including such items as framing, roof and floor construction, foundation, gravity and lateral systems), review of available drawings and reports, site visit and observations, summary of known site-specific seismic or soils hazards that could affect the building(s), probable maximum loss (PML) analysis to quantify the seismic resistance capability of the building(s), and conclusions and recommendations.

The structural survey report would be submitted to DBI in conjunction with the permit review process. To ensure compliance with all SFBC provisions regarding structural safety, DBI would review the proposed engineering and design features for a building to ensure it adequately reduces

the potential for damage to the structure from groundshaking. This would also address related hazards such as liquefaction. Occupancy permits would not be issued until seismic upgrades, as necessary, have been implemented. Although damage and injury cannot be completely avoided during a major seismic event, adherence to Building Code requirements would reduce the potential damage and personal injury to what is generally recognized to be an acceptable level.

Further, if AAU occupies a UMB that was previously identified in the City's UMB survey, AAU would be required to demonstrate to the DBI that the structure complies with the City's UMB ordinance, requiring seismic retrofits, prior to occupancy or, if the building is already occupied prior to issuance of a permit, unless otherwise exempted by SFBC Section 1604B. To the extent that AAU would reuse one of these older structures on the UMB survey as part of their expansion, use and occupancy at such structures would generally involve seismic strengthening, which would decrease the risk of damage due to groundshaking, compared to existing conditions.

As described above, the UMB ordinance spells out four different alternative standards for seismic strengthening of UMBs. Each standard requires a different level of construction and range of costs. The ordinance also specifies conditions that must be met if either of the two less extensive and costly approaches is used to seismically upgrade a UMB. DBI, the agency charged with oversight and enforcement of the program, also has the authority to initiate abatement proceedings in cases where an owner fails to seismically upgrade a building.

DBI also oversees the City's Soft Story Program, which, as discussed above, applies to buildings that are wood-framed, permitted for construction prior to 1978, contain five or more residential dwelling units and are three or more stories or two stories over a basement or underfloor area that have any portion extending above grade, and have not yet been seismically strengthened. All buildings that meet these requirements have been noticed as part of this program and are required to complete and return a screening form. The screening process will determine whether permits will be required to complete seismic retrofitting, as deemed necessary by DBI. As noted above, buildings subject to this program are located within SA-1, SA-2, SA-3, SA-5, SA-8, and SA-12. Should AAU occupy a building identified as a UMB or as part of the Soft Story Program, compliance with DBI requirements related to these structures would be required.

For the reasons described above, while implementation of the Proposed Project in the 12 study areas could expose people or structures to risk associated with strong seismic groundshaking and seismic-related ground failure such as liquefaction, this impact would be reduced to a less-than-significant level through compliance with SFBC.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact GE-1.2 **The Proposed Project, including growth at the six project sites, would not expose people or structures to the risk of loss, injury, or death involving strong seismic groundshaking and seismic-related ground failure such as liquefaction. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

The Proposed Project would involve the use of six project sites. All of the project sites other than PS-5, 121 Wisconsin Street, have buildings that could be affected by moderate to heavy groundshaking in the event of an earthquake on an active fault in the region (refer to Figure 4.15-2, Groundshaking Intensity (San Andreas), p. 4.15-10, and Figure 4.15-3, Groundshaking Intensity (Hayward), p. 4.15-11). It is assumed that the occupancy and use of five of the project sites would include implementation of typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, potentially seismic retrofit work, and addition of exterior signage and lighting.

As such, implementation of the Proposed Project at the project sites would not negatively affect how the buildings could perform under moderate to heavy groundshaking from existing conditions. However, the Proposed Project would attract additional or new occupants to the existing buildings. If a major earthquake were to occur on one of the region's faults, this could expose building occupants to risk of injury or death. In addition to groundshaking, there is also the potential for liquefaction (except at PS-3, 625 Polk Street) (Figure 4.15-4, Liquefaction Hazards, p. 4.15-12), settlement, subsidence, or cracking of the ground surface, which could damage the buildings that AAU occupies, exposing occupants to potential for risk of loss, injury, or death. Potential seismic hazards at each project site are described below.

AAU would be required to ensure buildings are structurally safe for occupants at AAU facilities and are protected from groundshaking and liquefaction through compliance with the SFBC, as implemented by DBI. Compliance with the SFBC could include requirements for preparation of structural reports and implementation of any necessary seismic upgrades prior to approval of a building permit for tenant improvements. To ensure compliance with all SFBC provisions regarding structural safety, DBI would review the proposed engineering and design features for a building to ensure it adequately reduces the potential for damage to the structure from groundshaking. This would also address related hazards such as liquefaction. While AAU has already partially or fully occupied these sites without the benefit of all required permits, neither occupancy nor use permits would be issued, where such permits are required, until seismic upgrades, as necessary, have been

implemented. Although damage and injury cannot be completely avoided during a major seismic event, adherence to SFBC requirements would reduce the potential damage and personal injury to what is generally recognized to be an acceptable level.

As noted above in the environmental settings, both PS-1 and PS-2 had previously been surveyed as part of the City's UMB survey. However, all required seismic upgrades have been completed at these sites, and these buildings are no longer considered UMBs. None of the other four project sites have been identified as UMBs, and none of the six sites is subject to the City's Soft Story Program.

PS-1, 2801 Leavenworth Street (The Cannery)

The Proposed Project at PS-1 would convert 133,675 sf of office, retail, and restaurant space to AAU uses on the first, second, and third floors of the building. This would include installation of signage, painting, replacement of ceiling tiles, limited concrete repairs in the interior courtyard, upgrades to the fire alarm system, installation of a security system, and interior construction associated with the conversion of space to AAU use. This location would be susceptible to strong groundshaking and liquefaction hazards. Seismic upgrades were completed in 1967/68 when The Cannery was renovated.

Approval and implementation of the Proposed Project at PS-1 would be subject to and would require compliance with requirements from DBI, through its building permit review process. This process would ensure Project compliance with all applicable requirements of the SFBC prior to receiving an occupancy permit. Therefore, the Proposed Project at PS-1 would not result in exposure of people and structures to potential substantial adverse effects, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

The Proposed Project at PS-2 would convert the entire building to AAU uses. AAU uses on the first through third floors would consist of classroom space; offices; restaurant space; and other uses. Signage and a security system would also be installed at this site.

The building at PS-2 was constructed in 1905 and was identified by the City as an unreinforced masonry building made of stone and stuccoed brick.[458] This location could be susceptible to moderate groundshaking, as well as liquefaction hazards.

Approval and implementation of the Proposed Project at PS-2 would be subject to and would require compliance with requirements from DBI, through its building permit review process. This

[458] San Francisco Planning Department, San Francisco Property Information Map. Search criterion: 700 Montgomery Street, Preservation. www.sfplanning.org; http://ec2-50-17-237-182.compute-1.amazonaws.com/PIM//?dept=planning.

process would ensure Project compliance with all applicable requirements of the SFBC prior to receiving an occupancy permit. Therefore, the Proposed Project at PS-2 would not result in exposure of people and structures to potential substantial adverse effects, and this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

As described in Chapter 3, Project Description, the Proposed Project at PS-3 would include 93,103 sf of institutional space for AAU. Tenant improvements at this site would include painting and installation of new lighting, a new security system, partial roof replacement, and signage.

The Proposed Project at PS-3 could be subject to moderate groundshaking. The structural integrity of PS-3 was evaluated in 2008 in a report prepared by structural engineers.[459] The report noted the site is underlain by dune sand, and the granular material below groundwater (which would likely be found at a depth of 15 feet) could liquefy due to strong earthquake shaking. However, based on observation, the building reportedly showed no evidence of liquefaction, and no structural or foundation damage. Further, the building appears to have the basic elements of a lateral load-resisting system to resist earthquakes. The building shows no signs of stress, settlement, or cracking in slabs. The Proposed Project involves no change of use at PS-3.

Approval and implementation of the Proposed Project at PS-3 would be subject to and would require compliance with requirements from DBI, through its building permit review process. This process would ensure Project compliance with all applicable requirements of the SFBC prior to receiving an occupancy permit. Therefore, the Proposed Project at PS-3 would not result in exposure of people and structures to potential substantial adverse effects, and this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

The Proposed Project at PS-4 would include 80,330 sf of office space for AAU and 49,482 sf of parking that would continue to be operated by an independent parking vendor. Tenant improvements at this site would include painting and installation of carpeting, a new security system, and exterior signage.

The Proposed Project at PS-4 could be susceptible to moderate groundshaking and liquefaction hazards. The structural integrity of the building was evaluated in 2007 in a report prepared by

[459] Santos and Urrutia, Inc., Structural Engineers, *Structural Report for 625 Polk Street, San Francisco, California* (August 18, 2008), S&U Job No. 7425.

structural engineers.[460] The results were presented in a structural report that was subsequently reviewed in 2008 and 2011. The building at PS-4, built in 1968, is a steel-frame structure with concrete floors and shallow reinforced concrete spread footings. The building was designed in accordance with the 1968 SFBC, which required designs that resist seismic loads. The reports noted that the building's foundation is within an identified layer of liquefiable soils, and the building could experience one to four inches of differential settlement due to liquefaction. The structural report authors concluded the building has performed well in the past and would continue to provide for then-current occupancy, which included administrative offices and a vehicle inspection and repair facility.[461] However, the building may not meet current (2010) seismic safety standards.

Approval and implementation of the Proposed Project at PS-4 would be subject to and would require compliance with requirements from DBI, through its building permit review process. This process would ensure Project compliance with all applicable requirements of the SFBC prior to receiving an occupancy permit. Therefore, the Proposed Project at PS-4 would not result in exposure of people and structures to potential substantial adverse effects, and this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

The Proposed Project at PS-5 would include parking for shuttle buses. At full occupancy, PS-5 could accommodate two staff in the onsite trailers. PS-5 could be susceptible to strong groundshaking and liquefaction hazards. However, because there are no permanent buildings at the site, and the Proposed Project at PS-5 would continue to use the site as a shuttle bus parking lot with two people present in the trailers, the potential for substantial adverse effects, including the exposure of people to the risk of loss, injury, damage, or death from groundshaking and liquefaction would be minimal. Therefore, the impact of the Proposed Project at PS-5 would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

The Proposed Project at PS-6 would include 91,367 sf of office uses, vehicle storage and miscellaneous storage, as well as 17,533 of proposed recreational uses. Tenant improvements at this site would include interior construction associated with installation of recreational uses, signage installation, painting (both interior and exterior), addition of a new fire alarm, installation of a

[460] Eckland Consultants Inc., Desk Review of Seismic Damageability Report for NEBF Real Estate Hayes and Van Ness Office Buildings, 100 and 150 Van Ness Avenue and 150 and 155 Hayes Street, San Francisco, California 94102, Comm. No. 2007-02544-0010 (January 9, 2008); Pannu Larsen McCartney, Report of Structural Review 150 Hayes Street, San Francisco, California (November 21, 2011).
[461] Murphy Burr Curry, *Structural Report California State Automobile Association of America-SF Headquarters* (2007).

security system, and replacement of sidewalk, street curbs and landscaping along McKinnon Avenue side of the site.

The Proposed Project at PS-6 could be susceptible to strong groundshaking and liquefaction hazards. The structural integrity of the building was evaluated in 2009 in a report prepared by structural engineers.[462] The building is a variation of tilt-up construction on concrete foundation and was constructed in 1981. Voluntary seismic strengthening was completed in 2003 (Permit No. 200211050814). The structural report preparers noted that the anchoring and reinforcing improved the expected building performance during an earthquake by providing more positive ties between lateral force resisting elements.

Approval and implementation of the Proposed Project at PS-6 would be subject to and would require compliance with requirements from DBI, through its building permit review process. This process would ensure Project compliance with all applicable requirements of the SFBC prior to receiving an occupancy permit. Therefore, the Proposed Project at PS-6 would not result in exposure of people and structures to potential substantial adverse effects, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact GE-1.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not expose people or structures to the risk of loss, injury, or death involving strong seismic groundshaking and seismic-related ground failure such as liquefaction. (Less than Significant)**

The Proposed Project would involve AAU growth within existing buildings in 12 identified study areas and use of the six project sites. All of the study areas could be affected by moderate to heavy groundshaking, and study areas SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; SA-12, Ninth Street/Folsom Street; and project sites PS-1, 2801 Leavenworth Street (The Cannery); PS-2, 700 Montgomery Street; PS-4, 150 Hayes Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue, could be subject to liquefaction hazards. As described above, tenant improvements in the study areas and at the project sites are not expected to negatively affect how the buildings could perform under moderate to heavy groundshaking or how they would respond to liquefaction or other seismically induced conditions.

[462] ESE Consulting Engineers, Inc., *Structural Observation Report for Building at 2225 Jerrold Avenue, San Francisco, California* (April 16, 2009).

However, the Proposed Project would attract additional or new occupants to the existing buildings that could be susceptible to seismic hazards and underlying geologic or soil unit instability.

Therefore, if the buildings AAU intends to occupy do not meet then-current SFBC regulations, the buildings could be damaged or destroyed from groundshaking and/or liquefaction, which could expose building occupants to risk of injury or death. However, if a City permit is required prior to AAU occupation of a building, SFBC requirements, including structural evaluation requirements, could apply. Further, if AAU occupies a UMB that was previously identified in the City's UMB survey, AAU would be required to demonstrate to DBI that the structure complies with the City's UMB ordinance, requiring seismic retrofits, prior to occupancy or, if the building is already occupied prior to issuance of a permit, unless otherwise exempted by SFBC Section 1604B. To the extent that AAU would reuse one of these older structures on the UMB survey as part of their expansion, use and occupancy at such structures would generally involve seismic strengthening, which would decrease the risk of damage due to groundshaking, compared to existing conditions.

AAU also would be required to comply with the City's Soft Story Program, which, as discussed above, applies to buildings that are wood-framed, permitted for construction prior to 1978, contain five or more residential dwelling units and are three or more stories or two stories over a basement or underfloor area that have any portion extending above grade, and have not yet been seismically strengthened. All buildings that meet these requirements have been noticed as part of this program and are required to complete and return a screening form. The screening process will determine whether permits will be required to complete seismic retrofitting, as deemed necessary by DBI. Should AAU occupy a building identified as a UMB or as part of the Soft Story Program, compliance with DBI requirements related to these structures would be required.

As described above, Proposed Project compliance with DBI requirements would ensure compliance with all applicable SFBC requirements, and the Proposed Project would not result in exposure of people and structures to risk associated with strong seismic groundshaking and seismic-related ground failure such as liquefaction. Therefore, this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact GE-2.1 The Proposed Project, including growth in the 12 study areas, would not be located on geologic or soil units that are unstable, or that could become unstable as a result of the Proposed Project. (Less than Significant)

The Proposed Project, involving the change of use of existing buildings in the study areas would not cause geologic units or soils to become unstable and would not result in on- or off-site landslides, lateral spreading, subsidence, liquefaction, or collapse because the Proposed Project in the 12 study areas would not construct new buildings in areas where these types of hazards could be present.

Further, all of the study areas are within developed urban areas where the near-surface soils have been extensively modified.

Geologic or soil units can become unstable or result in settlement for a variety of reasons and can occur from immediate settlement or consolidation. Immediate settlement occurs when a load from a structure or placement of new fill material is applied, causing distortion in the underlying materials. This settlement occurs quickly and is typically complete after placement of the final load. Consolidation settlement occurs in saturated clay from the volume change caused by squeezing out water from the pore spaces. Consolidation occurs over a period of time and is followed by secondary compression, which is a continued change in the pore spaces under the continued application of the load. Consolidation settlement is one of the characteristic hazards of Bay Mud deposits, as well as poorly engineered fill materials. Soils tend to settle at different rates and by varying amounts depending on the load weight or changes in properties over an area, which is referred to as differential settlement of the soils.

The Proposed Project in the 12 study areas would involve AAU growth within existing buildings. The tenant improvements, as described above, are not expected to negatively affect how the buildings would respond to underlying soil conditions.

However, the Proposed Project would attract additional or new occupants to the existing buildings that could be susceptible to underlying geologic or soil unit instability. Because the buildings AAU intends to occupy may not meet then-current SFBC regulations, the buildings could be damaged by unstable geologic or soils conditions, which could expose building occupants to risk of injury or death.

However, as described under Impact GE-1.1 above, AAU would be required to ensure building occupants at facilities it intends to occupy are protected from unstable soil hazards to the extent required under existing SFBC regulations, as administered by the. As described above, final building plans would be reviewed by DBI to determine existing hazards and assess requirements for reducing or avoiding those hazards. If needed, DBI would require that additional site-specific soils reports be prepared by a California-licensed geotechnical engineer prior to construction, and may require additional consultation with the project sponsor and peer review of the proposed design of the Proposed Project to ensure that it meets the seismic safety requirements of the SFBC.

DBI review would address hazards such as liquefaction, lateral spreading, ground failure, and compressible soils. Occupancy permits would not be issued until structural upgrades, as deemed necessary through site-specific investigation, have been implemented; therefore, this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact GE-2.2 **The Proposed Project, including growth at the six project sites, would not be located on geologic or soil units that are unstable, or that could become unstable as a result of the Proposed Project. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

Geologic or soil units can become unstable or result in settlement for a variety of reasons and can occur from immediate settlement or consolidation. Consolidation settlement is one of the characteristic hazards of Bay Mud deposits, as well as poorly engineered fill materials. Soils tend to settle at different rates and by varying amounts depending on the load weight or changes in properties over an area, which is referred to as differential settlement of the soils. In addition, lateral spreading is associated with liquefaction, which is a geologic hazard at all of the project sites except PS-3, 625 Polk Street.

These types of unstable soils conditions have the potential to cause damage to structures that could be used by AAU, which would increase the risk of loss, injury, or death. To avoid or minimize impacts related to unstable soils, AAU would be required to ensure that building occupants at buildings it intends to occupy are protected from unstable soil hazards to the extent required under existing SFBC regulations, as administered by DBI. As described above, final building plans would be reviewed by DBI to determine existing hazards and assess requirements for reducing or avoiding those hazards. If needed, DBI would require that additional site-specific soils reports be prepared by a California-licensed geotechnical engineer prior to construction, and may require additional consultation with the project sponsor and peer review of the proposed design of the Proposed Project to ensure that it meets the seismic safety requirements of the SFBC. DBI review would address hazards such as liquefaction, lateral spreading, ground failure, and compressible soils. Occupancy permits would not be issued until structural upgrades, as deemed necessary through site-specific investigation, have been implemented.

PS-1, 2801 Leavenworth Street (The Cannery)

PS-1 is underlain by artificial fill and could be susceptible to unstable soil hazards, including but not limited to, liquefaction, lateral spreading, ground cracking, or compressible soils. The Proposed Project at PS-1 would attract additional or new occupants to the existing building that could be susceptible to underlying geologic or soil unit instability. As noted above, PS-1 is no longer classified as a UMB. However, the building could be damaged by unstable geologic or soils conditions, exposing building occupants to risk of injury or death.

The Proposed Project at PS-1 would be required to comply with DBI's building permit review process, which would ensure Project compliance with all applicable SFBC requirements. Therefore, the Proposed Project at PS-1 would not result substantial adverse effects related to unstable geologic or soil units, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

PS-2 is underlain by artificial fill and could be susceptible to unstable soil hazards, including but not limited to, liquefaction, lateral spreading, ground cracking, or compressible soils. The Proposed Project at PS-2 would attract additional or new occupants to the existing building that could be susceptible to underlying geologic or soil unit instability. As noted above, PS-2 is no longer classified as a UMB. However, the building could be damaged by unstable geologic or soils conditions, which could expose building occupants to risk of injury or death.

The Proposed Project at PS-2 would be required to comply with DBI's building permit review process, which would ensure Project compliance with all applicable SFBC requirements. Therefore, the Proposed Project at PS-2 would not result substantial adverse effects related to unstable geologic or soil units, and this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

As noted in Impact GE-1.2, granular material beneath PS-3 could liquefy due to strong earthquake shaking. However, based on observations by the structural report authors, the building reportedly showed no evidence of liquefaction, no structural or foundation damage, and no signs of stress, settlement, or cracking in slabs.[463] The Proposed Project involves no change of use at PS-3.

For these reasons, the impacts of the Proposed Project at PS-3 would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

PS-4 could be susceptible to unstable soil hazards, including but not limited to, liquefaction, lateral spreading, ground cracking, or compressible soils. The Proposed Project would attract additional or new occupants to the existing building that could be susceptible to underlying geologic or soil unit instability. Because the building may not meet current SFBC regulations, the building could be damaged by unstable geologic or soils conditions, which could expose building occupants to risk of injury or death. However, the Proposed Project at PS-4 would be subject to DBI's building permit

[463] Santos and Urrutia, Inc., Structural Engineers, *Structural Report for 625 Polk Street, San Francisco, California* (August 18, 2008), S&U Job No. 7425.

review process, which would ensure Project compliance with all applicable SFBC requirements Therefore, the Proposed Project at PS-4 would not result substantial adverse effects related to unstable geologic or soil units, and this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

PS-5 could be susceptible to unstable soil hazards. However, because there are no permanent buildings at the site, and it would continue to be used as a shuttle bus parking lot with only two people present in the trailers, the potential for substantial adverse effects due to unstable soils would be minimal. Therefore, the Proposed Project at PS-5 would not expose building occupants to injury or death, and this impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

PS-6 is underlain by artificial fill and could be susceptible to unstable soil hazards, including but not limited to, liquefaction, lateral spreading, ground cracking, or compressible soils. The Proposed Project at PS-6 would attract additional or new occupants to the existing building that could be susceptible to underlying geologic or soil unit instability.

The structural integrity of the building was evaluated in 2009 in a report prepared by structural engineers.[464] The building is a variation of tilt-up construction on concrete foundation and was constructed in 1981. Voluntary seismic strengthening was completed in 2003 (Permit No. 200211050814). The structural report preparers noted that the anchoring and reinforcing improved the expected building performance during an earthquake by providing more positive ties between lateral force resisting elements.

Nevertheless, because the building may not meet current SFBC regulations, the building could be damaged by unstable geologic or soils conditions, which could expose building occupants to risk of injury or death.

However, the Proposed Project at PS-6 would be required to comply with DBI's building permit review process, which would ensure Project compliance with all applicable SFBC requirements. Therefore, the Proposed Project at PS-6 would not result substantial adverse effects related to unstable geologic or soil units, and this impact would be less than significant.

Mitigation: None required.

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[464] ESE Consulting Engineers, Inc., *Structural Observation Report for Building at 2225 Jerrold Avenue, San Francisco, California* (April 16, 2009).

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact GE-2.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not be located on geologic or soil units that are unstable, or that could become unstable as a result of the Proposed Project. (Less than Significant)**

Settlement, subsidence, or cracking of the ground surface can be accelerated and accentuated by earthquakes. Compressible soils can settle or subside as a result of groundshaking or as a result of the loads placed on top of them. In addition, lateral spreading is associated with liquefaction, which is a hazard at study areas SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; SA-12, Ninth Street/Folsom Street; and project sites PS-1, 2801 Leavenworth Street (The Cannery); PS-2, 700 Montgomery Street; PS-4, 150 Hayes Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue (refer to Impact GE-1.1 and Impact GE-1.2). These types of unstable soils conditions have the potential to cause damage to structures that could be used by AAU, which would increase the risk of loss, injury, or death.

AAU would be required to ensure that building occupants at facilities it intends to occupy are protected from unstable soil hazards to the extent required under existing SFBC regulations, as administered by DBI. If a City permit is required prior to AAU's occupancy of the building, investigation of the potential for unstable soils hazards would be a component of the site-specific structural report for any potential building AAU could occupy and use within the study areas, and which could be required during the building permit review process. To ensure compliance with all SFBC provisions regarding structural safety, DBI would review the proposed engineering and design features for a building to ensure it adequately reduces the potential for damage to the structure from unstable soils. This would address hazards such as liquefaction, lateral spreading, ground failure, and compressible soils. Occupancy permits would not be issued until structural upgrades, as necessary, have been implemented.

Because the buildings AAU proposes to occupy may not meet current SFBC regulations, the building could be damaged by unstable geologic or soils conditions, which could expose building occupants to risk of injury or death. However, compliance with SFBC regulations as administered by DBI, and as described above, would avoid or minimize adverse effects of unstable soil units in the study areas and at the project sites, and this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact GE-3.1 **The Proposed Project, including growth in the 12 study areas, would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, and, therefore, would not create substantial risks to life or property. (Less than Significant)**

Expansive soils are clayey soils that shrink or swell substantially with changes in moisture content, and occur more frequently in arid and semi-arid regions. Changes in soil moisture could result from rainfall, landscape irrigation, utility leakage, roof drainage, and/or perched groundwater. The soil volume changes in expansive soils can cause foundation damage, which can affect the structural integrity of buildings on those soils. Expansive soils can also cause pavement cracking and damage buried utility lines. Bay Mud sediments are assumed to have moderate to high expansive soil properties because of their clay composition.

The Proposed Project in the 12 study areas would involve AAU growth within existing buildings. The City is highly urbanized, and underlying soils have been extensively modified as a result of development, such that expansive properties can be highly variable within a short distance. The presence of expansive soils can only be determined through site-specific laboratory analysis of soil samples. However, as indicated in Table 4.15-1, Geologic Units in AAU Study Areas and Project Sites, p. 4.15-2, SA-1, Lombard Street/Divisadero Street; a portion of SA-5, Mid Market Street; and all of SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; and SA-12, Ninth Street/Folsom Street, are underlain by entirely or partially by artificial fill, and could be underlain by Bay Mud.[465] Study areas closer to the bayside waterfront (e.g., SA-7, SA-8, and SA-9) may be more likely to have Bay Mud present.

Although there would be no construction of new buildings in the study areas, this analysis conservatively assumes that AAU could occupy buildings in areas where artificial fill and/or Bay Mud is present and thus could be located on expansive soils. Therefore, the Proposed Project in the 12 study areas could create substantial risks to life or property. However, as noted above, if a City permit from DBI is required prior to AAU's occupancy of a building, prior to issuance of occupancy permits, AAU would be required to comply with all applicable SFBC regulations as administered by DBI. This may include implementation of a site-specific structural survey and DBI permit review, compliance with UMB and Soft Story Program requirements. Compliance with these regulations would avoid or minimize adverse effects associated with expansive soils in the study areas, and this impact would be less than significant.

Mitigation: None required.

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[465] SA-2, Lombard Street/Van Ness Avenue; SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; and SA-6, Fourth Street/Howard Street, are underlain by bedrock and/or dune sand, which does not exhibit expansive soil properties.

Project-Level Impacts (Growth at the Six Project Sites)

Impact GE-3.2 **The Proposed Project, including the use of the six project sites, would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, and, therefore, would not create substantial risks to life or property. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: No Impact**
- **PS-4, 150 Hayes Street: No Impact**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

PS-1 is underlain by artificial fill, including gravel and debris waste from the 1906 earthquake and fire. Underlying the fill are soils presumed to be native, consisting of fine sandy silt and gravelly sand to a depth of approximately 16 feet.[466] In 1967–68, PS-1 underwent structural seismic upgrades, but it is not known whether expansive soil conditions, if any, were mitigated. Expansive properties can be highly variable within a short distance, and the presence of expansive soils can only be determined through site-specific laboratory analysis of soil samples. Therefore, it is conservatively assumed expansive soils could be present. The Proposed Project at PS-1 could be located on expansive soils, and thus could create risk to life or property. However, AAU's required compliance with SFBC regulations as administered by DBI would avoid or minimize adverse effects of expansive soil hazard at PS-1, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

PS-2 is underlain by artificial fill of unknown depth that could be underlain by Bay Mud (see Table 4.15-1, Geologic Units in AAU Study Areas and Project Sites, p. 4.15-2). Expansive properties can be highly variable within a short distance, and the presence of expansive soils can only be determined through site-specific laboratory analysis of soil samples. Therefore, it is conservatively assumed that expansive soils could be present. The Proposed Project at PS-2 could be located on expansive soils, and thus could create risk to life or property. However, AAU's required compliance with all applicable SFBC regulations as administered by DBI would avoid or minimize adverse effects of expansive soil hazard at PS-2, and this impact would be less than significant.

Mitigation: None required.

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[466] EBI Consulting, *Phase I Environmental Site Assessment: The Cannery—CWCapital Loan #123-106 2801 Leavenworth Street, San Francisco, California* (May 2010); EBI Consulting, *Limited Subsurface Investigation Report: The Cannery—CWCapital Loan #123-106 2801 Leavenworth Street, San Francisco, California* (May 2010).

PS-3, 625 Polk Street

PS-3 is underlain by dune sand.[467] The granular material comprising dune sand is typically not expansive. The building shows no signs of stress, settlement, or cracking in slabs.[468] There would be no new construction that would alter soil characteristics or involve new structures that would expose structures or buildings to expansive soils. Therefore, the Proposed Project at PS-3 would not create substantial risk to life or property due to the presence of expansive soil, and there would be no impact.

Mitigation: None required.

PS-4, 150 Hayes Street

PS-4 is underlain by dune sand and material derived from erosion of sandstone bedrock exposed approximately 2,000 feet west of the site.[469] This type of material is typically not expansive. Therefore, the Proposed Project at PS-4 would not create substantial risk to life or property due to the presence of expansive soil, and there would be no impact.

Mitigation: None required.

PS-5, 121 Wisconsin Street

PS-5 is located on artificial fill (see Table 4.15-1, Geologic Units in AAU Study Areas and Project Sites, p. 4.15-2); therefore, the site may be underlain by Bay Mud. Consequently, there is the potential for expansive soils to be present at some unknown depth. However, the site would remain a parking lot with two trailers, and no new improvements or physical modifications to the site are proposed. There would be no occupied structures that would be vulnerable to expansive soil hazards that could create substantial risks to life or property. Therefore, the Proposed Project at PS-5 would not result in substantial risk to life or property due to the presence of expansive soils, and the impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

PS-6 is underlain by fill soils of varying thickness to a depth of approximately 21 feet below the ground surface. The fill soils are composed of coarse sand and gravel containing rock fragments and

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[467] Santos and Urrutia, Inc., Structural Engineers, *Structural Report for 625 Polk Street, San Francisco, California* (August 18, 2008), S&U Job No. 7425.
[468] Santos and Urrutia, Inc., Structural Engineers, *Structural Report for 625 Polk Street, San Francisco, California* (August 18, 2008), S&U Job No. 7425.
[469] Brown and Caldwell, *Phase 1 Environmental Site Assessment 150 Hayes Street, San Francisco, California* (August 2007).

debris. Underlying the fill is a shallow water-bearing zone.[470] Expansive properties can be highly variable within a short distance, and the presence of expansive soils can only be determined through site-specific laboratory analysis of soil samples. Therefore, it is conservatively assumed expansive soils could be present. The Proposed Project at PS-6 could be located on expansive soils, and thus could create risk to life or property. However, AAU's required compliance with all applicable SFBC regulations as administered by DBI would avoid or minimize adverse effects of expansive soil hazard at PS-6, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact GE-3.3 **The Proposed Project, including growth in the 12 study areas and growth at the six project sites, would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, and, therefore, would not create substantial risks to life or property. (Less than Significant)**

The Proposed Project locations of SA-1, Lombard Street/Divisadero Street; a portion of SA-5, Mid Market Street; and all of SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; SA-12, Ninth Street/Folsom Street; and project sites PS-1, 2801 Leavenworth Street (The Cannery); PS-2, 700 Montgomery Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue, are underlain by entirely or partially by artificial fill, and could be underlain by Bay Mud, which could exhibit expansive soil properties. The City is highly urbanized, and underlying soils have been extensively modified as a result of development, such that expansive properties can be highly variable within a short distance. The presence of expansive soils can only be determined through site-specific laboratory analysis of soil samples. Expansive soils could be present at those locations, which could create a risk to life or property. However, AAU's required compliance with all applicable SFBC regulations as administered by DBI would avoid or minimize adverse effects of expansive soil hazard in the study areas and at the project sites, and this impact would be less than significant.

Mitigation: None required.

Cumulative Impacts

The geographic context for this analysis includes the 12 study areas and six project sites, and those parcels located immediately adjacent to them. The cumulative context for the Proposed Project is downtown San Francisco, the Van Ness Avenue corridor, the Market Street corridor, the South of Market district, the Lombard Street corridor, the Fisherman's Wharf area, the Showplace Square/Potrero neighborhood, and parts of Bayview Hunters Point. This includes specific proposed

[470] Geologica, Inc., *Phase I Environmental Site, Assessment Academy of Art Warehouse Building, 2225 Jerrold Avenue, San Francisco, CA 94124* (April 2009).

development projects such as the 5M Project, the Moscone Center Expansion Project, 598 Brannan, and the 350 Eighth Project, as well as implementation of planning efforts for the Western SoMa Plan, the Central SoMa Plan, the Rincon Hill Plan, and the East SoMa Plan. Further detail regarding these and other cumulative projects considered in this analysis is included in Table 4-1, Cumulative Projects.

Impact C-GE-1 The implementation of the Proposed Project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not contribute considerably to a cumulative impact on geology and soils. (Less than Significant)

The Proposed Project is limited to tenant improvements, and, therefore, would not be constructing new or renovated buildings that could be vulnerable to damage that could, in turn, increase the risk to building occupants and the public. Therefore, it would not combine with other cumulative development to create a cumulative effect related to new construction. The Proposed Project's contribution to the cumulative impact would be limited to increasing occupancy in buildings that may not meet current seismic safety standards or would be in locations where unstable or expansive soils may be present that could affect building structures. The Proposed Project would reduce its contribution to this impact through compliance with all applicable SFBC regulations as administered by DBI, which would require AAU to complete structural surveys, comply with DBI permitting requirements, and make necessary improvements to protect building occupants from geologic hazards.

Cumulative development in and adjacent to the 12 study areas and six project sites could occur in locations where unstable rock or soil units or expansive soils are present. If not properly accounted for in new project design and construction, those locations could be susceptible to landslide, lateral spreading, subsidence, liquefaction, or collapse, which could cause structural damage, which could pose safety risks for building occupants, cause pavement damage, which can create safety hazards for motorists, or damage buried utilities, which can pose environmental and health risks. These effects are site-specific, and impacts would not be compounded by additional development, but cumulative development, including the Proposed Project, would directly increase the number of people and structures that could be affected by such hazards.

As with the Proposed Project, development, redevelopment, and renovation activities are subject to permitting by DBI, which enforces the requirements of the CBC as part of the SFBC. The permitting process includes preparation of site-specific geotechnical reports for new construction, structural reports for renovation projects, and permit review. New buildings and facilities in the City are required to be sited and designed in accordance with the most current geotechnical and seismic guidelines and recommendations. For locations with seismic hazard zones for liquefaction and landslides, project applicants would be required to demonstrate compliance with the California Geological Survey Special Publication 117A (Guidelines for Evaluating and Mitigating Seismic Hazards in California) (2008). Seismic or other structural upgrades must be implemented, where

required, to meet current SFBC standards. To ensure compliance with all SFBC provisions regarding structural safety, DBI would determine necessary engineering and design features for a building in order to reduce potential damage to the structure from seismic hazards. Unreinforced masonry buildings must be retrofitted unless exempted from the upgrades required by SFBC Section 1604B.

Additionally, AAU, along with other cumulative projects in the vicinity, would be required to comply with the City's Soft Story Program, which, as discussed above, applies to buildings that are wood-framed, permitted for construction prior to 1978, contain five or more residential dwelling units and are three or more stories or two stories over a basement or underfloor area that have any portion extending above grade, and have not yet been seismically strengthened.

Therefore, although there is risk from seismic events and related hazards inherent in all development in seismically active areas in the state of California, compliance with applicable regulations reduces this risk.

Because the Proposed Project would be required to comply with the provisions of all applicable codes and regulations and because tenant improvements would conform to the most current seismic safety design guidelines through compliance with SFBC regulations, including the City's UMB Ordinance and the Soft Story Program, the Proposed Project would not result in a cumulatively considerable contribution to any potential geology or soils cumulative impacts, and the cumulative impact would be less than significant.

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4.16 HYDROLOGY AND WATER QUALITY

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect hydrology and water quality. This includes an analysis of impacts related to drainage and watershed characteristics, existing stormwater collection systems and stormwater runoff, water quality, and groundwater, as well as areas susceptible to flooding, tsunami, and sea level rise. Refer to Section 4.12, Utilities and Service Systems, for the analysis of water demand and wastewater system capacity impacts. No hydrology and water quality issues were raised during the NOP scoping period.

4.16.1 Environmental Setting

Regional Hydrology

San Francisco Bay is a large, complex, and highly dynamic estuarine environment that receives saltwater inputs from the Pacific Ocean through the Golden Gate. As the only drainage outlet for waters from the Central Valley, the Bay also receives freshwater inputs from the Sacramento–San Joaquin Delta to the northeast, as well as various other tributary rivers and creeks located around the Bay. Water circulation within the Bay depends on tides, river flow, winds, runoff, and water depth. Because the San Francisco Bay is directly connected to the Pacific Ocean (via the Golden Gate), the Bay exhibits a twice-daily tidal cycle, which corresponds with two high and two low water levels each day. High and low water levels vary depending on the intensity of the tide, winds, and barometric conditions. The mean tidal range is 4.1 feet. The largest tidal range is generally observed in the spring, and the spring tidal range is 5.8 feet.[471] Waves along the Bay margins originate locally within San Francisco Bay, as well as from the Pacific Ocean.

Climate and Precipitation

The Bay Area has a Mediterranean climate, with cool, dry summers and mild, wet winters. The precipitation, wind, and air temperature influence the San Francisco Bay salinity, currents, suspended sediments, waves, and freshwater inflow. Based on meteorological data collected between 1914 and 2010, the mean annual precipitation in San Francisco is approximately 21.1 inches per year with 84 percent occurring between November and March.[472] The mean annual temperature

[471] NOAA, San Francisco Station ID: 9414290 Tidal Datum, http://tidesandcurrents.noaa.gov/data_menu.shtml?stn=9414290%20San%20Francisco,%20CA&type=Datums (accessed February 8, 2012).
[472] Western Regional Climate Center, San Francisco, Mission Dolores, California NCDC 1914–2012 Monthly Climate Summary, www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca7772 (accessed February 13, 2012).

is 63.6 degrees Fahrenheit (°F), with minimum mean monthly temperature occurring in January (45.6°F) and maximum mean monthly temperature occurring during September (69.8°F).[473]

Hydrology

Surface Water

There are no streams, creeks, or open water bodies located at or immediately adjacent to any of the study areas or the six project sites. None of the study areas or the project sites is directly adjacent to the Bay shoreline. The study area closest to the Bay is SA-9, Second Street/Brannan Street, the northeastern corner of which (at Delancey Street/The Embarcadero/Townsend Street) lies across The Embarcadero from the Bay. Project Site PS-1, 2801 Leavenworth Street (The Cannery), is within 0.1 mile, and Study Area 7 (SA-7), Rincon Hill East, is, approximately 0.25 mile inland. There are no surface discharges from the study areas or the project sites that drain directly to the Bay. All surface drainage from the study areas and project sites is conveyed through the City's storm drain system, which is part of a combined sewer system that discharges treated wastewater to San Francisco Bay, described in more detail below.

Combined Sewer-Storm Drain System

Impermeable surfaces associated with buildings, roadways, and parking allow little to no infiltration of rainfall into underlying soils. These surfaces generate large amounts of stormwater runoff that must be conveyed to the City's storm drain system under existing conditions.

All of the study areas and the project sites are located on previously disturbed land surfaces that are currently covered by existing buildings, roadways, parking lots, and to a limited extent urban landscaping. Existing buildings in the study areas and on the project sites generate stormwater runoff from rooftops and parking lots, which drain through downspouts to street level, and from sidewalks that provide access to the buildings.

The City's Sewer Master Plan divides San Francisco into two major watershed areas: the Westside watershed, which drains to the Pacific Ocean, and the Bayside watershed that drains to San Francisco Bay. All of the study areas and the project sites are in the Bayside watershed. The locations of the watershed boundaries are shown in Figure 4.16-1, Watersheds and Groundwater Basins, p. 4.16-4. The City's Sewer System Master Plan further divides the City into eight major drainage areas, also referred to as drainage basins, which generally correspond to topography. As shown in

[473] National Oceanographic and Atmospheric Administration National Data Buoy Center (NDBC), Station 46026 (LLNR 357) – San Francisco – 18NM West of San Francisco, CA, www.ndbc.noaa.gov/station_history.php?station=46026 (accessed February 13, 2012).

Figure 4.16-1, all of the study areas and project sites are located in the Marina and Channel drainage basins, except the property at PS-6, 2225 Jerrold Avenue, which is in the Islais drainage basin.[474]

The City operates two treatment plants in the Bayside watershed: the Southeast Water Pollution Control Plant (SWPCP) and the North Point Water Pollution Control Plant (NPWPCP). Stormwater flows from all the study areas and project sites would be treated at these plants. The two plants are permitted by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) under the National Pollutant Discharge Elimination System (NPDES) program (RWQCB Order No.2008-0007). The permit specifies discharge prohibitions, dry-weather effluent limitations, wet-weather effluent performance criteria, receiving water limitations, sludge management practices, and monitoring and reporting requirements.

The SWPCP has a dry weather average flow capacity of 85 million gallons per day (mgd). During wet weather conditions the plant can provide up to 150 mgd of secondary treatment and an additional 100 mgd of primary treatment. Flows up to 110 mgd are discharged through an outfall to San Francisco Bay. Flows greater than 110 mgd are discharged to Islais Creek. Only secondary effluent is discharged to Islais Creek; all primary effluent discharges from the SWPCP are routed to the San Francisco Bay outfall. The NPWPCP provides wet weather treatment only. The peak wet weather capacity is 150 mgd. The effluent is discharged to the San Francisco Bay through four outfalls. The NPWPCP provides primary level treatment only for wet weather flows.[475]

The combined sewer system includes storage and transport boxes that, during wet weather, retain the combined stormwater and sewage flows that exceed the capacities of the Southeast and North Point treatment plants for later treatment. When rainfall intensity results in combined flows that exceed the total capacity of these facilities and the storage and transport structures themselves, the excess flows are discharged through 29 combined sewer overflow (CSO) structures located along the Bayside waterfront from Fisherman's Wharf to Candlestick Point. Discharges from the CSO structures, consisting of about six percent sewage and 94 percent stormwater, receive "flow-through treatment," which is similar to primary treatment, to remove settleable solids and floatable materials. Wet weather flows are intermittent throughout the rainy season, and combined sewer overflow events vary in nature and duration depending largely on the intensity of individual rainstorms.

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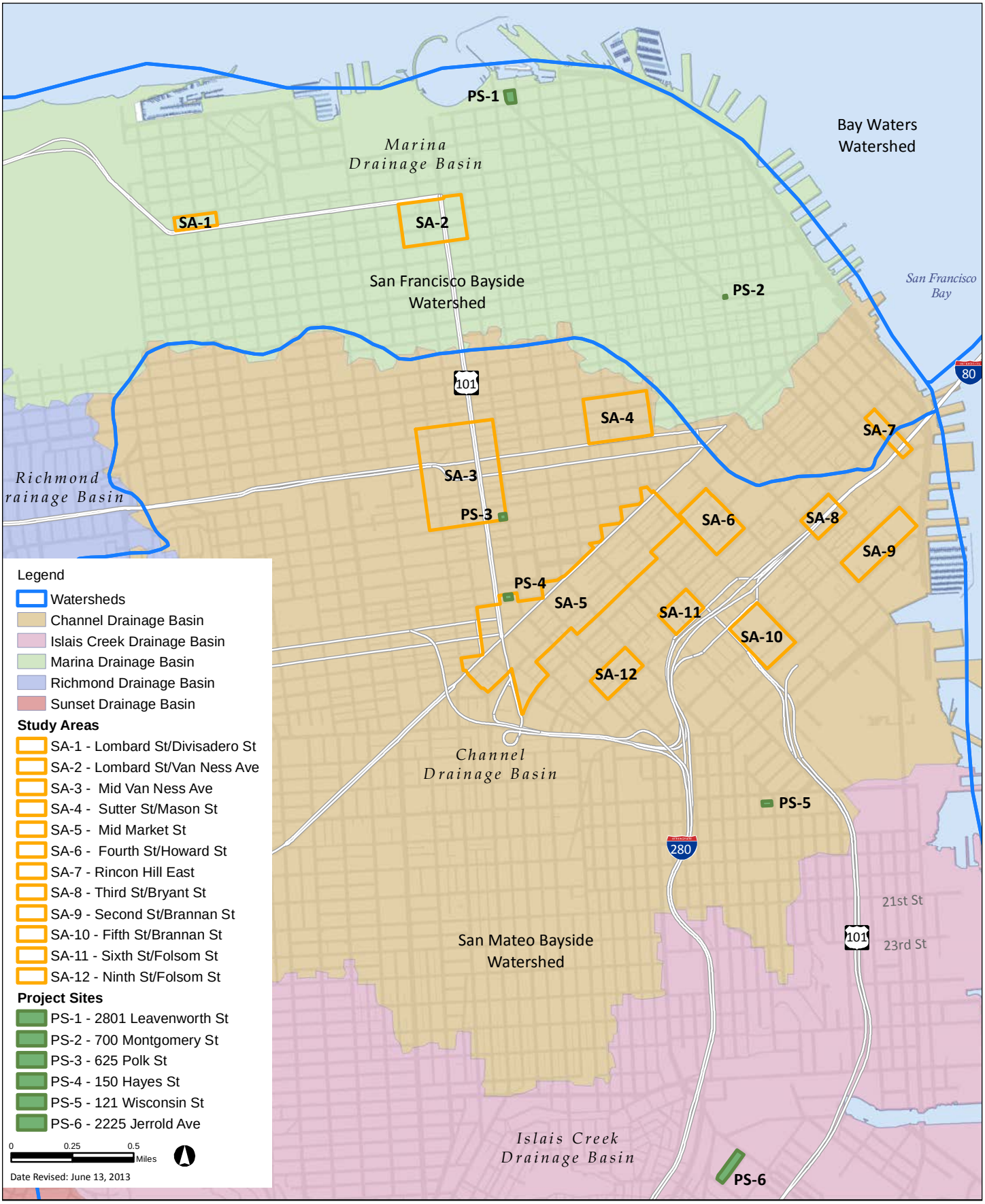
[474] City and County of San Francisco, *2030 Sewer System Master Plan*, Chapter 3: Wastewater Facilities Operation and Performance (Draft, June 15, 2010); Task 500 Technical Memorandum No. 502 Detailed Drainage Plan Modeling Approach, Final Draft (August 2009), Figure 1 (Major City Drainage Basins).

[475] City and County of San Francisco, *2030 Sewer System Master Plan*, Task 600 Technical Memorandum No. 607 Long-Term Biosolids Management Plan, Final Draft (August 2009), Figure 1 (The San Francisco Wastewater System).



SOURCE: City of San Francisco; California Department of Water Resources, 2004; Atkins, 2013.

FIGURE 4.16-1: WATERSHEDS AND GROUNDWATER BASINS

The San Francisco Public Utilities Commission (SFPUC) Wastewater Enterprise manages the City's wastewater collection, treatment, and discharge system, and since 2005, has been conducting master planning efforts for the San Francisco sewer system and preparing a Sewer System Master Plan to update the 1974 master plan. The purpose of the master plan is to provide an assessment of the current conditions and a framework for future actions through 2030. Prepared with extensive input from the public, the Sewer System Master Plan focuses on providing reliable, efficient, sustainable and environmentally acceptable operation and management of the sewer system through addressing both critical near-term needs and long-term issues. It incorporates an integrated urban watershed management approach to guide the future operations and maintenance of the sewer system.

Flood Hazards

The Federal Emergency Management Agency (FEMA) is preparing Flood Insurance Rate Maps (FIRMs) for the City and County of San Francisco for the first time. FIRMs identify areas that are subject to inundation during a flood having a one percent chance of occurrence in a given year (also known as a "base flood" or "100-year flood"). FEMA refers to the flood plain that is at risk from a flood of this magnitude as a special flood hazard area.

In September 2007, FEMA issued a preliminary FIRM of San Francisco for review and comment by the City. The City submitted comments that year, and FEMA anticipated publishing a revised preliminary FIRM by 2012, after completing a more detailed analysis of flood hazards associated with San Francisco Bay as requested by Port and City staff. FEMA will finalize the FIRM and publish it for flood insurance and floodplain management purposes after reviewing comments and appeals related to the revised preliminary FIRM. As proposed, the FIRM would designate portions of waterfront piers, Mission Bay, Bayview Hunters Point, Hunters Point Shipyard, Candlestick Point, and Treasure Island as Zone A (areas subject to inundation by tidal surge) or Zone V (areas of coastal flooding subject to wave hazards). Except for SA-10, Fifth Street/Brannan Street, the study areas and project sites are not located within Zone A or Zone V or a Special Flood Hazard Area identified on San Francisco's Interim Floodplain Map.[476]

Furthermore, the study areas and project sites are not located within an area identified by the SFPUC as prone to flooding due to combined sewer backups or flooding, which can affect locations—such as parts of the South of Market neighborhood—where properties are developed at elevations below the water level in the combined sewer lines.[477] In these areas—generally between

[476] Federal Emergency Management Agency, Preliminary Flood Insurance Rate Map, City and County of San Francisco, California, Panel 120 of 260, Map Number 06075C0120A (September 21, 2007), http://sfgsa.org/Modules/ShowImage.aspx?imageid=2672 (accessed June 22, 2010).
[477] City and County of San Francisco, Office of the City Administrator, Final Draft San Francisco Interim Floodplain Map, Northeast (July 2008), http://www.sfgsa.org/Modules/ShowDocument.aspx?documentid=1785 (accessed June 22, 2010).

Fourth and Tenth Streets—SFPUC reviews potential projects to determine whether the Proposed Project would result in ground-level flooding during storms. The Mayor and the Board of Supervisors approved a Floodplain Management Ordinance in 2008 (and amended the Ordinance in 2010). The Ordinance governs new construction and major improvements to existing buildings in flood-prone areas and designates the City Administrator's Office as the City's Floodplain Administrator. In general, the Ordinance requires the first floor of structures in designated flood hazard zones to be constructed above the floodplain or to be flood-proofed by improvements that reduce or eliminate the potential for flood damage.

Pending completion of the federal FIRM for San Francisco, the City has created an Interim Floodplain Map that identifies areas of flooding within the City. FEMA approved San Francisco's application for participation in the National Flood Insurance Program in April 2010, meaning that homeowners, renters, and business owners in the City are now eligible to purchase federally subsidized flood insurance to protect their property. The City Administrator's Office and the San Francisco Department of Emergency Management are also working to identify potential hazard mitigation projects that may be eligible for grants from FEMA.

As shown on Figure 4.16-2, Floodplains, p. 4.16-8, only SA-10, Fifth Street/Brannan Street, (generally between Brannan and King Streets) is at risk of 100-year flooding, as delineated by FEMA.[478] It is designated Zone A, which is defined as an area with one percent annual chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. None of the project sites is in a Special Flood Hazard Area (SFHA). Regulations pertaining to development in SFHA are summarized in Section 4.16.2, Regulatory Framework, p. 4.16-16.

Portions of San Francisco along the shore and channels are subject to flooding from 100-year storm events, tsunami, and/or sea level rise. Table 4.16-1, 100-Year Flood, Tsunami, and Sea Level Rise Hazards, p. 4.16-7, summarizes flood hazard information pertaining to 100-year flood hazard, tsunami, and sea level rise based on conditions depicted in Figure 4.16-2, Floodplains, p. 4.16-8; Figure 4.16-3, Tsunami Run-Up Areas, p. 4.16-9; and Figure 4.16-4, Sea Level Rise, p. 4.16-10. As illustrated by these data, flood hazard risk is limited to only a few locations in the study areas and the six project sites.

[478] Flood Insurance Rate Maps (FIRMs) have not been formally published by FEMA for the City. However, on September 21, 2007, FEMA issued a preliminary FIRM for San Francisco, which tentatively identified SFHAs along the City's shoreline.

Table 4.16-1 100-Year Flood, Tsunami, and Sea Level Rise Hazards

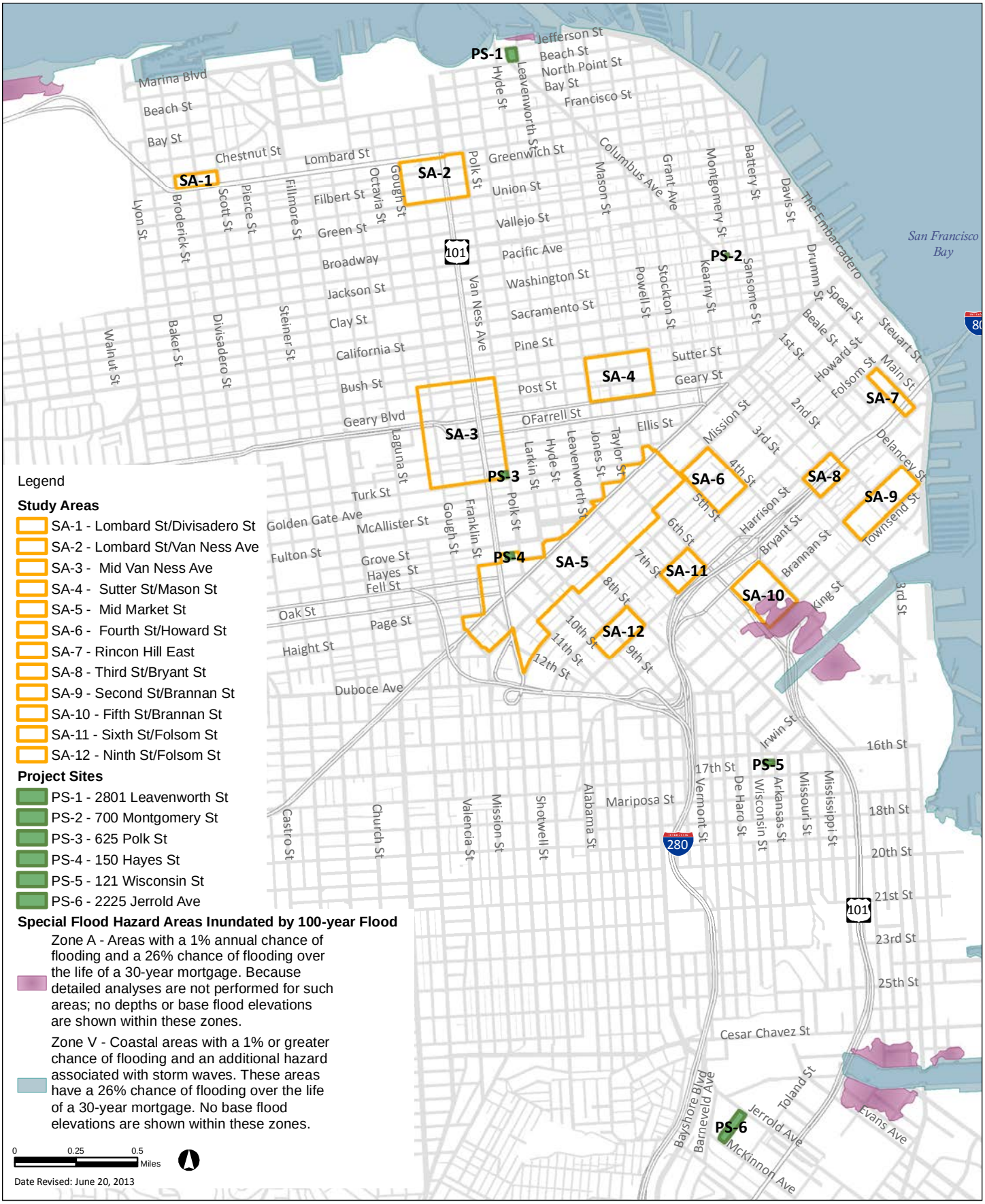
	100-Year Floodplain[a]	*Tsunami*[b]	*Sea Level Rise (Year 2050/2100)*[c]
Study Areas			
SA-1, Lombard Street/Divisadero Street	No	No	No
SA-2, Lombard Street/Van Ness Avenue	No	No	No
SA-3, Mid Van Ness Avenue	No	No	No
SA-4, Sutter Street/Mason Street	No	No	No
SA-5, Mid Market Street	No	No	No
SA-6, Fourth Street/Howard Street	No	No	No
SA-7, Rincon Hill East	No	No	Yes—partially, generally along the southeast boundary along Bryant St (2100)
SA-8, Third Street/Bryant Street	No	No	No
SA-9, Second Street/Brannan Street	No	No	Yes—partially, along Delancey St, Townsend St and Second St (2100); partially, along Second St (2050)
SA-10, Fifth Street/Brannan Street	Yes (partially, southeast half between Brannan and King Streets)	Yes (partially, southeast corner at Fifth St/Townsend St)	Yes—entire area (2050 and 2100)
SA-11, Sixth Street/Folsom Street	No	No	Yes—partially, along Sixth St (2100)
SA-12, Ninth Street/Folsom Street	No	No	No
Project Sites			
PS-1, 2801 Leavenworth Street (The Cannery)	No	Yes (entire site)	Yes—partially, along Jefferson St (2100)
PS-2, 700 Montgomery Street	No	No	No
PS-3, 625 Polk Street	No	No	No
PS-4, 150 Hayes Street	No	No	No
PS-5, 121 Wisconsin Street	No	No	No
PS-6, 2225 Jerrold Avenue	No	No	Yes—partially, generally along the northeast boundary (2100)

SOURCES:

a. Federal Emergency Management Agency, DFIRM.

b. California Geological Survey (CGS), CGS Tsunami website, www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Pages/Index.aspx (accessed February 13, 2012).

c. Bay Conservation and Development Commission, Shoreline Areas Potentially Exposed to Sea Level Rise: Central Bay, maps produced by U.S. Geological Survey.



SOURCE: FEMA Preliminary DFIRM, 2007; Atkins, 2013.

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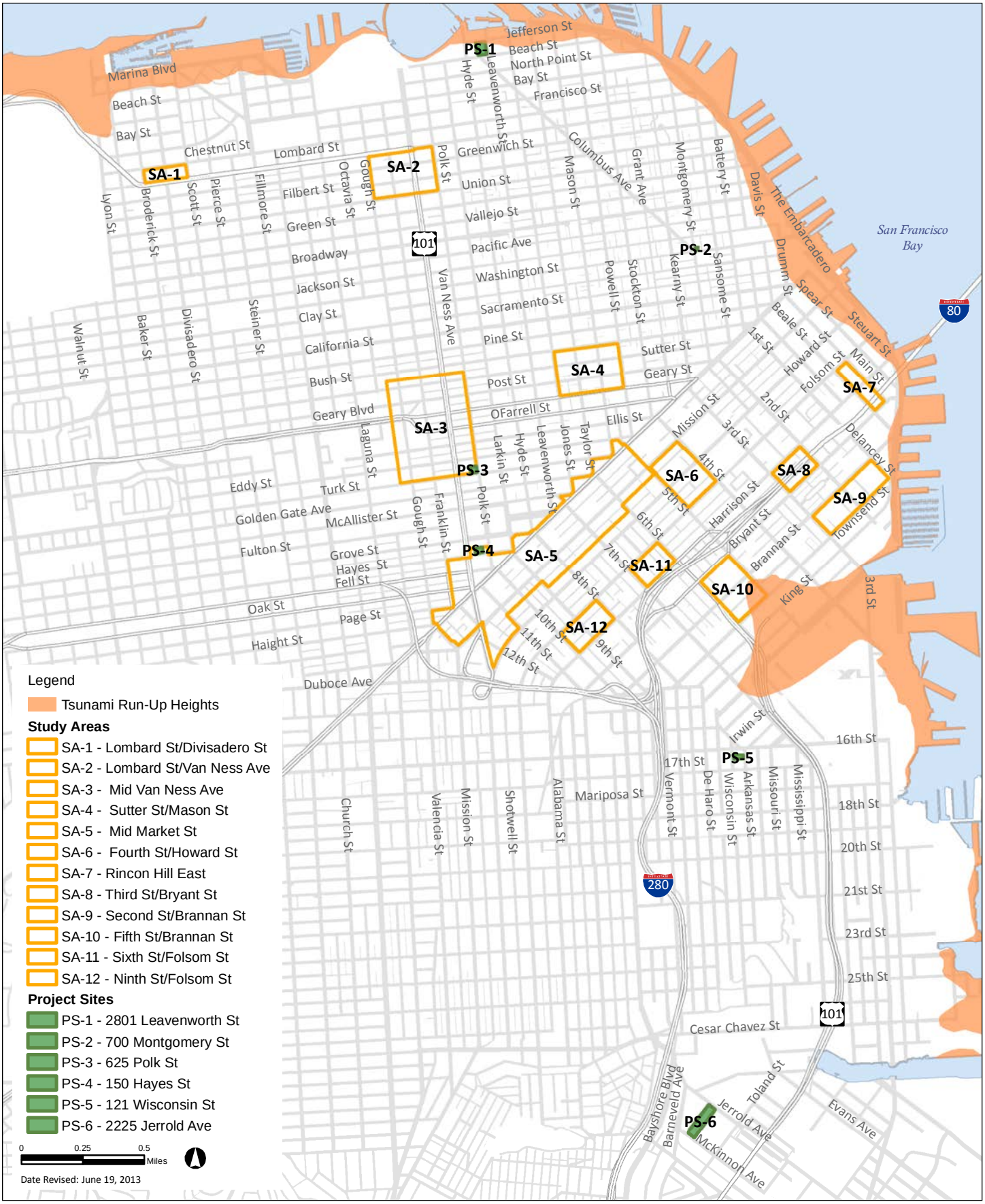
FIGURE 4.16-2: FLOODPLAINS



SOURCE: AAU, 2013; Atkins, 2013, ABAG; SF MOT Report.

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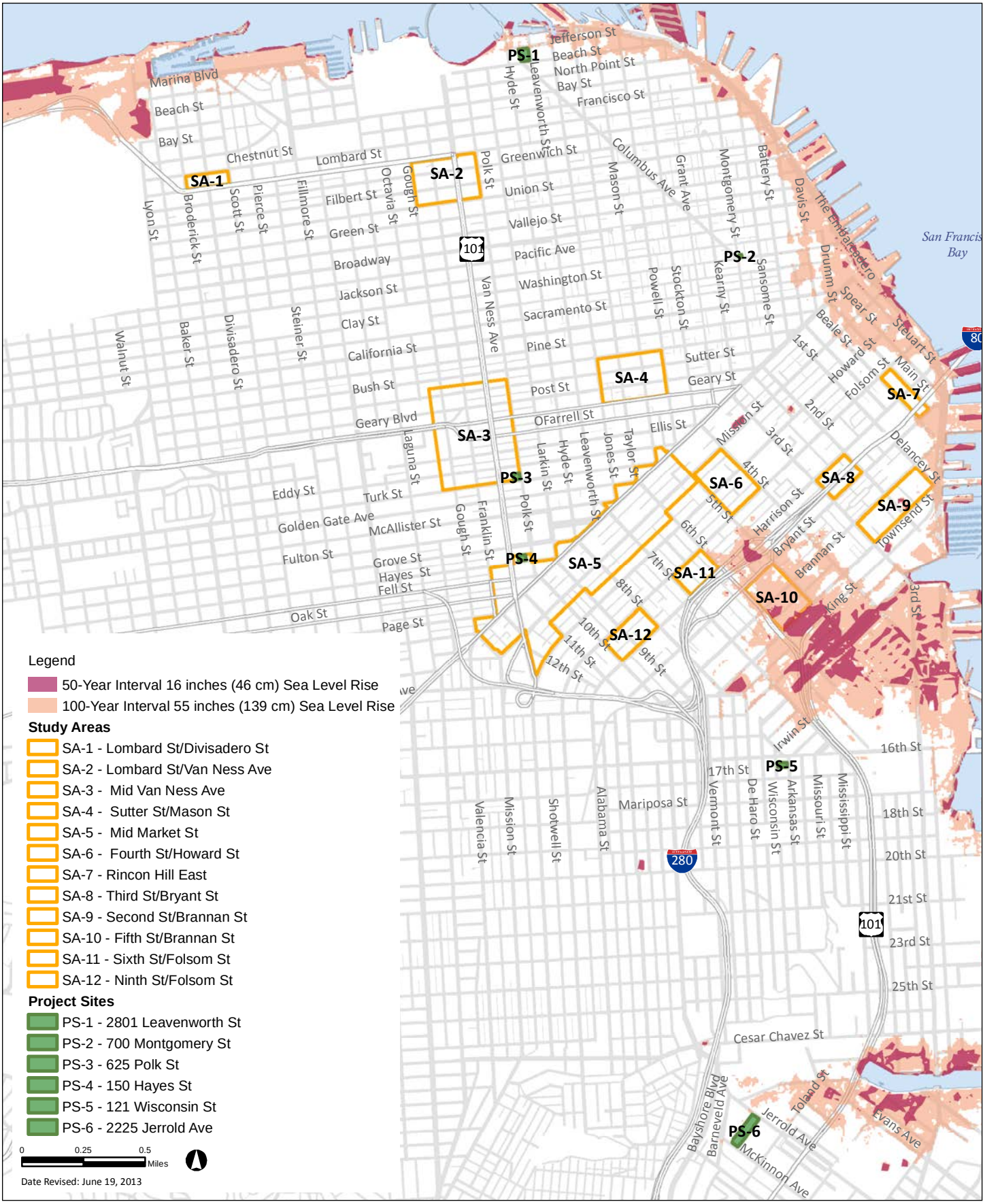
FIGURE 4.16-3: TSUNAMI RUN-UP AREAS



SOURCE: AAU, 2013; Atkins, 2013; USGS, 2008, BCDC 2008.

FIGURE 4.16-4: SEA LEVEL RISE

Localized street flooding is common in certain areas of the City, but primarily in the South of Market (SoMa) and to a lesser extent in the Islais Creek area. SA-6, Fourth Street/Howard Street; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; and SA-12, Ninth Street/Folsom Street (all in the Channel drainage basin); and PS-6, 2225 Jerrold Avenue (in the Islais drainage basin), are within areas prone to street flooding. Flooding is generally related to one or some combination of six conditions, such as extreme rainfall events, increased flows resulting from increased imperviousness in upstream tributary areas associated with development and/or redevelopment, pipe slope transition, downstream hydraulic grade line restrictions, alteration of flood flows due to subsidence of land in certain locations, and reduced cross-sectional area and capacity of sewers.[479] The City is actively addressing combined sewer capacity issues through its 2030 Sewer Master Plan. Additional information about system capacity and planned improvements is presented in Section 4.12, Utilities and Service Systems.

Tsunami and Seiche

Tsunamis (seismic sea waves) are long period waves that are typically caused by underwater seismic disturbances, volcanic eruptions, or submerged landslides. Tsunamis, which travel at speeds up to 700 miles per hour, are typically only one to three feet high in open ocean water but may increase in height to up to 90 feet as they reach coastal areas, causing potentially large amounts of damage when they reach land. Low-lying coastal areas such as tidal flats, marshlands, and former Bay margins that have been artificially filled but are still at or near sea level are generally the most susceptible to tsunami inundation. Since 1850, more than 50 tsunamis have been recorded or observed in San Francisco Bay. Nine of these tsunamis originated in Alaska. Only one tsunami has been recorded as originating along the Central California coast: a four-inch run-up that was recorded at the Presidio gauge station shortly after the 1906 earthquake and fire.

An extensive monitoring program is in place to provide advance warning of tsunamis.[480] Based on the level of threat, a Tsunami Advisory, Watch, or Warning would be issued. The earthquake that hit Japan in March 2011 initiated a tsunami that traveled for 10 hours before reaching the California coast.[481] The tsunami caused a swell of approximately two feet in San Francisco Bay.[482] When the

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[479] City and County of San Francisco, *2030 Sewer System Master Plan*, Task 500 Technical Memorandum No. 502 Detailed Drainage Plan Modeling Approach, Final Draft (August 2009).

[480] The National Oceanic and Atmospheric Administration (NOAA) operates the Tsunami Warning System with centers located in Hawaii and Alaska. The state National Warning System provides warnings to the West Coast (including California) and Alaska. These warning centers are linked to the Advanced National Seismic System that monitors earthquakes in the United States, to the international seismic monitoring systems, and to a system of tide gauges and buoys. The California Integrated Seismic Network also provides information regarding the magnitude and location of California earthquakes and a quick link to the NOAA/West Coast and Alaska Tsunami Warning Center.

[481] California Geological Survey (CGS), CGS Tsunami website, www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Pages/Index.aspx (accessed February 13, 2012).

tsunami warning was issued, coastal county offices of emergency services were able to use the state's official tsunami inundation maps to focus their response.

The San Francisco Fire Department has established tsunami evacuation routes in the Richmond and Sunset districts and zoo area. These areas and the evacuation routes are outside the 12 study areas and six project sites.[483] SA-10, Fifth Street/Brannan Street, could be vulnerable to tsunamis with a run-up estimated at approximately eight feet (see Figure 4.16-3, Tsunami Run-Up Areas, p. 4.16-9).[484] PS-1, 2801 Leavenworth Street (The Cannery), is within a tsunami run-up zone with the potential for a 10-foot run-up (see Figure 4.16-3).[485]

A seiche is an oscillation of a body of water. Seiches occur most frequently in enclosed or semi-enclosed basins, such as lakes, bays, or harbors, and may be triggered by strong winds, changes in atmospheric pressure, earthquakes, tsunamis, or tides. Triggering forces that set off a seiche are most effective if they operate at specific frequencies relative to the size of an enclosed basin. Coastal measurements of sea level often show seiches with amplitudes of a few centimeters and periods of a few minutes, caused by oscillations of the local harbor, estuary, or bay, superimposed on the normal tidal changes. Tidal records for San Francisco Bay have been maintained for over 100 years, and during this period, a damaging seiche has not occurred. A seiche of approximately four inches occurred during the 1906 earthquake, an event of magnitude 8.3 on the Richter scale. It is probable an earthquake similar to the 1906 event would be the largest experienced in the Bay Area; consequently, a seiche larger than four inches is considered unlikely to occur.[486]

Sea Level Rise

Globally, sea level has been rising for the past 10,000 years since the end of the last glacial epoch,[487] and the global rate of sea level rise over the past 5,000 years has averaged roughly 0.0039 foot per

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[482] NOAA/West Coast and Alaska Tsunami Warning Center (TWC), NOAA/West Coast and Alaska TWC Tsunami Observations and Forecasts for the U.S. West Coast, British Columbia, and Alaska (11 March 2011), Japan Tsunami, http://wcatwc.arh.noaa.gov/obs/obs.php (accessed February 13, 2012).
[483] City and County of San Francisco, *Emergency Response Plan, Tsunami Response Annex* (March 2011), http://www.sfdem.org/Modules/ShowDocument.aspx?documentid=1115 (accessed January 14, 2012).
[484] City and County of San Francisco, *Emergency Response Plan, Tsunami Response Annex* (March 2011), Attachment B (City & County of San Francisco Coastal Tsunami Inundation Map), http://www.sfdem.org/Modules/ShowDocument.aspx?documentid=1115 (accessed January 14, 2012).
[485] City and County of San Francisco, *Emergency Response Plan, Tsunami Response Annex* (March 2011), Attachment B (City & County of San Francisco Coastal Tsunami Inundation Map), http://www.sfdem.org/Modules/ShowDocument.aspx?documentid=1115 (accessed January 14, 2012).
[486] City and County of San Francisco, Planning Department, Candlestick Point–Hunters Point Shipyard Phase II Development Plan EIR (November 2009). Original Source: Working Group on California Earthquake Probabilities, Earthquake Probabilities in the San Francisco Bay Region: 2002–2031, United States Geological Survey Open-File Report 03-214, Appendix D (Magnitude and Area Data for Strike Slip Earthquakes), Dr. William L. Ellsworth, Research Seismologist, USGS (2003).
[487] V. Gornitz, *Sea Level Rise, After the Ice Melted and Today*, Goddard Institute for Space Studies Science Briefs, www.giss.nasa.gov/research/briefs/gornitz_09/ (accessed February 13, 2012).

year.[488] However, there is evidence that the rate of sea level rise is accelerating on both a global and local scale due to ocean warming (thermal expansion), continental ice melt, increases in temperature, and land elevation changes.[489] From 1961 to 2003, the global rate of sea level rise was about 0.0059 foot per year.[490] Based on the San Francisco NOAA tide gauge monthly mean sea level data from 1887 to 2006, the current average rate of sea level rise in the Bay Area is 0.0066 foot per year at the San Francisco tide station.[491] The Bay Conservation and Development Commission (BCDC) has prepared generalized maps that depict locations in the Bay Area that could be vulnerable to sea level rise by mid-century (2050) and by 2100, which were used as the basis for Figure 4.16-4, Sea Level Rise, p. 4.16-10. Regional planning efforts to address sea level rise are summarized in Section 4.16.2, Regulatory Framework, p. 4.16-16. As illustrated in Figure 4.16-4, four study areas (SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; and SA-11, Sixth Street/Folsom Street) could be partially or completely susceptible to sea level rise effects between 2050 and 2100. As illustrated in Figure 4.16-4, two project sites (PS-1, 2801 Leavenworth Street [The Cannery], and PS-6, 2225 Jerrold Avenue) could be partially or completely susceptible to sea level rise effects between 2050 and 2100.

Dam or Levee Failure Inundation

There are dam failure inundation areas in San Francisco.[492] However, the study areas and project sites are located several miles from those areas and, therefore, the Proposed Project would not be exposed to hazards from dam or levee failure.

Mudflow Hazards

Mudflows,[493] or mudslides, may occur in the hilly areas of San Francisco during periods of heavy rain.[494] However, the study areas and project sites are not located where mudflows could pose a risk because they are not adjacent to hillsides with exposed soil.

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[488] Association of Bay Area Governments (ABAG), Status and Trends Report on Land Use and Population, *The Geomorphology, Climate, Land Use and Population Patterns in the San Francisco Bay, Delta and Central Valley Drainage Basins* (February 1991).

[489] Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: Synthesis Report*, Fourth Assessment Report, www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf (accessed February 13, 2012).

[490] Intergovernmental Panel on Climate Change (IPCC), *Climate Change 2007: Synthesis Report*, Fourth Assessment Report, www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf (accessed February 13, 2012).

[491] National Oceanic and Atmospheric Administration (NOAA), NOAA Tides and Currents, Mean Sea Level Trend 9414290 San Francisco, California, http://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?stnid=9414290 (accessed February 13, 2012).

[492] Association of Bay Area Governments, Dam Failure Inundation Hazard Map for San Francisco.

[493] A mudflow is a type of landslide that occurs when runoff saturates the ground. Soil that is dry during dry weather turns into a viscous solution that slides downhill. Mudflows typically cause more damage than clear-water flooding because debris-filled water moves with greater force.

[494] City and County of San Francisco, Planning Department, *San Francisco General Plan*, Community Safety Element (adopted August 15, 1997).

Groundwater

San Francisco overlies all or part of seven groundwater basins (refer to Figure 4.16-5, Groundwater Basins, p. 4.16-15). Most of the 12 study areas and the six project sites overlie the Downtown groundwater basin. SA-1, Lombard Street/Divisadero Street, and SA-2, Lombard Street/Van Ness Avenue, overlie the Marina groundwater basin. PS-6, 2225 Jerrold Avenue, overlies the Islais Valley groundwater basin.

With the exception of the Westside and Lobos basins, all of the groundwater basins are generally inadequate to supply a significant amount of groundwater for municipal supply due to low yield.[495] However, there is some limited local groundwater use, primarily for irrigation purposes, at the San Francisco Zoo and Golden Gate Park, which uses groundwater from the North Westside Groundwater Basin.[496] The San Francisco Groundwater Supply Project proposes the construction of up to six wells and associated facilities in the western part of San Francisco to extract up to 4 mgd of groundwater from the Westside Basin for distribution in the City. Construction is expected to be complete by 2015.[497] None of the study areas or project sites overlies the Westside groundwater basin.

Recharge

Impermeable surfaces associated with buildings, roadways, and parking at the study areas and project sites allow little to no infiltration of rainfall into underlying soils. There is little or no recharge in the program level study areas and project sites. There are no natural surface water bodies that provide recharge in or immediately adjacent to the study areas and project sites.

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[495] San Francisco Public Utilities Commission, *2005 Urban Water Management Plan for the City and County of San Francisco* (December 2005), p. 25.
[496] San Francisco Public Utilities Commission, San Francisco Groundwater Supply Project: Creating Local and Reliable Water Sources, http://www.sfwater.org/groundwater.
[497] SFPUC, *2010 Urban Water Management Plan for the City and County of San Francisco* (June 2011), p. 27.

SOURCE: City of San Francisco; California State Water Resources Control Board, 2012; Atkins 2013.

FIGURE 4.16-5: GROUNDWATER BASINS

Water Quality

Water quality in the Central Bay is saline and predominated by ocean influences. During periods of significant runoff, however, substantial freshwater migrates through San Pablo Bay and into San Francisco Bay from the Sacramento–San Joaquin River system. This inundation of freshwater can temporarily reduce the salinity of waters in the project vicinity to substantially less than ocean water.[498] Additionally, tidal currents influence circulation, flushing action, and water exchange within the Bay, thereby affecting sedimentation and water quality characteristics. Various contaminants from a variety of sources are transported into San Francisco Bay. These sources include urban uses, industrial outfalls, municipal wastewater outfalls, municipal stormwater, upstream farming, upstream historic and current mining discharges, legacy pollutants,[499] and various other pollutant sources.

4.16.2 Regulatory Framework

Federal and State

Water Quality

There are numerous federal, state, and regional laws and policies that pertain to the protection of water quality, including the federal Clean Water Act and its corresponding state legislation, the Porter-Cologne Water Quality Act, and related implementing programs and regulations. These include the National Permit Discharge Elimination System program and permits pertaining to wastewater discharges and stormwater runoff. Key legislation and regulations pertaining to water quality are summarized in Table 4.16-2, Key Water Quality Laws and Regulations, p. 4.16-17.

[498] Bay Institute, The Bay Institute Ecological Scorecard, *San Francisco Bay Water Quality Index* (October 17, 2003), http://www.bay.org/assets/Water_Quality.pdf (accessed February 13, 2012).

[499] Legacy pollutants are water quality constituents that are considered harmful to human health or the environment, that were historically emitted by industry or other human activities, and that are in general banned or significantly restricted from current usage. Examples include mercury, lead, PCBs, and DDT.

Table 4.16-2 Key Water Quality Laws and Regulations

Law/Regulation	*Summary*
Federal	
Clean Water Act of 1977 (CWA) (33 US Code [USC] Sections 1251 et seq.	Regulates discharges of pollutants into waters of the United States (not including groundwater) and waters of the state of California, and requires each state to adopt water quality standards for receiving water bodies and to have those standards approved by the USEPA.
CWA Section 402 (National Pollutant Discharge Elimination System [NPDES])	Regulates discharges of pollutants to surface water. The NPDES program requires all industrial facilities and municipalities of a certain size that discharge pollutants into waters of the United States to obtain a permit. Stormwater discharges into the San Francisco Bay region are commonly controlled through general and individual NPDES permits, which are adopted by the SWRCB (general permits) or San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) (individual permits), and are administered by the SFBRWQCB. This includes stormwater from construction sites.
CWA Section 402(q) (Combined Sewer Overflows [CSOs])	The general goals for combined sewer systems under the CSO Control Policy are to provide storage capacity for wet weather flows, to maximize flow to treatment facilities, and to minimize CSO discharges. The requirements of the CSO Policy are implemented through the City's NPDES permits issued by the SFBRWQCB.
CWA Section 303(d) (Total Maximum Daily Loads)	Requires each state to provide a list of impaired waters that do not meet or are expected not to meet state water quality standards as defined by Section 303(d), and to develop total maximum daily loads (TMDLs) from all pollution sources for such impaired water bodies. The SFBRWQCB has listed the Central Bay portion of the San Francisco Bay as well as Crissy Field Beach, Islais Creek and Mission Creek as impaired water bodies requiring TMDLs.
State	
Porter-Cologne Water Quality Control Act	Principal law governing water quality in California. The SWRCB and RWQCBs have permitting and enforcement authority to prevent and control waste discharges that could affect Waters of the State through the issuance of NPDES permits and WDRs. The project site is located in the San Francisco Bay Basin and subject to regulatory requirements of the SFBRWQCB.

NPDES General Permit for Discharges of Stormwater Associated with Construction Activities

For stormwater discharges associated with construction activity in the state of California, the SWRCB has adopted the General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities, Order No. 2009-0009-DWQ (Construction General Stormwater Permit) in order to avoid and minimize water quality impacts attributable to such activities. The Construction General Stormwater Permit became effective on July 1, 2010, and formally expired on September 2, 2014, but continues in force and effect until a new General Permit is issued or the SWRCB rescinds the 2010 General Permit. It applies to all projects where construction activity disturbs one or more acres of soil. Construction activities subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling or excavation. Implementation of the Proposed Project at PS-6, 2225 Jerrold Avenue, could involve activities that would be subject to this permit, and it could also apply to the study areas, depending on the types of tenant improvements that are implemented.

The Construction General Stormwater Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which includes and specifies best management practices (BMPs) designed to prevent pollutants from contacting stormwater and keep all products

of erosion from moving offsite into receiving waters. Routine inspection of all BMPs is required under the provisions of the Construction General Stormwater Permit. In addition, the SWPPP must contain a visual monitoring program, a chemical monitoring program for nonvisible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The Construction General Stormwater Permit is implemented and enforced by the San Francisco Bay RWQCB, which administers the stormwater permitting program for the program area. Dischargers are required to submit a notice of intent (NOI) and permit registration documents (PRDs) in order to, at the discretion of the SWRCB, obtain coverage under this Construction General Stormwater Permit. Dischargers are responsible for notifying the relevant RWQCB of violations or incidents of non-compliance, as well as for submitting annual reports identifying deficiencies of the BMPs and how the deficiencies were corrected.

The permit requires a risk-based permitting approach, dependent upon the likely level of risk imparted by a project. The permit also contains several additional compliance items, including (1) additional mandatory BMPs to reduce erosion and sedimentation, which may include incorporation of vegetated swales, setbacks and buffers, rooftop and impervious surface disconnection, bioretention cells, rain gardens, rain cisterns, implementation of pollution/sediment/spill control plans, training, and other structural and nonstructural actions; (2) sampling and monitoring for non-visible pollutants; (3) effluent monitoring and annual compliance reports; (4) development and adherence to a Rain Event Action Plan; (5) requirements for the post-construction period; (6) numeric action levels and effluent limits for pH and turbidity; (7) monitoring of soil characteristics onsite; and (8) mandatory training under a specific curriculum.

Statewide and Regional Planning Efforts to Address Sea Level Rise

California Executive Order S-13-08 addresses statewide planning for sea level rise. Pursuant to this executive order, the Department of Water Resources (DWR) along with four other California state agencies, the states of Oregon and Washington, and three federal agencies have engaged with the National Research Council to prepare the Sea Level Rise Assessment Report, which is expected to provide recommendations as to how California should plan for future sea level rise and will provide estimated values or a range of values for sea level rise along the West Coast for the years 2030, 2050, and 2100.[500] The State Coastal Conservancy and State Lands Commission have adopted, and the Governor of California's Delta Vision Blue Ribbon Task Force Independent Science Board has recommended, a projected sea level rise of 55 inches (4.6 feet) by 2100 for planning purposes. The State Coastal Conservancy and the State Lands Commission have also adopted a policy of using 16 inches (1.3 feet) of sea level rise by 2050. The BCDC is also involved in strategies concerning sea

[500] California Department of Water Resources (DWR), *Climate Change Characterization and Analysis in California Water Resources Planning Studies, Final Report* (December 2010), www.water.ca.gov/climatechange/docs/DWR_CCCStudy_FinalReport_Dec23.pdf (accessed June 2012).

level rise. The latest amendment to the Bay Plan was adopted in October 2011 (Resolution 11-08). This amendment added new climate change findings and policies and encourages jurisdictions to develop regional adaptive management strategies. It also revised findings and policies pertaining to tidal marsh and tidal flats, safety of fills, protection of shoreline, and public access. Specifically with regard to climate change, the BCDC amended the Bay Plan to revise the upper end year 2100 sea level rise from 55 inches to up to 69 inches.[501] Figure 4.16-4, Sea Level Rise, p. 4.16-10, identifies the study areas and project sites that would potentially be affected by sea level rise.

Regional

San Francisco Bay Basin Water Quality Control Plan (Basin Plan)

The SFBRWQCB administers the Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin. The Basin Plan establishes beneficial uses, water quality objectives, and actions necessary to control nonpoint and point sources of pollution to receiving waters in the San Francisco Bay region. The Basin Plan contains specific narrative and numeric water quality objectives for several physical properties (e.g., temperature, dissolved oxygen, turbidity, suspended solids), biological constituents (e.g., coliform bacteria), and chemical constituents of concern, including inorganic parameters and trace metals and organic compounds. The entire program relies on the implementation of BMPs. BMPs are methods used on construction sites to limit contact of pollutants (e.g., sediment and construction site debris) with stormwater runoff at its source; keep pollutants out of water conveyance systems and treatment plants; and remove pollutants before they are discharged into receiving waters (in this case, San Francisco Bay and the Pacific Ocean).

San Francisco Bay Plan

The BCDC is the federally-designated coastal management agency for the San Francisco Bay, responsible for maintaining and carrying out the policies of its San Francisco Bay Plan. Actions in certain tributaries to the Bay, salt ponds, and managed wetlands around the San Francisco Bay, or grading within 100 feet of the San Francisco Bay shoreline, among others, require permit approval from the BCDC. None of the 12 study areas or six project sites is located within 100 feet of the shoreline or under BCDC jurisdiction.

Local

San Francisco General Plan

The *General Plan* Environmental Protection and Community Facilities elements establish objectives and policies pertaining to water quality and provision of wastewater services on a citywide scale.[502]

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[501] San Francisco Bay Conservation Development Commission, Resolution No. 11-08 Adoption of Bay Plan Amendment No. 1-08 Adding New Climate Change Findings and Policies to the Bay Plan (October 2011).
[502] This includes storm drainage provided by the combined sewer system.

The *General Plan* Community Safety Element includes a map showing potential tsunami run-up areas. It also contains the following objective and policy:

Objective 3 Maintain and improve the quality of the Bay, Ocean, and shoreline areas.

Policy 3 Implement plans to improve sewage treatment and halt pollution of the Bay and Ocean.

Objective 5 Support seismic research through appropriate actions by all public agencies, and apply new knowledge as it becomes available.

Policy 5.2 Support and monitor research being conducted about the nature of seismic hazards in the Bay Area, including research on earthquake prediction and warning systems, on the risk of tsunamis, and on the performance of structures.

Objective 6 Conserve and protect the fresh water resource.

Policy 2 Encourage and promote research on the necessity and feasibility of water reclamation.

City of San Francisco Municipal Code

In compliance with the NPDES Municipal Permit, San Francisco Public Works Code Article 4.1 (Section 123) establishes that all dischargers comply with all federal and state orders issued to the City, including all of the City's NPDES permits. The Public Works Code also prohibits the discharge of hazardous waste (including stormwater runoff) and other pollutants that would violate the City's federal and state discharge permits.

Subdivision Regulations Chapters IV, XIII, and XIV contain standards pertaining to the design and capacity of storm sewer systems. While the Proposed Project is not anticipated to generate new or additional stormwater flows, additional wastewater generated by the Proposed Project uses would flow to the combined sewer system, and would, therefore, be regulated under those provisions.

San Francisco Stormwater Management Ordinance

The City and County of San Francisco has amended the San Francisco Public Works Code to add Article 4.2, Sections 147 to 147.6, requiring the development and maintenance of stormwater management controls for specified activities that disturb 5,000 square feet (sf) or more of the ground surface and are subject to building, planning and subdivision approvals. Tenant improvements in the study areas and at the project sites may involve activities that would be subject to this ordinance.

The intent of Sections 147 to 147.6 is to protect and enhance the water quality in the City and County of San Francisco's sewer system, stormwater collection system, and receiving waters pursuant to and consistent with federal and state laws, lawful standards and orders applicable to stormwater and urban runoff control, and the City's authority to manage and operate its drainage systems. Sections 147 to 147.6 protect the health, safety, and general welfare of the city's residents by:

1. Minimizing increases in pollution caused by stormwater runoff from development that would otherwise degrade local water quality
2. Controlling the discharge to the city's sewer and drainage systems from spills, dumping or disposal of pollutants
3. Reducing stormwater runoff rates, volume, and nonpoint source pollution whenever possible, through stormwater management controls, and ensuring that these management controls are safe and properly maintained

In accordance with the San Francisco Stormwater Management Ordinance, approved in April 2010, development projects that discharge stormwater to the combined sewer system must comply with the San Francisco Stormwater Design Guidelines developed by the SFPUC and the Port of San Francisco.[503] The Guidelines offer five tools to help project developers achieve compliance with stormwater management requirements:

- A step-by-step guide describing how to manage stormwater on site
- A set of stormwater BMP Fact Sheets
- A vegetation palette to assist in BMP-appropriate plant selection
- Sizing calculators to determine the required size of each BMP
- Maintenance checklists explaining the types and frequencies of the maintenance activities associated with each BMP

In accordance with the San Francisco Stormwater Design Guidelines, developers of projects that disturb more than 5,000 sf of ground surface must implement BMPs to reduce the flow rate and volume of stormwater going into the combined sewer system by achieving Leadership in Energy and Environmental Design (LEED®) Sustainable Sites Credit 6.1 (Stormwater Management Rate and Quantity). Development projects must also comply with San Francisco Public Works Code Article 4.2 and must submit a stormwater control plan (including an operations and maintenance plan). The SFPUC reviews the plan and certifies compliance with the San Francisco Stormwater Design Guidelines. Examples of BMPs that may be implemented include rainwater harvesting, rain

[503] San Francisco Public Utilities Commission and Port of San Francisco, San Francisco Stormwater Design Guidelines (November 2009; adopted by the SFPUC Commission January 12, 2010), http://sfwater.org/mto_main.cfm/MC_ID/14/ MSC_ID/361/MTO_ID/543; Stormwater Management Ordinance: Ordinance 83-10 (approved by the Board of Supervisors April 13, 2010, and signed by the Mayor April 22, 2010), http://www.sfbos.org/ftp/uploadedfiles/bdsupvrs/ordinances10/o0083-10.pdf.

gardens, green roofs, and permeable paving. (Separate requirements exist for parts of the City that have separate storm sewer systems.)

The SFPUC inspects stormwater BMPs once they are constructed, and any issues noted by the inspection must be corrected before the Certificate of Occupancy can be issued for the building. The owner is responsible for completing an annual self-certification inspection, and must submit completed checklists and maintenance logs for the year to the SFPUC. In addition, the SFPUC will inspect all stormwater BMPs every third year. Any issues identified by either inspection must be resolved before the SFPUC can renew the certificate of compliance.

Projects that are required to implement the San Francisco Stormwater Design Guidelines are also subject to review by the San Francisco Department of Building Inspection, and are subject to building codes that include provisions for managing drainage for new construction. Specifically, San Francisco Plumbing Code Section 306.2 and San Francisco Building Code Section 1503.4 allow roofs and other building areas to drain to locations other than the combined sewer. In 2008, the SFPUC, Department of Building Inspection, and Department of Public Health also entered into a Memorandum of Agreement concluding that applicants can safely harvest rainwater for use in non-potable applications such as toilet flushing, irrigation, and vehicle washing without treating it to potable standards.

Implementation of the low impact development measures described above helps to reduce and delay the volumes of discharge entering the combined sewer system, thereby reducing the frequency of combined sewer overflows, minimizing flooding effects, and protecting water quality. Other plans and ordinances also contribute to reducing the frequency of combined sewer overflows by addressing stormwater management. The Sewer Master Improvement Program will include collection system projects to upgrade the aging sewer system and better handle the City's sewage and stormwater flows by providing both grey and green infrastructure solutions. The Better Streets Plan identifies innovative methods for reducing stormwater runoff from streets and sidewalks to create a more attractive and sustainable public realm in San Francisco. The Green Building Ordinance expands the scope of the green building standards to apply to private developments and redevelopment projects in addition to public buildings; it fosters environmentally sensitive design and sustainability in new development projects. The stormwater management performance standards specified in the San Francisco Stormwater Design Guidelines were developed as part of this ordinance, and the ordinance provides the regulatory authority to implement stormwater management requirements in combined sewer areas.

Construction-related stormwater discharges are subject to the requirements of San Francisco Public Works Code Article 4.1, which incorporates and implements the City's NPDES permit and the nine minimum controls described in the federal CSO Control Policy. The minimum controls include development and implementation of a pollution prevention program. At a minimum, the City requires that the project sponsor develop and implement an erosion and sediment control plan to

reduce the impact of runoff from the construction site. The erosion and sediment control plan must be reviewed and approved by the City prior to implementation, and the City conducts periodic inspections to ensure compliance with the erosion and sediment control plan.

Emergency Response Plan

The City has an Emergency Response Plan (ERP) that was developed to ensure allocation and coordination of resources in the event of an emergency in the City and County of San Francisco. The ERP, which includes information about tsunami hazard, describes what the City's actions will be during an emergency response. In the event of a tsunami, occupants would be notified of the advisory, watch, or warning via the Outdoor Public Warning System, and notification of the local media, public address systems, and the Alert SF public notification system would occur. The notification would include instructions for walking to higher ground or evacuating and for obtaining basic services such as shelter, food, water, and medical services. Once the area is deemed safe for reentry, an all-clear public safety message would be broadcast.

4.16.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to hydrology and water quality, if it would:

- Violate any water quality standards or waste discharge requirements
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on site or off site
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site
- Create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff
- Otherwise substantially degrade water quality
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map

- Place within a 100-year flood hazard area structures that would impede or redirect flood flows
- Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam
- Expose people or structures to inundation by seiche, tsunami, or mudflow
- Expose people or structures to inundation by sea level rise

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to hydrology and water quality in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting. No buildings would be substantially expanded, no new buildings would be constructed, and any exterior ground disturbance would be limited to that associated with installation of anchoring and bracing that may be required for seismic safety improvements at buildings in the study areas and project sites. The analysis assumes the potential contributions of the Proposed Project to water quality effects would be to wastewater flows from residential and institutional uses conveyed to the City's combined sewer systems, stormwater runoff related to tenant improvements that involve exterior work in any of the study areas or at the project sites.

This section identifies program-level, project-level, and combined program-level and project-level. Unlike the project sites, where specific buildings have been identified, the program-level analysis assumes that within the designated study areas, AAU could occupy any building to accommodate future growth. However, beyond the project-level sites, no specific buildings within these areas have been identified. Additionally, the Proposed Project's potential contribution to cumulative hydrology and water quality impacts are evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the Project vicinity.

For the analysis of flood hazard impacts, the locations of the study areas and the project sites were overlain on maps that depict where 100-year flooding, tsunami run-up, and sea level rise pose a flood risk (Figure 4.16-2, Floodplains, p. 4.16-8; Figure 4.16-3, Tsunami Run-Up Areas, p. 4.16-9; and Figure 4.16-4, Sea Level Rise, p. 4.16-10, respectively). The impact analysis describes how flooding hazards are addressed by the City and County of San Francisco and the management strategies that are used to protect structures and people in the affected areas.

Based on the physical setting of the 12 study areas and six project sites, the Proposed Project would not result in impacts related to the following criteria, and no impact discussion is provided for these topics for the following reasons:

- **Depletion of Groundwater Supplies/Interference with Groundwater Recharge.** Groundwater is not currently used as a water supply source in any areas affected by the Proposed Project. Implementation of the Proposed Project would not affect the amount of groundwater recharge in the 12 study areas and six project sites as these areas consist primarily of buildings, surface parking, and other paved areas, with limited pervious surfaces, and there would be no new construction associated with Project implementation. Therefore, there would be no impact related to depletion of groundwater supplies or interference with groundwater recharge.
- **Alteration of Drainage Patterns.** The Proposed Project would not alter the course of any waterway or change the topography of any area, nor would the Proposed Project substantially increase the amount of impervious surface because the study areas and six project sites are nearly entirely covered with impervious surfaces. Therefore, there would be no impact related to erosion, siltation, or flooding resulting from alteration of drainage patterns (see Impact HY-3, below, for discussion of other flooding potential).
- **Failure of a Dam or Levee.** There are no dam or levee failure inundation hazards zones within any of 12 study areas or six project sites. The Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. Therefore, there would be no impact related to failure of a levee or dam.
- **Seiche and Mudflows.** Seiche and mudflow are not hazards for the 12 study areas and six project sites because seiche does not pose a hazard in San Francisco, and the study areas and project sites are situated in areas of the City where there is no mudflow risk. Therefore, there would be no impact related to seiche or mudflow.

This section of the EIR does not evaluate the shuttle service expansion because this element of the Proposed Project would have no effect on hydrology and water quality, nor would hydrology and water quality conditions affect the shuttle service. Therefore, no analysis of hydrology and water quality is warranted for this element of the Proposed Project.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010, when the NOP for this EIR was published. These sites are, therefore, considered part of the EIR baseline conditions. As such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.16.1, Environmental Setting, p. 4.16-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to

hydrology and water quality. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential effects to hydrology and water quality that resulted from pre-NOP changes would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes the 12 study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact HY-1.1 **The Proposed Project, including growth in the 12 study areas, would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality. (Less than Significant)**

The Proposed Project would not substantially degrade water quality or contaminate a public water supply. The Proposed Project would result in use of existing buildings and would generate wastewater from residential and institutional uses. For the purposes of this analysis it is assumed that existing buildings that AAU could occupy would be vacant, and, therefore, the Proposed Project would result in an increase to wastewater flows.

As stated in Impact UT-2.1 in Section 4.12, Utilities and Service Systems, the Proposed Project would not result in substantial increases in wastewater and stormwater generation beyond that which is associated with projected population growth, and Proposed Project flows would be accommodated by existing wastewater treatment facilities and improvements identified in the SSIP. The increase in wastewater flows would continue to flow into the City's combined stormwater and sewer system and would continue to be treated to the standards contained in the City's NPDES permit for the Southeast Water Pollution Control Plant or the NPDES permit for the North Point Water Pollution Control Plant, depending on the study area location. Therefore, project stormwater flows can be accommodated with little, if any, change in wastewater characteristics, the contribution of those flows from the study areas would have little, if any, effect on the quality of wastewater treated at and discharged from the City's permitted combined sewer system facilities. Therefore, the Proposed Project would not cause water quality violations or water quality degradation.

Additionally, if tenant improvements in the study areas involve activities that meet the criteria for the NPDES General Permit for Discharges of Stormwater Associated with Construction Activities and/or the City's Stormwater Management Ordinance, AAU would be required to comply with those requirements to protect water quality. Because there would be limited or no new runoff containing additional pollutants and the Proposed Project would be required to comply with applicable wastewater and water quality requirements, the potential for violations of water quality standards or degradation of water quality as a result of growth in the study areas would be negligible.

Therefore, the Proposed Project, including growth in the 12 study areas, would not cause any violations of water quality standards or waste discharge requirements, or otherwise degrade water quality, and this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact HY-1.2 **The Proposed Project, including growth at the six project sites, would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

The Proposed Project at PS-1 would involve the change of use of 133,675 sf of retail, commercial, and restaurant space to AAU institutional uses including classrooms, office space, a restaurant, multiuse/event space, and other space. This would include installation of signage, painting, replacement of ceiling tiles, limited concrete repairs in the interior courtyard, upgrades to the fire alarm system and installation of a security system. The Proposed Project at PS-1, 2801 Leavenworth, would not substantially degrade water quality or contaminate a public water supply, as proposed improvements and use would generate little or no increase in wastewater flows (see Impact UT-2.2 in Section 4.12, Utilities and Service Systems). Although AAU would increase activity at this location, wastewater quality would be similar to previous flows generated by retail, commercial, and restaurant tenants for which conveyance and treatment capacity have already been developed. As discussed in Section 4.12, wastewater and stormwater from PS-1 would continue to flow into the City's combined stormwater and sewer system and would be treated to the standards contained in the City's NPDES Permit for the Southeast Water Pollution Control Plant, prior to discharge into the

Pacific Ocean. Treatment would be provided pursuant to the effluent discharge standards contained in the City's NPDES permit for the plant.

The renovation at PS-1 would be limited to tenant improvements and there would be no change in impervious surfaces that would increase flows to be treated at the Southeast Water Pollution Control Plant. During improvements at PS-1 AAU would be required to comply with all wastewater discharge and water quality requirements. If tenant improvements at PS-1 involve activities that meet the criteria for the NPDES General Permit for Discharges of Stormwater Associated with Construction Activities and/or the City's Stormwater Management Ordinance, AAU would be required to implement those requirements to protect water quality.

Because there would be limited or no new runoff, and the Proposed Project at PS-1 would be required to comply with applicable wastewater and water quality requirements, the Proposed Project at PS-1 would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

The Proposed Project at PS-2 would involve the change of use of the entire 11,455 sf building to AAU uses, including office, classroom, restaurant, and other uses. Proposed tenant improvements at PS-2, including installation of signage, interior and exterior painting, installation of a security system, and interior construction associated with the conversion of space to AAU use, would not substantially degrade water quality or contaminate a public water supply.

The proposed institutional uses at PS-2 would generate little or no increase in wastewater flows (see Impact UT-2.2 in Section 4.12, Utilities and Service Systems). Although AAU would increase activity at this location, wastewater quality would be similar to previous flows generated by tenants for which conveyance and treatment capacity have already been developed. As discussed in Section 4.12, wastewater and stormwater from PS-2 would continue to flow into the City's combined stormwater and sewer system and would be treated to the standards contained in the City's NPDES Permit for the Southeast Water Pollution Control Plant, prior to discharge into the Pacific Ocean. Treatment would be provided pursuant to the effluent discharge standards contained in the City's NPDES permit for the plant.

The renovation at PS-2 would be limited to tenant improvements, and there would be no change in impervious surfaces that would increase flows to be treated at the Southeast Water Pollution Control Plant. During improvements at PS-2, AAU would be required to comply with all wastewater discharge and water quality requirements. If tenant improvements at this project site involve activities that meet the criteria for the NPDES General Permit for Discharges of Stormwater Associated with Construction Activities and/or the City's Stormwater Management Ordinance, AAU would be required to implement those requirements to protect water quality.

Because there would be limited or no new runoff and the Proposed Project at PS-2 would be required to comply with applicable wastewater and water quality requirements, the Proposed Project at PS-2 would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

The Proposed Project at PS-3 would include 93,103 sf of institutional space for AAU, including classrooms, offices, and a café for AAU use. Tenant improvements at this site including a partial roof replacement, painting, lighting replacement, installation of a new security system, and signage installation, would not substantially degrade water quality or contaminate a public water supply.

The proposed institutional uses at PS-3 would generate little or no increase in wastewater flows (see Impact UT-2.2 in Section 4.12, Utilities and Service Systems). Although AAU would increase activity at this location, wastewater quality would be similar to previous flows generated by tenants for which conveyance and treatment capacity have already been developed. As discussed in Section 4.12, wastewater and stormwater from PS-3 would continue to flow into the City's combined stormwater and sewer system and would be treated to the standards contained in the City's NPDES Permit for the Southeast Water Pollution Control Plant, prior to discharge into the Pacific Ocean. Treatment would be provided pursuant to the effluent discharge standards contained in the City's NPDES permit for the plant.

The renovation at PS-3 would be limited to tenant improvements, and there would be no change in impervious surfaces that would increase flows to be treated at the Southeast Water Pollution Control Plant. During improvements at PS-3 AAU would be required to comply with all wastewater discharge and water quality requirements. If tenant improvements at this project site involve activities that meet the criteria for the NPDES General Permit for Discharges of Stormwater Associated with Construction Activities and/or the City's Stormwater Management Ordinance, AAU would be required to implement those requirements to protect water quality.

Because there would be no new runoff and the Proposed Project at PS-3 would be required to comply with applicable wastewater and water quality requirements, the Proposed Project at PS-3 would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

The Proposed Project at PS-4 would involve the change of use of 80,330 sf of administrative office space for AAU (and 49,482 sf of parking that would continue to be operated by an independent parking vendor). Tenant improvements at PS-4, including painting and installation of carpeting, a

new security system, and signage, would not substantially degrade water quality or contaminate a public water supply. The proposed institutional uses at PS-4 would generate little or no increase in wastewater flows (see Impact UT-2.2 in Section 4.12, Utilities and Service Systems). Although AAU would increase activity at this location, wastewater quality would be similar to previous flows generated by tenants for which conveyance and treatment capacity have already been developed. As discussed in Section 4.12, wastewater and stormwater from PS-4 would continue to flow into the City's combined stormwater and sewer system and would be treated to the standards contained in the City's NPDES Permit for the Southeast Water Pollution Control Plant, prior to discharge into the Pacific Ocean. Treatment would be provided pursuant to the effluent discharge standards contained in the City's NPDES permit for the plant.

The renovation at PS-4 would be limited to tenant improvements, and there would be no change in impervious surfaces that would increase flows to be treated at the Southeast Water Pollution Control Plant. During improvements at PS-4 AAU would be required to comply with all wastewater discharge and water quality requirements. If tenant improvements at this project site involve activities that meet the criteria for the NPDES General Permit for Discharges of Stormwater Associated with Construction Activities and/or the City's Stormwater Management Ordinance, AAU would be required to implement those requirements to protect water quality.

Because there would be no new runoff and the Proposed Project at PS-4 would be required to comply with applicable wastewater and water quality requirements, the Proposed Project at PS-4 would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

The Proposed Project at PS-5 would include use of the site as a bus storage yard. At full use, PS-5 would accommodate approximately two staff in trailers. Tenant improvements at this site would include signage installation and parking area repaving. Shuttle service would not be expanded to serve this location. AAU could increase activity at this location, however, the wastewater volume and quality would be similar to flows generated by former uses, for which conveyance and treatment capacity have already been developed. AAU's use of PS-5 would not result in modifications that could change the amount of impervious surface cover at the site or alter the local stormwater drainage system. There would be no construction activities involving physical changes to the ground surface that could introduce pollutants in stormwater. PS-5 is a bus parking lot, which generates some stormwater runoff likely to contain oil, grease, and metals. The proposed use as a shuttle storage yard would not materially change the constituents in stormwater runoff. Therefore, the Proposed Project at PS-5 would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and this impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

PS-6 would not substantially degrade water quality or contaminate a public water supply. The Proposed Project at PS-6 would convert 73,834 sf to AAU office uses, general storage (for AAU and the San Francisco Fire Department), vehicle storage (both inside and outside of the yard for San Francisco Fire Department trucks, San Francisco Toy Program vans, other trucks, and tractor-trailers), and miscellaneous storage, as well as 17,533 sf of new recreational uses. The office uses that are proposed would include administrative offices for business and transportation operations, a security patrol office, an athletic personnel office, and the San Francisco Toy Program offices. Tenant improvements at this site would include interior construction associated with installation of recreational uses, signage installation, painting (both interior and exterior), addition of a new fire alarm, installation of a security system, and replacement of sidewalk, street curbs and landscaping along the McKinnon Avenue side of the site.

The proposed institutional uses at PS-6 would generate a little or no increase in wastewater flows (see Impact UT-2.2 in Section 4.12, Utilities and Service Systems). Although AAU would increase activity at this location, wastewater quality would be similar to previous flows generated by tenants for which conveyance and treatment capacity has already been developed. As discussed in Section 4.12, wastewater and stormwater from PS-6 would continue to flow into the City's combined stormwater and sewer system and would be treated to the standards contained in the City's NPDES Permit for the Southeast Water Pollution Control Plant, prior to discharge into the Pacific Ocean. Treatment would be provided pursuant to the effluent discharge standards contained in the City's NPDES permit for the plant.

Tenant improvements at PS-6 are not expected to result in changes in impervious surfaces and, therefore, would not increase flows to be treated at the Southeast Water Pollution Control Plant. However, if tenant improvements at this project site involve activities that meet the criteria for the NPDES General Permit for Discharges of Stormwater Associated with Construction Activities and/or the City's Stormwater Management Ordinance, AAU would be required to implement those requirements to protect water quality.

Because there would be no new runoff and the Proposed Project at PS-6 would be required to comply with applicable wastewater and water quality requirements, the Proposed Project at PS-6 would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact HY-1.3 The Proposed Project, including growth in the 12 study areas and at the six project sites, would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality. (Less than Significant)

The Proposed Project, including growth in the 12 study areas and the six project sites, would not substantially degrade water quality or contaminate a public water supply. As described above, the proposed institutional and residential uses would generate a minimal increase in wastewater flows (see Impact UT-2.3 in Section 4.12, Utilities and Service Systems). Although AAU would increase activity in the study areas and at project sites, wastewater quality would be similar to previous flows generated by tenants for which conveyance and treatment capacity has already been developed. As discussed in Section 4.12, wastewater and stormwater from the study areas and project sites would continue to flow into the City's combined stormwater and sewer system and would be treated to the standards contained in the City's NPDES Permit for the Southeast Water Pollution Control Plant, prior to discharge into the Pacific Ocean. Treatment would be provided pursuant to the effluent discharge standards contained in the City's NPDES permit for the plant.

Renovation would be limited to tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), fire sprinkler/fire alarm upgrades, seismic retrofit work, and addition of exterior signage and lighting, and there would be no change in impervious surfaces that would increase flows to be treated at the Southeast Water Pollution Control Plant. If tenant improvements in the study areas or at the project sites involve activities that meet the criteria for the NPDES General Permit for Discharges of Stormwater Associated with Construction Activities and/or the City's Stormwater Management Ordinance, AAU would be required to implement those requirements to protect water quality.

Because there would be no new runoff and the Proposed Project would be required to comply with applicable wastewater and water quality requirements, the Proposed Project would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact HY-2.1 **The Proposed Project, including growth in 12 study areas, would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff. (Less than Significant)**

Stormwater runoff is generated from building rooftops, adjacent hardscaping, parking lots, and the roadways that provide access to the 12 study areas. The Proposed Project is limited to interior tenant improvements and minor construction activities such as interior construction (e.g., drywall, paint, and lighting), fire sprinkler/fire alarm upgrades, seismic retrofit work, and/or addition of exterior signage, awnings, windows, or lighting, which would not change the amount of impervious surfaces within any of the 12 study areas. Therefore, the Proposed Project would not generate additional stormwater flows. If seismic safety improvements are determined to be necessary through site-specific structural evaluations and the improvements involve ground disturbance of more than 5,000 sf, the Proposed Project would be required to comply with the City's Stormwater Management Ordinance. All stormwater would continue to flow into the City's combined sewer system. Because there would be limited to no increase in stormwater flows or sources of polluted runoff associated with the Proposed Project, the combined sewer system would continue to accommodate any AAU growth within the 12 study areas. Therefore, the Proposed Project uses in the 12 study areas would not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff, and this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact HY-2.2 **The Proposed Project, including growth at the six project sites, would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**

- **PS-5, 121 Wisconsin Street: No Impact**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

PS-1 would involve limited construction work, including minor tenant improvements, and would not result in modifications to the project site that would change the amount of impervious surface or alter the local stormwater drainage system. The Proposed Project at PS-1 would not contribute any substantial new stormwater flows, because it would not increase impervious surfaces. Therefore, it would not affect the quantity or rate of stormwater runoff in the surrounding area, and any potential increases in stormwater flows could be accommodated by the existing City's combined sewer system. Further, there would be limited new potential sources of pollution in runoff because there would be no new impervious surfaces generating runoff compared to existing conditions. If seismic safety improvements are determined to be necessary through site-specific structural evaluations and the improvements involve ground disturbance of more than 5,000 sf, AAU would be required to comply with the City's Stormwater Management Ordinance.

Because the Proposed Project at PS-1 would not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff, this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

PS-2 would involve limited construction work, including minor tenant improvements, and would not result in modifications to PS-2 that could change the amount of impervious surface or alter the local stormwater drainage system. The Proposed Project at PS-2 would not contribute any substantial new stormwater flows, because it would not increase impervious surfaces. Therefore, it would not affect the quantity or rate of stormwater runoff in the surrounding area, and any potential increases in stormwater flows could be accommodated by the existing City's combined sewer system. Further, there would be limited new potential sources of pollution in runoff because there would be no new impervious surfaces generating runoff compared to existing conditions. If seismic safety improvements are determined to be necessary through site-specific structural evaluations, and the improvements involve ground disturbance of more than 5,000 sf, AAU would be required to comply with the City's Stormwater Management Ordinance.

Because the Proposed Project at PS-2 would not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the

capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff, this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

PS-3 would involve limited construction work, including interior tenant improvements, and would not result in modifications to PS-3 that could change the amount of impervious surface or alter the local stormwater drainage system. The Proposed Project at PS-3 would not contribute any new substantial stormwater flows because it would not increase impervious surfaces. Therefore, it would not affect the quantity or rate of stormwater runoff in the surrounding area, and, any potential increases in stormwater flows could be accommodated by the existing City's combined sewer system. Further, there would be limited new potential sources of pollution in runoff because there would be no new impervious surfaces generating runoff compared to existing conditions. If seismic safety improvements are determined to be necessary through site-specific structural evaluations and the improvements involve ground disturbance of more than 5,000 sf, AAU would be required to comply with the City's Stormwater Management Ordinance.

Because the Proposed Project at PS-3 would not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff, this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

PS-4 would involve limited construction work, including minor tenant improvements, and would not result in modifications to PS-4 that could change the amount of impervious surface or alter the local stormwater drainage system. The Proposed Project at PS-4 would not contribute any new substantial stormwater flows because it would not increase impervious surfaces. Therefore, it would not affect the quantity or rate of stormwater runoff in the surrounding area, and any potential increases in stormwater flows could be accommodated by the existing City's combined sewer system. Further, there would be limited new potential sources of pollution in runoff because there would be no new impervious surfaces generating runoff compared to existing conditions. If seismic safety improvements are determined to be necessary through site-specific structural evaluations and the improvements involve ground disturbance of more than 5,000 sf, the Proposed Project would be required to comply with the City's Stormwater Management Ordinance.

Because the Proposed Project at PS-4 would not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would

result in flooding on site or off site, or create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff, this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

PS-5 would not result in modifications that could change the amount of impervious surface cover at the project site, or alter the local stormwater drainage system. As such, the Proposed Project would not affect the quantity or rate of stormwater runoff in the surrounding area and, therefore, would have no effect on the City's stormwater drainage system capacity or potential to cause or exacerbate flooding on or off site. There would be no construction activities involving physical changes to the ground surface that could introduce pollutants in stormwater. PS-5 was a bus parking lot prior to AAU occupancy, generating some stormwater runoff likely to contain oil, grease, and metals. The proposed use as a shuttle bus storage yard would not represent a change in use, so constituents in stormwater runoff would not differ from existing conditions in terms of potential water quality effects.

Because the Proposed Project at PS-5 would not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff, no impact would occur.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

PS-6 would not result in modifications that could change the amount of impervious surface or alter the local stormwater drainage system. The Proposed Project at PS-6 would not contribute any new substantial stormwater flows because it would not increase impervious surfaces. Therefore, it would not affect the quantity or rate of stormwater runoff in the surrounding area, and any potential increases in stormwater flows could be accommodated by the existing City's combined sewer system. Further, there would be limited new potential sources of pollution in runoff because there would be no new impervious surfaces generating runoff compared to existing conditions. If seismic safety improvements are determined to be necessary through site-specific structural evaluations and the improvements involve ground disturbance of more than 5,000 sf, the AAU would be required to comply with the City's Stormwater Management Ordinance.

Because the Proposed Project at PS-6 would not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the

capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff, this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact HY-2.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff. (Less than Significant)**

Occupation and change in use of existing buildings in the 12 study areas and six project sites would be limited to tenant improvements such as interior construction (e.g., drywall, paint, and lighting), fire sprinkler/fire alarm upgrades, seismic retrofit work, and addition of exterior signage and lighting.

Therefore, the Proposed Project would not result in a net increase in stormwater flows compared to existing conditions because the amount of impervious surfaces generating stormwater runoff would remain unchanged. The capacity of existing or planned storm sewer system enhancements would be unaffected. Rooftops, hardscaping, and parking areas would remain the primary sources of pollutants in runoff, and the renovation and change in use of the existing buildings would not alter the types or amounts of pollutants in stormwater runoff. There would be no increased potential for flooding in areas already prone to flooding, nor would the Proposed Project increase flood risk in areas not currently susceptible to localized flooding because the Proposed Project would not result in a change in stormwater flows. If seismic safety improvements are determined to be necessary through site-specific structural evaluations and the improvements involve ground disturbance of more than 5,000 sf, AAU would be required to comply with the City's Stormwater Management Ordinance.

Because the Proposed Project would not substantially alter the existing drainage pattern of the site or area or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or create or contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff, this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact HY-3.1 **The Proposed Project, including growth in the 12 study areas would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or place within a 100-year flood hazard area structures that would impede or redirect flood flows. (No Impact)**

The Proposed Project AAU would include the change of use and occupation of existing buildings in the study areas. The only AAU study area within a potential flood hazard area is SA-10, Fifth Street/Brannan Street, which is partially within a SFHA (see Figure 4.16-2, Floodplains, p. 4.16-8). The area at risk of 100-year flooding, as delineated by FEMA, is generally between Brannan and King Streets. It is designated Zone A, which is defined as an area with a one percent chance of flooding and a 26 percent chance of flooding over the life of a 30-year mortgage. Because no new housing would be placed in SA-10 and no new buildings would be constructed that could impede or redirect flood flows, there would be no impact related to 100-year flood hazard.

However, according to BCDC forecast scenarios for sea level rise (Figure 4.16-4, Sea Level Rise, p. 4.16-10), three study areas (SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; and SA-11, Sixth Street/Folsom Street) could be partially susceptible to sea level rise effects by 2100, and SA-10, Fifth Street/Brannan Street, is projected to be partially inundated by mid-century (2050) and almost entirely inundated by 2100. Although flooding could occur during the lifespan of the Proposed Project, the degree of flooding that could occur is unknown in projecting sea level rise beyond the year 2050. Further, no housing is proposed within these study areas.

The existing buildings in those study areas could be exposed to sea level rise-induced flooding regardless of whether the Proposed Project is implemented, and there are no aspects of the Proposed Project that would change flood potential due to sea level rise because no new structures are proposed. Additionally, the City could implement adaptive management strategies to address sea level rise effects for existing development, which could include buildings AAU would occupy.

Therefore, the Proposed Project in the study areas would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or place within a 100-year flood hazard area structures that would impede or redirect flood flows, and no impact would occur.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact HY-3.2 **The Proposed Project, including growth at the six project sites, would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or place within a 100-year flood hazard area structures that would impede or redirect flood flows. (No Impact)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): No Impact**
- **PS-2, 700 Montgomery Street: No Impact**
- **PS-3, 625 Polk Street: No Impact**
- **PS-4, 150 Hayes Street: No Impact**
- **PS-5, 121 Wisconsin Street: No Impact**
- **PS-6, 2225 Jerrold Avenue: No Impact**

PS-1, 2801 Leavenworth Street (The Cannery)

PS-1 is not located in a SFHA (see Figure 4.16-2, Floodplains, p. 4.16-8). No residential uses are proposed at PS-1, and there would be no new buildings constructed at PS-1.

According to BCDC forecast scenarios for sea level rise, PS-1 could be susceptible to sea level rise by end-of-century (2100), (see Figure 4.16-4, Sea Level Rise, p. 4.16-10). Although flooding could occur during the lifespan of the Proposed Project at PS-1, the degree of flooding that could occur is unknown in projecting sea level rise beyond the year 2050. Additionally, sea level rise would occur regardless of whether the Proposed Project is implemented, and there are no aspects of the Proposed Project that would change flood potential due to sea level rise because no new construction is proposed that would alter where flooding could occur (e.g., by redirecting flood paths). Further, the Proposed Project would not place residents in an area subject to sea level rise. Additionally, the City could implement adaptive management strategies to address sea level rise effects for existing development, which would include PS-1.

Therefore, the Proposed Project at PS-1 would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or place within a 100-year flood hazard area structures that would impede or redirect flood flows, and there would be no impact.

Mitigation: None required.

PS-2, 700 Montgomery Street

PS-2 is not located in a SFHA (see Figure 4.16-2, Floodplains, p. 4.16-8). No residential uses are proposed, and there would be no new buildings constructed at PS-2. According to BCDC forecast scenarios for sea level rise, PS-2 is not located in an area that is likely to be affected by sea level rise. Because the Proposed Project PS-2 is not located in a floodplain or an area that would be affected by sea level rise, would not place housing within a 100-year flood hazard area as mapped on a federal

Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, and would not place within a 100-year flood hazard area structures that would impede or redirect flood flows, there would be no impact.

Mitigation: None required.

PS-3, 625 Polk Street

PS-3 is not located in a SFHA (see Figure 4.16-2, Floodplains, p. 4.16-8). No residential uses are proposed at PS-3, and no new buildings would be constructed at PS-3. According to BCDC forecast scenarios for sea level rise, PS-3 is not located in an area that is likely to be affected by sea level rise.

Because the Proposed Project at PS-3 is not located in a floodplain or an area that would be affected by sea level rise, would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, and would not place within a 100-year flood hazard area structures that would impede or redirect flood flows, there would be no impact.

Mitigation: None required.

PS-4, 150 Hayes Street

PS-4 is not located in a SFHA (see Figure 4.16-2, Floodplains, p. 4.16-8). No residential uses are proposed at PS-4, and no new buildings would be constructed at PS-4. According to BCDC forecast scenarios for sea level rise, PS-4 is not located in an area that is likely to be affected by sea level rise.

Because the Proposed Project at PS-4 is not located in a floodplain or an area that would be affected by sea level rise, would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, and would not place within a 100-year flood hazard area structures that would impede or redirect flood flows, there would be no impact.

Mitigation: None required.

PS-5, 121 Wisconsin Street

PS-5 is not located in a SFHA (see Figure 4.16-2, Floodplains, p. 4.16-8). No residential uses are proposed at PS-5, and no new buildings would be constructed. According to BCDC forecast scenarios for sea level rise, PS-5 is not located in an area that is likely to be affected by sea level rise.

Because the Proposed Project at PS-5 is not located in a floodplain or an area that would be affected by sea level rise, would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, and would not place within a 100-year flood hazard area structures that would impede or redirect flood flows, there would be no impact.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

PS-6 is not located in a SFHA (see Figure 4.16-2, Floodplains, p. 4.16-8). No residential uses are proposed at PS-6, and no new buildings would be constructed.

According to BCDC forecast scenarios for sea level rise, PS-6 could be susceptible to sea level rise by end-of-century (2100), (see Figure 4.16-4, Sea Level Rise, p. 4.16-10). Although flooding could occur during the lifespan of the Proposed Project at PS-6, the degree of flooding that could occur is unknown in projecting sea level rise beyond the year 2050. Additionally, sea level rise would occur regardless of whether the Proposed Project is implemented, and there are no aspects of the Proposed Project that would change flood potential due to sea level rise because no new construction is proposed that would alter where flooding could occur (e.g., by redirecting flood paths). Further, the Proposed Project would not place residents in an area subject to sea level rise. Additionally, the City could implement adaptive management strategies to address sea level rise effects for existing development, which would include PS-6.

Therefore, the Proposed Project at PS-6 would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or place within a 100-year flood hazard area structures that would impede or redirect flood flows, and there would be no impact.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact HY-3.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or place within a 100-year flood hazard area structures that would impede or redirect flood flows. (Less than Significant)**

The Proposed Project AAU would include the change of use and occupation of existing buildings in the study areas and at the six project sites. One study area (SA-10, Fifth Street/Brannan Street) is partially within a SFHA (see Figure 4.16-2, Floodplains, p. 4.16-8). None of the other study areas is within a SFHA. No housing beyond current housing is proposed in SA-10. None of the project sites is in a SFHA. The Proposed Project would not place housing within a 100-year flood hazard area, and it would not place structures in a SFHA that would impede or redirect flood flows.

However, according to BCDC forecast scenarios for sea level rise, (refer to Figure 4.16-4, Sea Level Rise, p. 4.16-10), three study areas (SA-7, Rincon Hill East; SA-10, Fifth Street/Brannan Street; and SA-11, Sixth Street/Folsom Street) and one project site (PS-1, 2801 Leavenworth Street [The

Cannery]) could be vulnerable to sea level rise by 2100. One study area (SA-10) would likely experience sea level rise flooding by mid-century (2050). This would occur regardless of whether the Proposed Project is implemented, and there are no aspects of the Proposed Project that would change flood potential due to sea level rise because no new structures are proposed. Adaptive management strategies implemented by the City would address sea level rise effects for existing development in the study areas and project sites.

Therefore, the Proposed Project would not place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or place within a 100-year flood hazard area structures that would impede or redirect flood flows, and this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact HY-4.1 **The Proposed Project, including growth in 12 study areas would not expose people or structures to inundation by tsunami. (Less than Significant)**

As shown on Figure 4.16-3, Tsunami Run-Up Areas, p. 4.16-9, SA-10, Fifth Street/Brannan Street, could be vulnerable to tsunami, Within SA-10, run-up is estimated at approximately eight feet and buildings in the southeast portion of SA-10 could be susceptible to damage. The Proposed Project would result in a change in use of existing buildings that would attract additional occupants and visitors to buildings. If a tsunami were to occur, this could expose building occupants to risk of injury or death. The City has developed tsunami response procedures through its Emergency Response Plan: Tsunami Annex and its Emergency Operations Plan, which would be implemented in the event of a tsunami to help minimize losses. In addition, AAU has a campus safety plan that addresses emergency evacuation procedures and is intended to reduce the possibility of death and injury to members of the campus community, which would cover all AAU campus property including the study areas. Therefore, the Proposed Project in the study areas would not expose people or structures to inundation by tsunami, and this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact HY-4.2 **The Proposed Project, including growth at the six project sites would not expose people or structures to inundation by tsunami. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: No Impact**
- **PS-3, 625 Polk Street: No Impact**
- **PS-4, 150 Hayes Street: No Impact**
- **PS-5, 121 Wisconsin Street: No Impact**

- **PS-6, 2225 Jerrold Avenue: No Impact**

PS-1, 2801 Leavenworth Street (The Cannery)

As shown on Figure 4.16-3, Tsunami Run-Up Areas, p. 4.16-9, PS-1 could be susceptible to tsunami run-up of up to approximately 10 feet. The building could be susceptible to damage, which could pose a safety risk to occupants and visitors. The tenant improvements are not expected to involve modifications to the buildings' structural components, unless such modifications are determined to be necessary through site-specific structural evaluations. As such, the Proposed Project would not change how buildings could perform if a tsunami were to reach the building. However, the Proposed Project would attract additional or new occupants and visitors to this site. If a tsunami were to occur, this could expose building occupants to risk of injury or death. The City has developed tsunami response procedures through its Emergency Response Plan: Tsunami Annex and its Emergency Operations Plan, which would be implemented in the event of a tsunami to help minimize losses. In addition, AAU has a campus safety plan that addresses emergency evacuation procedures and is intended to reduce the possibility of death and injury to members of the campus community, which would cover all AAU campus property including PS-1.

Therefore, the Proposed Project at PS-1 would not expose people or structures to inundation by tsunami, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

PS-2 is not located in an area vulnerable to tsunami risk. Therefore, the Proposed Project at PS-2 would result in no impact.

Mitigation: None required.

PS-3, 625 Polk Street

PS-3 is not located in an area vulnerable to tsunami risk. Therefore, the Proposed Project at PS-3 would result in no impact.

Mitigation: None required.

PS-4, 150 Hayes Street

PS-4 is not located in an area vulnerable to tsunami risk. Therefore, the Proposed Project at PS-4 would result in no impact.

Mitigation: None required.

PS-5, 121 Wisconsin Street

PS-5 is not located in an area vulnerable to tsunami risk. Therefore, the Proposed Project at PS-5 would result in no impact.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

PS-6 is not located in an area vulnerable to tsunami risk. Therefore, the Proposed Project at PS-6 would result in no impact.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact HY-4.3 The Proposed Project, including growth in the 12 study areas and at the six project sites, would not expose people or structures to inundation by tsunami. (Less than Significant)

One study area (SA-10, Fifth Street/Brannan Street) and one project site (PS-1, 2801 Leavenworth Street [The Cannery]) are located in areas where tsunami could pose a risk. Buildings could be susceptible to damage, which could pose a safety risk to occupants and visitors as a result of a change of use in buildings at SA-10 and at PS-1. Tsunami hazards would occur regardless of whether the Proposed Project is implemented. The tenant improvements are not expected to involve modifications to the buildings' structural components, unless such modifications are determined to be necessary through site-specific structural evaluations. As such, the Proposed Project would not change how buildings could perform if a tsunami were to reach the building. The Proposed Project would attract additional or new occupants and visitors to these locations. If a tsunami were to occur, this could expose occupants to risk of injury or death. AAU has a campus safety plan that addresses emergency evacuation procedures and is intended to reduce the possibility of death and injury to members of the campus community, which would be applied to all campus areas, including the study areas and project sites. In addition, the City has developed tsunami response procedures through its Emergency Response Plan: Tsunami Annex and its Emergency Operations Plan, which also would be implemented in the event of a tsunami to help minimize losses.

Therefore, the Proposed Project would not substantially expose people or structures to inundation by tsunami, and this impact would be less than significant.

Mitigation: None required.

Cumulative Impacts

The geographic context for this analysis includes the 12 study areas and six project sites, and those areas that generate wastewater and stormwater runoff that drains to the same facilities as the

Proposed Project. The cumulative context for the Proposed Project is downtown San Francisco, the Van Ness Avenue corridor, the Market Street corridor, the South of Market district, the Lombard Street corridor, the Fisherman's Wharf area, the Showplace Square/Potrero neighborhood, and parts of Bayview Hunters Point. This includes specific proposed development projects such as the 5M Project, the Moscone Center Expansion Project, 598 Brannan, and the 350 Eighth Project, as well as implementation of planning efforts for the Western SoMa Plan, the Central SoMa Plan, and the East SoMa Plan. Further detail regarding these and other cumulative projects considered in this analysis is included in Table 4-1, Cumulative Projects.

Impact C-HY-1 The implementation of the Proposed Project, in combination with past, present, and reasonably foreseeable future projects in the vicinity, would not contribute considerably to a cumulative impact on hydrology and water quality. (Less than Significant)

As discussed above, the improvements that could occur with implementation of the Proposed Project would be completed in compliance with regulatory requirements that would reduce direct hydrology and water quality impacts to less-than-significant levels. The Proposed Project would not ultimately result in significant changes to existing drainage patterns, and potential changes related to stormwater quality, stormwater flows, and flooding would be minimized via the implementation of stormwater quality control measures. Impacts due to flooding from tsunami and sea level rise would be site-specific and would not combine to create a cumulative effect.

Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. Impacts of these other projects could combine with the less-than-significant incremental impacts of the Proposed Project to compound or increase any existing hydrology or water quality-related problems. Such cumulative impacts could include, for example, cumulative reductions in the water quality of San Francisco Bay, or degradation of urban stormwater quality. However, as with the Proposed Project, other projects within this geographic context also would be required to implement regulatory requirements that would minimize hydrology and water quality impacts by assuring compliance with system-wide requirements for volume, capacity and treatment.

Therefore, the contribution of potential impacts from the Proposed Project to cumulative hydrology and water resources impacts would not be cumulatively considerable, and this impact would be less than significant.

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4.17 HAZARDS AND HAZARDOUS MATERIALS

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to result in hazards or hazardous materials impacts. This section describes hazardous material use and waste generation in the 12 study areas and six project sites, including environmental contamination associated with historical land uses, and a summary of the relevant hazards and hazardous materials regulations applicable to the Proposed Project. No hazards or hazardous materials issues were raised during the NOP scoping period.

4.17.1 Environmental Setting

General Background

Definition of Hazardous Materials and Wastes

Hazardous materials, defined in California Health and Safety Code (CHSC) Section 25501(o), are materials that, because of their quantity, concentration, or physical or chemical characteristics, pose a significant present or potential hazard to human health and safety or to the environment if released to the workplace or environment. Hazardous materials have been and are commonly used in commercial, agricultural, and industrial applications as well as in residential areas to a limited extent.

A waste is any material that is relinquished, recycled, or inherently waste-like. California Code of Regulations (CCR) Title 22, Chapter 11, Identification and Listing of Hazardous Waste, contains regulations for the classification of hazardous wastes (22 CCR Sections 66261.1 et seq.). A waste is considered a hazardous waste if it is toxic (causes human health effects), ignitable (has the ability to burn), corrosive (causes severe burns or damage to materials), or reactive (causes explosions or generates toxic gases) in accordance with the criteria established in CCR Chapter 11, Article 3. Articles 4 and 4.1 also list specific hazardous wastes, and Article 5 identifies specific waste categories, including federal Resource Conservation and Recovery Act (RCRA) hazardous wastes, non-RCRA hazardous wastes, extremely hazardous wastes, hazardous wastes of concern, and special wastes. If improperly handled and if released to the soil, groundwater, or air (in the form of vapors, fumes, or dust), hazardous materials and wastes can result in public health hazards.

Overview of Hazardous Building Materials

The Proposed Project area has had various periods of development over its history, and many of the existing structures were built decades ago. Like many older buildings, these structures may contain building materials that can be hazardous to people and the environment once disturbed. Typical hazardous materials in buildings of this age include lead–based paint (LBP), asbestos, and polychlorinated biphenyls (PCBs).

Lead-Based Paint

Prior to the United States Environmental Protection Agency (USEPA) ban in 1978, LBP was commonly used on interior and exterior building surfaces. Through such disturbances as sanding and scraping activities, renovation work, or gradual wear and tear, old peeling paint or paint dust particulates have been found to contaminate surface soils or cause lead dust to migrate and affect long-term indoor air quality. Exposure to lead can cause severe adverse health effects, especially in children.

Asbestos

Asbestos is a naturally occurring fibrous material that was extensively used as a fireproofing and insulating agent in building construction materials before such uses were banned by the USEPA in the 1970s. Asbestos commonly was used for insulation of heating ducts as well as ceiling and floor tiles, to name a few typical types of materials. While contained within building materials, asbestos fibers present no significant health risk, but once these tiny fibers (that cannot be seen with the naked eye) are disturbed, they can become airborne. Once inhaled, they can become lodged in the lungs, potentially causing increased incidence of lung disease or other pulmonary complications.

Polychlorinated Biphenyls

PCBs are petroleum-based oils that formerly were used primarily as insulators in many types of electrical equipment, including transformers and capacitors. After PCBs were determined to be carcinogenic in the mid to late 1970s, the USEPA banned PCB use in most new equipment and began a program to phase out certain existing PCB-containing equipment. Fluorescent lighting ballasts manufactured after January 1, 1978, do not contain PCBs and are required to have a label clearly stating that PCBs are not present in the unit.

Underground Storage Tanks

Older structures in San Francisco commonly had underground storage tanks (USTs) that were used for various purposes, including the storage of heating oil or for refueling of combustion-engine vehicles and equipment. Many USTs have been decommissioned and removed over the last several decades, but some remain. USTs have the potential to leak hazardous materials into the groundwater and soil over time.

Hazardous Materials Usage in AAU Facilities

Existing AAU institutional and residential facilities use hazardous materials or products containing hazardous materials. At institutional use locations, activities such as painting, ceramics, sculpture, metalwork and machining, printmaking, textile arts (e.g., silkscreen), and photography include use of a variety of commercial art-related products, some of which are regulated under federal and state laws and regulations as hazardous materials. Typical examples of other products that may be regulated as hazardous materials, depending on the chemicals present in them, include oil-based

paints, inks, dyes, solvents, glues and adhesives, curing agents, and glazes. At AAU facilities where hazardous materials are used in art studios, small amounts of hazardous waste are generated that must be disposed of as hazardous waste. Those facilities are regulated by the U.S. USEPA as "small-quantity generators" (SQGs)[504] of hazardous wastes.

For the office and residential uses, hazardous materials are generally limited to commercial household-type consumer products such as cleaners, disinfectants, and chemical agents required to maintain the sanitation of the residential areas, and commercial bathrooms and food preparation areas. Other routine maintenance products include paints and pesticides. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. Use of these materials generates household-type hazardous waste.

Health Effects of Hazardous Materials Usage in AAU Facilities

The following summarizes some of the health hazards that the types of hazardous materials that AAU uses as listed above can pose. However, it is important to note that whether an individual would experience an adverse effect from exposure to a hazardous material is a function of the mechanism of exposure, the duration, the amount of material, and the toxicity or other hazardous property of the material.

As noted above, the types of substances utilized at AAU facilities that could result in adverse health effects include paint and other pigments, paint binders, printmaking solvents, photographic processing chemicals, and ceramic glazes. Paints are a hazard if powdered pigments are used. Some pigments made from metals can cause cancer and other health problems if the powder is inhaled. AAU encourages the use of water-based paints, which are less hazardous than oil-based paints. However, many water-based acrylic paints contain small amounts of ammonia and formaldehyde, which can cause eye, nose, and throat irritation. Paint binders, such as mineral spirits and turpentine, and solvents used in varnishes are skin and inhalation hazards, and some are cancer-causing. Printmaking methods use a variety of hazardous solvents, acids, pigments, and processes. Common toxic pigments found in inks are the same as those found in paints. Many of the chemicals used in photographic processing, such as acids, formaldehyde, solvents, amines, and bleaches can cause severe skin problems, and in some cases lung damage from the inhalation of vapors. Hazards from ceramics include the silicate materials in clay, which can affect the lungs. Ceramic glazes can include alkali materials and metals, which can be toxic. In sculpture, dusts from clay, stone, and plaster materials can pose an inhalation hazard or irritate skin and eyes. Because some art materials

[504] A small-quantity generator (SQG) is defined by the USEPA as a facility that generates more than 100 kg (approximately 220 lb), but less than 1,000 kg (2,200 lb), of hazardous waste per month. SQGs may accumulate hazardous waste on site for 180 days without a permit (or 270 days if shipping a distance greater than 200 miles).

can pose a human health risk, AAU implements required programs for training students in the use and disposal of art products containing hazardous materials.[505]

Classroom instructors are responsible for training students in the proper use of hazardous materials and disposal of wastes. AAU also provides soap and water cleaning and collection stations for paint brush washing and collecting of solids and liquids. The collection stations are serviced by licensed hazardous waste haulers. AAU has an on-site hazardous waste administrator that conducts daily and quarterly inspections of AAU facilities.[506]

Hazardous Waste and Substance Sites

Historic or ongoing uses in the study areas and at the project sites that have involved the use of hazardous materials and generation of hazardous wastes may have resulted in soil and groundwater contamination as a result of historic disposal practices or inadvertent releases of hazardous materials. The Hazardous Waste and Substances Sites ("Cortese") list is a tool used by the state and local agencies and developers to comply with CEQA requirements in providing information about the location of hazardous materials release sites.[507]

Sites where historic or ongoing activities have resulted in the known or suspected release of hazardous materials to soil and groundwater have been identified through a search of the California Department of Toxic Substances Control (DTSC) EnviroStor environmental database and the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) Geotracker environmental database. The DTSC EnviroStor database includes sites identified in various programs administered by DTSC, including Federal Superfund (also referred to as National Priority List, or NPL), State Response (State Superfund and Military facilities), Voluntary Cleanup, and School Cleanup sites. The Geotracker database includes both Leaking Underground Fuel Tank (LUFT) sites and nonfuel sites known as Spills, Leaks, Incidents, and Cleanup (SLIC) sites.

Hazardous building materials that were destroyed during the 1906 fire and earthquake were commonly incorporated into the building debris, which was then incorporated into the earthquake fill, and built upon during reconstruction. Because of this historical practice, the 1906 earthquake

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[505] Existing AAU facilities use, store, or handle hazardous materials subject to Hazardous Material Business Plan (HMBP) requirements. The San Francisco Department of Public Heath regulates and monitors AAU's compliance with HMBP requirements.

[506] Gordon North, Vice President Business Operations, Academy of Art University (2012).

[507] Government Code Section 65962.5. The following data resources provide information regarding the facilities or sites identified as meeting the "Cortese List" requirements: List of Hazardous Waste and Substances site from Department of Toxic Substances Control (DTSC) EnviroStor database; List of Leaking Underground Storage Tank Sites by County and Fiscal Year from Water Board GeoTracker database; List of Solid Waste Disposal Sites Identified by Water Board with Waste Constituents About Hazardous Waste Levels Outside the Waste Management Unit; List of "Active" Cease and Desist Orders (COD) and Cleanup and Abatement Orders (CAO) from Water Board; and List of Hazardous Waste Facilities Subject to Corrective Action Pursuant to Health and Safety Code Section 25187.5, identified by DTSC.

and fire fill commonly contains polynuclear aromatic hydrocarbons (PAHs), heavy metals, oil and grease, and volatile organic compounds (VOCs). The existence of hazardous materials in the earthquake fill is one of the reasons for enactment of San Francisco Health Code (SFHC) Article 22A (previously referred to as the Maher Ordinance), which is described below under Regulatory Framework. The ordinance identifies specific areas in the City that must be investigated for soil contamination (i.e., in areas of Bay fill, areas of current or historical industrial use, areas within 150 feet of an elevated freeway and areas within 100 feet of sites with current or past USTs [including but not limited to current and former gas stations and dry cleaners]).

Phase I & II Environmental Site Assessments

Phase I environmental site assessments (ESAs) are investigations to determine the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products onto the surface, into the ground, groundwater, or surface water of the property. The assessment consists of site reconnaissance, review of regulatory databases[508], aerial photograph review, interviews, interpretation of the results, and recommendations whether additional investigation is necessary (Phase II ESA). A Phase I ESA is typically prepared for a commercial real estate transaction, although it can also be prepared where information suggests contaminated media might be encountered during renovation or new construction, particularly if there would be soil disturbance. Phase I ESAs have been completed for PS-1, 2801 Leavenworth Street (The Cannery); PS-3, 625 Polk Street; PS-4, 150 Hayes Street; and PS-6, 2225 Jerrold Avenue. The results of the Phase I ESAs are summarized below (see p. 4.17-11).

Hazardous Building Materials

Hazardous building materials are included in this analysis because the Proposed Project could involve interior renovation of certain existing structures that may contain hazardous building materials, if those materials were not removed during prior renovations. Those materials could include asbestos, LBP, electrical equipment (such as transformers and fluorescent light ballasts that contain PCBs or bis(2-ethylhexyl) phthalate [DEHP]), or fluorescent lights containing mercury. These materials could present a public health risk if disturbed during renovation of an existing building. If removed, these materials would also require special disposal procedures.

Study Areas

Hazardous Materials Use and Hazardous Waste

The 12 study areas are primarily mixed-use neighborhoods with residential development and various retail, commercial, institutional, and service-oriented businesses such as restaurants,

[508] Regulatory databases reviewed include SFBRWQCB Geotracker environmental database and the DTSC EnviroStor environmental database.

hotels/motels, and gasoline stations and related amenities such as parking lots. Besides storing fuel, the gasoline stations may provide services such as oil changes or minor repair services, which may have additional consumer-type automotive products in small quantities. Generally, hazardous materials use associated with residential, retail, office, and institutional land use types are limited to household-type products, which generate household hazardous waste.

Underground and Above-Ground Storage Tanks

There are USTs in study areas SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-11, Sixth Street/Folsom Street; and SA-12, Ninth Street/Folsom Street (see Table 4.17-1, Underground Storage Tanks in the Study Areas).

Table 4.17-1 Underground Storage Tanks in the Study Areas

Study Area	*Permitted Underground Storage Tanks*[a]	
	Number of UST Locations[b]	*Location in Study Area*
SA-1, Lombard Street/Divisadero Street	0	—
SA-2, Lombard Street/Van Ness Avenue	0	—
SA-3, Mid Van Ness Avenue	2	800 Turk St 1 Daniel Burnham Court
SA-4, Sutter Street/Mason Street	2	433 Mason St 335 Powell St
SA-5, Mid Market Street	5	100 Van Ness Ave 201 Van Ness Ave 460 Jessie St 155 Fifth St 901 Market St
SA-6, Fourth Street/Howard Street	1	800 Folsom St
SA-7, Rincon Hill East	0	—
SA-8, Third Street/Bryant Street	0	—
SA-9, Second Street/Brannan Street	0	—
SA-10, Fifth Street/Brannan Street	0	—
SA-11, Sixth Street/Folsom Street	1	1000 Harrison St
SA-12, Ninth Street/Folsom Street	1	350 Eighth St

SOURCE: State Water Resources Control Board, Geotracker, http://geotracker.waterboards.ca.gov/. Search criteria: San Francisco.
— = not applicable
a. Permit issued by City/County of San Francisco, Department of Public Health
b. Total number is unique to each study area individually. There is overlap in permitted site locations for SAs located in close proximity to each other.

The quantities of hazardous materials stored in the USTs are subject to hazardous materials business plan (HMBP) reporting requirements. Those facilities must be permitted to use and store materials in accordance with current hazardous materials and hazardous waste regulations that are enforced and monitored by the San Francisco Department of Public Health (SFDPH) (see Section 4.17.2, Regulatory Framework, p. 4.17-18). Because the use and handling of hazardous materials at

permitted sites are subject to HMBP regulation, the potential for a release of hazardous materials from those locations is considered low unless there is a documented chemical release at that same site. Permitted sites without documented releases are, nevertheless, potential sources of hazardous materials in the soil and/or groundwater (compared to sites where there are no hazardous materials) because of the potential for accidental spills, incidental leakage, or spillage that may have gone undetected.

Hazardous Waste and Substances Sites

Cortese List information and data sources for the study areas are summarized in Table 4.17-2, Hazardous Waste and Substances Sites in the Study Areas, p. 4.17-8.[509]

There are eight sites on the Cortese List, which are located in SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-8, Third Street/Bryant Street; and SA-11, Sixth Street/Folsom Street. A review of available documentation, which is referenced in the notes in Table 4.17-2, Hazardous Waste and Substances Sites in the Study Areas, p. 4.17-8, indicates the sites do not pose environmental risks. One location (400 Third Street) in SA-8, which could potentially pose a risk, is undergoing remediation for soil and groundwater contamination. Based on a health risk assessment, soil vapors do not pose a risk to adjacent buildings provided uses remain commercial or industrial.[510]

There are no sites on the Cortese List in SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; or SA-12, Ninth Street/Folsom Street.

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[509] A search of the three other data resources comprising the Cortese list did not identify any sites in addition to those listed in the EnviroStor and GeoTracker databases.

[510] State Water Resources Control Board, Geotracker http://geotracker.waterboards.ca.gov/. Search criteria: 400 Third Street; City and County of San Francisco, Department of Public Health Environmental Health Section, Air Sparge, Soil Vapor Extraction and Extraction Well Work Plan and Air Sparge, Soil Vapor Extraction and Extraction Well Installation and Feasibility Testing Reports Former Mobil #10-013, 400 Third Street, San Francisco, LOP Case Number: 11697, letter to Jennifer Sedlachek, Exxon Mobil, 4096 Piedmont Avenue, # 194, Oakland, California 94611 (August 16, 2011).

Table 4.17-2 Hazardous Waste and Substances Sites in the Study Areas

Study Area	*Number of Sites on Cortese List*[a]	*Notes*
SA-1, Lombard Street/Divisadero Street	0	
SA-2, Lombard Street/Van Ness Avenue	0	
SA-3, Mid Van Ness Avenue	0	
SA-4, Sutter Street/Mason Street	0	
SA-5, Mid Market Street	5	DTSC EnviroStor: 3 locations certified by DTSC; 1 location no further action; 1 location no information provided in DTSC database[b]
SA-6, Fourth Street/Howard Street	1	DTSC EnviroStor: (858-860 Folsom St): 1996 DTSC Voluntary Cleanup Agreement for soil (metals and oil) contamination. City approved site redevelopment in 2006 with residential, restaurant[c]
SA-7, Rincon Hill East	0	
SA-8, Third Street/Bryant Street	1	RWQCB Geotracker (400 Third St): open-site assessment An existing parking lot where soil/groundwater contamination is being remediated using a soil vapor extraction (SVE) and groundwater treatment systems. Based on health risk assessment, soil vapors do not pose a risk to adjacent buildings provided uses remain commercial or industrial.[d]
SA-9, Second Street/Brannan Street	0	
SA-10, Fifth Street/Brannan Street	0	
SA-11, Sixth Street/Folsom Street	1	DTSC EnviroStor (355/375 Seventh St—Bessie Carmichael School): no further action[e]
SA-12, Ninth Street/Folsom Street	0	

SOURCE: Atkins (2012). Compiled from:

a. California Department of Toxic Substances Control, Hazardous Waste and Substances (DTSC) List, EnviroStor website, http://www.envirostor.dtsc.ca.gov/public/, search criterion: San Francisco. State Water Resources Control Board, Geotracker, http://geotracker.waterboards.ca.gov/, search criterion: San Francisco. A search of the three other data resources comprising the Cortese list did not identify any sites in addition to those listed in the EnviroStor and GeoTracker databases.

b. California Department of Toxic Substances Control, Hazardous Waste and Substances (Cortese) List, EnviroStor website, http://www.envirostor.dtsc.ca.gov/public/, search criteria: San Francisco.

c. California Department of Toxic Substances Control, Hazardous Waste and Substances (Cortese) List, EnviroStor website, http://www.envirostor.dtsc.ca.gov/public/. Search criteria: 858-860 Folsom Street; City and County of San Francisco Planning Department, San Francisco Property Information Map, http://www.sfplanning.org/, search criteria: 858 Folsom Street, 860 Folsom Street.

d. State Water Resources Control Board, Geotracker, http://geotracker.waterboards.ca.gov/, search criteria: 400 Third Street; City and County of San Francisco, Department of Public Health Environmental Health Section, Air Sparge, Soil Vapor Extraction and Extraction Well Work Plan and Air Sparge, Soil Vapor Extraction and Extraction Well Installation and Feasibility Testing Reports Former Mobil #10-013, 400 Third Street, San Francisco, LOP Case Number: 11697, letter to Jennifer Sedlachek, Exxon Mobil, 4096 Piedmont Avenue, #194, Oakland, California 94611 (August 16, 2011).

e. California Department of Toxic Substances Control, Hazardous Waste and Substances (Cortese) List, EnviroStor website, http://www.envirostor.dtsc.ca.gov/public/, search criteria: San Francisco.

Development in all of the study areas (SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; SA-11, Sixth Street/Folsom Street; and SA-12, Ninth Street/Folsom Street) would be subject to the requirements of Article 22A, the Maher Ordinance. The Maher Ordinance applies to areas that contain Bay fill, areas

of current or historical industrial use, areas within 150 feet of an elevated freeway, or areas within 100 feet of sites with current or past USTs (including but not limited to current and former gas stations and dry cleaners), because the soils may contain contaminants.

Phase I Environmental Site Assessments

Due to the fact that specific locations within the study areas for future AAU occupation are not yet known, Phase I ESAs cannot yet be completed to identify whether there are site-specific environmental conditions.

Hazardous Building Materials

Because the specific locations that would be occupied by AAU in the study areas are not known, surveys to identify asbestos-containing material (ACM), LBP, and other hazards have not been completed.

Project Sites

Hazardous Materials Use and Hazardous Waste

The proposed hazardous materials use at the six project sites is summarized below in Table 4.17-3, Hazardous Materials Use at the Project Sites.

As shown in Table 4.17-3, Hazardous Materials Use at the Project Sites, p. 4.17-10, under proposed conditions, hazardous waste generated at the project sites would be limited to household-type hazardous waste, except that art supplies such as paints, lacquers and solvents, plasters, photographic chemicals, and ceramic materials constituting hazardous materials would be used, and thus hazardous waste would be generated, at PS-1, Leavenworth Street (The Cannery), and PS-3, 625 Polk Street. PS-3 also could include programs such as fine arts, graphic design, printmaking, sculpture, and photography, all of which involve the use of materials such as paints, lacquers and solvents, plasters, photographic chemicals, and ceramic materials, some of which would be regulated as hazardous materials, and would generate hazardous waste. In addition, hazardous wastes such as paint, light bulbs, ballast and solvents would be collected from various AAU buildings and hauled away for proper disposal from PS-6, 2225 Jerrold Avenue.

Table 4.17-3 Hazardous Materials Use at the Project Sites

Facilities	*Proposed Use/Activities*	*Typical Types of Potential Hazardous Materials Products Associated with Proposed AAU Uses*	*Typical Types of Hazardous Waste*
PS-1, 2801 Leavenworth Street (The Cannery)	Offices and gallery, office, Retail, commercial, and restaurants	Art supplies and general cleaning and maintenance products	Household-type and art supplies-related hazardous waste
PS-2, 700 Montgomery Street	Office and restaurant	General cleaning and maintenance products	Household-type hazardous waste
PS-3, 625 Polk Street (former California Culinary)	School of Fashion, includes classrooms, offices, and fashion labs	Art supplies and general cleaning and maintenance products	Household-type and art supplies-related hazardous waste
PS-4, 150 Hayes Street	Offices and parking	General cleaning and maintenance products	Household-type hazardous waste
PS-5, 121 Wisconsin Street	Bus parking/storage, trailers yard	General cleaning and maintenance products for staff trailers[a]	Household-type hazardous waste
PS-6, 2225 Jerrold Avenue	Warehouse with offices and vehicle storage, recreational	General cleaning and maintenance products and hazardous materials storage	Paint, light bulbs, ballast and solvents; household-type hazardous waste

SOURCE: Atkins (2012); AAU (2012).
a. Bus maintenance and fueling is performed at off-site commercial vendor.

Hazardous Materials Permits

Three of the project sites (PS-1, PS-3, and, PS-6) would constitute small quantity generators (SQGs) of hazardous waste[511] and would therefore be required to receive a Hazardous Materials Unified Program Agency (HMUPA) certificate of registration.

Underground and Above-Ground Storage Tanks

There are no USTs at any of the six project sites. However, there are aboveground storage tanks (ASTs) at two locations: PS-4, 150 Hayes Street, and PS-6, 2225 Jerrold Avenue. PS-4 has a 200-gallon double-walled AST containing diesel for use in a backup emergency generator located in the basement of the building.[512] PS-6 has a dual-vaulted 3,000-gallon AST for storing 1,800 gallons of diesel and 1,200 gallons of gasoline and one 550-gallon propane AST.[513,514] The AST at PS-4 is

[511] Gordon North, Vice President Business Operations, Academy of Art University (2015).
[512] Brown and Caldwell, *Phase I Environmental Site Assessment Prepared for 150 Hayes Street, San Francisco, California* (August 2007); GaiaTech, *(Draft) Phase I Environmental Site Assessment, Vacant Office Building, 150 Hayes Street, San Francisco, California* (December 2010). These documents are available for review at the San Francisco Planning Department under Case No. 2008.0586E.
[513] Geologica, Inc., *Phase I Environmental Site Assessment, Academy of Art Warehouse Building, 2225 Jerrold Avenue, San Francisco, CA 94124* (April 2009). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.
[514] Permit #026736 for ASTs and Permit #026734 for the motor fuel disposal. The San Francisco Department of Public Health issues permits for the construction, operation, repair and removal of aboveground storage tanks (AST) in San Francisco.

permitted by the SFDPH and there is a Spill Prevention, Control, and Countermeasure Plan (SPCCP).[515] For PS-6, AAU has permit no. 026734 for motor fuel disposal and permit no. 026736 for above ground station tanks.

Hazardous Waste and Substances Sites

One project site (PS-4, 150 Hayes Street) is on the Cortese List. PS-4 is included in the State Water Resources Control Board's (SWRCB's) LUFT database.[516] Additional information about this project site is provided below.

All of the project sites (PS-1, 2801 Leavenworth Street [The Cannery]; PS-2, 700 Montgomery Street; PS-3, 625 Polk Street; PS-4, 150 Hayes Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue) are located in areas subject to Article 22A, the Maher Ordinance. See further discussion of Article 22A, the Maher Ordinance, below under regulatory framework.

Phase I and II Environmental Site Assessments

Phase I ESAs have been completed for PS-1, 2801 Leavenworth Street (The Cannery); PS-3, 625 Polk Street; PS-4, 150 Hayes Street; and PS-6, 2225 Jerrold Avenue. The results of the Phase I ESAs are summarized below. The two remaining sites (PS-2, 700 Montgomery Street, and PS-5, 121 Wisconsin Street) have not been evaluated in a Phase I ESA or documentation is otherwise not available; however, PS-2, 700 Montgomery is not proposing any ground disturbance that could disrupt any soils containing hazardous contaminants. PS-5, 121 Wisconsin proposes repaving that could require scraping or removing surface pavement; however, these activities would not disrupt any soil.

PS-1, 2801 Leavenworth Street (The Cannery)

The Phase I ESA prepared for PS-1, 2801 Leavenworth Street (The Cannery), discussed the historic uses of the property including the Shelby Smelting and Lead Works from 1886 to 1899 and Equitable Gaslight Company from 1899 to 1906. The Phase I ESA reported RECs including the historical use of the project site for the deposition of fill associated with the adjacent Equitable Gaslight Company manufactured gas plant operation and the 1906 earthquake and fire; and HREC including an incident occurring in March 2001 when a tin measuring cup for mixing spilled sodium hydroxide. The Equitable Gaslight Company was primarily located adjacent to the west of the project site and is identified in the regulatory database as the former PG&E Gas Plant (680 Beach Street). The Equitable Gaslight Company had a refuse fill site situated along the western portion of the project site. The byproducts from the gas manufacturing processes were frequently disposed of directly at the plant site, serving as a continuous source of soil and groundwater contamination. Fill material relating to the 1906 earthquake and fire was also placed on and near the project site just after the earthquake. The fill material likely included a mix of natural backfill and assorted waste and debris from building demolition associated with the 1906 earthquake and fire. The historical use of the project

[515] Gordon North, Vice President Business Operations, Academy of Art University (2012).
[516] Geotracker, http://geotracker.waterboards.ca.gov/, search criterion: San Francisco.

site for the deposition of fill associated with the adjacent Equitable Gaslight Company manufactured gas plant operation and the 1906 earthquake and fire was considered a recognized environmental condition (REC). The Phase I ESA recommended a limited subsurface investigation (Phase II ESA) to characterize subsurface soil and/or groundwater conditions associated with the historical industrial activity at the project site.[517]

The Phase I ESA also reported a historical recognized environmental condition (HREC). The project was identified on the EnviroStor database for an incident occurring in March 2001. The database entry stated: "Building was under construction, one of the workers used a tin measuring cup for mixing, and the sodium and tin mixed had an effect spilling sodium hydroxide." Based upon the reported nature and/or extent of the release, the Phase I ESA report determined it is unlikely that conditions associated with the identified database listing represents an existing release, past release, or material threat of release of hazardous substances or petroleum products on the project site that would be considered a HREC.[518]

In September 2010, a Phase II ESA was performed, which included soil testing for VOCs, PAHs, and eight metals, and groundwater testing for VOCs and metals. Arsenic at up to 4,200 milligrams per kilogram (mg/kg) and lead at up to 11,000 mg/kg were found in all six soil samples from five soil borings. VOCs were detected in one of the five soil boring locations. Groundwater was collected and tested from four of the soil boring locations. Metals were in detected in all of the samples ranging from trace amounts to 68 milligrams per liter (mg/L), and a VOC was detected in groundwater in the same soil boring where VOCs were detected in soil. The Phase II ESA concluded no VOCs were detected in soil above typical regulatory criteria; however, arsenic, lead, cadmium, chromium and silver were detected in one or more soil samples at concentrations above regulatory criteria. Lead, silver, and cis-1,2-dichloroethene (a VOC) concentrations in at least one groundwater sample exceeded regulatory criteria.

As a result of the Phase II ESA findings, a soil vapor survey was conducted at the project site in June 2011 to determine whether contaminants in the underlying soil could migrate to interior building spaces. The "sub-slab" vapor survey consisted of collecting soil samples within the fill material immediately below the floor slab inside two buildings and adjacent to the western edge of the northern building near occupied interior tenant spaces. Soil vapors were analyzed for VOCs and methane. All soil vapor samples were nondetect for all VOCs and methane. The soil vapor survey

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[517] EBI Consulting, *Phase I Environmental Site Assessment: The Cannery—CWCapital Loan #123-106 2801 Leavenworth Street, San Francisco, California* (May 2010); EBI Consulting, *Limited Subsurface Investigation Report: The Cannery—CWCapital Loan #123-106 2801 Leavenworth Street, San Francisco, California* (May 2010). These documents are available for review at the San Francisco Planning Department under Case No. 2008.0586E.

[518] EBI Consulting, *Phase I Environmental Site Assessment: The Cannery—CWCapital Loan #123-106 2801 Leavenworth Street, San Francisco, California* (May 2010); EBI Consulting, *Limited Subsurface Investigation Report: The Cannery—CWCapital Loan #123-106 2801 Leavenworth Street, San Francisco, California* (May 2010). These documents are available for review at the San Francisco Planning Department under Case No. 2008.0586E.

analysis found that there was no evidence of VOC concentrations in soil vapor that might pose a risk to human health, and no evidence that VOCs previously detected in soil and groundwater beneath the property pose a risk for vapor intrusion into structures on the property. The study preparers suggested the presence of low concentrations of VOCs and elevated metals is likely due to the industrial history of the property and placement of post-1906 earthquake and fire fill material. They also noted that it is unlikely that soil or groundwater contamination identified on the property would require regulatory agency involvement or remediation and that a health and safety and/or environmental consulting specialist should be consulted prior to embarking on activities that will involve disturbance of soil or production of groundwater to ensure proper management of potentially contaminated soil and groundwater. The preparers recommended that discharge of metals-impacted groundwater into the City sewer system or nearby surface water and dispersal of metals impacted soil as fugitive dust should be avoided.[519]

PS-3, 625 Polk Street

The Phase I ESA prepared for PS-3, 625 Polk Street, concluded there was no evidence "to indicate or suggest the presence of a significant on-site contamination problem." The Phase I ESA also noted that LUFTs within 0.25 mile of the property were not expected to pose a significant environmental threat to the property due to distance, their relative location with respect to the hydrogeological gradient direction, or the status of each location in the LUFT program.[520]

PS-4, 150 Hayes Street

The Phase I ESA prepared for PS-4, 150 Hayes Street, reported the RECs and HRECs related to the property. These included previous uses on the sites, hazardous material usage on the site, and LUSTs. An auto repair and auto body shop operated on the site from the 1920s until 1967 is considered a HREC due to the likely unregulated storage of paint and automotive maintenance products and the possible presence of a waste oil storage tank. However, excavation of the basement in 1968 to construct the existing building presumably resulted in the removal of any soil that had been adversely impacted by the shop operations. Residual soil contamination from petroleum hydrocarbons, if any, was judged to be a "de minimus" environmental condition that would not trigger agency action as of the date of the Phase I ESA (2007), due to the existence of the present multistory structure and the difficulty of assigning responsibility for a hazardous release in an urbanized area with a number of potential historical contaminant sources. The Phase I ESA preparers recommended if the building is demolished in the future and evidence of significant contamination is discovered beneath the structure, environmental agencies may request additional environmental investigation.

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[519] Geologica, *Report Sub-Slab Vapor Survey The Cannery Property, 2801 Leavenworth Street, San Francisco, CA* (June 23, 2011).

[520] ENSR, *Phase I Environmental Site Assessment of 625 Polk Street, San Francisco, CA* (1998). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

The Phase I ESA report noted that storage and handling of hazardous substances at the project site appears adequate to prevent accidental releases, and there was no observed evidence of significant spills or leakage in any of the storage or use areas on the premises. The presence of hazardous substances at the project site did not constitute a REC according to the Phase I ESA.

The Phase I ESA reported a LUFT case, which represents an HRECs, but are not current RECs for the project site because there is documented regulatory agency concurrence for case closure, indicating that the remedial efforts for any past release does not pose a current threat to human health or the environment. Subsequent to the 2007 Phase I ESA, the two LUSTs including 4,000-gallon underground gasoline storage tanks and one 500-gallon waste oil tanks and soil surrounding the tanks were removed in 2009. After the tank removal, soil testing was conducted that indicated no contamination was remaining at the site. The RWQCB issued a closure letter for the site in 2009.[521]

No HRECs or RECs on adjacent properties within a distance likely to affect the project site were identified. The Phase I ESA concluded additional environmental assessment was not warranted for the project site.[522]

PS-6, 2225 Jerrold Avenue

The Phase I ESA for PS-6, 2225 Jerrold Avenue, reported RECs related to the historical operations at the property site and relative age of the building. These included the historic use, a historic 550-gallon UST, former on-site fuel USTs/residual impacts, and regional subsurface impacts.[523]

The project site was formerly developed with a wood tank fabrication and mill facility circa 1950, known as the George Windeler Co. Tank and Millwork Plant. The facility included warehouse buildings, one used for tank production and the other for general mill work; numerous storage sheds and an office located along the western and northern portions; lumber storage areas along the southern portions; and separate dry kiln and boiler room facilities on the eastern portion, along Upton Street. The mill work facility reportedly operated on-site until the middle to late 1960s. Additionally, a railroad spur was present along the northern and western portions of the site, which operated on-site from at least circa-1950s through the mid to late 1960s. The spur was reportedly removed and/or paved over in the late 1990s/early 2000s.

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[521] Brown and Caldwell, *Phase I Environmental Site Assessment Prepared for 150 Hayes Street, San Francisco, California* (August 2007); GaiaTech, *(Draft) Phase I Environmental Site Assessment, Vacant Office Building, 150 Hayes Street, San Francisco, California* (December 2010). These documents are available for review at the San Francisco Planning Department under Case No. 2008.0586E.

[522] Brown and Caldwell, *Phase I Environmental Site Assessment Prepared for 150 Hayes Street, San Francisco, California* (August 2007). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

[523] Geologica, Inc., *Phase I Environmental Site Assessment, Academy of Art Warehouse Building, 2225 Jerrold Avenue, San Francisco, CA 94124* (April 2009). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

The Phase I also reported UST's found at PS-6 including a 550-gallon gasoline UST was installed in 1946 under the former sidewalk along Upton Street, adjacent to the southeast of the site, associated with the former on-site mill operation. The Phase I stated the UST was likely installed for use in conjunction with the former on-site boiler or dry-kiln facilities. According to a letter dated March 1965, from the George Windeler Co, directed to the SFFD, the UST was reportedly "rendered inert", reportedly based on lack of use and ceasing of site operations. The letter noted a new permit for the UST would not be required. No other information pertaining to single historic UST was available. The area along Upton Street, which is not part of the project site, has since been repaved. No evidence of the historic UST was noted during the site inspection during the Phase I ESA.

There were two 10,000-gallon fuel USTs, located in the southwestern portion of the site. The USTs were installed in 1982, and removed in September 1993. No visual evidence of a release was noted during the removal. Subsequent soil sampling indicated the presence of diesel and/or kerosene, low concentrations of toluene, ethylbenzene, and xylenes, and lead. Subsurface investigations performed to evaluate these contaminants, which included the installation and sampling of seven groundwater monitoring wells, detected total petroleum hydrocarbons-diesel (TPH-d) in on-site groundwater. Those investigations concluded that the petroleum hydrocarbons from off-site, upgradient LUFT sites had migrated to the site, and no further action was recommended as a result of those investigations. The site was subsequently issued case closure by San Francisco Department of Public Health-Local Oversight Program (SFDPH-LOP) in January 1994. All monitoring wells were subsequently decommissioned.

Based on the large number of nearby facilities with reported environmental concerns and the location of the property in an area with an extensive history of commercial activities, there is potential that the subsurface is regionally impacted. Shallow soils in vicinity of the site are known to contain variable, low levels of contamination related to long-term historical use and relatively widespread use of earthquake debris as fill material. Groundwater quality is known to be generally degraded and is not used for domestic purposes. The Phase I ESA preparers concluded that no further investigation associated with the USTs and historical industrial operations were needed at the time the Phase I ESA was prepared (2009). However, based on the duration that the property and the general site vicinity were used for manufacturing and general industrial purposes, in addition to the noted petroleum hydrocarbon concentrations detected in on-site soils and groundwater, residual concentrations of TPH and related compounds are likely present in subsurface soils and groundwater. Precautions should be taken prior to any excavation for potential contact with contaminated soil or groundwater. If soil or groundwater at the subject property has been impacted, then any disturbance, handling, or disposal of the impacted soil or groundwater would require management in accordance with applicable local and state regulations.[524]

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[524] Geologica, *Phase I Environmental Site Assessment, Academy of Art Warehouse Building, 2225 Jerrold Avenue, San Francisco, CA* (April 2009). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

Hazardous Building Materials

Limited ACM and LBP surveys have been completed for three project sites (PS-1, 2801 Leavenworth Street [The Cannery]; PS-3, 625 Polk Street; and PS-6, 2225 Jerrold Avenue), and an ACM survey has been completed for one site (PS-4, 150 Hayes Street). A PCB survey was also completed at PS-1. Results of those investigations and recommendations of the investigators are summarized below. The remaining two project sites (PS-2, 700 Montgomery Street, and PS-5, 121 Wisconsin Street) have not been evaluated through sample collection and laboratory analysis, or documentation is not otherwise available. Information concerning other hazardous materials is noted where such information was reported in the Phase I ESAs. For PS-2, because of the age of the building, there is the potential for hazardous building materials to be present.

PS-5, 121 Wisconsin Street, contains a parking lot and two trailers, which would not be expected to contain ACM or LBP, and no physical improvements are proposed at the location that could disturb ACM or LBP.

PS-1, 2801 Leavenworth Street (The Cannery)

The Phase I ESA for PS-1 reported the results of a hazardous materials building survey completed in 2009. The survey included visual inspection and laboratory testing for asbestos and lead. ACMs were identified in pipe elbows and lagging, block insulation, thermal coverings, spray-on surfacing materials, ceiling texture, and vinyl floor tile/mastic. The survey report noted asbestos may also be present in some roofing, flooring, or inaccessible areas. LBP was also found to be present. PCB light ballasts were identified at various locations, and the survey report preparers recommended all light ballasts removed, replaced, or disposed of should be visually inspected for PCBs and, if removed, would be considered hazardous waste.[525]

PS-3, 625 Polk Street

According to a Phase I ESA for PS-2, asbestos abatement activities were completed in 1990 in several areas where abatement was necessary (basement, third floor, fifth floor). The only remaining "suspect" ACMs is insulation on old steam pipes, which are encased in a vertical, inaccessible concrete chase that may extend from the basement to the top of the building. Additional testing was completed in 1998 for readily accessible areas and no detectable levels of asbestos were discovered. Additionally, some paint samples tested in 1998 contained elevated levels of lead that met or were greater than the HUD criterion (5,000 mg/kg).[526]

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[525] EBI, *Phase I Environmental Site Assessment, The Cannery, 2801 Leavenworth Street, San Francisco, California* (May 2010), incorporating Hazardous Materials Building Survey performed by Sensible Environmental Solutions (SES) in August 2009. This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

[526] ENSR, *Phase I Environmental Site Assessment of 625 Polk Street, San Francisco, CA* (June 1998). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

PS-4, 150 Hayes Street

The Phase I ESA for PS-4 prepared in 2010 that included limited testing for ACM noted that fireproofing, textured ceiling plaster, and white floor tile were identified as containing ACM. The report noted ACM may also be present in inaccessible areas of the site structure, such as above fixed ceilings or behind walls. Based on the age of the building, other suspect materials within the site building that were not sampled should be presumed to be asbestos-containing, and LBP is also likely present. All elevators are traction-based and are not equipped with hydraulic reservoirs that could contain PCBs.[527]

PS-6, 2225 Jerrold Avenue

The building at 2225 Jerrold Avenue was constructed in 1982, after asbestos and PCBs were banned. LBP may be present because of the commercial, nonresidential, nature of the building. A Phase I ESA for PS-6, was completed in 2009 recommended that, although the potential for these materials to be present is low, building materials should be tested to determine whether these hazardous materials are present so that abatement procedures, if necessary, are implemented. Light ballasts containing PCBs may be present.[528]

Emergency Response Plans

The City has an Emergency Response Plan (ERP) that was developed to ensure allocation and coordination of resources in the event of an emergency in the City and County of San Francisco (City). The ERP describes what the City's actions will be during an emergency response. This plan describes the role of the Emergency Operations Center (EOC) and the coordination that occurs between the EOC, City departments, and other response agencies. Finally, this plan describes how the EOC serves as the focal point between federal, state, and local governments in times of disaster.[529]

In addition, AAU has a campus safety plan that addresses earthquake safety, which include campus-wide earthquake drills and emergency evacuation procedures and is intended to reduce the possibility of death and injury to members of the campus community. The City has developed earthquake response procedures through its Emergency Response Plan: Earthquake Annex, and its

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[527] GaiaTech, *(Draft) Phase I Environmental Site Assessment, Vacant Office Building, 150 Hayes Street, San Francisco, California* (December 2010). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

[528] Geologica, *Phase I Environmental Site Assessment, Academy of Art Warehouse Building, 2225 Jerrold Avenue, San Francisco, CA* (April 2009). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

[529] City and County of San Francisco, *Emergency Response Plan, an Element of the CCSF Emergency Management Program* (April 2008). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

Emergency Operations Plan, which also would be implemented in the event of an earthquake to help minimize losses.

4.17.2 Regulatory Framework

Hazardous materials and hazardous wastes are subject to extensive federal, state, and local regulations, with the major objective of protecting public health and the environment. In general, these regulations define hazardous materials; establish reporting requirements; set guidelines for handling, storage, transport, remediation, and disposal of hazardous wastes; and require health and safety provisions for workers and the public.

Federal

The major federal agencies enforcing these regulations are the USEPA, U.S. Occupational Safety and Health Administration (OSHA), and the U.S. Department of Transportation (DOT). The federal laws and regulations are enforced by state and local agencies, as summarized below.

State

Department of Toxic Substances Control

Under the California Hazardous Waste Control Act, CHSC Division 20, Chapter 6.5, Sections 25100 et seq., the California Environmental Protection Agency (Cal/EPA) DTSC regulates the generation, transportation, treatment, storage, and disposal of hazardous waste in California. The federal RCRA established a "cradle-to-grave" regulatory program for governing the generation, transportation, treatment, storage, and disposal of hazardous waste. Under RCRA, individual states may implement their own hazardous waste programs in lieu of RCRA, as long as the USEPA has determined that the state program is at least as stringent as Federal RCRA requirements. California's hazardous waste program has been federally approved. Thus, in California, DTSC enforces hazardous waste regulatory requirements. The hazardous waste regulations establish criteria for identifying, packaging, and labeling hazardous wastes; dictate the management of hazardous waste; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. DTSC is also the administering agency for the California Hazardous Substance Account Act, CHSC Division 20, Chapter 6.8, Sections 25300 et seq., also known as the State Superfund law, providing for the investigation and remediation of hazardous substances pursuant to state law.

California Division of Occupational Safety and Health

Worker health and safety in California is regulated by the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA), which implements the federal OSHA regulations. California standards for workers dealing with hazardous materials (including hazardous wastes) are contained in CCR Title 8 and include practices for all industries (General

Industrial Safety Orders [GISO]), and specific practices for construction, hazardous waste operation, and emergency response. Cal/OSHA conducts on-site evaluations and issues notices of violation to enforce necessary improvements to health and safety practices. AAU is responsible for ensuring compliance with Cal/OSHA regulations. Although the Cal/OSHA regulations are specifically directed at worker protection, implementation of the requirements, which are summarized below, also helps protect AAU faculty, staff, and students.

California Department of Transportation and California Highway Patrol

The California Department of Transportation and California Highway Patrol (CHP) enforce and monitor U.S. Department of Transportation hazardous materials and waste transportation laws and regulations in California. Together, these agencies determine what container types must be used and license hazardous waste haulers for hazardous waste transportation on public roads. AAU does not transport hazardous materials. However, when vendors deliver products containing hazardous materials to AAU locations, or remove hazardous waste, those vendors are required to comply with applicable regulations.

Hazardous Waste Generator Requirements

Facilities that generate more than 100 kilograms (kg) per month of hazardous waste or more than one kg per month of acutely hazardous waste must be registered in accordance with RCRA, which is implemented and enforced at the state and local level. There are three categories of waste generators: large-quantity generator (LQG), SQG, and conditionally exempt small-quantity generator (CESQG). LQGs generate 1,000 kg (2,200 pounds [lb]) per month or more of hazardous waste, or more than one kg per month of acutely hazardous waste. LQGs may also accumulate waste on-site for 90 days. SQGs generate more than 100 kg (220 lb), but less than 1,000 kg, of hazardous waste per month. SQGs may accumulate hazardous waste on-site for 180 days without a permit (or 270 days if shipping a distance greater than 200 miles). The quantity stored on-site must never exceed 6,000 kg. CESQGs generate 100 kg or less per month of hazardous waste, or one kg or less per month of acutely hazardous waste. The "exempt" status means the generator is exempt from certain regulations under RCRA. The SFDPH is responsible for inspecting hazardous waste generators in the City and County of San Francisco who fall into one of these categories to ensure compliance with state laws and regulations. Some existing AAU facilities, as well as PS-1, PS-3, and, PS-6, are SQGs.[530]

Underground Storage Tanks (UST)

State laws governing USTs specify requirements for permitting, monitoring, closure, and cleanup. Regulations set forth construction and monitoring standards for existing tanks, release reporting requirements, and closure requirements. The Environmental Health Section of the SFDPH is the local agency designated to permit and inspect USTs and to implement applicable regulations for

[530] Gordon North, Vice President Business Operations, Academy of Art University (2015).

investigation, closure, and remediation as contained in SFHC Article 21, Division III. The San Francisco Environmental Health Section Local Oversight Program and the San Francisco Fire Department have regulatory authority for removal of USTs. A closure plan for each UST to be removed must be prepared and submitted to the Fire Department prior to tank removal. The San Francisco Fire Department oversees the removal of USTs, the subsequent collection of subsurface soil samples beneath a removed UST, and any necessary remediation.

Hazardous Materials Business Plan (HMBP)

Facilities that use, store, or handle hazardous materials in quantities greater than 500 lb, 55 gallons, or 200 cubic feet are required to prepare a HMBP and comply with Uniform Fire Code requirements for storage of hazardous materials. The HMBP must contain facility maps, up-to-date inventories of all hazardous materials for each shop/area, locations of product transfer areas, emergency response procedures, equipment, and a description of employee training. Existing AAU facilities that use, store, or handle hazardous materials are subject to HMBP requirements. The SFDPH regulates and monitors AAU's compliance with HMBP requirements.

Hazardous Material Release Response Plan (Contingency Plan)

All facilities that generate hazardous waste must prepare a Contingency Plan. The Contingency Plan identifies the duties of the facility Emergency Coordinator and location of emergency equipment, and includes reporting procedures for the facility Emergency Coordinator to follow after a hazardous materials incident. Because AAU is an SQG, it is required to comply with this requirement. The SFDPH regulates and monitors AAU's compliance with the Contingency Plan.

Hazard Communication Plans

Facilities involved in the use, storage, and handling of hazardous materials are required to prepare a Hazard Communication program. The purpose of the Hazard Communication program is to provide methods on safe handling practices for hazardous materials, ensure proper labeling of hazardous materials containers, and ensure employee access to Material Safety Data Sheets (MSDS). AAU is required to implement these Hazard Communication Plan program requirements.

Emergency Action Plans

The Cal/OSHA GISO requires that all employers in California prepare and implement an Emergency Action Plan. The Emergency Action Plan designates employee responsibilities, evacuation procedures and routes, alarm systems, and training procedures. AAU's Department of Campus Safety has prepared an Emergency Preparedness Plan.[531]

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[531] Academy of Art University, Campus Information: Department of Campus Safety, http://my.academyart.edu/campusinfo/campus_safety.html.

Fire Prevention Plans

The GISO requires that all employers in California prepare and implement a Fire Prevention Plan. The Fire Prevention Plan specifies areas of potential hazard, persons responsible for maintenance of fire prevention equipment or systems, fire prevention housekeeping procedures, and fire hazard training procedures. AAU's Emergency Preparedness Plan addresses fire safety.

Asbestos-Containing Material

CCR Title 8 establishes performance standards for asbestos abatement. Asbestos abatement contractors must follow state regulations contained in 8 CCR 1529 and 8 CCR 341.6 through 341.14 where there is asbestos-related work involving 100 sf or more of ACMs. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California. Friable, finely divided and powdered waste containing greater than 1 percent asbestos is classified in the CCR as a hazardous waste that requires disposal at a licensed landfill.[532] Wastes containing nonfriable asbestos are not considered hazardous and are not subject to state regulation.[533]

The owner of a property where asbestos abatement is to occur must have a Hazardous Waste Generator Number assigned by and registered with DTSC. The contractor and hauler of the material are required to file a Hazardous Waste Manifest, which details the hauling of the material from the site and the disposal of the material.

Lead-Based Paint

Cal/OSHA standards establish a maximum safe exposure level for types of construction work where lead exposure may occur, including demolition of structures where LBP is present; removal or encapsulation of materials containing lead; and new construction, alteration, repair, or renovation of structures with materials containing lead. Inspection, testing, and removing lead-containing building materials must be performed by state-certified contractors who are required to comply with applicable health and safety and hazardous materials regulations. Typically, building materials with LBP attached are not considered hazardous waste unless the paint is chemically or physically removed from the building debris. The U.S. Department of Housing and Urban Development (HUD) has developed guidelines for the evaluation and control of LBP hazards.

HUD defines LBP as paint containing lead at a concentration of 5,000 mg/kg (0.5 percent) or greater.[534] The state DTSC defines separated paint as a hazardous waste if the lead concentration exceeds the total threshold limit concentration of 1,000 mg/kg, if the soluble lead concentration exceeds the soluble threshold limit concentration of 5 mg/L, or the federal toxicity regulatory level.

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[532] *California Code of Regulations* Title 22, Section 66261.24.
[533] *California Code of Regulations* Title 22, Sections 66001 et seq.
[534] *California Code of Regulations* Title 22, Section 35033.

Mercury

Spent fluorescent lamps and tubes commonly contain mercury vapors and are considered a hazardous waste in California.[535] Because they are considered a hazardous waste, if fluorescent lamps and tubes are present in buildings to be renovated and the lamps and tubes are removed, they must be recycled or taken to a "universal waste" handler.

Regional

Asbestos-Containing Materials – Bay Area Air Quality Management District (BAAQMD)

CHSC Section 19827.5 requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. The BAAQMD is vested by the California Legislature with authority to regulate airborne pollutants, including asbestos, through both inspection and law enforcement, and is to be notified 10 days in advance of any proposed demolition or abatement work. Notification includes the names and addresses of operations and persons responsible; description and location of the structure to be demolished or altered, including size, age, and prior use, and the approximate amount of friable asbestos; scheduled starting and completion dates of demolition or abatement; nature of planned work and methods to be employed; procedures to be employed to meet BAAQMD requirements; and the name and location of the waste disposal site to be used. The BAAQMD randomly inspects asbestos removal operations. In addition, the BAAQMD will inspect any removal operation when a complaint has been received. Pursuant to California law, the San Francisco Department of Building Inspection (DBI) would not issue the required building permit until the applicant has complied with the notice and abatement requirements described above.

Further, the local office of Cal/OSHA must be notified before asbestos abatement is carried out. Asbestos abatement contractors must follow state regulations contained in CCR Title 8, Section 1529 and Sections 341.6 through 341.14, where there is asbestos-related work involving 100 square feet (sf) or more of ACM. Asbestos removal contractors must be certified as such by the Contractors Licensing Board of the State of California.

The owner of the property where abatement is to occur must have a Hazardous Waste Generator Number assigned by and registered with DTSC in Sacramento. The contractor and hauler of the ACM are required to prepare a Hazardous Waste Manifest, which details the hauling of the ACM from the site to its disposal location. Pursuant to California law, DBI would not issue the required permit until the applicant has complied with the notice requirements described above.

[535] *California Code of Regulations* Title 22, Section 66261.50.

Local

San Francisco Department of Public Health

The SFDPH HMUPA has been granted authority by the State under the Unified Program to enforce the program element regulations pertaining to hazardous materials in the City. These include permitting for hazardous materials storage, USTs, and hazardous waste generation under the SFDPH Certificate of Registration Program. A Hazardous Materials Compliance Certificate is awarded to businesses registered with the SFDPH that provide required annual information as applicable to their facility including: hazardous materials and wastes inventories, use, materials reduction, on-site treatment, and employee training; facility maps; emergency response procedures; USTs management (including forms, leak detection monitoring program, and financial responsibility certificates); medical wastes; regulated substances; ASTs; diesel backup generators; and chlorofluorocarbon recovery and recycling. Under the SFDPH HMUPA, building contractors temporarily storing hazardous materials at a construction site must also apply and receive an HMUPA certificate for the storage of hazardous materials during construction.

San Francisco Department of the Environment

The San Francisco Department of the Environment offers information on environmentally friendly alternatives, safe and convenient disposal of toxic products, and ideas on how to minimize the use of hazardous products and materials. Areas covered include: pest management, toxic product recycling and disposal, home and body products, and greening businesses.

City and County of San Francisco Hazardous Materials Regulations

Local regulations have been enacted to address the potential to encounter hazardous materials in the soil and the safe handling of hazardous materials (including hazardous wastes). The following sections of the SFHC, briefly summarized below, could apply to sites to be occupied or used in the 12 study areas and six project sites. These include Article 22A, Analyzing the Soil for Hazardous Waste, formerly the Maher Ordinance; Article 21, Hazardous Materials; Article 21A, Risk Management Program; and Article 22, Hazardous Waste Management.

San Francisco Health Code Article 22A (Analyzing Soil for Hazardous Waste)

SFHC Article 22A (also known as the Maher Ordinance), as amended in August 2013, is applicable to projects disturbing more than 50 cubic yards of soil and located in an area with suspected soil/groundwater contamination. The Maher Ordinance, which is administered and overseen by SFDPH, requires the project sponsor to retain the services of a qualified professional to prepare a Phase I ESA that meets the requirements of SFHC Section 22.A.6. The Phase I would determine the potential for site contamination and level of exposure risk associated with the project. Based on that information, soil and/or groundwater sampling and analysis, as well as remediation of any site contamination, may be required. These steps are required to be completed prior to the issuance of

any building permit. For projects disturbing less than 50 cubic yards of soil SFDPH has the authority to require that the project/site be subject to Article 22A. Under this circumstance, the Planning Department requests a Phase I and/or Phase II to determine the potential for site contamination and would engage SFDPH as necessary.

San Francisco Health Code Article 21 (Hazardous Materials)

SFHC Article 21 provides for safe handling of hazardous materials in the City. It requires any person or business that handles, sells, stores, or otherwise uses specified quantities to keep a current certificate of registration and to implement an HMBP. Threshold quantities that require a HMBP are 500 lb for solids, 55 gallons for liquids, and 200 cubic feet for compressed gases. Every business that must implement an HMBP must also obtain a certificate of registration certifying that the HMBP meets the requirements of Article 21. A special permit is required for USTs. Article 21 also incorporates state tank regulations. SFHC Article 21A provides for safe handling of certain federally regulated hazardous, toxic, and flammable substances in the City, requiring businesses that use these substances in quantities exceeding specified threshold amounts to register with SFDPH and prepare a Risk Management Plan that includes an assessment of the effects of an accidental release and programs for preventing and responding to an accidental release.

San Francisco Health Code Article 22 (Hazardous Waste Management)

The Board of Supervisors adopted SFHC Article 22, Hazardous Waste Management, to authorize the Director of SFDPH, as the certified unified program agency approved pursuant to Health and Safety Code Chapter 6.11, to implement and enforce the requirements of the California Hazardous Waste Control Act. The act is applicable to generators of hazardous waste and persons operating pursuant to a permit-by-rule, conditional authorization, or conditional exemption set forth in Health and Safety Code Section 25404(c)(1).

The Director has the authority to certify unified program agencies by Health and Safety Code Section 25404(c)(1) to implement and enforce the provisions of the Hazardous Waste Control Act as set forth in CHSC Division 20, Chapter 6.5, and the minimum standards of management of hazardous waste as specified in CCR Title 22, Chapter 30, Division 4. Throughout the City and County of San Francisco, a Hazardous Materials Management Plan must be prepared and submitted to SFDPH by businesses that use or store certain quantities of hazardous materials. In addition, the San Francisco Environmental Health Section is the Unified Program Agency for the City and County of San Francisco providing oversight of the following activities or substances conducted or handled by businesses within the County: hazardous waste generators, hazardous waste treatment, USTs, ASTs, chlorofluorocarbon recycling, and medical waste.

Article 22 hazardous waste regulations apply to businesses even if they do not meet the quantity thresholds for an HMBP and certification from the HMUPA because businesses that generate hazardous waste are responsible for complying with all applicable federal, state, and local

regulations.[536] As noted above, businesses that generate hazardous waste are regulated as LQGs, SQGs, or CESQGs under the state's Hazardous Waste Control Act, which is monitored and enforced by SFDPH. As noted above, some existing AAU facilities are SQGs. Article 22 also establishes a minimal-quantity generator (MQG) category for businesses in the City and County of San Francisco that are not required to have a hazardous materials registration pursuant to Article 21 (HMBP) and that do not generate more than 50 lb per month or 500 lb per year of hazardous waste. Businesses are required to register with the SFDPH HMUPA and pay appropriate registration fees, depending on which category waste generator they are, within 30 days of starting operation. For future growth in the 12 study areas and use of the six project sites, if hazardous waste would be generated by AAU activities, the generator type and fee for each facility would be determined in consultation with SFDPH staff.

San Francisco Building Code

Asbestos-Containing Materials

San Francisco Building Code (SFBC) Section 3427, Asbestos Information and Notice, requires the seller of any nonresidential building, except a nonresidential building for which a building permit to erect the structure was filed with DBI on or after January 1, 1979, must disclose to the buyer, prior to transfer of title, what efforts, if any, the seller has made to determine if the building contains asbestos-containing construction materials and provide documentation of those efforts. Section 3426.3 requires that any person filing an application for a building permit to perform work in an apartment house or residential hotel that includes asbestos-related work, must adhere to specific noticing requirements.

Lead-Based Paint

Work that could result in the disturbance of LBP must comply with SFBC Section 3426, Work Practices for Lead-Based Paint on pre-1979 Buildings and Steel Structures. Where there is any work that may disturb or remove LBP on the exterior of any building built prior to December 31, 1978, Section 3426 requires specific notification and work standards and identifies prohibited work methods and penalties. Section 3426 also applies to the interior of residential buildings, hotels, and child care centers. The ordinance contains performance standards, including establishment of containment barriers, at least as effective at protecting human health and the environment as those in the HUD Guidelines (the most recent Guidelines for Evaluation and Control of Lead-Based Paint Hazards) and identifies prohibited practices that may not be used in disturbance or removal of LBP. Any person performing work subject to the ordinance shall, to the maximum extent possible, protect the ground from contamination during exterior work; protect floors and other horizontal surfaces from work debris during interior work; and make all reasonable efforts to prevent migration of lead paint contaminants beyond containment barriers during the course of the work. Cleanup standards

[536] Paula Stewart, Sr. Environmental Health Inspector, Hazardous Materials and Waste Program, San Francisco Department of Public Health, personal communication (August 9, 2013).

require the removal of visible work debris, including the use of a High Efficiency Particulate Air Filter (HEPA) vacuum following interior work. The ordinance also includes notification and signage requirements. Prior to the commencement of work, the responsible party must provide written notice to the director of DBI indicating the address and location of the project; the scope of work, including specific location; methods and tools to be used; the approximate age of the structure; anticipated job start and completion dates for the work; whether the building is residential or nonresidential, owner-occupied or rental property; the dates by which the responsible party has or will fulfill any tenant or adjacent property notification requirements; and the name, address, telephone number, and pager number of the party who will perform the work. Further notice requirements include signage when containment is required, notice to occupants, availability of pamphlet related to protection from lead in the home, and Early Commencement of Work (Requested by Tenant). The ordinance contains provisions regarding inspection and sampling for compliance by DBI and enforcement, and describes penalties for noncompliance with the requirements of the ordinance.

Hazard Mitigation Plan

San Francisco completed the 2008 Hazard Mitigation Plan (HMP) to assess risks posed by natural and human caused hazards and to develop a mitigation strategy for reducing the City's risks. HMP Section 5.2.3.3 describes the types, location, and probability of hazardous materials incidents. According to the HMP reports, a hazardous materials event is most likely to occur within the City's industrial area, and along land and water transportation corridors. Trucks and vessels that use these transportation corridors commonly carry a variety of hazardous materials, including gasoline, other petroleum products, and other chemicals known to cause human health problems. Wide variations among the characteristics of hazardous material sources and among the materials themselves make such an evaluation difficult. However, based on previous occurrences, San Francisco can expect, on average, a hazardous material event every four years due to a truck accident and seven times a year due to a large vessel accident as a result of equipment failure or operator error.[537]

San Francisco General Plan

The *General Plan* provides general policies and objectives to guide land use decisions and development throughout the City. *General Plan* objectives and policies relevant to hazards and hazardous materials are discussed in Section 4.1, Plans and Policies, of this EIR. *General Plan* Objectives and Policies that are applicable to the occupation and change of use of existing buildings evaluated in this EIR are found in the Community Safety Element and include:

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[537] City and County of San Francisco, *Emergency Response Plan, Emergency Support Function #10 Oil and Hazardous Materials Response Annex*. This document is on file for public review at the Planning Department, 1650 Mission Street, Fourth Floor, San Francisco, CA 94103 as part of File No. 2007.0946E and at http://sfdem.org/index.aspx?page=413.

Policy 1.23 Enforce state and local codes that regulate the use, storage and transportation of hazardous materials in order to prevent, contain and effectively respond to accidental releases.

Policy 2.1 Promote greater public awareness of disaster risks, personal and business risk reduction, and personal and neighborhood emergency response.

Policy 2.11 Ensure the City's designated system of emergency access routes is coordinated with regional activities for both emergency operations and evacuations.

4.17.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to hazards and hazardous materials, if it would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan
- Expose people or structures to a significant risk of loss, injury or death involving fires

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to hazards and hazardous materials in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement

typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting.

For tenant improvements (renovation), the analysis of all study areas and project sites assumes equipment use would be limited to scaffolding, ladders or scissor lifts, and light-duty trucks and delivery vehicles. Materials used in tenant improvements are assumed to be limited to drywall, paint and related finish work materials, and welding products. Seismic upgrades could be interior or exterior, and could include adding new interior structural walls and strengthening roof and floor systems inside buildings, and/or new bracing or anchoring on building exteriors. Exterior upgrades could involve some limited, temporary sidewalk removal and soil disturbance to install the foundations and supports for reinforcing columns. These activities would involve the use of hazardous materials such as fuels and lubricants in equipment and vehicles, welding products, adhesives, and solvents.

For the analysis of the operational effects from AAU growth, it is assumed that hazardous materials use and waste generation during operation would increase in proportion to the existing conditions. The breakdown of facilities that use hazardous materials in institutional (e.g., studios), office, and residential space under current conditions is 59 percent of institutional uses, 39 percent of office, and two percent of residential, respectively, and these same percentages would be similar under future conditions. For the project sites, square footages of future anticipated uses have been identified (refer to Section 3.3, Project Characteristics). The institutional uses at PS-1, 2801 Leavenworth Street (The Cannery); PS-2, 700 Montgomery Street; PS-3, 625 Polk Street; and PS-4, 150 Hayes Street, would be classrooms, office space, and in the case of PS-2 a restaurant, where household-type products would be used. In addition, at PS-1 and PS-3, some art supplies constitute hazardous materials. At PS-5, 121 Wisconsin Street, the project site would be used as a parking lot for AAU shuttles and two staff trailers. At PS-6, 2225 Jerrold Avenue, office and storage uses would require general cleaning and maintenance products and anticipated recreational uses would use similar items. In addition, hazardous wastes such as paint, light bulbs, ballast and solvents would be collected at and transported from 2225 Jerrold Avenue.

Based on the physical setting of the 12 study areas and six project sites, and the nature of the Proposed Project (renovation and change of use of existing buildings), the Proposed Project would not result in impacts related to the following criteria, and no impact discussion is provided for these topics for the following reasons:

- **Airport or Airstrip Hazards.** The nearest study area (PS-6, 2225 Jerrold Avenue) is more than 10 miles north of the San Francisco International Airport (SFO) and is not located within any of the land use compatibility, height restriction, or approach/departure safety zones for

SFO,[538] and the study areas and project sites are not in the vicinity of any other private airstrips. Thus, the Proposed Project would have no impact with respect to air traffic safety.

- **Evacuation Routes.** The study areas and project sites are not situated in locations with City-established tsunami evacuation routes. Evacuation routes for other large-scale emergencies, such as earthquakes are not pre-defined. Therefore, there would be no impact on established evacuation routes as a result of development at the project sites.
- **Fire Hazards.** The study areas and project sites are not located in areas that are at particular risk of fires as compared to other areas within the city. Building Code requirements applicable to tenant improvements as a part of the Proposed Project would include minimum fire safety measures to minimize the potential for fires to cause significant loss, injury, or death. There is no wildland fire hazard in the study areas or project sites. Therefore, the Proposed Project would not expose people or structures to a significant risk of loss, injury, or death involving fires, and there would be no impact.

This section of the EIR does not evaluate the shuttle service expansion because this element of the Proposed Project would have no effect on hazardous materials, nor would hazardous materials conditions affect the shuttle service. Therefore, no analysis of hazardous materials is warranted for this element of the Proposed Project.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010 when the NOP for this EIR was published. These sites are therefore, considered part of the EIR baseline conditions. As such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.17.1, Environmental Setting, p. 4.17-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to hazards or hazardous materials. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential effects related to hazards or hazardous materials that resulted from pre-NOP changes at the 34 existing sites would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.

[538] City and County Associations of Governments of San Mateo County, *San Mateo County Comprehensive Airport Land Use Plan: San Francisco International Airport Land Use Plan* (December 1996).

- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact HZ-1.1 The Proposed Project, including the growth in the 12 study areas, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Less than Significant)

The Proposed Project within the 12 study areas has not identified specific buildings that could be occupied; therefore it is unknown where hazardous materials could be used. However, this impact analysis provides a general description of the types of impacts that could occur in the study areas as a result of AAU growth as it relates to the routine use of hazardous materials during tenant improvements and occupancy of the Proposed Project within the 12 study areas.

Tenant Improvements

The Proposed Project within the 12 study areas would involve the change of use of existing buildings. Construction activities primarily would include interior tenant improvements. Materials used in tenant improvements would generally be limited to drywall, paint and related finish work materials, and welding products, some of which contain products that are considered hazardous materials. Tenant improvements could also include seismic upgrades that could be interior or exterior. This could include adding new interior structural walls and strengthening roof and floor systems inside the building. Exterior seismic upgrades could include new bracing or anchoring. Seismic retrofit activities could involve the use of hazardous materials such as fuels and lubricants in equipment and vehicles, welding products, adhesives, and solvents. Contractor specifications would include requirements that such materials be used, stored, and disposed of in accordance with applicable regulations. Due to the limited types and amounts of products that would be routinely used during tenant improvements and given that such use would be temporary and required to comply with applicable law, renovation activities would not pose a substantial hazard, such that a significant impact would occur.

Building Occupancy

AAU proposes to increase its institutional uses within the 12 study areas by 669,670 sf. As discussed above, residential uses would not routinely use hazardous materials. Institutional uses are assumed to include programs similar to current programs such as fine arts, graphic design, printmaking, sculpture, and photography, all of which involve the use of materials such as paints, lacquers and solvents, plasters, photographic chemicals, and ceramic materials, some of which would be regulated as hazardous materials, and would generate hazardous waste. Additionally, hazardous

materials, primarily art products, would continue to be transported and used in the study areas. Assuming the percentage of space would be roughly proportional to the existing breakdown of space where hazardous materials are used, as discussed in "Approach to Analysis," p. 4.17-27, AAU growth in the study areas would result in an increase of approximately 397,305 sf of studio and art lab facilities.[539]

The proposed increase in office, administrative, gallery, and residential facilities would continue to handle common types of hazardous materials, such as cleaners, disinfectants, and chemical agents required to maintain the sanitation of the residential areas and commercial bathrooms and food preparation areas. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling procedures. AAU may also occupy a building that has an existing UST or AST.

As indicated in Section 4.17.2, Regulatory Framework, p. 4.17-18, AAU is responsible for complying with hazardous materials laws and regulations, such as SFHC Article 21 and Article 22, that are applicable to the types of hazardous materials usage at AAU facilities. If a future AAU facility in a study area that stores hazardous materials in quantities greater than 500 lb for solids, 55 gallons for liquids, and 200 cubic feet for compressed gases, AAU must obtain and comply with HMBP requirements of Article 21, including obtaining an HMUPA certification, for that facility. If an HMBP is not required because of the amount of hazardous materials that are stored at that facility is lower than the HMBP requirements, and if the facility generates hazardous waste, as defined by state regulations, AAU would be required to register that facility as a hazardous waste generator, as established in Article 22. The type of registration that would apply (e.g., SQG, CESQG, or MQG) would be determined in consultation with SFDPH, and must be obtained within 30 days of starting operations at that facility.[540] The SFDPH would inspect AAU locations with HMUPA certificates and where there are hazardous waste registrations, and the San Francisco Fire Department (SFFD) also inspects facilities to ensure compliance with applicable regulations. Additionally, faculty/academic administrators and selected staff members are trained in hazardous materials handling and spill response on an annual basis, and AAU implements required programs for training students in the use of products containing hazardous materials and their disposal.[541] These programs would apply to future uses in the study areas.

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[539] The breakdown of facilities that use hazardous materials in institutional (e.g., studios), office, and residential space under current conditions is 59 percent of institutional uses, 39 percent of office, and two percent of residential, respectively, and these same percentages would be similar under future conditions. Total future studio and art lab facilities would equal 397,305 sf (59 percent of proposed institutional equals 395,105 sf; and two percent of proposed residential in the study areas equals 2,200 sf).

[540] Paula Stewart, Sr. Environmental Health Inspector, Hazardous Materials and Waste Program, San Francisco Department of Public Health, personal communication (August 9, 2013).

[541] AAU facilities use, store, or handle hazardous materials subject to Hazardous Material Business Plan (HMBP) requirements, compliance with which is regulated and monitored by the San Francisco Department of Public Health.

If AAU occupies a building in the study area that has a UST or an AST, the building owner would be responsible for ensuring those features operate in accordance with a SPCCP and HMPB, which would be regulated and monitored by SFDPH. If AAU occupies a building with a UST or an AST, or if AAU installs a new tank, AAU would be responsible for compliance with SFHC Article 21.

While the proposed institutional uses in the study areas would represent an increase in the use of hazardous materials over existing conditions, AAU compliance with the regulatory requirements described above would minimize any risk associated with the use or transport of hazardous materials. Therefore, the Proposed Project's growth in the 12 study areas would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials and this impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact HZ-1.2 **The Proposed Project, including growth at the six project sites, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

AAU's use at PS-1 would result in the change of use of this site from office, retail, and restaurant use to institutional (classrooms, office space, a restaurant, multiuse/event space, and other space). The project site would use common types of hazardous materials, such as cleaners, water-based paint, disinfectants, and chemical agents required to maintain the sanitation of the site. PS-1 could also include programs such as fine arts, graphic design, printmaking, sculpture, and photography, all of which involve the use of materials such as paints, lacquers and solvents, plasters, photographic chemicals, and ceramic materials, some of which would be regulated as hazardous materials, and would generate hazardous waste. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling and disposal procedures. Hazardous waste is hauled away by licensed hazardous waste haulers.

PS-1 would be required to receive an HMUPA certificate of registration. Hazardous materials use at PS-1 will be subject to the certification and HMBP requirements under SFHC Article 21. Hazardous waste management would also be regulated by SFHC Article 22. As described in Impact HZ-1.1,

tenant improvements would involve limited and temporary use of hazardous materials that would also be required to comply with applicable law. Therefore, the Proposed Project at PS-1 would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and this impact would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

PS-2 is proposed to be occupied by offices, restaurant uses, classrooms, and storage space. The project site would use common types of hazardous materials, such as cleaners, disinfectants, and chemical agents required to maintain the sanitation of the site. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling and disposal procedures.

The proposed uses would not require an HMUPA certificate for the project site. If there is an increase in the quantities of hazardous materials stored that would exceed the quantities triggering HMBP requirements, AAU would be required to obtain an HMUPA certificate, as required by SFHC Article 21. Even if the project site does not require a HMBP, under SFHC Article 22, if hazardous waste would be generated, AAU would be required to obtain any necessary registrations, which would be determined in consultation with SFDPH. As described in Impact HZ-1.1, tenant improvements would involve limited and temporary use of hazardous materials that would also be required to comply with applicable law. Therefore, the Proposed Project at PS-2 would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

PS-3 is proposed to be occupied for AAU's School of Fashion and would include uses for classrooms, offices, and fashion labs. The project site would use common types of hazardous materials, such as cleaners, disinfectants, and chemical agents required to maintain the sanitation of the site. PS-3 also could include programs such as fine arts, graphic design, printmaking, sculpture, and photography, all of which involve the use of materials such as paints, lacquers and solvents, plasters, photographic chemicals, and ceramic materials, some of which would be regulated as hazardous materials, and would generate hazardous waste. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling and disposal procedures. Hazardous waste is hauled away by licensed hazardous waste haulers.

PS-3 would be required to receive an HMUPA certificate of registration. Hazardous materials use at PS-3 would be subject to the certification and HMBP requirements under SFHC Article 21. Hazardous waste management would also be regulated by SFHC Article 22. As described in

Impact HZ-1.1, tenant improvements would involve limited and temporary use of hazardous materials that would also be required to comply with applicable law. Therefore, the Proposed Project at PS-3 would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

PS-4 is proposed to be occupied as AAU office space. There is an existing 200-gallon double-walled AST containing diesel for use in a backup emergency generator located in the basement of the building, which would remain in place under the Proposed Project. The project site would use common types of hazardous materials, such as cleaners, disinfectants, and chemical agents required to maintain the sanitation of the site. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling and disposal procedures. There could be an increase in the amount of commercial products used, but no change in the types of products.

The proposed uses would not require an HMUPA certificate for the project site. If there is an increase in the quantities of hazardous materials stored that would exceed the quantities triggering HMBP requirements, AAU would be required to obtain an HMUPA certificate, as required by SFHC Article 21. Even if the project site does not require a HMBP, under SFHC Article 22, if hazardous waste would be generated, AAU would be required to obtain any necessary registrations, which would be determined in consultation with SFDPH. There would be no changes to the AST and the AST would be maintained in compliance with SFHC Article 21. As described in Impact HZ-1.1, tenant improvements would involve limited and temporary use of hazardous materials that would also be required to comply with applicable law. Therefore, the Proposed Project at PS-4 would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and this impact would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

The Proposed Project's use of PS-5 would be a shuttle bus yard with two trailers. There would not be any vehicle fueling or maintenance work at PS-5. Fueling and maintenance services would be provided at off-site vendors. Please refer to Impact HY-4.2 in Section 4.16, Hydrology and Water Quality, concerning the potential for use as a shuttle bus parking lot to contribute urban pollutants such as metals and oil and grease to stormwater runoff. The Proposed Project at PS-5 would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and this impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue (SA-17)

Under the Proposed Project, AAU would use PS-6 for storage, office, and recreational uses. The project site would use common types of hazardous materials, such as cleaners, disinfectants, and chemical agents required to maintain the sanitation of the site. These commercial products are labeled to inform users of potential risks and to instruct them in appropriate handling and disposal procedures. In addition, hazardous waste such as paint, light bulbs, ballast and solvents would be collected at this site, and hauled away regularly by licensed hazardous waste haulers.

PS-6 would be required to receive an HMUPA certificate of registration. Hazardous materials use at PS-6 would be subject to the certification and HMBP requirements under SFHC Article 21. Hazardous waste management would also be regulated by SFHC Article 22. As described in Impact HZ-1.1, tenant improvements would involve limited and temporary use of hazardous materials that would also be required to comply with applicable law. Therefore, the Proposed Project at PS-6 would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact HZ-1.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. (Less than Significant)**

Hazardous materials use (such as commercial household-type products, cleaning materials, art supplies, and photographic chemicals) in the study areas and at the six project sites would be anticipated to increase over existing conditions because there would be an increase in AAU-occupied space and uses.

AAU is responsible for complying with hazardous materials laws and regulations that are applicable to the types of activities and hazardous water generated at AAU facilities. If there is an increase in the quantities of hazardous materials stored in a building occupied within a study area or at a project site that would exceed the quantities triggering HMBP requirements, AAU would be required to obtain an HMUPA certificate, including at PS-3, 625 Polk Street, PS-5, 121 Wisconsin Street, and PS-6, 2225 Jerrold Avenue, as required by SFHC Article 21. Even if the facility in a study area or at project site does not require a HMBP, under SFHC Article 22, if hazardous waste would be generated, AAU would be required to obtain any necessary registrations and pay appropriate fees, which would be determined in consultation with SFDPH. If AAU occupies a building in the study area that has a UST or an AST, the building owner would be responsible for ensuring those features operate in accordance with a SPCCP and HMPB, which would be regulated and monitored by

SFDPH under SFHC Article 21. If AAU acquires a building with a UST or an AST, or if AAU installs a new tank, AAU would be responsible for compliance.

Faculty/academic administrators and selected staff members are trained in hazardous materials handling and spill response on an annual basis. PS-3, 625 Polk Street, PS-5, 121 Wisconsin Street, and PS-6, 2225 Jerrold Avenue, would use and/or store hazardous materials such as art materials, light ballasts, paints, and solvents. The SFDPH inspects AAU locations with HMUPA certificates, and the San Francisco Fire Department (SFFD) also inspects facilities to ensure compliance with applicable regulations. Additionally, AAU encourages the use of water-based paints, which are less hazardous than oil-based paints, and generate little or no hazardous waste. Small amounts of hazardous materials would be transported to and used at some AAU sites, and any transport, handling, or use of these materials would be required to comply with applicable law. Tenant improvements would involve limited and temporary use of hazardous materials that would also be required to comply with applicable law. Therefore, the Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and this impact would be less than significant.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact HZ-2.1 **The Proposed Project, including the growth in the 12 study areas, could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous building materials into the environment, including within 0.25 mile of a school. (Less than Significant with Mitigation)**

The Proposed Project, including the growth within the 12 study areas, would involve the occupation and change of use of existing buildings. Most construction activities would consist of interior tenant improvements. Tenant improvements would include activities such as installation of drywall for partitions, paint, relocation of or adding light fixtures, installation of security systems, new fire sprinkler systems, new fire alarms or upgrades, relocating plumbing or heating systems, and some seismic retrofit work. These activities could involve handling or removing nonstructural elements such as insulation, flooring, ceilings, paint, lighting fixtures, and electrical equipment. Some of these nonstructural features could contain ACMs (e.g., old fireproofing and flooring materials), LBP, or PCBs (e.g., in electrical equipment and lighting fixtures), particularly if the work is being done in older buildings, unless previous renovations have removed those materials or other protective measures have been implemented. A potential upset and accident condition involving the release of hazardous materials into the environment could occur if renovation debris contains those materials at levels that require special handling and their removal and disposal is not properly managed.

Growth in the study areas could also involve some limited ground disturbance to complete exterior seismic upgrades. Installation of anchors and footings or renovation that involves ground

disturbance could encounter contaminated soil with the potential for generating dust that could become airborne and pose a risk to renovation workers, building occupants, or the public as a result of the Proposed Project in the study areas. Therefore, the Proposed Project could result in a reasonably foreseeable upset or accident conditions, including limited disturbance of hazardous building materials and contaminated soil. A description of these potentially encountered hazardous materials is described below.

Asbestos-Containing Material and Lead-Based Paint

Asbestos-Containing Material (ACM)

Asbestos was commonly used until the 1970s as a building material, including use as insulation materials, shingles and siding, roofing felt, floor tiles, and acoustical ceiling material. It may be present in buildings constructed before the 1970s unless it was removed during prior renovation. Asbestos is a known carcinogen and presents a public health hazard if it is present in friable (easily crumbled) form. Long-term, chronic inhalation of high levels of asbestos can cause lung diseases such as asbestosis, mesothelioma, and/or lung cancer.

Lead-Based Paint

LBP was commonly used prior to 1960 and is likely present in buildings constructed before 1960, unless it was removed during prior renovation. Lead is toxic to humans, particularly young children, and can cause a range of human health effects, depending on the level of exposure. When adhered to the surface of the material on which it is painted, LBP poses little health risk. However, where the paint is delaminated or chipping, the paint can cause a potential threat to the health of young children or other building occupants who may ingest the paint.

Construction workers would be at greatest risk from ACM and LBP, but if these materials are not properly managed, they could become airborne and enter building air systems, where they could affect occupants. If asbestos-containing or LBP debris is placed in dumpsters outside a building, dust could become airborne, or fine debris could be scattered. In both cases, this could pose a risk to the public. Similarly, some debris with ACM and/or LBP may have levels of those hazardous materials that are classified as hazardous waste. If those materials are transported to a landfill not permitted to accept those wastes, this could pose a human health and environmental risk. This is considered a less-than-significant impact because AAU's renovation contractors would be required to comply with a well-established regulatory framework for the testing and abatement of ACMs and LBP, and DBI would be responsible for enforcing those requirements. For asbestos, the renovation contractor would be required to notify the BAAQMD in advance of any proposed abatement work, and the asbestos abatement contractors must follow state regulations contained in 8 CCR 1529 and 8 CCR Sections 341.6 through 341.14 where there is asbestos-related work involving 100 sf or more of ACMs, and SFBC Section 3427, which requires noticing. DBI will not issue a permit for renovation work until the renovation contractor has provided documentation that all necessary testing and abatement plans have been completed.

The renovation contractor would also be required to comply with SFBC Section 3426, Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures. Prior to the commencement of work, the renovation contractor must provide written notice to the director of DBI indicating the address and location of the project; the scope of work, including specific location; methods and tools to be used; anticipated job start and completion dates for the work; and notifications, among other items. The ordinance contains provisions regarding inspection and sampling for compliance by DBI and enforcement, and describes penalties for noncompliance with the requirements of the ordinance.

Compliance with these regulations and implementation of the required procedures already established as part of the permit review process would ensure that impacts related to exposure to ACMs and LBP would be minimized to the extent required by law. Therefore, no significant impact related to the release of ACM or LBP would occur as a result of the growth in the study areas.

PCBs and Other Hazardous Materials

PCBs are mixtures of synthetic organic chemicals with physical properties ranging from oily liquids to waxy solids. PCBs were used historically in hundreds of industrial and commercial applications, including in electrical, heat transfer, and hydraulic equipment. Most fluorescent light ballasts manufactured before 1978 contain PCBs in their capacitor and potting material. Ballasts manufactured after January 1, 1978, do not contain PCBs and should be labeled as such on the ballast. PCBs are substances that remain persistent in the environment, accumulate in biological systems, interfere with the reproductive system, and act as immunosuppressants. In California, PCB wastes are regulated as hazardous waste if the PCB concentration exceeds certain numerical criteria. Between 1979 and the early 1990s, DEHP was used in place of PCB as a dielectric fluid in some fluorescent light ballasts and other electrical equipment. DEHP is classified as a probable human carcinogen by the U.S. Department of Health and Human Services and as a hazardous substance by the USEPA. Because of this, ballasts containing DEHP must be legally disposed of at an appropriate facility.

Abatement programs similar to those described for ACM and LBP have not been adopted for PCB and mercury testing and cleanup. With PCBs or DEHP, electrical and construction contractors would be at greatest risk of inhalation and skin contact. If equipment containing PCBs, mercury in fluorescent lighting fixtures, or other hazards are disposed of improperly (e.g., at a municipal landfill not permitted to handle PCB waste), this could pose both a human health and environmental hazard, including to schools within 0.25 mile of the Proposed Project, which would be a significant impact. Implementation of Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, below, would require that the presence of such materials be evaluated prior to tenant improvements and, if such materials were present, that they be properly handled during renovation. Implementation of Mitigation Measure M-HZ-2.1 would reduce this

impact of the Proposed Project, including growth in the 12 study areas, to a less-than-significant level.

> **Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials.** AAU shall ensure that for any existing building where tenant improvements are planned, the building is surveyed for hazardous building materials including PCB-containing electrical equipment, fluorescent light ballasts containing PCBs or DEHP, and fluorescent light tubes containing mercury vapors. The results of testing shall be provided to DBI. The materials not meeting regulatory standards shall be removed and properly disposed of prior to the start of tenant improvements for buildings in the study areas. Old light ballasts that are removed during renovation shall be evaluated for the presence of PCBs. In the case where the presence of PCBs in the light ballast cannot be verified, the light ballast shall be assumed to contain PCBs and handled and disposed of as such, according to applicable laws and regulations. Any other hazardous building materials identified either before or during demolition or renovation shall be abated according to federal, state, and local laws and regulations.

Significance after Mitigation: Less than Significant.

Project-Level Impacts (Growth at the Six Project Sites)

Impact HZ-2.2 **The Proposed Project, including growth at the six project sites, could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous building materials into the environment, including within 0.25 mile of a school. (Less than Significant with Mitigation)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant with Mitigation**
- **PS-2, 700 Montgomery Street: Less than Significant with Mitigation**
- **PS-3, 625 Polk Street: Less than Significant with Mitigation**
- **PS-4, 150 Hayes Street: Less than Significant with Mitigation**
- **PS-5, 121 Wisconsin Street: No Impact**
- **PS-6, 2225 Jerrold Avenue: Less than Significant with Mitigation**

PS-1, 2801 Leavenworth Street (The Cannery)

The structure at PS-1 was constructed in 1907. It underwent extensive seismic upgrades in 1967/68. A hazardous materials building survey was completed for the site in 2009.[542] The survey included visual inspection and laboratory testing for asbestos and lead. ACMs were identified in pipe elbows and lagging, block insulation, thermal coverings, spray-on surfacing materials, ceiling texture, and

[542] EBI, *Phase I Environmental Site Assessment, The Cannery, 2801 Leavenworth Street, San Francisco, California* (May 2010), incorporating Hazardous Materials Building Survey performed by Sensible Environmental Solutions (SES) in August 2009. This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

vinyl floor tile/mastic. The survey report noted asbestos may also be present in some roofing, flooring, or inaccessible areas. LBP is also present. PCB light ballasts were identified at various locations, and the survey report preparers recommended all light ballasts removed, replaced, and/or disposed of should be visually inspected for PCBs and, if removed, would be considered hazardous waste.

The removal of ACM and LBP would be managed through compliance with BAAQMD and DBI permitting procedures, which would require testing and, if necessary, abatement. Abatement, if necessary, would occur in conjunction with issuance of building permits for tenant improvements and compliance with the established regulatory framework would reduce the impacts to less than significant. However, if fixtures containing PCBs, DEHP, or mercury are present and are removed and improperly disposed, this could result in upset or accident conditions, including to schools within 0.25 mile of the Proposed Project, which would be a significant impact. Implementation of Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39, would reduce the impact of the Proposed Project at PS-1 to a less-than-significant level.

Mitigation: Implement Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39.

Significance after Mitigation: Less than Significant.

PS-2, 700 Montgomery Street

PS-2 was built in 1905 and has the potential to have asbestos, LBPs, and other hazardous building materials. The removal of ACM (if any) and LBP would be managed through compliance with BAAQMD and DBI permitting procedures, which would require testing and, if necessary, abatement. Abatement, if necessary, would occur in conjunction with issuance of building permits for tenant improvements and would not require additional mitigation. However, if fixtures containing PCBs, DEHP, or mercury are present and are removed and improperly disposed, this could result in upset or accident conditions, including to schools within 0.25 mile of the Proposed Project, which would be a significant impact. Implementation of Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39, would reduce the impact of the Proposed Project at PS-2 to a less-than-significant level.

Mitigation: Implement Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39.

Significance after Mitigation: Less than Significant.

PS-3, 625 Polk Street

PS-3 was built in 1911. Asbestos abatement activities were reportedly completed in 1990 in several areas where abatement was necessary (basement, third floor, fifth floor). The only remaining "suspect" ACMs are insulation on old steam pipe, which are encased in a vertical, inaccessible

concrete chase that may extend from the basement to the top of the building. Additional testing was completed in 1998 for accessible areas; no detectable levels of asbestos were discovered. Some paint samples tested in 1998 contained elevated levels of lead that met or were greater than the HUD criterion (5,000 mg/kg).[543] Therefore, during tenant improvements it is possible LBP would require abatement. The removal of ACM (if any) and LBP would be managed through compliance with BAAQMD and DBI permitting procedures, which would require testing and, if necessary, abatement. Abatement, if necessary, would occur in conjunction with issuance of building permits for tenant improvements and would not require additional mitigation. However, if fixtures containing PCBs, DEHP, or mercury are present and are removed and improperly disposed, this could result in upset or accident conditions, including to schools within 0.25 mile of the Proposed Project, which would be a significant impact. Implementation of Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39 would reduce the impact of the Proposed Project at PS-3 to a less-than-significant level.

Mitigation: Implement Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39.

Significance after Mitigation: Less than Significant.

PS-4, 150 Hayes Street

PS-4 was built in 1959. A Phase I ESA prepared in 2010 that included limited testing for ACM noted that fireproofing, textured ceiling plaster, and white floor tile were identified as ACM. The report noted ACM may also be present in inaccessible areas of the site structure, such as above fixed ceilings or behind walls. Based on the age of the building, other suspect materials within the site building that were not sampled should be presumed to be asbestos-containing, and LBP is also likely present.[544]

The removal of ACM and LBP (if any) would be managed through compliance with BAAQMD and DBI permitting procedures, which would require testing and, if necessary, abatement. Abatement, if necessary, would occur in conjunction with issuance of building permits for tenant improvements and would not require additional mitigation. However, if fixtures containing PCBs, DEHP, or mercury are present and are removed and improperly disposed, this could result in upset or accident conditions, including to schools within 0.25 mile of the Proposed Project, which would be a significant impact. Implementation of Mitigation Measure M-HZ-2.1a – Testing and Removal of Hazardous Building Materials, p. 4.17-39, would reduce the impact of the Proposed Project at PS-4 to a less-than-significant level.

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[543] ENSR, *Phase I Environmental Site Assessment of 625 Polk Street, San Francisco, CA* (June 1998). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

[544] GaiaTech, *(Draft) Phase I Environmental Site Assessment, Vacant Office Building, 150 Hayes Street, San Francisco, California* (December 2010). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

Mitigation: Implement Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39.

Significance after Mitigation: Less than Significant.

PS-5, 121 Wisconsin Street

PS-5 is a parking lot for AAU shuttle bus storage and has two trailers for staff use. No physical improvements to the parking lot are proposed for PS-5. Therefore, the Proposed Project at PS-5 would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous building materials, and there would be no impact.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

The building at PS-6 was constructed in 1982, after asbestos and PCBs were banned. LBP may be present (due to the commercial nature of the building, not residential). A Phase I ESA for the property recommended that, although the potential for these materials to be present is low, building materials should be tested for ACM and LBP to determine whether these hazardous materials are present so that abatement procedures, if necessary, are implemented.[545]

The removal of any ACM and LBP would be managed through compliance with BAAQMD and DBI permitting procedures, which would require testing and, if necessary, abatement. Abatement, if necessary, would occur in conjunction with issuance of building permits for tenant improvements and would not require additional mitigation. However, if fixtures containing PCBs, DEHP, or mercury are present and are removed and improperly disposed, this could result in upset or accident conditions, including to schools within 0.25 mile of the Proposed Project, which would be a significant impact. Implementation of Mitigation Measure M-HZ-2.1a – Testing and Removal of Hazardous Building Materials, p. 4.17-39, would reduce the impact of the Proposed Project at PS-6 to a less-than-significant level.

Mitigation: Implement Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39.

Significance after Mitigation: Less than Significant.

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[545] Geologica, *Phase I Environmental Site Assessment, Academy of Art Warehouse Building, 2225 Jerrod Avenue, San Francisco, CA* (April 2009). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact HZ-2.3 **The Proposed Project, including growth in 12 study areas and at the six project sites, could create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous building materials into the environment, including within 0.25 mile of a school. (Less than Significant with Mitigation)**

Tenant improvements involving building interiors in the study areas and project sites could disturb ACMs or LBP. If these materials are not properly identified and removed prior to renovation work, this could result in the inadvertent release of hazardous materials into the environment, which could present a human health risk. The renovation contractor would be required to notify the BAAQMD in advance of any proposed asbestos abatement work, and the contractor must comply with SFBC Section 3427. The renovation contractor would also be required to comply with SFBC Section 3426, Work Practices for Lead-Based Paint on Pre-1979 Buildings and Steel Structures. Compliance with these regulations and implementation of the required procedures, already established as part of the permit review process, would ensure that upset or accident conditions would be minimized to the extent required by law.

Abatement programs similar to those described for ACM and LBP have not been adopted for PCB and mercury testing and cleanup. With PCBs, electrical and construction contractors would be at greatest risk of inhalation and skin contact. If equipment containing PCBs, mercury in fluorescent lighting fixtures, or other hazards are disposed of improperly (e.g., at a municipal landfill not permitted to handle PCB waste), this could pose both a human health and environmental hazard, including to schools within 0.25 mile of the Proposed Project, which would be a significant impact. Implementation of Mitigation Measures M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39, would reduce the impact of Proposed Project to a less-than-significant level.

Mitigation: Implement Mitigation Measure M-HZ-2.1 – Testing and Removal of Hazardous Building Materials, p. 4.17-39.

Significance after Mitigation: Less than Significant.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact HZ-3.1 **The Proposed Project, including growth in the 12 study areas, would not expose the public or the environment to unacceptable levels of known or newly discovered hazardous materials as a result of a site being located on a hazardous materials list site. (Less than Significant)**

There are eight sites within the 12 study areas that are on the Cortese List; these are located in SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-8, Third Street/Bryant Street; and SA-11, Sixth Street/Folsom Street. One location (400 Third Street) in SA-8 is undergoing remediation for soil and groundwater contamination. Based on a health risk assessment, soil vapors do not pose a risk to

adjacent buildings provided uses remain commercial or industrial.[546] There are no sites on the Cortese List in SA-1, Lombard Street/Divisadero Street; SA-2, Lombard Street/Van Ness Avenue; SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-7, Rincon Hill East; SA-9, Second Street/Brannan Street; SA-10, Fifth Street/Brannan Street; or SA-12, Ninth Street/Folsom Street. All of the 12 study areas contain areas of Bay fill, areas of current or historical industrial use, areas within 150 feet of an elevated freeway, or areas within 100 feet of sites with current or past USTs (including but not limited to current and former gas stations and dry cleaners (see Figure 4.17-1, Hazardous Waste Sites and Areas Subject to San Francisco Health Code Article 22A (the Maher Ordinance), p. 4.17-45), and development would be subject to the requirements of Article 22A, the Maher Ordinance, because they are situated on soils that may contain contaminants.

Because the specific buildings that AAU would occupy in the study areas are not known, Phase I ESAs have not been prepared. Each study area is expected to have unique conditions related to historic uses and the potential for such uses to have resulted in soil or groundwater contamination as a result of releases, leaks, or disposal of chemical compounds such as petroleum hydrocarbons, on or below the surface. Depending on the conditions and intensity of the release, groundwater contamination can migrate beyond the property boundary of the original release site.

Tenant improvements associated with implementation of the Proposed Project in the study areas primarily would include interior tenant improvements such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, and addition of exterior signage and lighting. However, some improvements could also include seismic upgrades that could be interior or exterior. This could include adding new interior structural walls and strengthening roof and floor systems inside the building. Exterior seismic upgrades could include new bracing or anchoring, which would involve some limited soil disturbance to install the foundations and supports for reinforcing columns. Depending on the depth of the foundation or footing, this could encounter subsurface soil or groundwater contamination. Disturbance of a previously contaminated area could expose workers or other members of the public to health hazards from physical contact with contaminated materials or hazardous vapors. Improper handling or storage of contaminated soil and groundwater can cause further exposure to these hazards, or potentially spread contamination through surface water runoff or airborne dust. In addition, contaminated groundwater can spread downgradient, potentially contaminating subsurface areas of surrounding properties.

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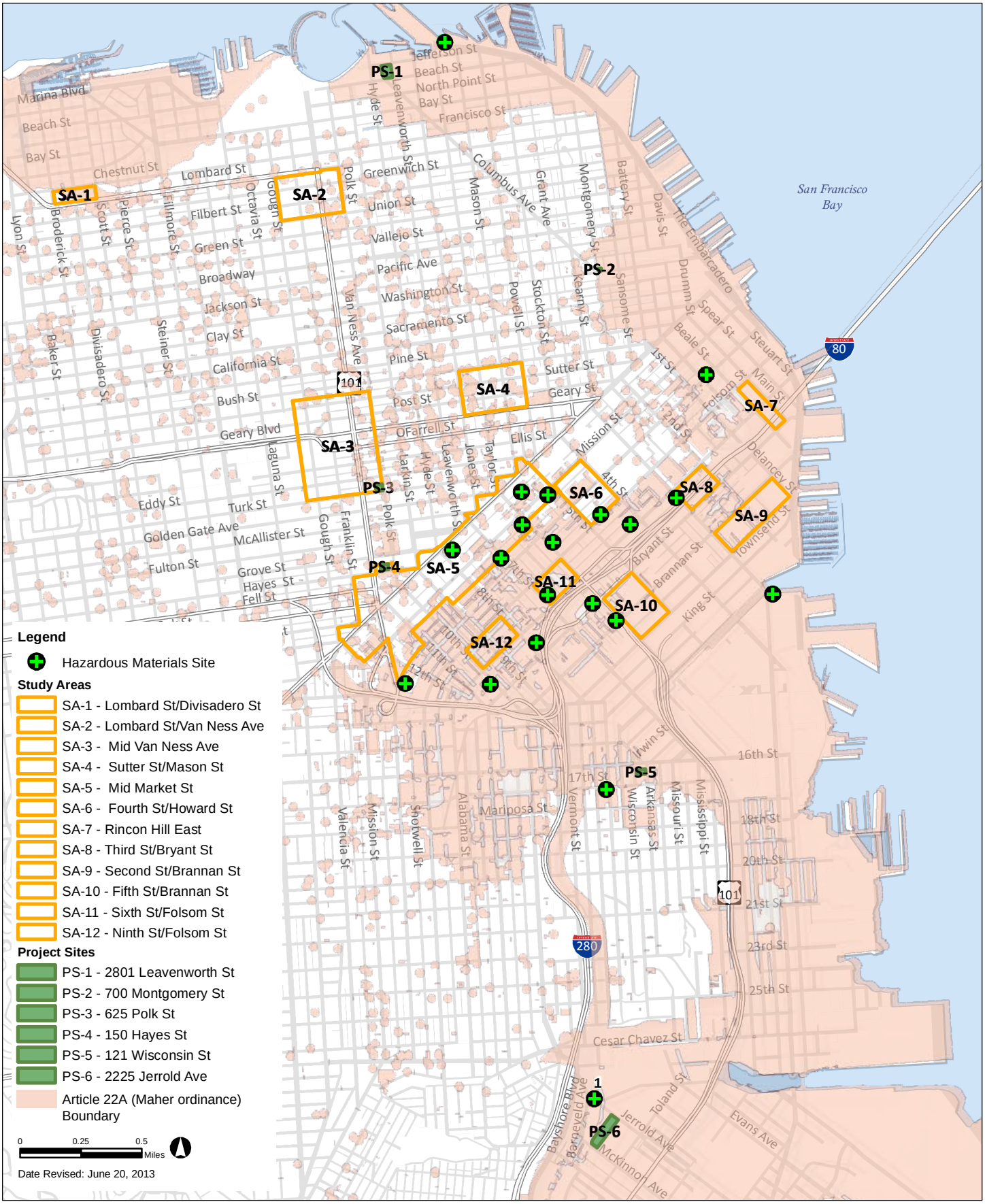
[546] State Water Resources Control Board, Geotracker http://geotracker.waterboards.ca.gov/. Search criteria: 400 Third Street; City and County of San Francisco, Department of Public Health Environmental Health Section, Air Sparge, Soil Vapor Extraction and Extraction Well Work Plan and Air Sparge, Soil Vapor Extraction and Extraction Well Installation and Feasibility Testing Reports Former Mobil #10-013, 400 Third Street, San Francisco, LOP Case Number: 11697, letter to Jennifer Sedlachek, Exxon Mobil, 4096 Piedmont Avenue, # 194, Oakland, California 94611 (August 16, 2011).



SOURCE: Department of Toxic Substances Control, Envirostor database, 2012; Atkins 2013.

FIGURE 4.17-1: HAZARDOUS WASTE SITES AND AREAS SUBJECT TO SAN FRANCISCO HEALTH CODE ARTICLE 22A (THE MAHER ORDINANCE)

Earthwork activities associated with future use in buildings occupied by AAU in the study areas could expose contamination from one of these release sites. In addition, there is always a potential to encounter previously unidentified contamination. If substantial levels of hazardous materials in site soils or groundwater are discovered, health and safety risks to construction workers and the public at large could occur. Exposure to hazardous materials could cause various short-term and/or long-term health effects. Possible health effects could be acute (immediate, or of short-term severity), chronic (long-term, recurring, or resulting from repeated exposure), or both. Acute effects, often resulting from a single exposure, could result in a range of effects from minor to major, such as nausea, vomiting, headache, dizziness, or burns. Chronic exposure could result in systemic damage or damage to organs, such as the lungs, liver, or kidneys. Health effects would be specific to each hazardous material. In addition, contaminated soils and groundwater can present adverse effects to the environment, including damage to the environment that could cause a significant impact.Any potential encounter with hazardous materials from tenant improvement work within the study areas would be subject to SFHC Article 22A, the Maher Ordinance. The Maher Ordinance requires the project sponsor to retain the services of a qualified professional to prepare a Phase I ESA that meets the requirements of SFHC Section 22.A.6. The Phase I would determine the potential for site contamination and level of exposure risk associated with the project. Based on that information, the project sponsor may be required to conduct soil and/or groundwater sampling and analysis. Where such analysis reveals the presence of hazardous substances in excess of state or federal standards, the project sponsor is required to submit a site mitigation plan (SMP) to SFDPH or other appropriate state or federal agency(ies), and to remediate any site contamination in accordance with an approved SMP prior to the issuance of any building permit. The Proposed Project would be required to remediate potential soil or groundwater contamination encountered within the study areas in accordance with SFHC Article 22A. Thus, the Proposed Project would not result in a significant hazard to the public or environment from contaminated soil (and/or) groundwater and the Proposed Project would result in a less-than-significant impact.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact HZ-3.2 **The Proposed Project, including growth at the six project sites, would not expose the public or the environment to unacceptable levels of known or newly discovered hazardous materials as a result of a site being located on a hazardous materials list site. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

PS-1 is not included on the Cortese List; however, it is located within an area subject to Article 22A, the Maher Ordinance. A Phase I ESA was prepared for PS-1. The historical use of the project site, which included the deposition of fill associated with the adjacent Equitable Gaslight Company manufactured gas plant operation and the 1906 earthquake and fire, was considered a REC in the Phase 1 ESA. The Phase I ESA recommended a limited subsurface investigation (Phase II ESA) to characterize subsurface soil and/or groundwater conditions associated with the historical industrial activity at the project site.[547] In September 2010, the Phase II ESA was performed, which included soil testing for VOCs, PAHs, and eight metals, and groundwater testing for VOCs and metals.

The Phase II ESA concluded that no VOCs were detected in soil above typical regulatory criteria; arsenic, lead, cadmium, chromium and silver were detected in one or more soil samples at concentrations above regulatory criteria. Lead, silver, and cis-1,2-dichloroethene (a VOC) concentrations in at least one groundwater sample exceeded regulatory criteria. As a result of the Phase II ESA findings, a soil vapor survey was conducted at the project site in June 2011 to determine whether contaminants in the underlying soil could migrate to interior building spaces. Soil vapors were analyzed for VOCs and methane. All soil vapor samples were nondetect for all VOCs and methane. The preparers of the soil vapor survey concluded there was no evidence of VOC concentrations in soil vapor that might pose a risk to human health, and no evidence that VOCs previously detected in soil and groundwater beneath the property pose a risk for vapor intrusion into structures on the property. They also noted it is unlikely that soil or groundwater contamination identified on the property would require regulatory agency involvement or remediation, and that a health and safety and/or environmental consulting specialist should be consulted prior to embarking on activities that would involve disturbance of soil, or production of groundwater to ensure proper management of potentially contaminated soil and groundwater. The preparers recommended that discharge of metals-impacted groundwater into the City sewer system or nearby surface water and/or dispersal of metals impacted soil as fugitive dust should be avoided.[548]

Tenant improvements associated with implementation of the Proposed Project would include installation of signage, painting, replacement of ceiling tiles, limited concrete repairs in the interior courtyard, upgrades to the fire alarm system, installation of a security system, and interior construction associated with the conversion of space to AAU use. PS-1, 2801 Leavenworth Street (The Cannery), underwent extensive seismic upgrades in 1967/68. The Proposed Project as PS-1 is

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[547] EBI Consulting, *Phase I Environmental Site Assessment: The Cannery—CWCapital Loan #123-106 2801 Leavenworth Street, San Francisco, California* (May 2010); EBI Consulting, *Limited Subsurface Investigation Report: The Cannery—CWCapital Loan #123-106 2801 Leavenworth Street, San Francisco, California* (May 2010). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

[548] Geologica, *Report Sub-Slab Vapor Survey The Cannery Property, 2801 Leavenworth Street, San Francisco, CA* (June 23, 2011). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

not proposing work that would result in ground disturbance that could disturb soil or groundwater contamination; however, if work would be required prior to receiving a change of use permit, that would result in ground disturbance that work would be subject to Article 22A, the Maher Ordinance. Thus, the Proposed Project at PS-1 would not result in a significant hazard to the public or environment from contaminated soil or groundwater, and the Proposed Project would result in a less-than-significant impact.

Mitigation: None required.

PS-2, 700 Montgomery Street

PS-2 is not included on the Cortese List; however, it is located within an area that is subject to Article 22A, the Maher Ordinance. A Phase I ESA has not been prepared for PS-2. The Proposed Project at PS-2 would include installation of signage, interior and exterior painting, installation of a security system, and interior construction associated with the conversion of space to AAU use. The Proposed Project at PS-2 is not proposing work that would result in ground disturbance that could disturb soil or groundwater contamination; however, if work would be required prior to receiving a change of use permit, that would result in ground disturbance that work would be subject to Article 22A, the Maher Ordinance. Thus, the Proposed Project at PS-2 would not result in a significant hazard to the public or environment from contaminated soil or groundwater and the Proposed Project would result in a less-than-significant impact.

Mitigation: None required.

PS-3, 625 Polk Street

PS-3 is not included on the Cortese List; however, it is located within an area that is subject to Article 22A, the Maher Ordinance. A Phase I ESA prepared in 1998 concluded there was no evidence "to indicate or suggest the presence of a significant on-site contamination problem." The report also noted that LUFTs within 0.25 mile of the property were not expected to pose a significant environmental threat to the property due to distance, their relative location with respect to the hydrogeological gradient direction, or the status of each location in the LUFT program.[549] The Proposed Project at PS-3 would include painting and installation of new lighting, a new security system, partial roof replacement, and signage, and is not proposing work that would result in ground disturbance that could disturb soil or groundwater contamination. Thus, the Proposed Project at PS-3 would not result in a significant hazard to the public or environment from contaminated soil or groundwater and the Proposed Project would result in a less-than-significant impact.

Mitigation: None required.

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[549] ENSR, *Phase I Environmental Site Assessment of 625 Polk Street, San Francisco, CA* (1998). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

PS-4, 150 Hayes Street

PS-4 is on the Cortese List in the SWRCB's LUFT database.[550] Two 4,000-gallon underground gasoline storage tanks and one 500-gallon waste oil tank, as well as soil surrounding the tanks were removed in 2009. Soil testing indicated no contamination at the tested locations. The RWQCB issued a closure letter for the tank removal in 2009. PS-4 is also subject to Article 22A, the Maher Ordinance.

A Phase I ESA was prepared in 2007.[551] The Phase I ESA stated an auto repair and auto body shop operated from the 1920s until 1967 on a portion of the property. The Phase I ESA preparers noted that excavation of the basement in 1968 presumably resulted in the removal of any adversely impacted soil associated with shop operations. Residual soil contamination from petroleum hydrocarbons, if any, was judged to be a "de minimus" environmental condition that would not trigger agency action as the date of the Phase I ESA (2007), due to the existence of the present multistory structure and the difficulty of assigning responsibility for a hazardous release in an urbanized area with a number of potential historical contaminant sources. The Phase I ESA preparers recommended if the building is demolished in the future, and evidence of significant contamination is discovered beneath the structure, environmental agencies may request additional environmental investigation. The Phase I ESA report noted that storage and handling of hazardous substances at the project site appears adequate to prevent accidental releases, and there was no observed evidence of significant spills or leakage in any of the storage or use areas on the premises. The presence of hazardous substances at the project site did not constitute a REC as of 2007.

The Proposed Project at PS-4 would include painting and installation of a new security system, interior construction associated with the conversion of space to AAU use, and signage, and is not proposing work that would result in ground disturbance that could disturb soil or groundwater contamination. However, if work would be required prior to receiving a change of use permit, that would result in ground disturbance that work would be subject to Article 22A, the Maher Ordinance. Thus, the Proposed Project at PS-4 would not result in a significant hazard to the public or environment from contaminated soil or groundwater and the Proposed Project would result in a less-than-significant impact.

Thus, the Proposed Project at PS-4 would not result in a significant hazard to the public or environment from contaminated soil or groundwater and the Proposed Project would result in a less-than-significant impact.

Mitigation: None required.

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[550] http://www.envirostor.dtsc.ca.gov/public/.

[551] Brown and Caldwell, *Phase I Environmental Site Assessment Prepared for 150 Hayes Street, San Francisco, California* (August 2007); GaiaTech, *(Draft) Phase I Environmental Site Assessment, Vacant Office Building, 150 Hayes Street, San Francisco, California* (December 2010). These documents are available for review at the San Francisco Planning Department under Case No. 2008.0586E.

PS-5, 121 Wisconsin Street

PS-5 is not included on the Cortese List; however, it is located within an area that is subject to Article 22A, the Maher Ordinance. PS-5 would remain a bus storage facility with two trailers, and no improvements that would involve ground disturbance. There is proposed repaving at PS-5; however, this would not result in ground-disturbance. The proposed tenant improvement work at this site would not be subject to Article 22A. Therefore, the Proposed Project at PS-5 would not expose the public or the environment to unacceptable levels of known or newly discovered hazardous materials as a result of a site being located on a hazardous materials list, and there would be no impact.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

PS-6 is not included on the Cortese List; however, it is located within an area that is subject to Article 22A, the Maher Ordinance. A Phase I ESA for PS-6, prepared in 2009, reported the RECs related to the historical operations at the property site and relative age of the building, including historic use, historic 550-gallon UST, former on-site fuel USTs/residual impacts, and regional subsurface impacts, the details of which are presented in Section 4.17.1, Environmental Setting, p. 4.17-1, above. The Phase I ESA preparers concluded that no further investigation associated with the USTs and historical industrial operations were needed at the time the Phase I ESA was prepared (2009). Based on the duration that the property and the general site vicinity were used for manufacturing and general industrial purposes, and the noted petroleum hydrocarbon concentrations detected in on-site soils and groundwater, residual concentrations of TPH and related compounds are likely present in subsurface soils and groundwater. Therefore, the Phase I preparers recommended that precautions should be made prior to any excavation for potential contact with contaminated soil and/or groundwater. If soil or groundwater at the subject property has been impacted, then any disturbance, handling, or disposal of the impacted soil or groundwater would require management in accordance with applicable local and/or state regulations.[552]

Tenant improvements would include interior construction associated with installation of recreational uses, signage installation, painting (both interior and exterior), addition of a new fire alarm, installation of a security system, and replacement of sidewalk, street curbs and landscaping along McKinnon Avenue side of the site. The Proposed Project at PS-6 is not proposing work that would result in ground disturbance that could disturb soil or groundwater contamination; however, if work would be required prior to receiving a change of use permit, that would result in ground disturbance that work would be subject to Article 22A, the Maher Ordinance. Thus, the Proposed Project at PS-6 would not result in a significant hazard to the public or environment from

[552] Geologica, *Phase I Environmental Site Assessment, Academy of Art Warehouse Building, 2225 Jerrod Avenue, San Francisco, CA* (April 2009). This document is available for review at the San Francisco Planning Department under Case No. 2008.0586E.

contaminated soil or groundwater and the Proposed Project would result in a less-than-significant impact.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact HZ-3.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not expose the public or the environment to unacceptable levels of known or newly discovered hazardous materials as a result of a site being located on a hazardous materials list site. (Less than Significant)**

There are a total of eight Cortese List sites in study areas, and PS-4, 150 Hayes Street, is on the Cortese List. All of the 12 study areas contain areas of Bay fill, areas of current or historical industrial use, areas within 150 feet of an elevated freeway and areas within 100 feet of sites with current or past USTs (including but not limited to current and former gas stations and dry cleaners), and development would be subject to the requirements of SFHC Article 22A, the Maher Ordinance, because they are situated on soils that may contain contaminants (see Figure 4.17-1, Hazardous Waste Sites and Areas Subject to San Francisco Health Code Article 22A (the Maher Ordinance), p. 4.17-45). As shown in Figure 4.17-1, all of the project sites (PS-1, 2801 Leavenworth Street [The Cannery]; PS-2, 700 Montgomery Street; PS-3, 625 Polk Street; PS-4, 150 Hayes Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue) are located in areas subject to the requirements of SFHC Article 22A.

Because the specific buildings that AAU would occupy in the study areas are not known, Phase I ESAs have not been prepared. Each study area is expected to have unique conditions related to historic uses and the potential for such uses to have resulted in soil or groundwater contamination as a result of releases, leaks, or disposal of chemical compounds such as petroleum hydrocarbons, on or below the surface. Subsurface conditions in the study areas are, therefore, not known. Phase I ESAs have been prepared for PS-1, 2801 Leavenworth Street (The Cannery); PS-3, 625 Polk Street; PS-4, 150 Hayes Street; and PS-6, 2225 Jerrold Avenue. Phase I ESAs identified the potential for previously unidentified contaminated soil or groundwater to be encountered at these project sites. A Phase I ESA has not been prepared for PS-2, 700 Montgomery Street or PS-5, 121 Wisconsin Street. The Proposed Project at the six project sites is not proposing work that would result in ground disturbance that could disturb soil or groundwater contamination; however, if work would be required prior to receiving a change of use permit, that would result in ground disturbance that work would be subject to Article 22A, the Maher Ordinance.

Additionally, if seismic upgrades are deemed necessary at any building occupied by AAU in the study areas or at buildings at the project sites, installation of foundations and footings for anchors and bracing could encounter subsurface contamination, depending on the depth and location. Disturbance of a previously contaminated area could expose workers or other members of the

public to health hazards from physical contact with contaminated materials or hazardous vapors. Improper handling or storage of contaminated soil and groundwater can cause further exposure to these hazards, or potentially spread contamination through surface water runoff or airborne dust. In addition, contaminated groundwater can spread down-gradient, potentially contaminating subsurface areas of surrounding properties. However, any potential encounter with hazardous materials from tenant improvement work within the study areas would be subject to SFHC Article 22A, the Maher Ordinance. The Maher Ordinance requires the project sponsor to retain the services of a qualified professional to prepare a Phase I ESA that meets the requirements of SFHC Section 22.A.6. The Phase I would determine the potential for site contamination and level of exposure risk associated with the project. Based on that information, the project sponsor may be required to conduct soil and/or groundwater sampling and analysis. Where such analysis reveals the presence of hazardous substances in excess of state or federal standards, the project sponsor is required to submit an SMP to SFDPH or other appropriate state or federal agency(ies), and to remediate any site contamination in accordance with an approved SMP prior to the issuance of any building permit. The Proposed Project would be required to remediate potential soil or groundwater contamination encountered within the study areas in accordance with SFHC Article 22A. Thus, the Proposed Project would not result in a significant hazard to the public or environment from contaminated soil and/or groundwater and the Proposed Project would result in a less-than-significant impact.

Mitigation: None required.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact HZ-4.1 The Proposed Project, including growth in the 12 study areas, would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

The City and County of San Francisco ensures fire safety primarily through provisions of the Building Code and the Fire Code. Existing buildings are required to meet standards contained in these codes. Any proposed future change of use that would occur in the study areas would conform to these standards, including development of an emergency procedure manual and an exit drill plan. In this way, potential fire hazards (including those associated with hydrant water pressure and emergency access) would be mitigated during the permit review process.

No interference with emergency response plans or emergency excavation plans would be expected. Any future development projects would be reviewed by DBI and potentially coordinated with OES before the final building permits were issued.

Construction of AAU tenant improvements in the study areas would generally be within building interiors or to install exterior signage or lighting, which would not require detours for vehicles or pedestrians. However, improvements could also include exterior seismic upgrades such as new bracing or anchoring, which could involve some limited, temporary sidewalk removal and soil

disturbance to install the foundations and supports for reinforcing columns. In limited cases, sidewalk or roadway detours could be necessary for delivery of materials for interior tenant improvements or if ground disturbance around a building is needed to install seismic safety upgrades. However, detours, if any, would be temporary and would be of short duration. Therefore, implementation of AAU tenant improvements in the study areas would neither impair implementation of nor physically interfere with an adopted emergency response or evacuation plan. Occupancy of the study areas could result in changes in traffic volumes on streets and arterials, but this would not cause intersection levels of service to deteriorate or cause increased delays (see Impact TR-8). Therefore, the Proposed Project including growth in the 12 study areas would neither impair implementation of nor physically interfere with an adopted emergency response or evacuation plan, and the impact would be less than significant.

Mitigation: None required.

Project-Level Impacts (Growth at the Six Project Sites)

Impact HZ-4.2 **The Proposed Project, including growth at the six project sites, would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

As discussed under Impact HZ-4.1 above, the City and County of San Francisco ensures fire safety primarily through provisions of the Building Code and the Fire Code. Existing buildings are required to meet standards contained in these codes. The proposed change of uses at the six project sites would be required to conform to these standards, including the preparation of an emergency procedure manual and an exit drill plan, if applicable. In this way, potential fire hazards (including those associated with hydrant water pressure and emergency access) would be mitigated during the permit review process.

AAU tenant improvements at the project sites would generally be within building interiors or to install exterior improvements such as signage and lighting, which would not require detours for vehicles or pedestrians. Therefore, construction of AAU tenant improvements at the project sites would neither impair implementation of nor physically interfere with an adopted emergency response or evacuation plan. Occupancy of the project sites could result in changes in traffic volumes on streets and arterials. Potential operational effects on emergency response for each project site are identified below. Further discussion of traffic related impacts to emergency response and evacuation plans is included in Section 4.6, Traffic and Circulation.

PS-1, 2801 Leavenworth Street (The Cannery)

The Proposed Project at PS-1 would not cause intersection levels of service to deteriorate or cause increased delays (see Impact TR-1.2). Therefore, the Proposed Project at PS-1 would not increase congestion such that implementation of the City's emergency response plan would be affected, and impacts on emergency response would be less than significant.

Mitigation: None required.

PS-2, 700 Montgomery Street

The Proposed Project at PS-2 would not cause intersection levels of service to deteriorate or cause increased delays (see Impact TR-1.2). Therefore, the Proposed Project at PS-2 would not increase congestion such that implementation of the City's emergency response plan would be affected, and impacts on emergency response would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

The Proposed Project at PS-3 would not cause intersection levels of service to deteriorate or cause increased delays (see Impact TR-1.2). Therefore, the Proposed Project at PS-3 would not increase congestion such that implementation of the City's emergency response plan would be affected, and impacts on emergency response would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

The Proposed Project at PS-4 would not cause intersection levels of service to deteriorate or cause increased delays (see Impact TR-1.2). Therefore, the Proposed Project at PS-4 would not increase congestion such that implementation of the City's emergency response plan would be affected, and impacts on emergency response would be less than significant.

Mitigation: None required.

PS-5, 121 Wisconsin Street

Under the Proposed Project, there would be minimal traffic-generating uses at PS-5 because it would continue to be used for AAU shuttle bus parking and two trailers with two people. Therefore, the Proposed Project at PS-5 would not increase congestion such that the City's emergency response plan would be affected, and impacts on emergency response would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

The Proposed Project at PS-6 would not cause intersection levels of service to deteriorate or cause increased delays (see Impact TR-1.2). Therefore, the Proposed Project at PS-6 would not increase congestion such that the City's emergency response plan would be affected, and this impact would be less than significant.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact HZ-4.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)**

As discussed under Impact HZ-4.1 above, the City and County of San Francisco ensures fire safety primarily through provisions of the Building Code and the Fire Code. Existing buildings are required to meet standards contained in these codes. AAU growth in the 12 study areas and at the six project sites would be required to conform to these standards, including the preparation of an emergency procedure manual and an exit drill plan, if applicable. In this way, potential fire hazards (including those associated with hydrant water pressure and emergency access) would be mitigated during the permit review process.

AAU tenant improvements in the study areas and at project sites would generally be within building interiors or would involve exterior improvements such as installation of signage and lighting, which would not require detours for vehicles or pedestrians. However, improvements could also include exterior seismic upgrades such as new bracing or anchoring, which would involve some limited, temporary sidewalk removal and soil disturbance to install the foundations and supports for reinforcing columns. In limited cases, sidewalk or roadway detours could be necessary for delivery of materials or if ground disturbance around a building is needed to install seismic safety upgrades. However, detours, if any, would be temporary and would be of short duration. Therefore, construction of AAU tenant improvements would neither impair implementation of nor physically interfere with an adopted emergency response or evacuation plan.

The Proposed Project could result in changes in traffic volumes on streets and arterials. However, this would not affect emergency response because the Proposed Project would not cause intersection volumes or delay to be substantially affected (see Impact TR-1.3). Therefore, the Proposed Project would neither impair implementation of nor physically interfere with an adopted emergency response or evacuation plan, and this impact would be less than significant.

Mitigation: None required.

Cumulative Impacts

The geographic context for this analysis includes the 12 study areas and six project sites, and those parcels located immediately adjacent to them. The cumulative context for the Proposed Project is downtown San Francisco, the Van Ness Avenue corridor, the Market Street corridor, the South of Market district, the Lombard Street corridor, the Fisherman's Wharf area, the Showplace Square/Potrero neighborhood, and parts of Bayview Hunters Point. This includes specific proposed development projects such as the 5M Project, the Moscone Center Expansion Project, 598 Brannan, and the 350 Eighth Project, as well as implementation of planning efforts for the Western SoMa Plan, the Central SoMa Plan, the Rincon Hill Plan, and the East SoMa Plan. Further detail regarding these and other cumulative projects considered in this analysis is included in Table 4-1, Cumulative Projects. However, as with the Proposed Project, such tenant improvements and ongoing operations would include minor physical changes that would not result in a significant impact on hazards and hazardous materials within the Proposed Project vicinity.

Impact C-HZ-1 **The Proposed Project, in combination with past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to a significant cumulative hazard and hazardous materials impacts. (Less than Significant with Mitigation)**

As discussed above, the Proposed Project could result in significant impacts with respect to hazards and hazardous materials. However, implementation of the Mitigation Measure M-HZ-2.1 - Testing and Removal of Hazardous Building Materials, p. 4.17-33, would reduce those impacts to less-than-significant levels. Therefore, implementation of the Proposed Project, with incorporation of the identified mitigation measure, would have a less-than-significant hazardous materials impact on the public and the environment in the vicinity of the study areas and project sites.

Any other development in the Project vicinity would be required to comply with the same or similar regulatory framework as the Proposed Project. This includes federal and state regulatory requirements for transporting hazardous materials or cargo (including fuel and other materials used in all motor vehicles) on public roads (Cal/EPA and Caltrans); disposing hazardous materials (Cal/EPA, DTSC, SFDPH); and preparing HMBPs for businesses handling hazardous materials. Adherence to these regulations would minimize exposure and ultimately result in removing hazardous materials from the region. Therefore, the Proposed Project would not contribute considerably to any significant cumulative impacts with respect to hazardous materials.

Cumulative development would result in increased traffic in the City. Emergency provider response times could be significantly impacted due to congestion at intersections, particularly for those projects that are farther away from fire and police stations. During the design review process of the projects, the City would require appropriate measures to ensure that emergency access is not impeded and that the developments include adequate emergency access to each development. The Proposed Project would not result in a cumulatively considerable contribution to any potential

cumulative impacts because occupancy of the Proposed Project would not make a cumulatively considerable contribution to any significant cumulative intersection delay.

Therefore, the Proposed Project would not contribute considerably to any significant cumulative impacts with respect to hazards and hazardous materials, and this impact would be less than significant.

Mitigation: Implement Mitigation Measure M-HZ-2.1 - Testing and Removal of Hazardous Building Materials, p. 4.17-33.

Significance after Mititgation: Less than Significant.

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4.18 MINERAL AND ENERGY RESOURCES

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect mineral and energy resources. Existing regional resources are described. For purposes of the analysis in this section, energy resources are defined to include electricity and natural gas. The Proposed Project's impacts related to energy usage as it may affect climate change are discussed in Section 4.9, Greenhouse Gas Emissions. No mineral or energy resources issues were raised during the NOP scoping period.

4.18.1 Environmental Setting

Mineral Resources

In accordance with the Surface Mining and Reclamation Act of 1975 (discussed in Section 4.18.2, Regulatory Framework, "State" subsection, p. 4.18-5), the California Department of Conservation, Division of Mines and Geology (CDMG), currently known as the California Geological Survey, has mapped nonfuel mineral resources of the state to show where economically significant mineral deposits are either present or likely to occur, based on the best available scientific data. These resources have been mapped using the California Mineral Land Classification System, which includes the following four Mineral Resource Zones (MRZs):

- **MRZ-1**—Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- **MRZ-2**—Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- **MRZ-3**—Areas containing mineral deposits, the significance of which cannot be evaluated.
- **MRZ-4**—Areas where available information is inadequate for assignment to any other zone.

All land in the City of San Francisco is designated MRZ-4 by the CDMG under the Surface Mining and Reclamation Act of 1975.[553] This designation indicates that there is inadequate information available for assignment to any other MRZ; therefore, San Francisco is not a designated area of significant mineral deposits. No area within the City is designated as a locally important mineral resource recovery site.[554]

[553] California Division of Mines and Geology, Open File Report 96-03 and Special Report 146 Parts I and II.
[554] City and County of San Francisco, Planning Department, *San Francisco General Plan*, Environmental Protection Element (as amended December 2004).

Energy Resources

California's Energy Use and Supply

Californians consumed 250,384 gigawatt-hours (GWh) of electricity in 2010.[555] Of this, San Francisco consumed 5,854 GWh. In 2010, the California electricity mix included natural gas (53.4 percent), coal (1.7 percent), large hydroelectric plants (14.6 percent), and nuclear (15.7 percent). The remaining 14.6 percent was supplied from renewable resources such as wind, solar, geothermal, biomass, and small hydroelectric facilities. California's natural gas use grew from 2,196 billion cubic feet per year (Bcf/year) in 2010 to 2,313 Bcf/year in 2012.[556]

In 2002, California established its Renewable Portfolio Standard program[557] with the goal of increasing the annual percentage of renewable energy in the state's electricity mix by the equivalent of at least 1 percent of sales, with an aggregate total of 20 percent by 2017. The California Public Utilities Commission (CPUC) subsequently accelerated that goal to 2010 for retail sellers of electricity (Public Utilities Code Section 399.15(b)(1)). Then-Governor Schwarzenegger signed Executive Order S-14-08 in 2008, increasing the target to 33 percent renewable energy by 2020. In September 2009, then-Governor Schwarzenegger continued California's commitment to the Renewable Portfolio Standard by signing Executive Order S-21-09, which directed the Air Resources Board under its Assembly Bill (AB) 32 authority to enact regulations to help the state meet its Renewable Portfolio Standard goal of 33 percent renewable energy by 2020. In September 2010, the California Air Resources Board adopted its Renewable Electricity Standard regulations, which require all of the state's load-serving entities to meet this target. Additional energy efficiency measures are needed to meet these goals as well as the AB 32 greenhouse gas (GHG) reduction goal of reducing statewide GHG emissions to 1990 levels by 2020 (see Section 4.9, Greenhouse Gas Emissions, for a discussion of AB 32).

California's energy goals include reducing energy use in existing homes and commercial buildings, generating one-third of the state's electricity using renewable resources, decreasing petroleum dependence through the use of alternative transportation fuels and vehicles, and reducing greenhouse gas emissions to 1990 levels by 2020.[558] Energy efficiency is one of the state's priority goals because it has the biggest potential for long-term and lasting energy savings, and California's

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[555] California Energy Commission, Energy Consumption Data Management Service, Electricity Consumption by County, http://ecdms.energy.ca.gov/elecbycounty.aspx (accessed May 3, 2011).
[556] California Energy Commission, *Energy Almanac, California's Major Sources of Energy*, http://energyalmanac.ca.gov/overview/energy_sources.html (accessed July 28,2014).
[557] The Renewable Portfolio Standard is a flexible, market-driven policy to ensure that the public benefits of wind, solar, biomass, and geothermal energy continue to be realized as electricity markets become more competitive. The policy ensures that a minimum amount of renewable energy is included in the portfolio of electricity resources serving a state or country.
[558] California Energy Commission, "2010 Integrated Energy Policy Report Update," CEC-100-2010-001-CMF.

energy efficiency policies over the last 30 years have saved California consumers more than $56 billion in energy costs.

Through 2010, California was awarded approximately $5 billion from the American Recovery and Reinvestment Act of 2009 that has helped meet these goals and foster energy efficiency, build the domestic renewable industry, modernize the electric transmission grid, and increase the use of alternative fuels and vehicles. As of the end of 2013, an estimated 11,300 megawatts (MW) of renewable capacity were permitted throughout California that could come on-line in future years. Of this capacity, 4,000 MW had also secured a power purchase agreement with a utility, suggesting a high likelihood that the facilities will be constructed. Of the 4,000 MW, there are 2,800 MW of renewable energy projects with current permits and utility power purchase agreements that are expected to come on-line in 2014.[559] As of July 2014, the California Energy Commission (CEC) has certified 11 solar thermal power plants that sought funding under the American Recovery and Reinvestment Act of 2009.

Current Energy Providers

Pacific Gas and Electric Company

San Francisco receives most of its electricity from Pacific Gas and Electric Company (PG&E), which also provides natural gas and electricity to most of Northern California. PG&E has an electricity generation portfolio that totals approximately 6,870 MW.[560] In total, the 2012 PG&E power mix consisted of natural gas (27 percent), large hydroelectric plants (11.0 percent), nuclear (21.0 percent), eligible renewable resources (19.0 percent), and unspecified sources (21.0 percent). Renewable Portfolio Standard-eligible renewable resources[561] used include geothermal (29.7 percent), biomass and waste (30.1 percent), small hydroelectric (17.8 percent), wind (22.3 percent), and solar (less than one percent). In 2009, PG&E's retail customers purchased 108,503 GWh of electricity.[562] PG&E provides the SFPUC Power Enterprise with transmission and distribution services west of Newark, pursuant to an Interconnection Agreement regulated by the Federal Energy Regulatory Commission.

SFPUC Power Enterprise

The remainder of San Francisco's electricity is provided by the SFPUC's hydroelectric facilities in the Hetch Hetchy system, operated by the SFPUC Power Enterprise. This system provides a long-term

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[559] http://www.energy.ca.gov/renewables/tracking_progress/documents/renewable.pdf.
[560] Pacific Gas and Electric Company (PG&E), "2009 Corporate Responsibility and Sustainability Report, PG&E's Sustainable Journey, Working Collaboratively to Find the Right Balance for a More Sustainable Future, a Summary."
[561] In accordance with the Renewable Portfolio Standard, eligible renewable resources include geothermal facilities, hydroelectric facilities with a capacity rating of 30 MW or less, biomass, selected municipal solid waste facilities, solar facilities, and wind facilities. Two percent of the renewable energy resources used by PG&E in 2008 were not eligible under the Renewable Portfolio Standard because they came from open-market purchases.
[562] California Energy Commission, Energy Consumption Data Management System, Electricity Consumption by Planning Area, http://ecdms.energy.ca.gov/elecbyplan.aspx (accessed May 3, 2011).

annual average of 1.7 billion kilowatt-hours (kWh) of electrical power and includes 150 miles of high-voltage transmission lines that carry this power from the SFPUC power generation facilities on the Tuolumne River to Newark, where the Hetch Hetchy power system is linked to California's electricity grid. The SFPUC Power Enterprise provides electricity to some of the Hetch Hetchy water system components as well as to all City facilities, San Francisco International Airport, Norris Industries (a federal facility), and the Modesto and Turlock Irrigation Districts (for municipal and agricultural water supply pumping). While the quantity of power produced exceeds the City's municipal power needs on an annual basis, the City must supplement its power sources to meet municipal demand and its contractual obligations during the summer and fall months, when power generation is reduced so that water can be stored in the Hetch Hetchy system for water supply purposes.

Natural Gas

Natural gas is the cleanest of the fossil fuels used in the state and will continue to be a substantial energy source for the foreseeable future.[563] Estimates of recoverable shale reserves are as high as 842 trillion cubic feet, which would comprise a 37-year supply at today's consumption rates.

PG&E operates one of the largest natural gas distribution networks in the country, including 48,850 miles of natural gas transmission and distribution pipelines.[564] In all, PG&E delivers gas to approximately 4.3 million customer accounts in Northern and Central California, including San Francisco and Marin Counties.

Transportation Fuels

California's transportation sector uses roughly half of the energy consumed in the state. In 2007, the CEC—in partnership with the California Air Resources Board and other state, federal, and local agencies—prepared the State Alternative Fuels Plan, which identifies strategies to increase the use of alternative fuels to meet California's goals for reducing petroleum consumption, improving energy security, and increasing in-state production of biofuels.

4.18.2 Regulatory Framework

Federal

Corporate Average Fuel Efficiency Standards

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) (discussed below) was signed into law, which requires an increased Corporate Average Fuel Economy (CAFE)

[563] California Energy Commission, "2009 Integrated Energy Policy Report, Final Commission Report" (December 2009).
[564] Pacific Gas and Electric Company (PG&E), "2009 Corporate Responsibility and Sustainability Report, PG&E's Sustainable Journey, Working Collaboratively to Find the Right Balance for a More Sustainable Future, a Summary."

standard of 35 miles per gallon (mpg) for the combined fleet of cars and light trucks by model year 2020. Since EISA was enacted, CAFE standards have been set at 35.5 mpg by 2016 and 54.5 mpg by 2025. In addition, on June 30, 2009, the USEPA granted a waiver for California for its greenhouse gas emission standards for motor vehicles; this is described in more detail below.

Energy Independence and Security Act of 2007

In addition to setting increased CAFE standards for motor vehicles, the EISA includes other provisions:

- Renewable Fuel Standard (RFS) (Section 202)
- Appliance and Lighting Efficiency Standards (Sections 301–325)
- Building Energy Efficiency (Sections 411–441)

Additional provisions of the EISA address energy savings in government and public institutions, promoting research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs."

State

California Code of Regulations, Title 20

The 2006 Appliance Efficiency Regulations (Title 20, California Code of Regulations [CCR] Sections 1601 through 1608), dated December 2006, were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. While these regulations are now often seen as "business as usual," they exceed the standards imposed by any other state and reduce GHG emissions by reducing energy demand.

Senate Bills 1078 and 107

Senate Bill (SB) 1078, adopted by the State Legislature in September 2002, established a renewable portfolio standard (RPS) for electricity supply. The RPS requires that retail sellers of electricity provide 20 percent of their supply from renewable sources by 2017. This target date was moved forward in 2006 by SB 107 to require compliance by 2010. In addition, electricity providers subject to the RPS must increase their renewable share by at least one percent each year.

Senate Bill 1389

SB 1389, the California Integrated Energy Policy, was adopted by the State Legislature in August 2002. This bill requires the CEC to prepare an integrated energy policy report (IEPR) for electricity, natural gas, and transportation fuels. The IEPR contains an analysis of the policies and actions that are necessary to ensure that the state has adequate energy resources—including a range of

alternative energy resources—to meet its needs. The IEPR also includes recommendations to reduce energy demand and to improve the state's energy infrastructure.

Surface Mining and Reclamation Act of 1975

The Surface Mining and Reclamation Act of 1975 (SMARA) (found in Public Resources Code Chapter 9, Division 2, Sections 2710 et seq.) requires the State Mining and Geology Board to adopt state policies for the reclamation of mined lands and the conservation of mineral resources. These policies are found in CCR Title 24, Division 2, Chapter 8, Subchapter 1.

In accordance with SMARA, the State has established the California Mineral Land Classification System to help identify and protect mineral resources in areas that are subject to urban expansion or other irreversible land uses that would preclude mineral extraction. Protected mineral resources include construction materials, industrial and chemical mineral materials, metallic and rare minerals, and nonfluid mineral fuels.

California Green Building Standards Code

The 2010 California Green Building Standards Code, as specified in CCR Title 24, Part 11, specifies building standards to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in five categories: planning and design, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. The provisions of this code apply to the planning, design, operation, construction, replacement, use and occupancy, location, maintenance, removal, and demolition of every building or structure, or any appurtenances connected or attached to such building structures throughout California.

Building Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings, as specified in CCR Title 24, Part 6, were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The CEC adopted an update in 2008, and these standards became effective on January 1, 2010. The latest update was in 2013, when the CEC adopted standards that are 25 more energy efficient than previous standards for residential construction and 30 percent more efficient for nonresidential construction. The standards ensure that better windows, insulation, lighting, ventilation systems, and other features that reduce energy consumption are installed in homes and businesses. It is estimated California's building energy efficiency standards (along with those for energy-efficient appliances) have saved more than $79 billion in electricity and natural gas costs since 1978, and that the 2013 standards will save Californians an additional $1.6 billion in energy costs over the next 30 years.

Executive Orders S-14-08 and S-21-09

Since 2006, California has had a mandate to increase the use of renewable generation to 20 percent of retail electricity sales by 2010 (refer to description of SB 1078 and SB 107, above). In November 2008, Governor Schwarzenegger signed Executive Order S-14-08, setting a goal of 33 percent renewable energy by 2020. This enhanced target is intended to help California meet statewide greenhouse gas emission reduction targets (refer to Section 4.9, Greenhouse Gas Emissions). This has been reiterated by California Executive Order S-21-09 which charged CARB by July 31, 2010, to establish a regulation consistent with this 33 percent target by 2020. This is a further increase in the RPS over SB 1078 and SB 107. In response to S-21-09, CARB issued California its "Renewable Electricity Standard" (RES) that would require most retail sellers of electricity in California to procure 33 percent of their electricity from eligible renewable energy resources by 2020. The RES is an independent requirement for regulated entities, most of which must already meet California's RPS, requiring procurement of 20 percent eligible renewable energy by 2010.

Local

San Francisco Green Building Ordinance (SFGBO)

In 2008, the City adopted Chapter 13C (Green Building Requirements) into the San Francisco Building Code. The purpose of the requirements is to promote the health, safety, and welfare of San Francisco residents, workers, and visitors by minimizing the use and waste of energy, water and other resources in the construction and operation of the City's buildings and by providing a healthy indoor environment. Under the Green Building Code, newly constructed residential buildings of four stories or greater, newly constructed commercial buildings over 5,000 square feet (sf), new first time build outs of commercial interiors that are over 25,000 sf, and major alterations of over 25,000 sf in most buildings are subject to an unprecedented level of required LEED® Green Building Rating System™ certifications. New high-rise residential projects and large commercial projects (greater than 25,000 sf or a high-rise) are required to achieve LEED® Silver certification or an equivalent designation, and achieve a 50 percent reduction in the use of potable water for landscaping and 30 percent reduction in indoor potable water use. Large commercial projects (greater than 25,000 sf or a high rise) must achieve LEED® Gold certification, show a 30 percent reduction in indoor potable water use, and comply with LEED® requirements for provision of renewable energy. This ordinance combines the mandatory elements of the 2010 California Green Building Standards Code with stricter local requirements.

San Francisco Residential Energy Conservation Ordinance

San Francisco Housing Code Chapters 12 and 12A contain the City's residential energy conservation requirements. It is the intent of this ordinance to contribute to the affordability of San Francisco housing by promoting the wise and efficient use of energy through cost-effective energy conservation standards for residential housing. It is also the intent to overcome the current barriers

to energy conservation in rental housing and to reduce the impact of rising energy costs upon renters. Per Section 1210, an energy inspection pursuant to Section 1205 and subsequent required energy conservation measures pursuant to Section 1212 are required of residential buildings undergoing the following activities: metering conversion, major improvements, condominium conversion, and complete inspection. Section 1211 also specifies an energy inspection requirement at the transfer of title of any residential building. If upgrades to energy or water systems are required based on the inspection, they are the seller's responsibility unless the seller places funds in escrow to provide the new owner with the resources necessary to complete the upgrades after purchase. Section 1212 lists the required energy conservation measures. For a building containing one or two dwelling units, the required measures include ceiling insulation, weather stripping of all doors, external water heater insulation blanket, low-flow devices on showerheads, caulking or sealing of all accessible major cracks, and insulation of return heating and cooling system ducts and plenums. For buildings with three or more dwelling units, the previous measures apply, in addition to insulation of all accessible recirculating hot water, steam or steam condensate return piping, cleaning and tuning of boiler units, repair of hot water and steam leaks on boiler units, time clock control of burner, and other interim adopted measures.

San Francisco Sustainability Plan

The *Sustainability Plan for City and County San Francisco*, adopted in 1997, contains a set of general goals and specific objectives and actions for San Francisco to ensure that the city's current energy needs are met without sacrificing the ability of future generations to meet their own needs. The major energy goals expressed in the plan are to reduce overall power use by maximizing energy efficiency; to maintain an energy supply based on renewable, environmentally sound resources; to eliminate climate-changing and ozone-depleting emissions and toxic contaminants associated with energy production and use; and to base energy decisions on the goal of creating a sustainable society.

GoSolarSF—Solar Energy Incentive Program

On July 1, 2008, the SFPUC launched their "GoSolarSF" program to San Francisco's businesses and residents, offering incentives in the form of a rebate program that could pay for approximately half the cost of installation of a solar power system, and more to those qualifying as housing low-income residents. The San Francisco Planning Department and Department of Building Inspection have also developed a streamlining process for Solar Photovoltaic (PV) Permits and priority permitting mechanisms for projects pursuing LEED® Gold Certification.

4.18.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact related to mineral and energy resources, if it would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan
- Encourage activities that result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to mineral and energy resources (including fuel, energy, and water) in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting.

This section identifies program-level, project-level, and combined program-level and project-level impacts. Unlike the project sites, where specific buildings have been identified, the program-level analysis assumes that within the designated study areas, AAU could occupy any building to accommodate future growth. However, beyond the project-level sites, no specific buildings within these areas have been identified. Additionally, the Proposed Project's potential contribution to cumulative mineral and energy resources impacts are evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the project vicinity.

Based on the physical setting of the 12 study areas and six project sites, the Proposed Project would not result in impacts related to the following criteria, and no impact discussion is provided for these topics for the following reasons:

- **Loss of Availability of a Known Mineral Resource.** All land in San Francisco is designated MRZ-4 by the CDMG under the Surface Mining and Reclamation Act of 1975. This designation indicates that there is inadequate information available for assignment to any other MRZ and, thus, the site is not a designated area of significant mineral deposits. There are no operational mineral resource recovery sites in the City. Therefore, implementation of

the Proposed Project would have no impact on the availability of a known mineral resource of value to the region or the state.

- **Loss of Availability of a Locally Important Mineral Resource Recovery Site.** No area within the City is designated as a locally important mineral resource recovery site. No impact would occur from the Proposed Project.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010, when the NOP for this EIR was published. These sites are, therefore, considered part of the EIR baseline conditions. As such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.18.1, Environmental Setting, p. 4.18-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to mineral and resources. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential effects to mineral and energy resources that resulted from pre-NOP changes would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 program-level study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

Impact ME-1.1 **The Proposed Project, including growth in 12 study areas, would not encourage activities that result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner. (Less than Significant)**

The Proposed Project would include the change of use and occupation of existing buildings in the study areas. Because no building demolition or new construction would occur in the study areas, the substantial use of fuel, water and energy that is required for such activities would not occur. Building renovations would require compliance with the City's commercial and residential water conservation ordinances, which would avoid waste of both water and energy.

AAU's use of existing buildings would result in an increase in water, fuel and energy use under the assumption that the buildings were vacant prior to AAU's occupancy. However, AAU's compliance with the City's Commuter Benefits Ordinance, Emergency Ride Home Program, Energy Performance Ordinance, Light Pollution Reduction Ordinance and other requirements would reduce fuel and energy consumption associated with AAU uses. Refer to Section 4.9, Greenhouse Gas Emissions, for a discussion of the effects of AAU activities on GHG emissions.[565] In addition, AAU would replace older equipment at some buildings with newer equipment that uses less energy. Therefore, no excessive or wasteful consumption of fuel, water, or energy resources would occur with occupation of existing buildings.

AAU operates a shuttle system that connects AAU facilities. In fall 2010, there were seven fixed-route shuttle routes (D, E, H, I, M, Q, R) operating during weekdays, five routes (Sat 1, Sat 2, Sat 3, Sat 4, and Sat 5) operating on Saturdays and two routes (Sun 1 and Sun 2) operating on Sundays. AAU fixed shuttle routes carried approximately 9,175 passengers on a daily basis on weekdays, 2,696 passengers on Saturdays, and 611 passengers on Sundays.[566] At that time, the AAU shuttle system had 15 shuttle stops of various types ranging from dedicated white zones used only for AAU shuttles (five stops), AAU passenger loading white zones (four stops), unofficial stops that include white zones shared with other users, including Muni. The hours of operation for the AAU shuttle system are from 7:30 a.m. to midnight.

The Proposed Project would result in expansion of this shuttle service to accommodate growth in the study areas. The shuttle service would generate between 895 and 934 transit trips in the PM peak hour. This increase in shuttle trips would utilize additional fuel. However, the provision of shuttle service is not wasteful; it reduces the number of trips that could occur in private cars, which would utilize greater amounts of fuel. In addition, the study areas have been generally selected to be near properties already occupied by AAU and thus encourage easy connections between existing and future AAU buildings, so that students can travel between AAU buildings by walking as well as by taking shuttles.

For all of these reasons, AAU uses in the 12 study areas would not result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner, and this impact would be less than significant.

Mitigation: None required.

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[565] Greenhouse Gas Analysis: Compliance Checklist for the Study Areas (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

[566] Ridership is based on AAU shuttle passenger boarding data from September 27, 2010 through October 8, 2010.

Project-Level Impacts (Growth at the Six Project Sites)

Impact ME-1.2 **The Proposed Project, including growth at the six project sites would not encourage activities that result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner. (Less than Significant)**

Levels of Significance

- **PS-1, 2801 Leavenworth Street (The Cannery): Less than Significant**
- **PS-2, 700 Montgomery Street: Less than Significant**
- **PS-3, 625 Polk Street: Less than Significant**
- **PS-4, 150 Hayes Street: Less than Significant**
- **PS-5, 121 Wisconsin Street: Less than Significant**
- **PS-6, 2225 Jerrold Avenue: Less than Significant**

PS-1, 2801 Leavenworth Street (The Cannery)

The Proposed Project at PS-1 would result in the change of use of an existing building that would be used by AAU for classrooms, office space, a restaurant, multiuse/event space, and other space, totaling 133,675 sf for AAU use. At full occupancy, PS-1 could accommodate 1,600 students and 18 faculty and staff.

Tenant improvements, including installation of signage, painting, replacement of ceiling tiles, limited concrete repairs in the interior courtyard, upgrades to the fire alarm system, installation of a security system, and interior construction associated with the conversion of space to AAU use, would not require large amounts of energy, fuel, or water and would not be atypical for normal renovation projects within the City of San Francisco. Therefore, the use of these resources during construction would not be wasteful. During renovations and operation, AAU would comply with applicable state and local requirements for efficient use of fuel, energy and water, which may include the Existing Commercial Buildings Energy Performance Ordinance and the Light Pollution Reduction Ordinance. Refer to Section 4.9, Greenhouse Gas Emissions, for a discussion of the effects of AAU activities on GHG emissions.[567] Shuttle service would be expanded to this location, reducing the number of trips that could occur in private cars, which would utilize greater amounts of fuel. Further, the Proposed Project may include utility upgrades and equipment replacement that would promote energy efficiency.

For all of these reasons, the Proposed Project at PS-1 would not result in the use of large amounts of energy, fuel or water or use these resources in a wasteful manner, and this impact would be less than significant.

Mitigation: None required.

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[567] Greenhouse Gas Analysis: Compliance Checklist for each project site (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

PS-2, 700 Montgomery Street

The Proposed Project at PS-2 would include 11,455 sf of institutional space for AAU. At full occupancy, the occupied space could accommodate 15 students and 20 faculty and staff. There is no current or proposed AAU shuttle service to PS-2.

Proposed tenant improvements, including installation of signage, interior and exterior painting, installation of a security system, and interior construction associated with the conversion of space to AAU use, would not require large amounts of energy, fuel, or water and would not be atypical for normal renovation projects within the City of San Francisco. Therefore, the use of these resources during construction would not be wasteful. During renovations and operation, AAU would comply with applicable state and local requirements for efficient use of fuel, energy and water, which may include the Existing Commercial Buildings Energy Performance Ordinance and the Light Pollution Reduction Ordinance. Refer to Section 4.9, Greenhouse Gas Emissions, for a discussion of the effects of AAU activities on GHG emissions.[568] Further, the Proposed Project may include utility upgrades and equipment replacement that would promote energy efficiency.

For all of these reasons, the Proposed Project at PS-2 would not result in the use of large amounts of energy, fuel or water or use these resources in a wasteful manner, and this impact would be less than significant.

Mitigation: None required.

PS-3, 625 Polk Street

The Proposed Project at PS-3 would include 93,103 sf of institutional space for AAU. At full build-out, PS-3 could accommodate 1,675 students and 168 faculty and staff. Shuttle service would be provided to PS-3.

Tenant improvements, including partial roof replacement, painting and installation of new lighting, and a new security system, and signage, would not require large amounts of energy, fuel, or water and would not be atypical for normal renovation projects within the City of San Francisco. Therefore, the use of these resources during construction would not be wasteful. During renovations and operation, AAU would comply with applicable state and local requirements for efficient use of fuel, energy and water, which may include the Existing Commercial Buildings Energy Performance Ordinance and the Light Pollution Reduction Ordinance. Refer to Section 4.9, Greenhouse Gas Emissions, for a discussion of the effects of AAU activities on GHG emissions.[569] Shuttle service

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[568] Greenhouse Gas Analysis: Compliance Checklist for each project site (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

[569] Greenhouse Gas Analysis: Compliance Checklist for each project site (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

would be provided to this location, reducing the number of trips that could occur in private cars, which would utilize greater amounts of fuel. Further, the Proposed Project may include utility upgrades and equipment replacement that would promote energy efficiency. Refer to Section 4.9, Greenhouse Gas Emissions, for a discussion of AAU's construction effects.[570]

For all of these reasons, the Proposed Project at PS-3 would not result in the use of large amounts of energy, fuel or water or use these resources in a wasteful manner, and this impact would be less than significant.

Mitigation: None required.

PS-4, 150 Hayes Street

The Proposed Project at PS-4 would include 80,330 sf of office space for AAU (and 49,482 sf of parking that would continue to be operated by an independent parking vendor). At full occupancy, PS-4 could accommodate 390 staff. The existing 49,482 sf of parking would continue to be managed by a commercial operator as an independent operation.

Tenant improvements, including painting and installation of carpeting, a new security system, and signage, would not require large amounts of energy, fuel, or water and would not be atypical for normal renovation projects within the City of San Francisco. Therefore, the use of these resources during construction would not be wasteful. During renovations and operation, AAU would comply with applicable state and local requirements for efficient use of fuel, energy and water, which may include the Existing Commercial Buildings Energy Performance Ordinance and the Light Pollution Reduction Ordinance. Refer to Section 4.9, Greenhouse Gas Emissions, for a discussion of the effects of AAU activities on GHG emissions.[571] Shuttle service would be provided to this location, reducing the number of trips that could occur in private cars, which would utilize greater amounts of fuel. Further, the Proposed Project may include utility upgrades and equipment replacement that would promote energy efficiency.

For all of these reasons, the Proposed Project at PS-4 would not result in the use of large amounts of energy, fuel or water or use these resources in a wasteful manner, and this impact would be less than significant.

Mitigation: None required.

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[570] Greenhouse Gas Analysis: Compliance Checklist for each project site (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

[571] Greenhouse Gas Analysis: Compliance Checklist for each project site (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

PS-5, 121 Wisconsin Street

The Proposed Project at PS-5 would include use of the site as bus storage yard. At full use, PS-5 would accommodate approximately two staff in trailers. Tenant improvements at this site would include signage installation and parking lot repaving. Shuttle service would not be expanded to serve this location. As this location is used as shuttle storage, all shuttles currently commute back to this location when shifts are completed.

Any future improvements would be required to comply with state and local energy and water-efficiency requirements, including the Light Pollution Reduction Ordinance. Therefore, the Proposed Project at PS-5 would not result in the use of large amounts of energy, fuel or water or use these resources in a wasteful manner, and this impact would be less than significant.

Mitigation: None required.

PS-6, 2225 Jerrold Avenue

Proposed AAU uses at PS-6 include 11,244 sf of office uses, 62,590 sf of general storage, vehicle storage (both inside and outside of the yard) and miscellaneous storage, as well as 17,533 sf of new recreational space. Shuttle service would be provided at PS-6.

Tenant improvements, including interior construction associated with installation of recreational uses, signage installation, painting (both interior and exterior), addition of a new fire alarm, installation of a security system, and replacement of sidewalk, street curbs and landscaping along McKinnon Avenue side of the site, would not require large amounts of energy, fuel, or water and would not be atypical for normal renovation projects within the City of San Francisco. Therefore, the use of these resources during construction would not be wasteful. During renovations and operation, AAU would comply with state and local requirements for efficient use of fuel, energy and water, which may include the Existing Commercial Buildings Energy Performance Ordinance and the Light Pollution Reduction Ordinance. Refer to Section 4.9, Greenhouse Gas Emissions, for a discussion of the effects of AAU activities on GHG emissions.[572] Shuttle service would be provided to this location, reducing the number of trips that could occur in private cars, which would utilize greater amounts of fuel. As stated above, AAU uses in the Proposed Project would comply with state and local requirements for efficient use of fuel, energy, and water. Further, the Proposed Project may include utility upgrades and equipment replacement that would promote energy efficiency.

For all of these reasons, the Proposed Project at PS-6 would not result in the use of large amounts of energy, fuel or water or use these resources in a wasteful manner, and this impact would be less than significant.

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[572] Greenhouse Gas Analysis: Compliance Checklist for each project site (August 4, 2014). This document is on file and available for public review at the San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, California, 94103, under case no. 2008.0586E.

Mitigation: None required.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

Impact ME-1.3 **The Proposed Project, including growth in the 12 study areas and at the six project sites, would not encourage activities that result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner. (Less than Significant)**

The Proposed Project would include the change of use and occupation of existing buildings in the study areas and at the six project sites. Because no building demolition or new construction would occur in the study areas or at the project sites, the substantial use of fuel, water and energy that is required for such activities would not occur. The proposed changes in use would result in an increase in energy use in the study areas and at most project sites.

However, as stated above, the Proposed Project would comply with state and local requirements for efficient use of fuel, energy, and water. Further, the Proposed Project may include utility upgrades and equipment replacement that would promote energy efficiency. Additionally, the expansion of shuttle service throughout the study areas and at the majority of the project sites would reduce the number of trips that could occur in private cars, which would utilize greater amounts of fuel. Finally, the siting of AAU uses in proximity to each other encourages both walking and shuttle use, thereby reducing energy use.

For all of these reasons, the Proposed Project would not encourage activities that result in the use of large amounts of energy, fuel or water or use these resources in a wasteful manner. This impact would be less than significant.

Mitigation: None required.

Cumulative Impacts

Potential cumulative impacts on mineral and energy resources are evaluated on a regional basis.

Impact C-ME-1 **The Proposed Project, in combination with other past, present, and reasonably foreseeable future projects, would not result in a cumulatively considerable contribution to wasteful use of energy. (Less than Significant)**

The Proposed Project would use fuel, energy, and water. Although many projects in the region would also use these resources, cumulative impacts on energy resources would be less than significant for the following reasons. First, the Proposed Project would reuse existing buildings rather than demolish and rebuild, thereby avoiding the substantial use of fuel, energy and water associated with those activities. Second, although the expansion of AAU's shuttle service, in combination with other growth in the region, would result in increased consumption of fuel, the additional shuttle trips as a result of the Proposed Project would not represent wasteful use of energy. Shuttle service reduces the number of trips that could occur in private cars, which would

utilize greater amounts of fuel. Third, the siting of AAU uses in proximity to each other would promote walking as well as shuttle and transit use. Fourth, AAU uses in the Proposed Project would be subject to state and local energy efficiency requirements related to fuel, energy and water. Fifth, the Proposed Project may include utility upgrades and equipment replacement that would promote energy efficiency. For the reasons given above, the use of energy for the Proposed Project would not be wasteful, and it would not make a cumulatively considerably contribution to the wasteful use of energy.

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4.19 AGRICULTURAL AND FOREST RESOURCES

This section describes the potential for the proposed Academy of Art University (AAU) Project (Proposed Project) to affect agricultural and forest resources. No agricultural or forest resources issues were raised during the NOP scoping period.

4.19.1 Environmental Setting

The 12 study areas and six project sites for the AAU Project, and the shuttle routes, are located within fully developed existing neighborhoods in urbanized areas of San Francisco. The City is highly developed with urban uses and is therefore not agricultural in nature. The entire City is identified as "Urban and Built-Up Land" by the California Department of Conservation's (CDOC) Farmland Mapping and Monitoring Program (FMMP) and does not contain any important farmland.[573] Accordingly, the City does not include agricultural lands or resources.

There are approximately 670,000 trees in the City, 110,000 of which are street trees.[574] Trees are an important resource to the people of San Francisco and to the varied wildlife species that use the urban forests within the City. However, no forest land is identified within the City of San Francisco.

4.19.2 Regulatory Framework

Because no farmlands or forest lands are identified in San Francisco, no federal, state, or local laws, regulations, plans, or policies related to agricultural and forest resources are applicable to implementation of the Proposed Project.

4.19.3 Impacts and Mitigation Measures

Significance Thresholds

For purposes of this EIR, the Proposed Project would result in a significant impact with respect to agricultural and forest resources, if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use
- Conflict with existing zoning for agricultural use, or a Williamson Act contract

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[573] California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program, Important Farmland in California (2008, map published December 2010), ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/statewide/2008/fmmp2008_08_11.pdf (accessed October 24, 2011).
[574] San Francisco Urban Forestry Council, *Annual Report* (June 2010), http://www.sfenvironment.org/downloads/library/trees_urbanforestrycouncil_2010_annual_uf_report.pdf (accessed October 24, 2011).

- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)
- Result in the loss of forest land or conversion of forest land to nonforest use
- Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to nonagricultural use or forest land to nonforest use

Approach to Analysis

This analysis evaluates the Proposed Project's effects related to agricultural and forest resources in a qualitative manner and assumes the Proposed Project would be limited to occupancy and change of use at existing buildings in already developed areas of the City. As described in Chapter 3, Project Description, it is assumed that, upon occupation of existing buildings, AAU would implement typical tenant improvements, such as interior construction (e.g., drywall, paint, and lighting), security system installation, fire sprinkler/fire alarm upgrades, elevator modernization, and exterior signage. For some buildings, tenant improvements might include seismic retrofit work, replacement of windows and lighting, and addition of awnings and exterior lighting.

This section identifies program-level, project-level, combined program-level and project-level, and cumulative environmental impacts. Unlike the project sites, where specific buildings have been identified, the program-level analysis assumes that within the designated study areas, AAU could occupy any building to accommodate future growth. However, beyond the project-level sites, no specific buildings within these areas have been identified. Additionally, the Proposed Project's potential contribution to cumulative agricultural and forest resource impacts are evaluated in the context of existing, proposed, and reasonably foreseeable future development expected in the Project vicinity.

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the CDOC as an optional model to use in assessing impacts on agriculture and farmland.

In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Based on the physical setting of the 12 study areas and six project sites, and the nature of the Proposed Project (renovation and change of use of existing buildings), the Proposed Project would

not result in impacts related to agricultural and forest resources. This conclusion is based upon the following reasons:

- **Conversion of Farmland or Forest.** The 12 study areas and six project sites are located in various urban, developed locations of San Francisco. The FMMP identifies the entire City as "Urban and Built-up Land" and none of the 12 study areas or project sites contains Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, or support agricultural uses; are zoned for agricultural use; or are under a Williamson Act contract. Further none of the study areas or project sites contains forest or timber lands; support timber uses; or are zoned for timber uses. Therefore, implementation of the Proposed Project would have no impact related to the conversion of agricultural or forest resources.
- **Conflicts with Zoning for Agricultural Use or Forest Land.** As noted above, the 12 study areas and six project sites are located in urban, developed locations within San Francisco. These areas are not zoned for agriculture, nor are they zoned as forest or timberland. Therefore, the Proposed Project would have no impact related to the rezoning of agricultural or forest lands.

As indicated in Chapter 3, Project Description, existing shuttle service may be expanded under the Proposed Project to connect AAU students, faculty and staff to buildings newly occupied by AAU. Because shuttles would operate on existing streets in urban, developed areas, this element of the Proposed Project would have no effect on agricultural or forest resources. Therefore, there would be no impact to agricultural or forest resources from this element of the Proposed Project.

As presented in Table 3-1, Existing AAU Facilities – EIR Baseline (September 2010), in Chapter 3, Project Description, AAU occupied 34 individual sites as of September 2010 when the NOP for this EIR was published. These sites are, therefore, considered part of the EIR baseline conditions. As such, AAU activities at these 34 sites are part of the existing conditions accounted for in Section 4.19.1, Environmental Setting, p. 4.19-1, and in Chapter 3, Project Description. As described in Chapter 3, while these existing sites are part of the baseline conditions, the legalization of previous changes in use and/or appearance at these sites is part of the Proposed Project. However, because implementation of the Proposed Project would not change existing uses at these sites, the continued occupancy of the 34 existing sites would result in no physical impacts related to agricultural and forest resources. Further, while no further analysis of impacts related to changes in use at the 34 existing sites is included in this section, any potential agricultural or forest resource effects that resulted from pre-NOP changes at the 34 existing sites would be addressed in the Existing Sites Technical Memorandum.

Impact Evaluation

The following analysis consists of three general parts:

- **Program-Level Analysis**—This includes an analysis of AAU growth, which consists of potential occupancy and renovations in 12 study areas, where specific buildings or locations are not currently known.
- **Project-Level Analysis**—This includes an analysis of the six project sites (i.e., 2801 Leavenworth Street, 700 Montgomery Street, 625 Polk Street, 150 Hayes Street, 121 Wisconsin Street, and 2225 Jerrold Avenue).
- **Combined Program-Level and Project-Level Analysis**—This represents an analysis of the Proposed Project, which includes both the 12 study areas and the six project sites.

Program-Level Impacts (Growth in the 12 Study Areas)

As discussed under "Approach to Analysis," p. 4.19-2, the Proposed Project within the 12 study areas would have no impact on agricultural or forest resources.

Project-Level Impacts (Growth at the Six Project Sites)

As discussed under "Approach to Analysis," p. 4.19-2, the Proposed Project at the six project sites would have no impact on agricultural or forest resources.

Proposed Project Impacts (Growth in the 12 Study Areas Combined with Growth at the Six Project Sites)

As discussed under "Approach to Analysis," p. 4.19-2, the Proposed Project would have no impact on agricultural or forest resources.

Cumulative Impacts

As discussed under "Approach to Analysis," p. 4.19-2, the Proposed Project would not have any impact on agricultural or forest resources. Therefore, the Proposed Project would not cause or contribute to any cumulative impact on such resources.

CHAPTER 5 Other CEQA Considerations

This chapter presents the evaluation of additional environmental topics required by the California Environmental Quality Act (CEQA) that are not covered within the other chapters of this EIR.

5.1 GROWTH-INDUCING IMPACTS

As required by the CEQA Guidelines, an EIR must include a discussion of the ways in which a project could directly or indirectly foster economic development, population growth, or the construction of additional housing, and how that growth would, in turn, affect the surrounding environment (CEQA Guidelines Section 15126.2(d)). Growth can be induced in a number of ways, including the construction of new homes and businesses, elimination of obstacles to growth, or stimulation of economic activity within the region. In general, a project may foster physical, economic, or population growth in a geographic area if it meets any one of the criteria identified below:

- The project removes an impediment to growth (e.g., the establishment of an essential public service, or the provision of new access to an area)
- The project results in the urbanization of land in a remote location (leapfrog development)
- The project establishes a precedent-setting action (e.g., a change in zoning or general plan amendment approval)
- Economic expansion or growth occurs in an area in response to the project (e.g., changes in revenue base, employment expansion, etc.)

If a project meets any one of these criteria, it may be considered growth-inducing. Generally, growth-inducing projects are either located in isolated, undeveloped, or underdeveloped areas, require the extension of major infrastructure such as sewer and water facilities or roadways, or encourage premature or unplanned growth. To comply with CEQA, an EIR must discuss the ways in which the project could promote economic or population growth in the vicinity of the project and how that growth will, in turn, affect the surrounding environment (CEQA Guidelines Section 15126.2(d)). Under CEQA, this growth is not to be considered necessarily detrimental, beneficial, or of little significance. Induced growth (including by establishing substantial new employment opportunities that attract employees to an area) is considered a significant impact only if it affects (directly or indirectly) the ability of agencies to provide needed public services, or if it can be demonstrated that the potential growth, in some other way, significantly affects the environment.

5.1.1 Population Generation and Housing

The Proposed Project would occupy existing buildings in already developed areas of the City and would not construct additional housing. Implementation of the Proposed Project would result in a

population increase of up to approximately 7,320 individuals (6,100 net new students and 1,220 faculty/staff). As shown in Table 4.4-8, San Francisco Population Growth and Housing Demand from the Proposed Project, up to 5,400 additional residents to the City could result. An increase of up to 5,400 new residents is considered the maximum potential that would be generated by the Proposed Project at full implementation. The expansion of AAU would involve the change of use of existing buildings to accommodate the expected growth, as it has historically done. The Proposed Project does not propose any new construction and new students would likely be housed in existing buildings in the City. Consistent with AAU's 34 existing properties, tourist motels/hotels, and, other nonresidential occupancies could accommodate the change in use for AAU's residential uses,[575] while offices, churches, commercial buildings, and/or other institutional uses could accommodate the change in use for AAU's proposed institutional uses.[576]

It is also assumed that on-line enrollment would not affect population levels in the City, as an on-line student would not be likely to change residence. No direct population increase beyond the resident growth from direct on-site enrollment and associated faculty/staff (and their family members) would occur. As noted in Section 4.4, Population, Housing, and Employment, this growth would represent 8.7 percent of the ABAG-projected growth by 2020, which is the anticipated end year for the Proposed Project growth. While the Proposed Project would result in population growth above existing conditions, the net addition is not substantial and is not beyond what is targeted in regional and local policy documents or is assumed in ABAG's regional projections. The Proposed Project would provide growth in areas where such growth would be considered appropriate (i.e., in areas that are already fairly densely developed, well-supported by public transit, and in close proximity to major transportation corridors). The increment of population that would be added to the City as a result of the Proposed Project growth would not be substantial compared to the projected population growth in San Francisco or the rest of the Bay Area by 2020.

The Proposed Project would result in population growth above existing conditions; however, the net addition is not substantial and is not beyond what's targeted in the regional and local planning documents or is assumed in ABAG's regional projections. As noted, the Proposed Project would not result in substantial indirect growth. As stated above, such growth would only be considered substantial if it were not anticipated in local planning efforts or would exceed projections. Infrastructure and services could be expanded locally to serve the Proposed Project, without excess capacity that might encourage additional local growth beyond that already planned for under regional and local policy documents. Because this population growth would not exceed City or regional projections, it would not be considered substantial.

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[575] The conversion of hotels with more than 100 rooms is prohibited by a recently adopted *Planning Code* amendment (Administrative Code Chapter 41, Added by Ord. 41-08, File No. 071528, App. 3/24/2008 F).

[576] The occupation of existing buildings by AAU as part of their program growth could potentially not require a change of use permit as is the case with eleven of AAU's existing sites.

In total, the Proposed Project would result in the need for approximately 2,203 housing units. ABAG 2009 Projections estimate housing growth in the City at 26,070 additional households by 2020. The additional 2,203 households as a result of project-related population increase would represent approximately 8.5 percent of the anticipated increase in households in the City by 2020. The 2010 vacancy rate in the City was 8.2 percent, or about 31,250 vacant units.[577] It is unknown whether the existing vacant units could accommodate the demand created by the Proposed Project. Additionally, there are approximately 58,000 new units that could be developed under various areawide planning efforts and redevelopment plans identified in the 2009 Housing Element, including the proposed Transit Center District Plan, as well as recently approved plans such as the Market-Octavia Plan and the Eastern Neighborhoods rezoning, Hunters Point, and Treasure Island. However, the timing of such development is unknown and cannot be relied on to satisfy the Proposed Project's housing demand. The Proposed Project would create a substantial demand for additional housing. While the Proposed Project does include 220 rooms to house 400 students, this would reduce but not lessen the impact. The Proposed Project would create a substantial demand for additional housing. This impact is discussed further in Section 4.4, Population, Housing and Employment.

5.1.2 Short-Term Employment Generation

Development of the Proposed Project would generate some short-term, construction-related employment opportunities during interior renovation activities. Given the ample supply of construction workers in the regional work force of the Bay Area, which is the area from which the workers would be drawn, the Proposed Project would not be considered growth-inducing from a short-term employment perspective.

5.1.3 Long-Term Employment Generation

Employment can contribute to population increase and housing demand, as a certain percentage of new employees would relocate to the City. According to ABAG projections, in 2020 the City will have 647,190 jobs. These projections estimate an increase in 78,460 jobs from 2010 to 2020.[578] As noted in Section 4.4, implementation of the Proposed Project would result in up to 1,220 new faculty/staff. These new jobs would represent 1.6 percent of projected employment growth in 2020. This percentage is small and the Proposed Project would not be considered growth-inducing from a long-term employment perspective. Housing demand as a result of this employment growth is discussed above.

5.1.4 Removal of Obstacles to Population Growth

Proposed Project growth does not include any expansion of infrastructure, although local upgrades (telecommunications, utilities) may be required for specific sites. Supportive infrastructure (sewer,

[577] California Department of Finance, E-5: City/County Population and Housing Estimates 1/1/14.
[578] For employment, change is from 2010 to 2020, as data were not available for 2013.

water, storm drain, dry utilities, and roads/highways) already exists, and would be sufficient to support the Proposed Project. Accordingly, the Proposed Project would not remove an impediment to growth, and would not result in the urbanization of land in a remote location.

5.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines Section 15126.2(c) requires a discussion of any significant irreversible environmental changes that would be caused by the Proposed Project. Specifically, Section 15126.2(c) states:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts, and particularly, secondary impacts (such as highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Implementation of the Proposed Project would entail the commitment of energy and human resources. Manpower would also be committed for the interior renovations required by implementation of the Proposed Project. Ongoing operation of the Proposed Project would entail a commitment of energy resources in the form of petroleum products (diesel fuel and gasoline), natural gas, and electricity. Long-term impacts would also result from an increase in vehicular traffic, and the associated air pollutant and noise emissions. This commitment of energy resources would be a long-term obligation, but the nature of the Proposed Project would not commit future generations to similar uses. The Proposed Project would use existing buildings and continue substantially similar uses that would not require an unusual amount of energy resources. Therefore, the Proposed Project would not involve a large commitment of nonrenewable resources.

As discussed fully in Section 4.17, Hazards and Hazardous Materials, implementation of the Proposed Project would not involve the use of hazardous materials other than routine commercial and household-type cleaning chemicals and photochemicals and chemicals associated with various art programs. Therefore, the Proposed Project would not pose a substantial public health or safety hazard, nor would it result in any irreversible damage from environmental accidents.

5.3 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

CEQA Guidelines Section 15126.2(b) requires that an EIR describe any significant impacts that cannot be avoided, even with implementation of feasible mitigation measures. The Proposed Project would result in the following significant and unavoidable impacts. The mitigation measures would

reduce the significant impacts, but not to a less-than-significant level. The following is a list of significant and unavoidable impacts identified in this EIR.

Population, Housing, and Employment

Impact PH-2.1 The Proposed Project, including growth in the 12 study areas, would displace substantial numbers of people, or existing housing units, or create demand for additional housing, necessitating the construction of replacement housing elsewhere, or displace a substantial number of businesses or employees. (Significant and Unavoidable)

Transportation and Circulation

Impact C-TR-2.1a The Proposed Project, including growth in the 12 study areas, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the study areas, could result in a substantial increase in local transit demand that could not be accommodated by adjacent Muni transit capacity at the Kearny/Stockton and Geary corridors under 2035 Cumulative plus Project conditions. (Significant and Unavoidable)

Impact C-TR-2.2a The Proposed Project, including growth at the six project sites, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the project sites, could result in a substantial increase in local transit demand that could not be accommodated by adjacent Muni transit capacity at the Kearny/Stockton corridor and Geary corridor under 2035 Cumulative plus Project conditions. (Significant and Unavoidable)

Impact C-TR-2.3a The Proposed Project, including growth in the 12 study areas and at the six project sites, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the study areas and project sites, could result in a substantial increase in local transit demand that could not be accommodated by adjacent Muni transit capacity at the Kearny/Stockton corridor and Geary Corridor under 2035 Cumulative plus Project conditions. (Significant and Unavoidable)

5.4 AREAS OF KNOWN CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR/EIS assesses the impact of AAU's occupation and use of existing buildings in the 12 study areas and at the six project sites. It also evaluates the public's concerns raised during the NOP scoping period. Issues raised during the scoping period included the following:

- Traffic, noise, and pollution from shuttle buses
- Expansion of the shuttle bus service
- Displacement of housing
- Alternatives
- Graffiti
- General tidiness
- Pedestrian activity in and around existing AAU sites
- Impacts to historic resources

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CHAPTER 6 **Alternatives**

The following discussion evaluates alternatives to the Proposed Project and examines the potential environmental impacts associated with each alternative. Through comparison of these alternatives to the Proposed Project, the relative environmental advantages and disadvantages of each may be analyzed and weighed. California Environmental Quality Act (CEQA) Guidelines Section 15126.6(b) indicates that an EIR must identify ways to mitigate or avoid the significant effects that a project may have on the environment (Public Resources Code Section 21002.1). In this EIR, it has been identified that the Proposed Project would result in significant and unavoidable impacts on population and housing from the increased demand for housing and on transportation and circulation from substantial increases to local transit demand that could not be accommodated by adjacent Muni transit capacity at the Kearny/Stockton and Geary corridors under 2035 Cumulative plus Project conditions. Along with the significant and unavoidable impacts, this analysis also references potential impacts of the Project that are reduced to less than significant with mitigation to assess whether the identified alternatives would reduce and or avoid the impacts of the Proposed Project.

The CEQA Guidelines require that the range of alternatives addressed in an EIR be governed by the rule of reason. Not every conceivable alternative must be addressed, nor do infeasible alternatives need to be considered (CEQA Guidelines Section 15126.6). CEQA Guidelines Section 15126.6 states that the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, and jurisdictional boundaries. The alternatives discussion should not consider alternatives whose implementation is remote or speculative, and the analysis need not be presented at the same level of detail as the assessment of the project. CEQA also requires that a No Project Alternative be evaluated, with its impacts, as part of the EIR (CEQA Guidelines Section 15126.6(e)). Additionally, the CEQA Guidelines (Section 15126.6(e)(2)) require that an environmentally superior alternative be identified among the alternatives considered. The environmentally superior alternative is generally defined as the alternative that would result in the fewest adverse environmental impacts on the project site and surrounding area. If the No Project Alternative is found to be the environmentally superior alternative, then the EIR must identify an environmentally superior alternative among the other alternatives. CEQA Guidelines Section 15126.6(c) requires an EIR to identify and briefly discuss any alternatives that were considered by the Lead Agency but were rejected as infeasible during the scoping process.

This chapter identifies alternatives to the Proposed Project and discusses environmental impacts associated with each alternative. City decision-makers could adopt an alternative instead of approving the Proposed Project if that alternative would substantially reduce or eliminate significant environmental impacts identified for the Proposed Project, the alternative is determined feasible, and the alternative would achieve most of the Proposed Project objectives. The

determination of feasibility would be made by City decision-makers based on substantial evidence in the record, which shall include, but would not be limited to, information presented in the Draft EIR and comments received on it.

6.1 ALTERNATIVES TO THE PROJECT

Based on the CEQA Guidelines, several factors need to be considered in determining the range of alternatives to be analyzed in an EIR and the level of analytical detail that should be provided for each alternative. These factors include (1) the nature of the significant impacts of the proposed project; (2) the ability of alternatives to avoid or substantially lessen the significant impacts associated with the project; and (3) the feasibility of the alternatives, including the ability of the alternatives to meet most of the objectives of the project.

An EIR must describe a reasonable range of alternatives to the Proposed Project, or to its location, that would feasibly attain most of the project's basic objectives while reducing or avoiding any of its significant effects. In some cases, an alternative may be rejected as infeasible.

There are two groups of significant impacts identified in this EIR: (1) significant and unavoidable impacts, which include impacts that would be significant and unavoidable with mitigation measures incorporated, and (2) significant impacts that can be mitigated to a less-than-significant level.

Significant and Unavoidable Impacts

The analysis in this EIR indicates that the Proposed Project would create a demand for housing that is significant and unavoidable. No feasible mitigation is available.

- Impact PH-2.1 identifies a significant and unavoidable impact from housing demand as a result of population growth in the study areas. Alternative 4, Reduced Institutional Growth Alternative, was identified and has been assessed to reduce this significant and unavoidable impact of the Proposed Project.

The analysis in this EIR indicates that the Proposed Project would make a cumulatively considerable contribution to the following significant cumulative impact in the year 2035. This impact can be mitigated, but not necessarily to a less-than-significant level, and therefore is deemed significant and unavoidable:

- Impact C-TR-2.1a/2.2a/2.3a identifies a significant and unavoidable cumulative impact from a substantial increase in local transit demand that could not be accommodated by adjacent Muni transit capacity at the Kearny/Stockton and Geary corridors under 2035 Cumulative plus Project conditions. AAU shall be required to make a fair share contribution to mitigate the cumulative transit demand impact related to AAU growth in transit ridership on the Kearny/Stockton corridor of the Northeast screenline and on the Geary corridor of the Northwest screenline to SFMTA. For all institutional use, AAU shall pay a fee in the amount

of the applicable Transit Impact Development Fee (TIDF), found in *Planning Code* Section 411.3(e) for "Cultural/Institution/Education, Post-Secondary School" as that fee is indexed annually, or any successor fee that supersedes this fee. The fee will be based on the total square footage of use in the EIR for each Project Site and for the proposed square footage of use when a Project in one of the Study Areas is proposed. None of the credits permitted by Sections 411 et seq., or any successor fee ordinance, shall apply. Any payment or proportional payment is due prior to the issuance of a building permit for the Project or portion of the Project. The City shall account for the expenditure of funds to support additional transit in the affected corridors. The payment of the fee in this mitigation measure shall satisfy the AAU's obligations under the TIDF for all projects where the mitigation measure applies. For residential uses, any proposed AAU student housing proposal shall be subject to future transit impact fees if adopted. The City has conducted a nexus analysis, including on residential development, to support a future Transportation Sustainability Fee. The City anticipates that the Board of Supervisors may adopt a new impact fee or fees to offset the impact of residential use on San Francisco's transportation network. AAU student housing or other residential projects shall be subject to any future residential transit impact fees that are established prior to the project receiving a final project approval including a building permit or first certificate of occupancy, whichever occurs later. The Planning Department or the Planning Commission shall make payment of any future residential transit impact fee a condition of approval of all AAU student housing or residential project consistent with future legislation.

AAU may apply to the ERO to reduce, adjust, or modify this fee prior to a project approval based on substantial evidence supporting the absence of any reasonable relationship between the impact of the AAU use on cumulative transit demand and the amount of fee charged.

Significant Impacts That Can Be Mitigated to a Less-than-Significant Level

Additionally, EIR Chapter 4, Environmental Setting and Impacts, identifies the following potentially significant impacts that would be less than significant with implementation of recommended mitigation measures:

- Impact CP-2.1, Archeological Resources, identifies a potentially significant impact to archaeological resources pursuant to Section 15064.5 in the study areas that would be less than significant with preparation of a Project-Specific Preliminary Archaeological Assessment, resulting in either a Preliminary Archeology Review (PAR) or a Preliminary Archeological Sensitivity Study (PASS) which shall determine if an Archeological Research Design Treatment Plan (ARDTP) shall be required. This archeological mitigation measure shall apply to any project involving any soils-disturbing or soils-improving activities including excavation, utilities installation, grading, soils remediation, compaction/chemical grouting to a depth of two feet or greater within the following study areas: SA-2, Lombard Street/Van Ness Avenue; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; and SA-12, Ninth Street/Folsom Street; to a depth of four feet bgs or greater and located within

properties within the remaining study areas (SA-1, Lombard Street/Divisadero Street; SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-10, Fifth Street/Brannan Street; and SA-11, Sixth Street/Folsom Street); or to the thresholds identified in the Area Plan EIR Archeological Mitigation Zones outlined in Table 4.5-2, Area Plan EIR Archeological Resources Mitigation Measures, for projects covered by those Zones.

- Impact CP-4.1, Human Remains, identifies a potentially significant impact associated with disturbing any human remains, including those interred outside of formal cemeteries, in each of the study areas that would be less than significant with preparation of a Project-Specific Preliminary Archaeological Assessment.
- Impact TR-3.1/3.2/3.3, Shuttle Demand, identifies a potentially significant impact associated with increasing shuttle demand and adversely affecting the City's transit and transportation system that would be less than significant with preparation of a Shuttle Demand, Service Monitoring and Capacity Utilization Performance Standard. AAU shall develop, implement, and provide to the City a shuttle management plan to address meeting the peak hour shuttle demand needs of its growth. The shuttle management plan shall address the monitoring, analysis, and potential correction such that unmet shuttle demand would not impact the City's transit and transportation system. Analysis of shuttle bus demand and capacity utilization shall occur at least on an annual basis, or as needed to address shuttle demand. Specifically, analysis and adjustments shall be made on any AAU shuttle routes to reduce shuttle peak hour capacity utilization when the performance standard of 100 percent capacity utilization is regularly observed to be exceeded on any of the AAU shuttle routes. Additionally, the shuttle management plan shall address how shuttle demand at the six project sites will be provided. As additional project sites are added the shuttle management plan would be adjusted to reflect up-to-date shuttle routes, stops and services, as well as a capacity utilization analysis, as needed to, indicate that the proposed demand for shuttle services could be met and avoid potential mode shifts to other travel modes. AAU shall report annually to the City on capacity utilization and alter its schedules and/or capacity, as necessary to avoid regular exceedances of the capacity utilization standard.
- Impact C-TR-3, Cumulative Shuttle Demand, identifies a potentially significant cumulative impact from shuttle demand that would be less than significant with implementation of the mitigation described above.
- Impact NO-2.1, Excessive Noise Levels, identifies a potentially significant impact associated with potential for the Project to expose persons to or generate noise levels in excess of standards established in the *San Francisco General Plan* or Noise Ordinance (Police Code Article 29), result in a substantial permanent increase in ambient noise levels, or substantially affect existing noise levels within the study areas. These impacts would be less than significant with implementation of a three part mitigation measure: (1) Interior Noise Levels for Residential Uses preparation of a detailed analysis of noise reduction requirements for new occupancies; and (2) Siting of Noise-Sensitive Uses preparation of an assessment to identify potential noise-generating uses within 900 feet of, and that have a direct line-of-sight to, a project site; and (3) Siting of Noise-Generating Equipment preparation of an analysis to

identify potential noise-sensitive uses within 900 feet of, and that have a direct line-of-sight to, a project site.

- Impact AQ-2.1/2.2/2.3, Construction-Related Health Risks, identifies a potentially significant impact associated with generation of toxic air contaminants, including diesel particulate matter, during construction at AAU sites in each of the study areas and project sites that are within an Air Pollutant Exposure Zone that would be less than significant with Construction Emissions Minimization within an Air Pollutant Exposure Zone (preparation of a Construction Emissions Minimization Plan, Reporting, and Certification Statement and On-Site Requirements).
- Impact AQ-3.3, Criteria Air Pollutants, identifies a potentially significant impact associated with emissions of criteria air pollutants, at levels that would violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. This impact would be less than significant with Maximum Daily Construction Activities, which would limit renovations (including architectural coating) in the study areas and at the project sites to a maximum of 100,000 square feet of building space at a time.
- Impact AQ-4.1, Exposure of Sensitive Receptors to Substantial Air Contaminants within Air Pollutant Exposure Zones, identifies a potentially significant impact associated with generation of toxic air contaminants, including diesel particulate matter, from use of generators and boilers during operation of an AAU site in each of the study areas, and within an Air Pollutant Exposure Zone that would be less than significant with implementation of Best Available Control Technology for Diesel Generators, and Best Available Control Technology for Boilers. This impact also includes exposure of new sensitive uses to toxic air contaminents in Air Pollutant Exposure Zones, which would be less than significant with implementation of Air Filtration Measures within an Air Pollutant Exposure Zone.
- Impact HZ-2.1/2.2/2.3, Hazardous Building Materials, identifies a potentially significant impact involving the release of hazardous building materials into the environment that would be less than significant with Testing and Removal of Hazardous Building Materials including PCB-containing electrical equipment, fluorescent light ballasts containing PCBs or DEHP, and fluorescent light tubes containing mercury vapors.

Project Sponsor's Objectives

As described in EIR Section 3.1, Project Objectives, of the Project Description, AAU's growth plans have been made in response to several factors, including student demand for additional and more varied programming; the growth of arts employers in various fields; and AAU's desire to adapt to changing markets, coupled with a "no barriers" policy that guarantees admission to all qualified students. AAU has identified the following project objectives:

- Operate in an urban context, where academic programs can contribute to and draw from the cultural wealth of the local communities.

- Create opportunities for students to interact with the urban community (i.e., facilitate the "urban experience") by maintaining facilities throughout the City rather than creating a consolidated campus.
- Offer on-site residential housing for new full-time students who desire to live in AAU housing.
- Consolidate administrative and classroom functions for each academic discipline in the same buildings so that students and faculty do not have to travel from building to building unnecessarily.
- Manage facilities in a flexible manner to ensure availability of space to meet changing needs of academic programs.
- Enable long-range programs and service planning to meet the needs of the community.
- Occupy and use space in buildings and properties near existing AAU facilities, where possible.
- Locate future facilities to:
  - > Provide proximity between buildings so students can walk between classes.
  - > Provide a sense of campus unity while still maintaining the benefits of a dispersed urban campus as the learning environment for AAU students.
  - > Locate AAU facilities such that they are easily accessible to all AAU students and faculty/staff, allowing professors to teach and work in close proximity to students' daily activities.
- Locate future facilities in proximity to existing AAU shuttle stops or public transit to discourage use of private automobiles.
- Occupy and utilize space in existing historic or culturally interesting buildings in need of renovation and/or revitalization.

6.1.1 Alternatives Considered

The following list outlines alternatives rejected from further consideration in this EIR and alternatives that are discussed in detail in this EIR.

<u>Alternatives Rejected from Further Consideration in This EIR</u>

- Alternative Locations:
  - > Other Locations within the City Alternative
  - > Other Locations outside of the City Alternative
- Commitment to Only Interior Construction Activities in the Study Areas Alternative
- Building Construction Growth Alternative

Alternatives Evaluated in Detail in This EIR

- No Project Alternative
- Centralized Growth Alternative
- Reduced Growth Alternative
- Reduced Institutional Growth Alternative

6.1.2 Alternatives Rejected from Further Consideration in This EIR

An EIR need not consider an alternative whose effect cannot be reasonably ascertained and whose implementation is remote and speculative (CEQA Guidelines, Section 15126.6(f)(3)). Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid any significant environmental effects (CEQA Guidelines, Section 15126.6(c)). Several alternatives were considered in an attempt to alleviate impacts associated with the Proposed Project. Those that failed to meet the project objectives, were deemed infeasible, or did not reduce Proposed Project impacts were the Other Locations Alternative, the Other Locations outside the City Alternative, the Commitment to Only Interior Construction Activities in the Study Areas Alternative, and the Building Construction Growth Alternative. As such, these were eliminated from further consideration, as discussed below.

Alternative Locations

CEQA Guidelines Section 15126.6(f)(2) requires that the EIR discuss whether alternative locations to the Proposed Project would avoid or reduce any of the significant effects of the Proposed Project.

Other Locations within the City Alternative

The Other Locations within the City Alternative would involve the development of the Proposed Project at a series of different locations other than at all six project sites and within the 12 study areas. This alternative would require AAU to vacate three project sites that would require change of use authorizations under the Proposed Project; not to add recreational use at PS-6, 2225 Jerrold Avenue; and to identify new study areas for growth. This alternative also assumes that AAU would continue its traditional practice of occupying existing buildings rather than constructing new buildings. CEQA Guidelines Section 15126.6(f)(2) requires that the EIR discuss whether alternative locations to the Proposed Project would avoid or reduce any of the significant effects of the Proposed Project.

If project sites were vacated in order to provide the same uses at a combination of alternative locations within the City and/or within existing AAU buildings, AAU would attempt to find buildings similar to the ones vacated. Alternative locations for the vacated project sites would likely occur in the new study areas. The Proposed Project study areas were identified by AAU and the

City due to the proximity to existing AAU buildings. For most impacts, occupancy of alternative study areas or project site locations would likely be similar to those of the Proposed Project, including effects on housing demand; potential effects on archaeological resources or human remains; effects on local transit and transportation systems; exposure of persons to, or generation of, noise levels in excess of standards; generation of criteria air pollutant emissions, exposure of persons to, or generation of, toxic air contaminants within an Air Pollution Exposure Zone; and release of hazardous building materials into the environment. As to transportation impacts, the replacement of existing project sites and study areas, depending on location, may result in greater impacts as compared to the Proposed Project. The Proposed Project study areas and project sites were selected in part for their proximity to existing AAU buildings, the existing AAU shuttle system, and to public transit. Therefore, development at other locations within the City would not avoid or substantially lessen the impacts identified for the Proposed Project, and consideration of alternative sites within the City to accommodate the Proposed Project uses at the study areas or project sites has been eliminated from detailed consideration in this EIR.

Other Locations outside of the City Alternative

The Other Locations outside the City Alternative would involve AAU seeking to accommodate its future growth outside San Francisco. An alternative site outside of the City would involve the implementation of the Proposed Project at a single location or a series of different locations. This would likely be in another city with a thriving arts and cultural community, such as Oakland or San Jose. Additionally, an "outside San Francisco" alternative location could also include other major U.S. cities, such as Chicago, New York, or Miami. This alternative would require AAU to vacate three project sites that would require change of use authorizations under the Proposed Project and not to add recreational use at PS-6, 2225 Jerrold Avenue. AAU would provide all future growth, including the program-level growth evaluated as part of the Proposed Project, outside of the City, creating two distinctly separate "campuses" by keeping the 34 existing buildings and three project sites in the City and focusing all other growth envisioned as part of the Proposed Project in a location or locations outside of the City. CEQA Guidelines Section 15126.6(f)(2) requires that the EIR discuss whether alternative locations to the Proposed Project would avoid or reduce any of the significant effects of the Proposed Project.

Relocating AAU's growth outside of San Francisco would not meet basic project objectives because such relocation would not meet AAU's objectives to provide opportunities for students to interact with the San Francisco urban community; to manage facilities in a flexible manner; to occupy and use space near existing AAU facilities; to provide proximity between buildings so students can walk between classes; to provide a sense of campus unity; to locate AAU facilities so that they are easily accessible to all; and to locate future facilities in proximity to existing AAU shuttle stops or public transit to discourage use of private automobiles. In addition, locating some campus facilities outside of San Francisco would cause a substantial burden on AAU if administrators, faculty, staff and students were required to spend time moving among campuses. This could require AAU to

organize its coursework along disciplines and would diminish the interaction of students from various arts disciplines, as they would be located in widely separated locations. For all of these reasons, it is unlikely that AAU would locate a new campus or campus facilities outside of San Francisco in either Oakland or San Jose or in another major U.S. city.

In addition, accommodating AAU growth at an off-site location (or locations) such as Oakland or San Jose would not avoid or substantially lessen most of the Proposed Project's identified significant impacts. These include impacts to archaeological resources or human remains; exposure of persons to, or generation of, noise levels in excess of standards; generation of criteria air pollutant emissions; exposure of persons to, or generation of, toxic air contaminants; release of hazardous building materials into the environment; as these impacts would also likely occur in the Oakland and San Jose areas. In addition, the alternative may result in new or different environmental impacts and would likely increase transportation-related environmental impacts because unless AAU became in effect two separate universities, miles traveled by on-site students, faculty and staff would increase compared to the Proposed Project.

Therefore, development at a location outside the City would not meet most of the project objectives, would not avoid or substantially lessen many of the impacts identified for the Proposed Project, and would likely increase vehicle miles traveled because AAU would be spread across two campuses. For all of the reasons described above, consideration of an alternative site outside of the City has been eliminated from detailed consideration in this EIR.

Commitment to Only Interior Construction Activities in the Study Areas Alternative

Under the Commitment to Only Interior Construction Activities in the Study Areas Alternative, AAU would not make any exterior modifications to future buildings that they occupy in the study areas, such as the installation of additional lighting, signage, windows, awnings, or paint. Instead, improvements would be limited to interior construction activities (drywall, paint, and lighting), fire sprinkler/fire alarm upgrades, and, in limited cases, seismic retrofit work. Such an alternative would not avoid any significant and unavoidable impacts. This alternative was identified to address the public concern that historical resources and other buildings could be affected by AAU occupancy of these buildings.

However, some exterior modifications could be required for life safety requirements including emergency access, seismic retrofit, or fire requirements, as required by the San Francisco Building Code. Other improvements may be required to promote resident or student safety such as the installation of lights, cameras, or other safety devices. The inability for the AAU to implement life safety requirements required by the SFBC would make this alternative infeasible. Also, AAU would most likely improve the appearance of buildings by painting, resurfacing, awning, or signage. The placement of signage on most of its buildings would be required to comply with the *Planning Code*

and obtain the necessary permits, such as a Certificate of Appropriateness. This alternative was rejected from further consideration due to regulatory limitations which could require exterior modifications consistent with the San Francisco Building Code or to promote safety. Additionally, this alternative would not reduce or avoid any identified significant impacts. For these reasons, consideration of this alternative has been eliminated from detailed consideration in this EIR.

Building Construction Growth Alternative

Under the Building Construction Growth Alternative, AAU would undertake new development to meet space demand in upcoming years instead of occupying existing building stock. In order to meet projected demand, this would require AAU to acquire a large parcel and to develop a number of buildings, or to develop a number of buildings in separate locations within the City to meet future growth requirements. This alternative was identified to address the public concern that AAU converts existing housing into student housing reducing the supply of housing in the City, as well as the public concern that AAU develop its own facilities in a campus.

A single parcel large enough to accommodate more than 850,000 sf of institutional and recreational growth, along with 110,000 sf of student residences, does not appear to be available in San Francisco. Mission Bay has largely been approved for multiphase UCSF, biotech, and residential development projects. Phase 1 of the Candlestick Point and the Hunters Point Shipyard Development Project is primarily residential, and Phase II requires a cleanup that has not been completed. Treasure Island is not planned for extensive nonresidential use. In addition, even if the Treasure Island plan were revised to allow for a large university campus, many of the same concerns regarding ability to meet project objectives and increased environmental impacts that are associated with the Other Locations Outside of the City Alternative would also apply to the Treasure Island location.

Rather than attempt to develop one large parcel, AAU could attempt to accumulate contiguous parcels, demolish the existing buildings, and design and build new buildings.

New development, whether on one large site or on numerous sites, would likely be located in areas of the City where AAU does not currently operate facilities since existing AAU sites are located within higher density, built out urban areas. This would disperse the impacts of AAU across a broader area of the City, as AAU would locate in areas that are not currently built out, and have further potential for infill development. New development could potentially add a wholly new geographic area of AAU growth, and would require that AAU expand its bus and shuttle service to effectively serve the students and staff at the new facilities.

If the Building Construction Growth Alternative development would involve demolition and replacement of existing buildings, it could cause greater impacts to archaeological resources, historical architectural resources, and human remains; result in increased generation of toxic air contaminants, criteria air pollutant emissions and greenhouse gases, and increase releases of hazardous building materials into the environment compared to the Proposed Project. Depending

on location, potentially significant but mitigable air quality impacts associated with being located within an Air Pollution Exposure Zone or use of generators or boilers could be either greater or less than under the Proposed Project. New development would not avoid or substantially lessen the significant cumulative transit impacts of the Proposed Project. Unless the alternative were expanded to include more housing, it would not reduce the Proposed Project's significant and unavoidable impact on housing demand. New development would increase construction impacts and could create new or greater physical impacts by creating a new campus location in the City. For these reasons, this alternative has been eliminated from detailed consideration in this EIR.

6.1.3 Alternatives Evaluated in Detail in This EIR

The alternatives evaluated in further detail include the No Project Alternative, Centralized Growth Alternative, the Reduced Growth Alternative, and the Reduced Institutional Growth Alternative. The Centralized Growth Alternative was developed in response to public comments suggesting to focus AAU growth in areas with existing AAU uses while maximizing public transit use (presumably reducing shuttle bus use). The Reduced Growth Alternative addresses the Proposed Project's significant and unavoidable housing demand impacts and contribution to a cumulative impact related to increased transit load, and would also further reduce the Proposed Project's less-than-significant-with-mitigation impacts. The significant unavoidable cumulative impact identified above is related to transit load. The Reduced Growth Alternative has been identified that would reduce development to avoid or minimize the transit impact. In addition, suggestions for alternatives to the Proposed Project have been identified by the public (limiting development to transit corridors, restricting the range of study areas) and an analysis of a range of alternatives is offered herein to address those concerns and to provide information to decision-makers on the relative merits of alternative proposals. The Reduced Institutional Growth Alternative was developed to address the Proposed Project's significant and unavoidable housing demand impact. As discussed above, the less-than-significant-with-mitigation impacts identified for the Proposed Project are related to affecting archaeological resources or human remains, unmet shuttle demand affecting local transit and transportation systems, exposing persons to or generating noise levels in excess of standards, exposing persons to or generating toxic air contaminants within Air Pollution Exposure Zones, emitting criteria air pollutants during renovations, and release of hazard building materials into the environment. Each of the alternatives would be subject to the same mitigation measures as the Proposed Project. These are addressed in each section below.

The following section provides a description of each of the alternatives to the Proposed Project that are analyzed in detail in this EIR. In addition, Table 6-1, Comparison of Proposed Project and Project Alternatives: Project Characteristics, p. 6-12, provides a summary of key project characteristics in tabular format.

Table 6-1 Comparison of Proposed Project and Project Alternatives: Project Characteristics

Scenario	*Program-Level Maximum Residential Growth*		*Program-Level Maximum Institutional Growth (sf)*	*Program-Level Maximum Recreational Growth (sf)*	*Project Sites Growth (sf)*
	Rooms	*Beds/sf*			
Proposed Project	220	400/110,000	669,670	17,533	393,537
	Residential growth could occur in SA-1, SA-2, SA-3, SA-4, SA-5, and SA-12 up to a total of 220 rooms.		Institutional growth could occur in SA-4, SA-5, SA-6, SA-7, SA-8, SA-9, SA-10, SA-11, and at all project sites up to a total of 669,670 sf.	Recreational Growth would occur within PS-6.	Growth would occur at PS-1, PS-2, PS-3, PS-4, PS-5, and PS-6
No Project Alternative	-164 to -399	0	0	0	-225,460
Centralized Growth Alternative	220	400/110,000	669,670	17,533	393,537
	Residential growth could occur in SA-3 and SA-4 up to a total of 220 rooms.		Institutional growth could occur in SA-4, SA-5, SA-6, and SA-10, and at all project sites up to a total of 669,670 sf.	Recreational Growth would occur within PS-6.	Growth would occur at PS-1, PS-2, PS-3, PS-4, PS-5, and PS-6
Reduced Growth Alternative	110	200/55,000	335,000	17,533	393,537
	Residential growth could occur in SA-1, SA-2, SA-3, SA-4, SA-5, and SA-12 up to a total of 110 rooms.		Institutional growth could occur in SA-4, SA-5, SA-6, SA-7, SA-8, SA-9, SA-10, SA-11, up to a total of 335,000 sf.	Recreational Growth would occur within PS-6.	Growth would occur at PS-1, PS-2, PS-3, PS-4, PS-5, and PS-6
Reduced Institutional Growth Alternative	220	400/110,000	335,000	17,533	393,537
	Residential growth could occur in SA-1, SA-2, SA-3, SA-4, SA-5, and SA-12 up to a total of 110 rooms.		Institutional growth could occur in SA-4, SA-5, SA-6, SA-7, SA-8, SA-9, SA-10, SA-11, up to a total of 335,000 sf.	Recreational Growth would occur within PS-6.	Growth would occur at PS-1, PS-2, PS-3, PS-4, PS-5, and PS-6

STUDY AREAS

SA-1, Lombard Street/Divisadero Street
SA-2, Lombard Street/Van Ness Avenue
SA-3, Mid Van Ness Avenue
SA-4, Sutter Street/Mason Street
SA-5, Mid Market Street
SA-6, Fourth Street/Howard Street
SA-7, Rincon Hill East
SA-8, Third Street/Bryant Street
SA-9, Second Street/Brannan Street
SA-10, Fifth Street/Brannan Street
SA-11, Sixth Street/Folsom Street
SA-12, Ninth Street/Folsom Street

PROJECT SITES

PS-1, 2801 Leavenworth Street (The Cannery)
PS-2, 700 Montgomery Street
PS-3, 625 Polk Street
PS-4, 150 Hayes Street
PS-5, 121 Wisconsin Street
PS-6, 2225 Jerrold Avenue

Alternative 1: No Project Alternative

Consistent with CEQA Guidelines Section 15126.6(e)(1), this alternative assumes that no AAU uses would be added within the study areas and half of the project sites would be vacated (225,460 sf).[579] Three project sites (PS-1, 2801 Leavenworth Street [The Cannery], PS-2, 700 Montgomery Street, and PS-4, 150 Hayes Street) would not be permitted and would be vacated because they were occupied

[579] The No Project Alternative in this instance would undo recent occupancies by AAU which were implemented without the appropriate permits or authorizations resulting in a changed physical environment.

without benefit of a conditional use authorization and/or building permit, and three would continue in their prior approved use. PS-3, 625 Polk Street, would continue in AAU use because the site's previous use was as a postsecondary educational institution, so that no change of use authorization is required; PS-5, 121 Wisconsin Street, is evaluated in the EIR since it was not included within the NOP issued in September 2010, and it would continue its prior use as a bus storage yard; PS-6, 2225 Jerrold Avenue, proposed for new recreational use, would continue as a storage facility and corporation yard for AAU uses. The Proposed Project includes recreational use at 2225 Jerrold Avenue, which requires a code amendment, and no code amendment would be sought under the No Project Alternative.

The No Project Alternative also includes vacation of approximately 164 to 399 residential rooms by AAU, because a text amendment to *Planning Code* Section 317 would be required to authorize AAU's continued use of those rooms. This alternative addresses the potential vacation of existing student housing units as required by the Student Housing Legislation enacted October 11, 2012. The No Project Alternative would not include the Proposed Project's growth in the 12 study areas. This alternative assumes that AAU would not provide an alternate location or arrangement for the existing AAU student housing that is not in compliance with the Student Housing Legislation. The AAU sites where vacating all or a portion of its residential units would be required include 1080 Bush Street; 1153 Bush Street; 1916 Octavia Street; 1055 Pine Street; 860 Sutter Street; 2209 Van Ness Avenue; and 2211 Van Ness Avenue. In total, 164 to 399 rooms would need to be vacated at these seven sites. The vacated units would not be replaced with AAU housing and students would use off-campus housing. The residential units would return to their prior use. The circumstance of those students moving from one unit to another within the City is analogous to any student associated with any university who desires to change apartments from one school year to the next. Additionally, under the No Project Alternative, AAU has indicated that they would remove non-essential amenities from remaining existing student housing so that the maximum number of students could be accommodated in existing student housing. The No Project Alternative assumes that AAU would continue to operate at 27 (34 minus the seven sites that require text amendments to the Student Housing Legislation) of its existing sites and would seek to obtain the remaining City approvals and environmental review required for its use and/or exterior alterations at 21 of these sites.

Under the No Project Alternative, online students would continue to be allowed unlimited enrollment; current faculty levels would not substantially increase. Additionally, the athletics program would not be enhanced under this alternative. This alternative would prevent the program level growth in academic programs that AAU envisions as part of its program-level growth plan and for which AAU is seeking the necessary entitlements and approvals from the City's decision-making bodies for future occupied sites.

The shuttle system would continue to operate, but without any expansion in geographic area or fleet size that would have otherwise accommodated[580] AAU's program-level and project-level growth. Service to PS-1, 2801 Leavenworth Street (The Cannery), PS-4, 150 Hayes Street, PS-6, 2225 Jerrold Avenue. PS-2, 700 Montgomery Street, and PS-5, 121 Wisconsin Street, would not be served by shuttles under either the Proposed Project or the No Project Alternative, and PS-3 would receive shuttle service under either alternative. Figure 6-1, Alternative 1, No Project Alternative, Shuttle Routes and Stops (Existing Shuttle System 2010), shows the existing shuttle map from 2010 which could be modified under the No Project Alternative but would serve the same population.

Project Sponsor Objectives

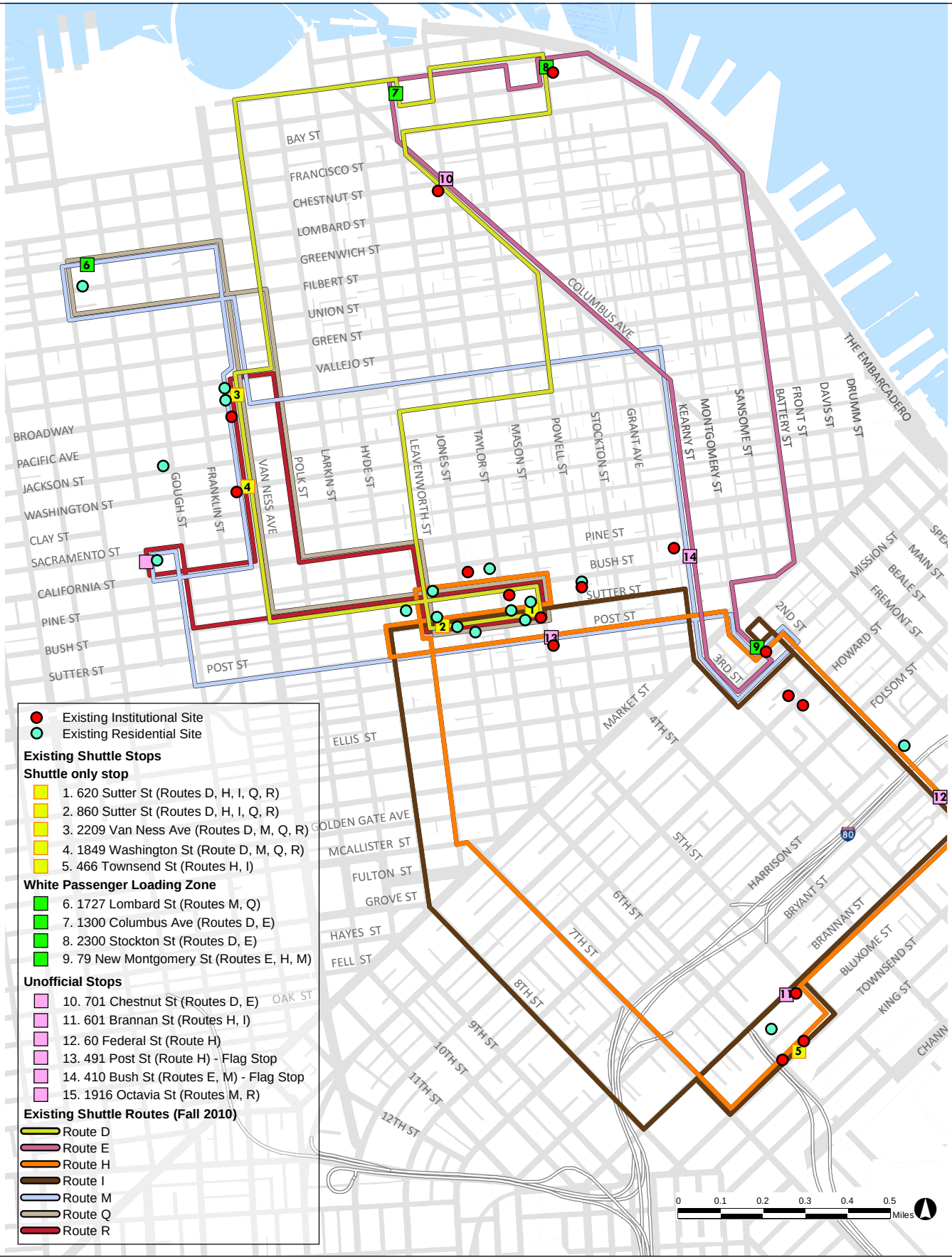
With regard to meeting the Proposed Project objectives, the No Project Alternative would meet or partially meet some of the project sponsor's objectives, including the following:

- Operate in an urban context, where academic programs can contribute to and draw from the cultural wealth of the local communities.
- Create opportunities for students to interact with the urban community (i.e., facilitate the "urban experience") by maintaining facilities throughout the City rather than creating a consolidated campus.

However, this alternative would not meet any of the Project's primary objectives related to occupying new buildings to provide flexibility in programming such as:[581]

- Offer on-site residential housing for new full-time students who desire to live in AAU housing.
- Consolidate administrative and classroom functions for each academic discipline in the same buildings so that students and faculty do not have to travel from building to building unnecessarily.
- Manage facilities in a flexible manner to ensure availability of space to meet changing needs of academic programs.
- Enable long-range programs and service planning to meet the needs of the community.
- Occupy and use space in buildings and properties near existing AAU facilities, where possible.

[580] If the Proposed Project were not approved, shuttle service would not revert precisely to 2010 baseline conditions, but there would be no service to the project sites.
[581] Some of these project sponsor objectives could be met as individual projects are proposed. However, these projects would be subject to future environmental review, compliance with the City's zoning code, and any IMP requirements.



SOURCE: AAU, 2010; Atkins, 2015.

FIGURE 6-1: ALTERNATIVE 1, NO PROJECT ALTERNATIVE, SHUTTLE ROUTES AND STOPS (EXISTING SHUTTLE SYSTEM 2010)

- Locate future facilities to:
  - > Provide proximity between buildings so students can walk between classes.
  - > Provide a sense of campus unity while still maintaining the benefits of a dispersed urban campus as the learning environment for AAU students.
  - > Locate AAU facilities such that they are easily accessible to all AAU students and faculty/staff, allowing professors to teach and work in close proximity to students' daily activities.
- Locate future facilities in proximity to existing AAU shuttle stops or public transit to discourage use of private automobiles.
- Occupy and utilize space in existing historic or culturally interesting buildings in need of renovation and/or revitalization.

Therefore, the No Project Alternative would not meet most of the project sponsor's objectives.

Alternative 1, No Project Alternative, Impacts

The following sections compare the environmental impacts of Alternative 1, No Project Alternative, to those of the Proposed Project.

Land Use

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use, and instead would vacate 225,460 sf of space at three project sites (PS-1, 2801 Leavenworth Street [The Cannery], PS-2, 700 Montgomery Street, and PS-4, 150 Hayes Street) and 164 to 399 residential rooms at 1080 Bush Street; 1153 Bush Street; 1916 Octavia Street; 1055 Pine Street; 860 Sutter Street; 2209 Van Ness Avenue; and 2211 Van Ness Avenue. Under the No Project Alternative, AAU would not seek text amendments to the *Planning Code*.

The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites), plus three project sites (PS-3, 625 Polk Street, PS-5, 121 Wisconsin Street, and PS-6, 2225 Jerrold Avenue) that require no change of use authorizations for nonrecreational uses.

Eliminating AAU's future growth and reducing its current uses would reduce the less-than-significant land use impacts of the Proposed Project. However, because the No Project Alternative could in the future result in other non-AAU owners or occupants occupying buildings in the study areas, or occupying the vacated project sites or vacated residential units, similar land use impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain

vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Aesthetics

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses and 164 to 399 rooms. Under the No Project Alternative, it is assumed that AAU would not seek to expand its uses within the City. Thus, less-than-significant impacts of the Proposed Project to visual resources would not occur.

However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, aesthetics impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Population, Housing, and Employment

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. Students displaced from these rooms would seek housing elsewhere in San Francisco or the Bay Area, potentially increasing housing demand in the City. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the six project sites. Although occupied space is not directly correlated with enrollment, this substantial reduction in AAU's future growth would reduce the Proposed Project's significant and unavoidable impact related to increased demand for housing.

However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, population, housing and employment impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No

Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have substantially reduced significant and unavoidable cumulative impacts related to housing demand compared to the Proposed Project.

Cultural and Paleontological Resources

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the six project sites. The impacts associated with cultural and paleontological resources would not occur. The Proposed Project's less-than-significant-with-mitigation impacts related to archaeological resources and disturbing human remains would not occur since excavation in the study areas would not occur.

However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, impacts to archaeological resources and human remains associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Transportation and Circulation

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. The AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the six project sites.

Traffic Impacts. The reduction of trips to the study areas and project sites under the No Project Alternative would result in avoiding the less-than-significant traffic impact on intersection operations during the PM peak hour under Existing plus Project and Cumulative conditions; including the less-than-significant contribution to the one study intersection under Existing plus Project and 16 study intersections under Cumulative conditions that would operate at unacceptable LOS E or F conditions. Project vehicle trips and the less-than-significant impacts on traffic conditions

at the project sites would remain the same. Improvement Measure I-TR-1 – Implement Transportation Demand Management Strategies to Reduce Single-Occupancy Vehicle Trip would not apply.

Transit Impacts. The No Project Alternative would reduce the Proposed Project's less-than-significant Existing plus Project transit demand impact associated with a substantial increase in local or regional ridership or exceeding a local or regional capacity utilization performance threshold established by Muni or a regional transit provider; and similar to the Project analysis, would not introduce any design features that would preclude or alter access to nearby transit facilities.

Cumulative Transit Impacts. Under Cumulative conditions, the No Project Alternative would avoid the significant and unavoidable cumulative transit demand impacts on the Kearny Stockton corridor within the Northeast Screenline and the Geary corridor within the Northwest Screenline. The No Project Alternative would result in a less-than-significant impact on regional transit demand, which under Cumulative conditions would operate under the performance standard of 100 percent capacity utilization. Based on these findings, the No Project Alternative would reduce the Existing plus Project less-than-significant impact on transit conditions on local or regional screenlines; reduce the Cumulative less-than-significant impact on regional transit conditions; and avoid the Cumulative significant and unavoidable local transit demand impacts on the Kearny Stockton corridor within the Northeast Screenline and the Geary corridor within the Northwest.

Shuttle Impacts. The No Project Alternative would result in reduced demand for shuttle service in the study areas and similar demand at PS-3, 625 Polk Street. Shuttle service under the No Project Alternative would not be provided to PS-5, 121 Wisconsin Street, and PS-6, 2225 Jerrold Avenue. In the study areas and at most of the project sites, the reduction in on-demand shuttle services would not alter traffic patterns or substantially conflict with existing vehicles, transit, pedestrian or bicycle traffic. Shuttle impacts at PS-3 would be similar to the Proposed Project and result in a less-than-significant-with-mitigation shuttle impact. Therefore, the No Project Alternative would have a reduced demand for shuttles avoiding the potentially significant impact to the City's transit or transportation system. Conflicts with public transit, pedestrian, bicycle, and commercial loading conditions would be similar to existing conditions.

Pedestrian Impacts. The No Project Alternative would decrease pedestrian traffic at the three vacated project sites and at the vacated residential space. No AAU future growth would occur in the study areas. Under the No Project Alternative, the crosswalks at the 17 intersections analyzed would remain similar to Existing conditions, and would be reduced at the two crosswalks already operating at unacceptable conditions (LOS E or F). The No Project Alternative would not contribute to the LOS E or F operating conditions at these crosswalks. Similarly, under Cumulative plus Project conditions, the No Project Alternative would avoid the less-than-significant cumulative impact on pedestrian conditions. The No Project Alternative would eliminate the added vehicle trips in the study areas and three of the six project sites, and reduce the potential vehicle trips at PS-6, 2225

Jerrold Avenue. Therefore, at most project locations pedestrian-vehicular conflicts would remain similar to Existing conditions. At PS-6, which under the No Project Alternative would not include recreational uses or shuttle service, the improvement measure for this project site would not be implemented; Improvement Measure I-TR-3 – Improvement of Pedestrian Conditions at 2225 Jerrold Avenue is proposed to create a clear pedestrian walkway between the proposed AAU shuttle stop and adjacent parking lot to the building entrance, which may require AAU to stop utilizing up to two of the six existing loading docks east of the parking lot. Additionally, and as part of the abandonment of these loading dock area, AAU shall remove or reduce in size the curb cuts along Jerrold Avenue, improving pedestrian conditions along Jerrold Avenue.

Bicycle Impacts. Overall, the reduction of bicycle trips and the associated reductions in vehicle, loading, and shuttle traffic resulting from the reduction in growth associated with vacating three projects sites, 164 to 399 existing rooms, and no future growth in the study areas under the No Project Alternative would avoid new potentially hazardous conditions for bicyclists, and would not otherwise substantially interfere with bicycle accessibility to the site and adjoining areas. At PS-3, 625 Polk Street; PS-5, 121 Wisconsin Street; and PS-6, 2225 Jerrold Avenue, the No Alternative project would result in less-than-significant bicycle impacts, similar to the Proposed Project. Similarly, under Cumulative plus Project conditions, the No Project Alternative would avoid the less-than-significant cumulative impact on bicycle conditions. Overall, and specifically related to the study area growth and vacation of three project sites and other residential locations, the impact to bicycles and bicycle facilities would be reduced. The improvement measure for this project site would not occur; Improvement Measure I-TR-4 – Improvement of Bicycle Parking Conditions at AAU Facilities is proposed to further improve conditions at the project sites by requiring that AAU add on- or off-street (or some combination thereof) bicycle parking facilities.

Commercial Loading Impacts. The No Project Alternative would avoid the Proposed Project's less-than-significant impact to commercial loading demand and activities under Existing plus Project and Cumulative conditions and reduce the commercial loading demand at the three vacated project sites and at the vacated residential space. Therefore, the No Project Alternative's commercial loading impact would be reduced as compared to the Proposed Project, and similar to Existing conditions. The improvement measure for this project site would not occur; Improvement Measure I-TR-5 – AAU Monitoring of Commercial Loading Activities is proposed to further improve conditions in the study areas and at project sites with high existing commercial loading demand, where AAU would monitor and efficiently manage their commercial loading activities over time and as needed, adjusting times of deliveries or applying for additional on-street commercial loading spaces from SFMTA.

Parking Impacts. The No Project Alternative would avoid the Proposed Project's less-than-significant impact to parking demand and conditions under Existing plus Project and Cumulative conditions in the study areas and reduce the parking demand at the three vacated project sites. Parking impacts at PS-3 and PS-5 would be similar to the Proposed Project, reduced at PS-6, and

overall less than significant. The Proposed Project improvement measure related to vehicle trips reduction would not be implemented under the No Project Alternative; Improvement Measure I-TR-1 – Implement Transportation Demand Management Strategies to Reduce Single-Occupancy Vehicle Trips, which includes specific measures to reduce vehicle demand generated by the Proposed Project and encourage the use of alternative modes of transportation, to further reduce the estimated parking demand of staff, visitors, and students.

Emergency Access Impacts. The roadway network and circulation routes would not be changed as a result of AAU uses and therefore, at the three remaining project sites, the No Project Alternative would have a similar less-than-significant impact to emergency access. In the study areas and at the three vacated project sites, emergency access would remain similar to Existing conditions.

Construction Impacts. Project-related construction impacts would be avoided under the No Project Alternative. Improvement measures related to construction would, therefore, not be recommended; Improvement Measures I-TR-6 – Construction Truck Deliveries During Off-Peak Periods and I-TR-7 – Additions to the Construction Management Plan, which would further minimize disruption of the general traffic flow on adjacent streets during weekday commute peak commute periods, provide for coordination with SFMTA, the Fire Department, Muni, and the Planning Department to determine feasible measures to reduce traffic congestion, minimize construction impacts on nearby businesses, and minimize traffic and parking demand associated with construction workers.

Summary. Overall, the No Project Alternative would eliminate the Proposed Project's significant and unavoidable transit impact and would reduce identified project-related less-than-significant traffic, pedestrian, shuttle, bicycle, commercial loading, parking, and construction impacts. Therefore, the No Project Alternative would result in a less-than-significant impact related to traffic, pedestrian, shuttle, bicycle, commercial loading, parking, and construction.

Noise

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. Therefore, the No Project Alternative would not require demolition or grading and renovation activities as in the Proposed Project. The less-than-significant-with-mitigation impacts related to exposing noise-sensitive land uses to noise levels that exceed the standards established by the *General Plan* and related to substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project would be reduced. The No Project Alternative would also reduce the Proposed Project's less-than-significant impact related to excessive groundborne vibration levels in existing residential neighborhoods.

Overall, the No Project Alternative would reduce noise impacts as compared to the Proposed Project. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, noise impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant-with mitigation cumulative impacts compared to the Proposed Project.

Air Quality

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. Therefore, the No Project Alternative would not involve renovation activities as in the Proposed Project. Project operations would not occur with the No Project Alternative and thus air quality project-related impacts would not occur. Project-related construction air emissions would not occur at the project sites or in the study areas. Shuttle buses emissions would be similar to under 2010 conditions.

The No Project Alternative would reduce the less-than-significant impacts related to generating fugitive dust and criteria air pollutants during renovation activities; would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants; would reduce less-than-significant-with-mitigation impacts related to generating toxic air contaminants, including diesel particulate matter, and would reduce exposure of sensitive receptors to substantial pollutant concentrations; would reduce new emissions of criteria air pollutants from shuttle buses; would reduce less-than-significant impacts related to interfering with implementation of the 2010 CAP; and would reduce or avoid less-than-significant impacts related to creating objectionable odors that would affect a substantial number of people.

Overall, because the No Project Alternative would involve a net loss of occupied space compared to the Proposed Project, the No Project Alternative would reduce or avoid the air quality impacts of the Proposed Project. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, air quality impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be

conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant-with mitigation cumulative impacts compared to the Proposed Project.

Greenhouse Gas Emissions

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. Due to reduced renovation activity and AAU operations, the No Project Alternative would reduce the Proposed Project's less-than-significant impacts associated with GHG emissions. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, greenhouse gas emissions associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Wind and Shadow

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. Similar to the Proposed Project, the No Project Alternative would have no impact related to wind and shadow, as no new structures would be constructed. Like the Proposed Project, the No Project Alternative would not have cumulative impacts.

Recreation

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. Therefore, the No Project Alternative would reduce the Proposed Project's less-than-significant impacts related to increasing the use of or physically degrading existing recreational facilities such that physical deterioration of those facilities would occur or be accelerated, or require

construction or expansion of recreational facilities in a way that would adversely affect the environment.

The No Project Alternative would result in a net loss of occupied space and, therefore, would reduce the less-than-significant recreation impacts compared to the Proposed Project. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, recreation impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Utilities and Service Systems

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. The No Project Alternative would reduce the less-than-significant impacts related to construction of new utility and service system infrastructure, as the City would have sufficient water supply, and wastewater treatment and stormwater capacity, and would not require new or expanded water supply resources or entitlements, exceed capacity of the wastewater treatment provider when combined with other commitments, or exceed wastewater treatment requirements of the Regional Water Quality Control Board. The No Project Alternative would reduce the Proposed Project's less-than-significant impact related to sufficient permitted capacity to accommodate the solid waste disposal needs and complying with federal, state, and local statutes and regulations related to solid waste.

Overall, the No Project Alternative would result in a net loss of occupied space and would reduce the less-than-significant utilities and service systems impacts of the Proposed Project. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Public Services

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. The No Project Alternative would reduce the building population in the study areas needing services. The No Project Alternative would reduce the Proposed Project's less-than-significant impacts related to substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire and police protection, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection, as well as provision of, or the need for, new or physically altered school and library facilities.

Overall, the No Project Alternative would result in a net loss of occupied space and would reduce the less-than-significant public services impacts of the Proposed Project. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, public services impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Biological Resources

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. The No Project Alternative would have the same "no impact" assessments related to riparian habitat or other sensitive natural community, federally protected wetlands, local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Similarly, the No Project Alternative would have less-than-significant impacts related to a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California

Department of Fish and Wildlife or U.S. Fish and Wildlife Service as well as less-than-significant impacts related to interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites.

Overall, impacts to biological resources under the No Project Alternative would be reduced as compared to the Proposed Project. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, biological resources impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Geology and Soils

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. The No Project Alternative would have "no impact" assessments related to fault rupture, landslides, erosion and loss of topsoil, wastewater disposal, and change in topography; and would reduce the less-than-significant impacts related to exposing people or structures to the risk of loss, injury, or death involving strong seismic groundshaking and seismic-related ground failure such as liquefaction. The No Project Alternative would reduce the Proposed Project's less-than-significant impacts related to locating on geologic or soil units that are unstable, or that could become unstable as a result of the alternative, and the less-than-significant impacts related to locating on expansive soil as defined in Table 18-1-B of the Uniform Building Code.

Overall, the No Project Alternative would result in a net loss of occupied space and would reduce the less-than-significant geology and soils impacts of the Proposed Project. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, geology and soils impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause

reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Hydrology and Water Quality

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. The No Project Alternative would have similar "no impact" assessments related to depletion of groundwater supplies and interference with groundwater recharge, alteration of drainage patterns, failure of a dam or levee, and seiche or mudflows. The No Project Alternative would reduce the Proposed Project's less-than-significant impacts related to water quality standards and waste discharge requirements, substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increasing the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or creating or contributing runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff. The No Project Alternative would also reduce the less-than-significant impacts related to placing housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or placing within a 100-year flood hazard area structures that would impede or redirect flood flows, as well as the less-than-significant impacts related to exposing people or structures to inundation by tsunami.

Overall, the No Project Alternative would result in a net loss of occupied space and would reduce the less-than-significant hydrology and water quality impacts of the Proposed Project. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, hydrology and water quality impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Hazards and Hazardous Materials

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional

uses at three project sites and 164 to 399 rooms. AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. The No Project Alternative would reduce the Proposed Project's less-than-significant impacts related to transport, use or disposal of hazardous materials and impairing or impeding implementation of emergency response and evacuation plans, as well as soil contamination. The No Project Alternative would have less-than-significant-with-mitigation impact related to hazardous building materials.

Overall, the No Project Alternative would result in a net loss of occupied space and would reduce the less-than-significant and less-than-significant-with-mitigation hazards and hazardous materials impacts of the Proposed Project. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, hazards and hazardous materials impacts associated with future non-AAU uses could occur. Because the type and extent of such future uses is not known, it is assumed that while such impacts could be reduced under the No Project Alternative, it is possible that impacts associated with other future uses within the study areas and at vacated project sites and residential units would be similar to the Proposed Project. Therefore, the No Project Alternative would result in a less-than-significant impact related to hazards and hazardous materials, and would likely reduce the severity of the less-than-significant hazardous materials impact as compared to the Proposed Project as other occupants would not necessarily use the hazardous materials related to art supplies. The No Project Alternative would have reduced less-than-significant-with-mitigation cumulative impacts compared to the Proposed Project.

Mineral and Energy Resources

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. The No Project Alternative would result in a net loss of occupied space by AAU of 225,460 sf of institutional uses at three project sites and 164 to 399 rooms. The AAU would continue to operate in its existing 27 sites (34 existing sites minus the seven potentially vacated residential sites) and at three of the project sites. Similar to the Proposed Project, there would be no impact related to mineral resources, as these resources do not exist in the study areas or project sites. The No Project Alternative would reduce the Proposed Project's less-than-significant impact related to the use of fuel, water and energy and the use of these in a wasteful manner.

Overall, the No Project Alternative would result in a net loss of occupied space and would reduce the less-than-significant energy resource impacts of the Proposed Project. However, because the No Project Alternative could result in future occupancy of the study areas, vacated project sites, and vacated residential units with other owners or occupants, energy resources impacts associated with future non-AAU uses could occur. It is also possible that some sites could remain vacant or less-intensively used, so that impacts could be less. Therefore, to be conservative, it is assumed that some

sites not occupied by AAU under the No Project Alternative would remain vacant or would be used less intensively than if AAU were the occupant, so that the No Project Alternative would cause reduced impacts compared to the Proposed Project. The No Project Alternative would have similar or reduced less-than-significant cumulative impacts and no cumulative energy impacts related to mineral resources compared to the Proposed Project.

Agricultural and Forest Resources

Under the No Project Alternative, AAU would not occupy and change the use of 110,000 sf (220 rooms) of residential uses, 669,670 sf of institutional uses, and 17,533 sf of recreational use. Similar to the Proposed Project, there would be no impact related to agricultural and forest resources, as none of these resources exist in the study areas or at project sites. Similar to the Proposed Project, there would be no cumulative impact related to agricultural and forest resources.

Alternative 2: Centralized Growth Alternative

The Proposed Project has four components: program-level growth in 12 study areas; project-level growth at six project sites; legalization approvals for the existing sites; and shuttle expansion. This Centralized Growth Alternative would focus program-level growth in five instead of 12 study areas; contain the same project-level growth at six sites; contain the same legalization approvals for the existing sites; and expand the shuttle system differently to account for the five study areas.

Alternative 2, Centralized Growth Alternative, would focus 110,000 sf of residential (400 rooms serving 220 students), and 669,670 sf of institutional, of AAU's future growth along transit corridors including Market, Mission and Fourth Streets as well as the Van Ness Avenue corridor. With this consolidation along existing transit corridors, students could access the future AAU campus locations using either MUNI or the shuttle buses. The rationale for locating along existing transit corridors is two-fold: AAU already has existing sites along these corridors and the growth of the campus could be more compact, and second, the students could walk or use transit instead of cars or an expanded shuttle bus system. This alternative would consolidate AAU's residential and institutional program-level growth in: SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; and SA-10, Fifth Street/Brannan Street. Residential growth would be limited to SA-3 and SA-4, and institutional growth would be limited to SA-4, SA-5, SA-6, and SA-10. Refer to Figure 6-2, Centralized Growth Alternative, p. 6-30. This would place new growth proximate to existing facilities, as well as public transit opportunities; accordingly, walking trips would increase and driving trips would decrease. The six project sites would operate as they are described under the Proposed Project.

1/29/2015 SILV6331 H:\Clients\San Francisco\100003849 Academy of Art U EIR\GIS\mxd\Figure 6-2 Centralized Growth Alternative.mxd

Source: AAU, 2013; Atkins, 2015

ACADEMY OF ART UNIVERSITY EIR

FIGURE 6-2: CENTRALIZED GROWTH ALTERNATIVE

Project Sponsor Objectives

Alternative 2, Centralized Growth Alternative, would meet or partially meet most of the project sponsor's objectives, including the following:

- Operate in an urban context, where academic programs can contribute to and draw from the cultural wealth of the local communities.
- Create opportunities for students to interact with the urban community (i.e., facilitate the "urban experience") by maintaining facilities throughout the City rather than creating a consolidated campus.
- Offer on-site residential housing for new full-time students who desire to live in AAU housing.
- Consolidate administrative and classroom functions for each academic discipline in the same buildings so that students and faculty do not have to travel from building to building unnecessarily.
- Occupy and use space in buildings and properties near existing AAU facilities, where possible.
- Locate future facilities to:
  - > Provide proximity between buildings so students can walk between classes.
  - > Provide a sense of campus unity while still maintaining the benefits of a dispersed urban campus as the learning environment for AAU students.
  - > Locate AAU facilities such that they are easily accessible to all AAU students and faculty/staff, allowing professors to teach and work in close proximity to students' daily activities.
- Locate future facilities in proximity to existing AAU shuttle stops or public transit to discourage use of private automobiles.
- Occupy and utilize space in existing historic or culturally interesting buildings in need of renovation and/or revitalization.

By limiting AAU to five study areas under Alternative 2, the following two Project Objectives might not be met under Alternative 2:[582]

- Manage facilities in a flexible manner to ensure availability of space to meet changing needs of academic programs.
- Enable long-range programs and service planning to meet the needs of the community.

[582] Some of these project sponsor objectives could be met as individual projects are proposed. However, these projects would be subject to future environmental review, compliance with the City's zoning code, and any IMP requirements.

Alternative 2, Centralized Growth Alternative, Impacts

The following sections compare the environmental impacts of Alternative 2, Centralized Growth Alternative, to those of the Proposed Project.

Land Use

The Centralized Growth Alternative would focus future AAU occupancy in five study areas that are located along transit routes rather than in up to 12 study areas. The alternative would not change the proposed uses or program-level growth in the study areas or at the project sites and the same text amendments to the *Planning Code* would be needed. There is the potential that focusing AAU uses in fewer neighborhoods would make AAU uses more prominent to area occupants. In an urban environment like San Francisco, it is unlikely that this would result in new neighborhood disruption or degradation of character. Therefore, while the land use impacts from Alternative 2 may, in some instances, appear more intensified, Alternative 2 would generally have similar, less-than-significant impacts related to land use as the Proposed Project. Alternative 2 would promote the City's Transit First Policy and other *General Plan* policies promoting transit use and, therefore, would also have a less-than-significant impact from conflicts with plans and policies.

There would be no difference in the potential for Alternative 2 to physically divide an established community because AAU would occupy existing buildings. This less-than-significant impact would be similar to the Proposed Project. Similarly, Alternative 2 would occupy similar buildings in similar areas as the Proposed Project and would not change the scale of development in the study areas and the vicinity as the height and scale of existing buildings occupied would be the same as under the Proposed Project. Institutional uses would be consistent with the existing character of development and range of existing uses in five study areas and at the project sites. Therefore, this impact would be similar to the Proposed Project. The Centralized Growth Alternative would have similar less-than-significant cumulative impacts compared to the Proposed Project.

Aesthetics

There is the potential that a concentration of AAU uses in fewer areas could result in a greater concentration of exterior changes, such as signage and awning, related to AAU; however, the effect or obtrusiveness of AAU signage and exterior improvements would be offset by the large scale of uses along major transit corridors which is of a greater scale than along side streets or within neighborhoods and would be subject to *Planning Code* requirements. Therefore, Alternative 2 would have similar, less-than-significant impacts related to aesthetics as the Proposed Project. Interior alterations would have no external visibility and exterior modifications would be subject to applicable *Planning Code* requirements and, where applicable, with the Secretary of Interior's Standards. Alternative 2 would comply with Planning Commission Resolution 9212, which prohibits the use of mirrored or reflective glass, and would minimally change the amount of lighting on site; therefore, light and glare impacts would not be expected to have a substantial, demonstrable

negative aesthetic impact, and this impact would be less than significant, and similar to the Proposed Project. The Centralized Growth Alternative would have similar less-than-significant cumulative impacts compared to the Proposed Project.

Population, Housing, and Employment

This alternative would not change the proposed uses in the study areas or at the project sites and is assumed to result in the same amount of growth as the Proposed Project. Therefore, impacts related to increased population and demand for housing would be similar to the Proposed Project, and would remain as a significant and unavoidable impact on housing demand. Under the Centralized Growth Alternative, AAU would grow in areas where such growth would be considered appropriate and planned for (i.e., in areas that are already fairly densely developed, well supported by public transit, and in close proximity to major transportation corridors), and would not extend infrastructure into previously undeveloped areas or result in leapfrog development that could indirectly induce population growth. This pattern would be similar to, but more concentrated along transit corridors including Market, Mission, and Fourth Streets as well as Van Ness Avenue, than the Proposed Project. Alternative 2, like the Proposed Project, would result in approximately 5,400 new residents representing approximately 8.7 percent of the City's anticipated growth by 2020. This population growth impact would be less than significant, and similar to the Proposed Project. The Centralized Growth Alternative would have similar significant and unavoidable cumulative impacts related to housing demand; in all other respects, this alternative would have similar less-than-significant cumulative impacts as the Proposed Project.

Cultural and Paleontological Resources

The impacts identified associated with cultural and paleontological resources would not be affected by Alternative 2 occurring in five rather than up to 12 study areas. Alternative 2 assumes the same potential for subsurface excavation and the same renovation activities as in the Proposed Project because total tenant improvements would be the same. Operations would be the same with Alternative 2 as with the Proposed Project. Since Alternative 2 has the same amount of total development and consequently potential subsurface excavation (in fewer study areas) and renovation levels as the Proposed Project, it would result in similar cultural and paleontological resource impacts. Focusing AAU growth in centrally-located study areas would not reduce the less-than-significant-with-mitigation and less-than-significant impacts of the Proposed Project. Alternative 2 would have similar impacts to the Proposed Project as the less-than-significant-with-mitigation impacts related to archaeological resources and human remains. Alternative 2 would be subject to the same mitigation measures as the Proposed Project. Alternative 2 would have similar impacts to the Proposed Project as the less-than-significant impacts related to unique paleontological resource or site or unique geological feature. Alternative 2 would have similar impacts to the Proposed Project as less-than-significant-with-mitigation impacts related to disturbing human remains since excavation in the study areas could disturb remains. Alternative 2 would be subject to

the same mitigation measures as the Proposed Project. The Centralized Growth Alternative would have similar less-than-significant-with-mitigation cumulative impacts.

Transportation and Circulation

The Centralized Growth Alternative is similar to the transit corridor distribution evaluated in the Transportation Impact Study (TIS). However, Alternative 2 identifies growth in SA-10, Fifth Street/Brannan Street, whereas the transit corridor distribution did not include growth in SA-10, instead having residential growth in SA-12, Ninth Street/Folsom Street, instead of SA-4, Sutter Street/Mason Street.

Traffic Impacts. Under the Centralized Growth Alternative, the project would result in fewer vehicle trips distributed differently, as compared to the Project analysis and these vehicle trips to the study areas and project sites under the Centralized Growth Alternative would result in less-than-significant traffic impact on intersection operations during the PM peak hour (i.e. would not cause an intersection operating acceptably to operate unacceptably, or cause an intersection operating at LOS E to worsen to LOS F). Similarly, these vehicle trips would result in less-than-significant contributions to one study intersection under Existing Conditions and 16 study intersections under Cumulative conditions that operate or would operate at unacceptable LOS E or F conditions. Project vehicle trips and the less-than-significant impacts on traffic conditions at the project sites would remain the same. Therefore, similar to the Proposed Project analysis, the Centralized Growth Alternative would result in less-than-significant traffic impacts. Improvement Measure I-TR-1 – Implement Transportation Demand Management Strategies to Reduce Single-Occupancy Vehicle Trips, recommended for the Project, would still apply under the Centralized Growth Alternative.

Transit Impacts. Under the Centralized Growth Alternative, the Proposed Project would result in less transit demand that would be distributed differently among the study areas as compared to the Proposed Project analysis. The Centralized Growth Alternative, under Existing plus Project conditions, would not result in a substantial increase in ridership or exceed a capacity utilization threshold established by Muni or a regional transit provider and similar to project site analysis, would not introduce any design features that would preclude or alter access to nearby transit facilities. Project site transit trips and the less-than-significant impacts on transit demand and conditions at the project sites would remain the same. Therefore, under Existing plus Project conditions, the Centralized Growth Alternative would result in less-than-significant transit impact similar to the Proposed Project analysis.

Cumulative Transit Impacts. The Centralized Growth Alternative would result in a less-than-significant cumulative impact on regional transit demand, which under Cumulative conditions with this Alternative's transit trips would continue to operate under the performance standard of 100 percent capacity utilization. Under Cumulative conditions, the Centralized Growth Alternative, due to the more centralized distribution pattern, would reduce the number of transit trips being contributed to the Kearny Stockton Corridor from 204 under the Proposed Project to 143 PM peak

hour (outbound) project transit trips under this Alternative. With this reduction in transit trips, this Alternative would avoid the significant cumulative transit impact to the Kearny Stockton corridor within the Northeast screenline. The Centralized Growth Alternative under Cumulative conditions, however, would have a similar significant and unavoidable impact on the Geary corridor within the Northwest corridor, causing the corridor to worsen from 85 percent to 87 percent, similar to the Project. Therefore, overall, the Centralized Growth Alternative under Cumulative conditions would have a significant and unavoidable local cumulative transit impact and less-than-significant cumulative regional transit impact. Mitigation Measure C-M-TR-1 – AAU Fair Share Contribution to Cumulative Transit Impact is proposed and would be applicable to the Centralized Growth Alternative to potentially reduce the significant cumulative transit impact to the Geary corridor under Cumulative conditions with this Alternative's transit demand growth.

Shuttle Impacts. As discussed above, the Centralized Growth Alternative would produce the same (maximized) amount of shuttle demand as analyzed under the Project. Similarly, the Centralized Growth Alternative would result in the same less-than-significant-with-mitigation shuttle impacts as the Proposed Project analysis. The Centralized Growth Alternative, similar to the Proposed Project, would result in an increase in shuttle demand that if it is not met, could result in a significant impact to the City's transit or transportation system. Potential shuttle routes are shown in Figure 6-3a, Alternative 2, Centralized Growth Alternative, Potential Shuttle Routes, p. 6-37, and Figure 6-3b, Alternative 2, Centralized Growth Alternative, Potential Shuttle Routes, p. 6-38; however, shuttle routes would be determined in the future based on several factors including the program served, class times and student demand, how and where program growth occurs over time, and proximity or lack of proximity to other AAU buildings with similar service needs. Similar to the Proposed Project, the projected increase of fixed-route and on-demand shuttle services in the study areas and at the six project sites would not substantially alter the transportation system including traffic, transit, bicycles, and commercial loading in the study areas or at the project sites. Establishment of future on-street shuttle bus white zones might require the elimination of some on-street parking or other parking zones, but approval of these zones would be subject to MTA review and approval. While the exact locations of shuttle stops or routes to accommodate the program-level growth in the study areas cannot be identified under this Alternative, similar to the Project, the estimated shuttle demand during a peak hour could potentially cause some sidewalk crowding at times in the study areas, depending on location and existing pedestrian conditions. These parking and pedestrian shuttle-related impacts under the Centralized Growth Alternative would be similar to the Proposed Project and would be less than significant with mitigation. Mitigation Measure M-TR-1 – Shuttle Demand, Service Monitoring, and Capacity Utilization Standard is proposed and would be applicable to the Centralized Growth Alternative; with the ongoing analysis and monitoring to meet the established performance standard, this shuttle demand could be met and any impact to the City's transit or transportation system would be reduced to a less-than-significant level. Assuming AAU shuttle demand is adequately met and AAU shuttle activities would not significantly affect the operation of other modes of travel, Improvement Measure I-TR-2 – AAU

Shuttle Activities Monitoring is recommended as a standard condition of approval to ensure shuttle activities do not on a recurring basis substantially impede or interfere with traffic, adjacent land use, transit, pedestrians, commercial or passenger loading, and bicycles on the public right-of-way.

Pedestrian Impacts. The Centralized Growth Alternative would increase pedestrian traffic in the five study areas and to and from each project site. As compared to the Proposed Project analysis, this alternative would produce a higher amount of pedestrian trips related to Proposed Project growth, but when combined with walking trips to and from transit, shuttle stops, and parking, the Centralized Growth Alternative results in fewer pedestrian and walking trips as compared to the Proposed Project analysis. The pedestrian trips and conditions at the six project sites would remain the same under this alternative. Under the Centralized Growth Alternative, the crosswalks analyzed at the 17 intersections would, except for two instances, operate acceptably. At the two crosswalk locations already operating at unacceptable conditions (LOS E or F) during the PM peak hour, the Centralized Growth Alternative contribution would be zero, due to their location, less than the Proposed Project's contribution, and therefore result in a less-than-significant pedestrian impact. The Centralized Growth Alternative would result in fewer vehicle trips in the study areas, and similar vehicle trips at the six project sites. Therefore, the potential for pedestrian-vehicle conflicts under the Centralized Growth Alternative would be reduced as compared to the Proposed Project analysis, but similar to those analyzed for the Proposed Project at the six project sites. Similar to the Proposed Project analysis, in several study areas under Existing Conditions, it was reported that SFMTA occasionally receives complaints related to shuttle passengers waiting at AAU shuttle stops constricting or blocking sidewalk traffic. The Centralized Growth Alternative would have a similar less-than-significant pedestrian impact as the Proposed Project, where the pedestrian and walking trips would not result in a substantial overcrowding on public sidewalks or otherwise interfere with pedestrian accessibility, nor create potentially hazardous conditions for pedestrians. While this impact would be less than significant, similar to the Proposed Project, Improvement Measure I-TR-3 – Improvement of Pedestrian Conditions at 2225 Jerrold Avenue would be recommended under the Centralized Growth Alternative to create a clear pedestrian walkway between the proposed AAU shuttle stop and adjacent parking lot to the building entrance, which may require AAU to stop utilizing up to two of the six existing loading docks east of the parking lot. Additionally, and as part of the abandonment of these loading dock areas, AAU shall remove or reduce in size the curb cuts along Jerrold Avenue, improving pedestrian conditions along Jerrold Avenue. The project site development under the Proposed Project and Centralized Growth Alternative at PS-6, and the other project sites, would be the same.

SOURCE: AAU, 2013; Atkins, 2013.

FIGURE 6-3a: ALTERNATIVE 2, CENTRALIZED GROWTH ALTERNATIVE, POTENTIAL SHUTTLE ROUTES

SOURCE: AAU, 2013; Atkins, 2013.

FIGURE 6-3b: ALTERNATIVE 2, CENTRALIZED GROWTH ALTERNATIVE, POTENTIAL SHUTTLE ROUTES

Bicycle Impacts. The Centralized Growth Alternative would slightly increase bicycle traffic in the five study areas and to and from each project site. As compared to the Proposed Project analysis, this Alternative would generate a similar amount of bicycle trips and similar distribution pattern. The bicycle impact analysis at the six project sites would be the same as under the Proposed Project analysis, including at PS-3, whose shuttle stop is proposed on Polk Street, a designated bicycle route. Overall, and similar to the Proposed Project analysis, the addition of bicycle trips and the changes to vehicle, loading, and shuttle traffic resulting from the Centralized Growth Alternative under Existing plus Project and Cumulative conditions would not result in new substantial hazardous conditions for bicyclists, nor otherwise interfere with bicycle accessibility to the site and adjoining areas. Therefore, the impact to bicycles and bicycle facilities would be less than significant. While this impact would be less than significant, similar to the Project, Improvement Measure I-TR-4 – Improvement of Bicycle Parking Conditions at AAU Facilities would be recommended under the Centralized Growth Alternative to require that AAU add on- or off-street (or some combination thereof) bicycle parking facilities at project sites.

Commercial Loading Impacts. The Centralized Growth Alternative would increase commercial loading demand in the five study areas and to and from each project site. As compared to the Proposed Project analysis, this Alternative would generate less of a commercial demand in the study areas. The commercial loading demand and impact analysis at the six project sites would be the same as under the Proposed Project analysis. The Centralized Growth Alternative's commercial loading impact, due to the amount of commercial truck deliveries and the availability of on-street commercial parking, although limited in some areas, would not result in a substantial commercial loading demand that would constrain roadways, such that a potentially hazardous condition is created or significant delay affecting traffic, transit, bicycles or pedestrians occurs. Under Cumulative Conditions, although the demand for on-street commercial parking spaces would further increase with additional citywide development, the Alternative's portion of this cumulative growth in commercial parking demand would not be considered substantial. Thus, similar to the Proposed Project analysis, the Centralized Growth Alternative's impact on commercial loading demand and conditions under Existing plus Project and Cumulative conditions would be less than significant. Improvement Measure I-TR-5 – AAU Monitoring of Commercial Loading Activities would be recommended under the Centralized Growth Alternative to further improve conditions in the five study areas and at project sites with high existing commercial loading demand, and under the improvement measure AAU would monitor and efficiently manage their commercial loading activities over time and as needed, adjusting times of deliveries or applying for additional on-street commercial loading spaces from SFMTA.

Parking Impacts. Under the Centralized Growth Alternative, the project would result in fewer vehicle trips and therefore a lower parking demand as compared to the Proposed Project analysis in the study areas. Parking demand and impacts under Existing plus Project and Cumulative conditions at the six project sites would be the same as under the Proposed Project analysis. Given

the amount of potential parking demand created by the Centralized Growth Alternative program-level growth in the study areas and the availability of on-street parking, although limited in some areas, at a program level the unmet parking demand under Existing plus Project conditions would not be considered substantial, such that it would create hazardous conditions or significant delays to transit, traffic, bicycles, or pedestrians or demonstrably render these modes infeasible. Similar to the Proposed Project, the placement of on-street AAU shuttle stops could result in the removal of on-street parking. However, placement of AAU shuttle stops at buildings within the study area would be reviewed at a project-level and any removal of parking and approval of on-street white passenger loading/unloading zone would be subject to approval by SFMTA. Under Cumulative conditions, on-street parking demand within the City would increase related to overall growth and development, and the Centralized Growth Alternative parking demand would increase this demand, the alternative's portion, similar to the Proposed Project, of this cumulative parking demand growth would not be considered substantial. While the Centralized Growth Alternative parking demand would be less than significant, Improvement Measure I-TR-1 – Implement Transportation Demand Management Strategies to Reduce Single-Occupancy Vehicle Trips, which includes specific measures to reduce vehicle demand generated by the alternative and encourage the use of alternative modes of transportation, is recommended to further reduce the estimated parking demand of staff, visitors, and students.

Emergency Access Impacts. The roadway network and circulation routes would not be changed as a result of AAU uses and therefore, the Centralized Growth Alternative would, similar to the Proposed Project analysis, have a less-than-significant impact to emergency access.

Construction Impacts. Construction-related impacts of the Centralized Growth Alternative in the study areas and at the six project sites would be similar to those analyzed under the Proposed Project analysis. During construction, temporary and intermittent conflicts with other modes of travel (traffic, transit, pedestrians and bicycles) could result from construction traffic to and from construction sites. Similar to the Proposed Project analysis, because construction activities would be temporary and limited in duration and are required to be conducted in accordance with City requirements, construction-related transportation impacts related to this Alternative would be less than significant. Similarly, in considering potential citywide construction activity that the alternative would add to, the alternative's contribution to this activity in a cumulative context would not be considered substantial. While construction-related impacts under Existing plus Project and Cumulative conditions would be less than significant for the Centralized Growth Alternative, improvement measures, the same as under the Proposed Project, are recommended to further reduce these less-than-significant impacts. Improvement Measures I-TR-6 – Construction Truck Deliveries During Off-Peak Periods and I-TR-7 – Additions to the Construction Management Plan would further minimize disruption of the general traffic flow on adjacent streets during weekday commute periods, provide for coordination with SFMTA, the Fire Department, Muni, and the Planning Department to determine feasible measures to reduce traffic congestion, minimize

construction impacts on nearby businesses, and minimize traffic and parking demand associated with construction workers.

Summary. As discussed above, the Centralized Growth Alternative would result in similar, and predominantly less-than-significant impacts to transportation conditions under Existing plus Project (Alternative) and Cumulative conditions and would not result in new or greater impacts than identified for the Proposed Project. The significant and unavoidable Cumulative transit demand impact, in comparison to the Project, would be reduced under this alternative from two to one corridor with the Muni downtown screenlines; however, a significant and unavoidable impact to transit demand on the Geary corridor would remain, similar to the Proposed Project cumulative transit analysis.

Noise

Alternative 2 would entail the same renovation activities as in the Proposed Project. Operations would be the same with Alternative 2 as with the Proposed Project. Since Alternative 2 has the same amount of renovation and operational activity levels as the Proposed Project, it would result in similar noise impacts. Like the Proposed Project, Alternative 2 would have less-than-significant-with-mitigation impacts related to increased noise levels for off-site sensitive receptors, and exposing noise-sensitive land uses on site to noise levels that exceed the standards established by the *General Plan*. Alternative 2 would be subject to the same mitigation measures as the Proposed Project. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to excessive groundborne vibration levels in existing residential neighborhoods adjacent to the project site from renovation activities and shuttle buses. Compared to the Proposed Project, Alternative 2 would have similar, and could have slightly greater, less-than-significant impacts related to substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project because the same amount of use would occur in a smaller area. Since the Centralized Growth Alternative has a similar increase in project trips as the Proposed Project as discussed in the transportation and circulation discussion above, it is reasonable to assume that permanent ambient noise levels could be increased, though they would still be less than significant. The Centralized Growth Alternative would have similar less-than-significant-with-mitigation cumulative impacts as the Proposed Project.

Air Quality

Alternative 2 would entail the same renovation activities as in the Proposed Project. Like the Proposed Project. Alternative 2 would have less-than-significant impacts related to generating fugitive dust and criteria air pollutants during renovation activities and would not violate an air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants. Like the Proposed Project, Alternative 2 would have less-than-significant-with-mitigation impacts related to generating toxic air contaminants, including diesel particulate matter, and would not expose sensitive receptors to

substantial pollutant concentrations as mitigation would be required in poor air quality areas. Alternative 2 would be subject to the same mitigation measures as the Proposed Project. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to emissions of criteria air pollutants from shuttle buses, at levels that would not violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase in criteria air pollutants; because of potentially shorter shuttle routes criteria air pollutants from Alternative 2 could be somewhat lower than those from the Proposed Project. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to toxic air contaminants, including diesel particulate matter related to increased shuttle trips, and would not expose sensitive receptors to substantial air pollutant concentrations as mitigation would be required in areas with poor air quality. This slight benefit could occur because using the centralized study areas could result in more walking and transit trips than the Proposed Project. Like the Proposed Project, Alternative 2 would have similar, and potentially less, impacts compared to the Proposed Project as the less-than-significant impacts related to interfering with implementation of the 2010 CAP. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to creating objectionable odors that would affect a substantial number of people since the type and amount of use would be the same as the Proposed Project. The Centralized Growth Alternative would have similar less-than-significant-with-mitigation cumulative impacts as the Proposed Project.

Greenhouse Gas Emissions

The Centralized Growth Alternative would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. Due to the same amount of renovations and AAU operations, Alternative 2 has similar (albeit potentially reduced due to more walking) less-than-significant impacts associated with GHG emissions as the Proposed Project.

Wind and Shadow

The Centralized Growth Alternative would provide the same uses at the project sites and at five study areas. Similar to the Proposed Project, there would be no impact related to wind and shadow, as no new structures would be constructed.

Recreation

The Centralized Growth Alternative would provide the same amount and type of future AAU uses in five rather than up to 12 study areas and at the project sites resulting in the same residential population needing recreation facilities. Since Alternative 2 has the same population as the Proposed Project, it would result in similar impacts, albeit potentially in a more focused area of the City. As the maximum population for any one study area was evaluated for the Proposed Project, the impacts would still be similar to the Proposed Project. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to increasing the use of or physically degrading

existing recreational facilities such that physical deterioration of those facilities would occur or be accelerated, or require construction or expansion of recreational facilities in a way that would adversely affect the environment. The Centralized Growth Alternative would have similar less-than-significant cumulative impacts as the Proposed Project.

Utilities and Service Systems

The Centralized Growth Alternative would provide the same amount and type of future AAU uses in five rather than up to 12 study areas and at the project sites resulting in the same population needing services. The impacts identified associated with utilities and service systems would be affected by a changed new service population. Since Alternative 2 has the same population as the Proposed Project, it would result in similar impacts. The impacts could occur in a smaller geographic area since only five study areas would be included, but this would have little effect on the provision of services as all of the study areas are served equally well. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to construction of new utility and service system infrastructure, as the City would have sufficient water supply, and wastewater treatment and stormwater capacity, and would not require new or expanded water supply resources or entitlements, exceed capacity of the wastewater treatment provider when combined with other commitments, or exceed wastewater treatment requirements of the Regional Water Quality Control Board. Similarly, Alternative 2 would result in the same demand for landfill capacity, resulting in a less-than-significant impact related to sufficient permitted capacity to accommodate the solid waste disposal needs and complying with federal, state, and local statutes and regulations related to solid waste. The Centralized Growth Alternative would have similar less-than-significant cumulative impacts as the Proposed Project.

Public Services

The Centralized Growth Alternative would result in similar demand for public services as the Proposed Project. The impacts identified associated with public service issues would be affected by a changed new service population. Since Alternative 2 has the same population, demand for housing and employment implications as the Proposed Project, it would result in similar impacts. The impacts could occur in a smaller geographic area since only five study areas would be included. Like the Proposed Project, Alternative 2 would have less-than-significant impacts associated with the provision of, or the need for, new or physically altered fire, police protection, school, and library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection, schools and libraries. Locating in fewer study areas closer to existing AAU uses would not provide a benefit or measurable decrease in these less-than-significant impacts compared to the Proposed Project. The Centralized Growth Alternative would have similar less-than-significant cumulative impacts as the Proposed Project.

Biological Resources

The less-than-significant impacts identified with the Proposed Project would be similar under Alternative 2 because locating in five centrally located study areas rather than up to 12 distributed study areas would affect the biological resources that occur equally across all study areas. Alternative 2 would have the same "no impact" assessments related to riparian habitat or other sensitive natural community, federally protected wetlands, local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. All of the study areas are substantially covered with impervious surfaces that do not usually affect biological resources, and there are no conservation plans protecting the study areas or project sites. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites since all study areas and project sites would be required to comply with the Migratory Bird Treaty Act. The Centralized Growth Alternative would have similar less-than-significant cumulative impacts as the Proposed Project.

Geology and Soils

The Centralized Growth Alternative would have similar impacts associated with geology and soils as the Proposed Project. This is because the amount of development would be the same, however located in fewer study areas. The impacts identified associated with geology and soils issues would not be affected by the Proposed Project locating in five centrally located study areas rather than up to 12 distributed study areas because the potential geology and soil impacts occur across all study areas equally. Alternative 2 would have the same "no impact" assessments related to fault rupture, landslides, erosion and loss of topsoil, wastewater disposal, and change in topography since all study areas equally are covered with impervious surfaces, and all would not be at risk for fault rupture and landslides. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to exposing people or structures to the risk of loss, injury, or death involving strong seismic groundshaking and seismic-related ground failure such as liquefaction, since Alternative 2 includes study areas that would be at risk. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to locating on geologic or soil units that are unstable, or that could become unstable as a result of the alternative, since all the study areas are at. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to locating on expansive soil as defined in Table 18-1-B of the Uniform Building Code, since some of the study areas and the

project sites included in Alternative 2 would be at risk. The Centralized Growth Alternative would have similar less-than-significant cumulative impacts as the Proposed Project.

Hydrology and Water Quality

The identified impacts associated with hydrology and water quality issues would not be affected by locating in five centrally located study areas under Alternative 2 rather than up to 12 distributed study areas under the Proposed Project. Alternative 2 would have similar "no impact" assessments related to depletion of groundwater supplies and interference with groundwater recharge, alteration of drainage patterns, failure of a dam or levee, and seiche or mudflows. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to water quality standards and waste discharge requirements, substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increasing the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or creating or contributing runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to placing housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or placing within a 100-year flood hazard area structures that would impede or redirect flood flows. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to exposing people or structures to inundation by tsunami since the potential for impacts to occur would be in SA-10, Fifth Street/Brannan Street, and PS-1. Therefore, the less-than-significant hydrology and water quality impacts are the same for Alternative 2 as for the Proposed Project. The Centralized Growth Alternative would have similar less-than-significant cumulative impacts as the Proposed Project.

Hazards and Hazardous Materials

The five locations identified under Alternative 2 have the same hazards issues as the full set of 12 study areas under the Proposed Project and no impacts would be avoided or reduced by focusing on these five study areas. Like the Proposed Project, Alternative 2 would have less-than-significant impacts related to transport, use or disposal of hazardous materials; and impairing or impeding implementation of emergency response and evacuation plans. Like the Proposed Project, Alternative 2 would have less-than-significant-with-mitigation impacts related to hazardous building materials and soil contamination. Alternative 2 would be subject to the same mitigation measures as the Proposed Project. There is no benefit with respect to hazards to having AAU uses clustered in a smaller area relative to the greater distribution of uses under the Proposed Project. Therefore, hazards and hazardous materials impacts are the same for Alternative 2 as for the Proposed Project. The Centralized Growth Alternative would have similar less-than-significant-with-mitigation cumulative impacts as the Proposed Project.

Mineral and Energy Resources

The Centralized Growth Alternative would provide the same uses at the project sites and in five study areas as the Proposed Project. Similar to the Proposed Project, there would be no impact related to mineral resources as these resources do not exist in the study areas or project sites. Since the total amount of growth and the type of growth under Alternative 2 is the same as the Proposed Project, there would be the same (albeit potentially reduced due to more walking) less-than-significant impact related to the use of fuel, water and energy and the use of these in a wasteful manner. The Centralized Growth Alternative would have similar less-than-significant cumulative impacts related to energy; and similar no cumulative impact related to mineral resources.

Agricultural and Forest Resources

The Centralized Growth Alternative would provide the same uses at the project sites and in five study areas as the Proposed Project. Similar to the Proposed Project, there would be no impact related to agricultural and forest resources as none of these resources exist in the study areas or project sites. The Centralized Growth Alternative would similarly have no cumulative impact related to agricultural and forest resources.

Alternative 3: Reduced Growth Alternative

The Proposed Project has four components: program-level growth in 12 study areas; project-level growth at six project sites; legalization approvals for the existing sites; and shuttle expansion. This Reduced Growth Alternative would reduce program-level growth by 50 percent in 12 study areas; contain the same project-level growth at six sites; contain the same legalization approvals for the existing sites; and expand the shuttle system less than the Proposed Project would, to account for the reduced activity among the future sites.

Alternative 3 would result in a maximum growth of 110 beds/200 rooms, 335,000 sf of institutional use and 17,533 sf of recreational use in the 12 study areas, with the use and improvements at the project sites remaining the same as under the Proposed Project. Under the Reduced Growth Alternative, AAU would implement the Proposed Project with less development potential in the 12 study areas, resulting in an approximately 33 percent reduction in total growth (including half the growth in the study areas and all of the growth at the project sites) compared to the Proposed Project. This is about half the growth anticipated for the study areas assuming a similar proportional distribution as the Proposed Project (both Option 1, Dispersed Distribution, and Option 2, Centralized Growth). It is assumed that over time, the reduced total growth would result in a proportionate reduction in AAU enrollment and faculty/staff compared to the Proposed Project. This alternative was developed to reduce the significant and unavoidable cumulative transit impact for the Kearny/Stockton and Geary corridors identified for the Proposed Project under Cumulative (2035) conditions. While Alternative 3 reduces the significant and unavoidable impact to the Kearny/Stockton corridor to a less-than-significant level, it reduces, but not to a less-than-significant

level, the impact on the Geary corridor. Alternative 3 would also reduce the Proposed Project's significant and unavoidable impact to housing demand because it would reduce AAU enrollment and employment in San Francisco. For other impacts, Alternative 3 would reduce the less-than-significant-with-mitigation impacts. Alternative 3 would be subject to the same mitigation measures as the Proposed Project.

Project Sponsor Objectives

With regard to meeting the Proposed Project objectives, the Reduced Growth Alternative would meet or partially meet some of the project sponsor's objectives, including the following:

- Operate in an urban context, where academic programs can contribute to and draw from the cultural wealth of the local communities.
- Create opportunities for students to interact with the urban community (i.e., facilitate the "urban experience") by maintaining facilities throughout the City rather than creating a consolidated campus.
- Occupy and utilize space in existing historic or culturally interesting buildings in need of renovation and/or revitalization.
- Occupy and use space in buildings and properties near existing AAU facilities, where possible.
- Locate future facilities to:
  - > Provide proximity between buildings so students can walk between classes.
  - > Provide a sense of campus unity while still maintaining the benefits of a dispersed urban campus as the learning environment for AAU students.
  - > Locate AAU facilities such that they are easily accessible to all AAU students and faculty/staff, allowing professors to teach and work in close proximity to students' daily activities.
- Consolidate administrative and classroom functions for each academic discipline in the same buildings so that students and faculty do not have to travel from building to building unnecessarily.
- Locate future facilities in proximity to existing AAU shuttle stops or public transit to discourage use of private automobiles.

However, this alternative would not meet any of the Project's primary objectives related to occupying new buildings to provide flexibility in programming such as:[583]

- Offer on-site residential housing for new full-time students who desire to live in AAU housing.
- Manage facilities in a flexible manner to ensure availability of space to meet changing needs of academic programs.
- Enable long-range programs and service planning to meet the needs of the community.

Alternative 3, Reduced Growth Alternative, Impacts

Land Use

Compared to the Proposed Project, the Reduced Growth Alternative would provide about half the amount of future AAU uses in up to 12 study areas and the same amount and type of future uses at the project sites.

Like the Proposed Project, Alternative 3 would not physically divide an established community. Like the Proposed Project, Alternative 3 would not have a significant adverse impact on the existing character of the vicinity of new AAU uses in the study areas and at the project sites. Therefore, this impact would be similar in nature where AAU uses occur as compared to the Proposed Project but likely reduced overall. The Reduced Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Aesthetics

Impacts related to aesthetics could be reduced by halving AAU's future growth in the study areas. Therefore, Alternative 3 could have reduced, less-than-significant impacts related to aesthetics compared to the Proposed Project. Modifications to building exteriors under the Reduced Growth Alternative would be subject to applicable *Planning Code* requirements including, where applicable, the Secretary of Interior's Standards. Alternative 3 would comply with Planning Commission Resolution 9212, which prohibits the use of mirrored or reflective glass, and would minimally change the amount of lighting on site; therefore, light and glare impacts would not be expected to have a substantial, demonstrable negative aesthetic impact. This impact would be reduced from that of the Proposed Project and less than significant, but similar to the Proposed Project. The Reduced Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

[583] Some of these project sponsor objectives could be met as individual projects are proposed. However, these projects would be subject to future environmental review, compliance with the City's zoning code, and any IMP requirements.

Population, Housing, and Employment

The Reduced Growth Alternative would provide half the beds (200 compared to 400 beds) and half the institutional use in the study areas of the Proposed Project. Similar to the Proposed Project, under the Reduced Growth Alternative, AAU would provide growth in areas where such growth would be considered appropriate and planned for (i.e., in areas that are already fairly densely developed, well-supported by public transit, and in close proximity to major transportation corridors), and would not extend infrastructure into previously undeveloped areas or result in leapfrog development that could indirectly induce population growth. The Proposed Project's significant and unavoidable housing demand impact would be less than the Proposed Project because AAU enrollment and employment in San Francisco would be reduced. However, the impact would still be significant and unavoidable because the proportion of institutional to residential growth in the study areas would remain the same. Alternative 3 would result in fewer new residents (because an additional 200 students would become commuter students, and many commuter students do not reside in San Francisco)representing less of the City's anticipated growth by 2020. The Reduced Growth Alternative would have substantially reduced significant and unavoidable cumulative impacts to housing demand compared to the Proposed Project.

Cultural and Paleontological Resources

Since Alternative 3 has the same potential for subsurface excavation and renovation locations as the Proposed Project — possibly, although not necessarily, in fewer locations than under the Proposed Project — it would result in similar cultural and paleontological resource impacts. Thus, reducing by half the AAU growth in study areas would not necessarily reduce the less-than-significant-with-mitigation and less-than-significant impacts of the Proposed Project. Alternative 3 would be subject to the same mitigation measures as the Proposed Project for such impacts. Like the Proposed Project, Alternative 3 would have less-than-significant-with-mitigation impacts related to archaeological resources and human remains, as all study areas could experience some subsurface excavation, although likely a reduced amount overall. Alternative 3 would be subject to the same mitigation measures as the Proposed Project. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to any unique paleontological resource or site or unique geological feature, as paleontological resources are located below 10 feet while Project excavation would not go lower than 6 feet, and no geological features would be affected by occupancy of existing buildings, although in fewer locations or for smaller footprints. Like the Proposed Project, Alternative 3 would have less-than-significant-with-mitigation impacts related to disturbing human remains, including those interred outside of formal cemeteries since excavation in the study areas could disturb remains, although these impacts would be reduced overall. Alternative 3 would be subject to the same mitigation measures as the Proposed Project for such impacts. The Reduced Growth Alternative would have similar or reduced less-than-significant-with-mitigation cumulative impacts compared to the Proposed Project.

Transportation and Circulation

Under the Reduced Growth Alternative, AAU would implement a modified version of the Proposed Project, with select modifications that would lessen the development potential in certain study areas, with use and improvements at the six project sites remaining the same as envisioned under the Proposed Project. For purposes of this analysis, the Reduced Growth Alternative assumes that 50 to 58 percent less development would occur within the study areas overall. This would result in future AAU growth of approximately 679,137 to 728,537 sf of institutional and recreational uses and 92 to 110 rooms, as compared to 1,080,740 sf of institutional and recreational uses and 110,000 sf of residential uses under the Proposed Project analysis.

Under the Reduced Growth Alternative, the project would result in fewer vehicle trips as compared to the Proposed Project. These vehicle trips to the study areas and project sites under the Reduced Growth Alternative would result in reduced project trip contributions to nearby intersections and roadways, and an overall less-than-significant traffic impacts on intersection operations during the PM peak hour. Similarly, the Reduced Growth Alternative's contributions to study intersections operating at LOS E or F conditions under Existing plus Project (Alternative) and Cumulative conditions would be less than the Proposed Project and Centralized Growth Alternative and would result in a less-than-significant contribution to these intersections. Proposed Project vehicle trips and the less-than-significant impacts on traffic conditions at the project sites would remain the same. Therefore, similar to the Proposed Project analysis, the Reduced Growth Alternative would result in less-than-significant traffic impacts. Improvement Measure I-TR-1 – Implement Transportation Demand Management Strategies to Reduce Single-Occupancy Vehicle Trips, recommended for the Proposed Project, would still apply under the Reduced Growth Alternative.

Transit. Under the Reduced Growth Alternative, the program-level growth would result in less transit demand as compared to the Proposed Project and Centralized Growth Alternative and that could be distributed differently among the study areas. The Reduced Growth Alternative, under Existing plus Project conditions, would, similar to the Proposed Project, not result in a substantial increase in ridership or exceed a capacity utilization threshold established by Muni or a regional transit provider, ; and would not introduce any design features that would preclude or alter access to nearby transit facilities. Proposed Project site transit trips and the less-than-significant impacts on transit demand and conditions at the project sites would remain the same. Therefore, under Existing plus Project conditions, the Reduced Growth Alternative would reduce the overall transit demand of the AAU's program-level growth and would result in less-than-significant transit impact.

Cumulative Transit. The Reduced Growth Alternative would reduce the number of regional transit trips as compared to the Proposed Project, and would similarly result in a less-than-significant cumulative impact on regional transit demand, which under Cumulative conditions would continue to operate under the 100 percent capacity utilization performance standard. Under Cumulative conditions, Alternative 3 would have about half the growth anticipated for the study areas assuming

a similar proportional distribution as the Proposed Project (both Option 1, Dispersed Distribution, and Option 2 Centralized Growth). With a reduction in transit trips to this corridor, this alternative would avoid the significant cumulative transit impact to the Kearny Stockton corridor within the Northeast screenline. Under Cumulative PM peak hour conditions, the Reduced Growth Alternative could, reduce the number of transit trips being contributed to the Geary Corridor. The Reduced Growth Alternative under Cumulative conditions would have a reduced but still significant and unavoidable impact on the Geary corridor within the Northwest corridor, causing the corridor to worsen above 85 percent from Project Alternative trips. Therefore, even the Reduced Growth Alternative under Cumulative conditions could have a significant and unavoidable local cumulative transit impact and less-than-significant cumulative regional transit impact. No feasible alternative has been identified that would reduce the significant and unavoidable cumulative transit impact to the Geary corridor to less than significant since cumulative conditions at this corridor are projected to be at the threshold of significance in 2035. Mitigation Measure C-M-TR-1 – AAU Fair Share Contribution to Cumulative Transit Impact is proposed and would be applicable to the Reduced Growth Alternative to potentially reduce the significant cumulative transit impact to the Geary corridor under Cumulative conditions with this alternative's transit demand growth.

Shuttle Impacts. The Reduced Growth Alternative would halve the future growth in the study areas and therefore, the project-generated shuttle demand could easily be accommodated through the additional of eight fixed-route shuttles, or less, for shuttle service in the study areas and at the six project sites. Similar to the Proposed Project, the increase of on-demand and fixed-route shuttle services from the Reduced Growth Alternative would not substantially alter traffic patterns or substantially conflict with existing vehicles, transit, pedestrian, or bicycle traffic. Similar to the Proposed Project, but to a lesser extent, establishment of future on-street shuttle bus white zones might require the elimination of some on-street parking or other parking zones, but approval of these zones would be subject to MTA review and approval. The Reduced Growth Alternative, at certain shuttle stops could still cause some sidewalk crowding at times in the study areas, but this would be anticipated to be less than the Proposed Project. Therefore, the Reduced Growth Alternative would have a substantially reduced demand for shuttles and would not cause substantial conflicts with traffic public transit, pedestrian, bicycle, and commercial loading or parking conditions, and this impact would be less than significant and would not require Mitigation Measure M-TR-1 - Shuttle Demand, Service Monitoring, and Capacity Utilization Performance Standard as would be required for the Proposed Project and the Centralized Growth Alternative.

Pedestrian Impacts. The Reduced Growth Alternative would increase pedestrian and walking trips related to the AAU program-level growth, although by an estimated half as much as the Proposed Project in the study areas and to and from each project site. The pedestrian trips and conditions at the six project sites would remain the same under this alternative. The crosswalks analyzed at 17 intersections during the PM peak hour, except at two locations, would still operate acceptably (LOS A through D). At the two crosswalk locations already operating at unacceptable conditions

(LOS E or F), the Reduced Growth Alternative contribution would range depending on where growth would occur, but would be less than the Proposed Project and therefore a less-than-significant contribution to these LOS E or F crosswalk operations. The Reduced Growth Alternative would result in fewer vehicle trips in the study areas, and similar vehicle trips at the six project sites. Therefore, the potential for pedestrian-vehicle conflicts under the Reduced Growth Alternative would be reduced as compared to the Proposed Project analysis, but similar to those analyzed for the Proposed Project at the six project sites. Under this Alternative, although a reduced amount of growth would occur, in some study areas, passenger trips may still intermittently and potentially cause sidewalk crowding, similar to the Proposed Project analysis. The Reduced Growth Alternative would have a similar less-than-significant pedestrian impact as the Proposed Project, where the pedestrian and walking trips would not result in a substantial overcrowding on public sidewalks or otherwise interfere with pedestrian accessibility, nor create potentially hazardous conditions for pedestrians. While this impact would be less than significant, Improvement Measure I-TR-3 – Improvement of Pedestrian Conditions at PS-6, 2225 Jerrold Avenue, is recommended at PS-6 to create a clear pedestrian walkway between the proposed AAU shuttle stop and adjacent parking lot to the building entrance, which may require AAU to stop utilizing up to two of the six existing loading docks east of the parking lot. Additionally, and as part of the abandonment of these loading dock areas, AAU shall remove or reduce in size the curb cuts along Jerrold Avenue, improving pedestrian conditions along Jerrold Avenue.

Bicycle Impacts. Due to the limited number of staff and students who commute by bicycle, the Reduced Growth Alternative would only slightly increase the bicycle traffic in the study areas and at the six project sites. As compared to the Proposed Project analysis, this alternative would generate fewer PM peak hour bicycle trips. The bicycle impact analysis at the six project sites would be the same as under the Proposed Project analysis, including at PS-3, whose shuttle stop is proposed on Polk Street, a designated bicycle route. Overall, and similar to the Proposed Project analysis, the addition of bicycle trips and the changes to vehicle, loading, and shuttle traffic resulting from the substantially reduced future growth in the study areas under the Reduced Growth Alternative under Existing plus Project and Cumulative conditions would not result in substantial hazardous conditions for bicyclists, nor otherwise interfere with bicycle accessibility to the site and adjoining areas. Therefore, the impact to bicycles and bicycle facilities would be less than significant. While this impact would be less than significant, similar to the Project, Improvement Measure I-TR-4 – Improvement of Bicycle Parking Conditions at AAU Facilities would be recommended under the Centralized Growth Alternative to require that AAU add on- or off-street (or some combination thereof) bicycle parking facilities at project sites.

Commercial Loading Impacts. The Reduced Growth Alternative's commercial loading demand, as a whole, would be estimated at half of the Proposed Project. Commercial loading demand in the study areas where growth would occur would still, if off-street commercial loading was not provided, compete for on-street spaces. The commercial loading demand and impact analysis at the

six project sites would be the same as under the Proposed Project analysis. The Reduced Growth Alternative's commercial loading impact, due to the amount of commercial truck deliveries and the availability of on-street commercial parking, although limited in some areas, would not result in a substantial commercial loading demand that would constrain roadways, such that a potentially hazardous condition is created or significant delay affecting traffic, transit, bicycles or pedestrians occurs. Under Cumulative Conditions, although the demand for on-street commercial parking spaces would further increase with additional city-wide development, the Alternative's portion of this cumulative growth in commercial parking demand, further reduced as compared to the Proposed Project analysis, would not be considered substantial. Thus, similar to the Proposed Project analysis, the Centralized Growth Alternative's impact on commercial loading demand and conditions under Existing plus Project and Cumulative conditions would be less than significant. Improvement Measure I-TR-5 – AAU Monitoring of Commercial Loading Activities would still be recommended under the Reduced Growth Alternative to further improve conditions in the study areas and at project sites with high existing commercial loading demand, and under the improvement measure AAU would monitor and efficiently manage their commercial loading activities over time and as needed, adjusting times of deliveries or applying for additional on-street commercial loading spaces from SFMTA.

Parking Impacts. Under the Reduced Growth Alternative, the Proposed Project would result in fewer vehicle trips (up to half as much) and therefore a lower parking demand as compared to the Proposed Project analysis in the study areas. Parking demand and impacts under Existing plus Project and Cumulative conditions at the six project sites would be the same as under the Proposed Project analysis. Given the amount of potential parking demand created by the Reduced Growth Alternative program-level growth in the study areas and the availability of on-street parking, although limited in some areas, at a program level the unmet parking demand under Existing plus Project conditions would not be considered substantial, such that it would create hazardous conditions or significant delays to transit, traffic, bicycles or pedestrians or demonstrably render these modes infeasible. Similar to the Proposed Project, the placement of on-street AAU shuttle stops, although under this alternative at fewer locations, could result in the removal of on-street parking. However, this would be subject to review and approval by SFMTA. Under Cumulative conditions, on-street parking demand within the City would increase related to overall growth and development, and the Reduced Growth Alternative parking demand would, although less than the Proposed Project, increase this demand, the alternative's portion, similar to the Proposed Project, of this cumulative parking demand growth would not be considered substantial. The Reduced Growth Alternative parking demand would be up to half that of the Proposed Project and similar to the Proposed Project, would be less than significant. Improvement Measure I-TR-1 – Implement Transportation Demand Management Strategies to Reduce Single-Occupancy Vehicle Trips, which includes specific measures to reduce vehicle demand generated by the alternative and encourage the use of alternative modes of transportation, would similar to the Proposed Project be recommended

under the Reduced Growth Alternative to further reduce the estimated parking demand of staff, visitors, and students.

Emergency Access Impacts. The roadway network and circulation routes would not be changed as a result of AAU uses and therefore, the Reduced Growth Alternative would, similar to the Proposed Project analysis, have a less-than-significant impact to emergency access.

Construction Impacts. The types of construction-related impacts of the Reduced Growth Alternative in the study areas and at the six project sites would be similar to those analyzed under the Proposed Project analysis. With reduced growth, fewer construction projects would occur under this alternative. Therefore, construction-related impacts under Existing plus Project Alternative conditions would be less than significant and less than those of the Proposed Project under the Reduced Growth Alternative. Similarly, in considering potential citywide construction activity that the alternative would add to, the alternative's contribution to this activity in a cumulative context would not be considered substantial and would be less than those contributed under the Proposed Project analysis. While construction-related impacts under Existing plus Project and Cumulative conditions would be less than significant for the Reduced Growth Alternative, improvement measures, the same as under the Project, are recommended to further reduce these less-than-significant impacts. Improvement Measures I-TR-6 – Construction Truck Deliveries During Off-Peak Periods and I-TR-7 – Additions to the Construction Management Plan would further minimize disruption of the general traffic flow on adjacent streets during weekday commute periods, provide for coordination with SFMTA, the Fire Department, Muni, and the Planning Department to determine feasible measures to reduce traffic congestion, minimize construction impacts on nearby businesses, and minimize traffic and parking demand associated with construction workers.

Noise

Alternative 3 would likely entail about half of the same types of renovation activities in the study areas as in the Proposed Project. Operations would be the same at the project sites and reduced by half in the 12 study areas with Alternative 3. Although Alternative 3 reduces total future growth in the study areas by about half, it would result in similar noise impacts at any specific site. For construction noise, renovation activities would be the same within any study area; however, it would likely happen in fewer locations and be reduced overall. Construction noise at the project sites would be the same. For operational noise, since only about half the study area growth would occur, therefore, it is reasonable to assume that shuttle buses could be fewer and would result in less noise throughout the City, although at any specific study area and at the project sites operational noise would be similar to the Proposed Project.

Like the Proposed Project, Alternative 3 would have less-than-significant-with-mitigation impacts related to increased noise levels and siting noisy equipment near off-site sensitive receptors or siting sensitive uses near noisy uses for on-site sensitive receptors. Alternative 3 would be subject to the same mitigation measures as the Proposed Project for this impact. Construction activities would not

occur during recognized sleep hours, and would be consistent with the requirements for construction noise that exist in Police Code Sections 2907 and 2908. Like the Proposed Project, Alternative 3 would have less-than-significant-with-mitigation impacts related to exposing noise-sensitive land uses on site to noise levels that exceed the standards established by the City. Alternative 3 would be subject to the same mitigation measures as the Proposed Project for this impact. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to excessive groundborne vibration levels in existing residential neighborhoods adjacent from renovation activities and shuttle buses. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. These impacts could be slightly reduced under Alternative 3 as compared to the Proposed Project, given the overall reduction in growth. The Reduced Growth Alternative would have similar or reduced less-than-significant-with-mitigation cumulative impacts compared to the Proposed Project.

Air Quality

Like the Proposed Project, Alternative 3 would not require demolition or grading; it would entail about half of the same renovation activities as in the Proposed Project in the study areas. Operations would be the same at the project sites and reduced by half in the study areas with Alternative 3. Although Alternative 3 reduces total future growth in the study areas by about half and would thus reduce total air quality impacts, it would result in similar levels of air quality impacts at any specific site. For construction air emissions, renovation activities would be the same within any study area; however, it would likely occur in fewer locations or at a lower intensity and would be reduced overall. Construction air emissions at the project sites would be the same as under the Proposed Project. For operational air quality impacts, since only about half the growth would occur, it is reasonable to assume that shuttle buses could be fewer and would result in fewer air emissions throughout the City, although at any specific study area and at the project sites the emissions levels would be similar to the Proposed Project.

For the less-than-significant impacts related to generating fugitive dust and criteria air pollutants during renovation activities, Alternative 3 would have similar impacts (and fewer overall in the study areas) to the Proposed Project. As with the Proposed Project, Alternative 3 would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. Like the Proposed Project, Alternative 3 would have less-than-significant-with-mitigation impacts related to generating toxic air contaminants, including diesel particulate matter, and would not expose sensitive receptors to substantial pollutant concentrations as mitigation would be required in poor air quality areas. Alternative 3 would be subject to the same mitigation measures as the Proposed Project for this impact. Because of its reduced level of activity, Alternative 3 would reduce, potentially to a less-than-significant level, the Proposed Project's less-than-significant-with-mitigation impacts from emissions of ROGs during simultaneous building renovations and project operations. Like the Proposed Project, Alternative 3 would have similar, and potentially less,

impacts to the Proposed Project as the less-than-significant impacts related to interfering with implementation of the 2010 CAP. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to creating objectionable odors that would affect a substantial number of people.

Overall, because Alternative 3 involves a lower level of AAU growth than does the Proposed Project, Alternative 3 would reduce the less-than-significant-with-mitigation air quality impacts of the Proposed Project. The Reduced Growth Alternative would have similar or reduced less-than-significant-with-mitigation cumulative impacts compared to the Proposed Project.

Greenhouse Gas Emissions

The Reduced Growth Alternative would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. Therefore, like the Proposed Project, Alternative 3 would also have less-than-significant impacts associated with GHG emissions, but overall GHG emissions under Alternative 3 would be reduced by about 33 percent as compared to the Proposed Project.

Wind and Shadow

Similar to the Proposed Project, there would be no impact related to wind and shadow, as no new structures would be constructed. Similar to the Proposed Project, the Reduced Growth Alternative would have no cumulative impacts related to wind and shadow.

Recreation

Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to increasing the use of or physically degrading existing recreational facilities such that physical deterioration of those facilities would occur or be accelerated, or require construction or expansion of recreational facilities in a way that would adversely affect the environment. Only half the occupancy and change of use of the Proposed Project would occur in the study areas.

Overall, the Reduced Growth Alternative would reduce by one-third to one-half the AAU population compared to the Proposed Project and, therefore, would reduce less-than-significant recreation impacts compared to the Proposed Project. The Reduced Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Utilities and Service Systems

The Reduced Growth Alternative would result in about half the future growth in the study areas needing services. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to construction of new utility and service system infrastructure, as the City would have sufficient water supply, and wastewater treatment and stormwater capacity, and would not require new or expanded water supply resources or entitlements, exceed capacity of the wastewater treatment provider when combined with other commitments, or exceed wastewater treatment

requirements of the Regional Water Quality Control Board. Like the Proposed Project, Alternative 3 would result in a less-than-significant impact related to sufficient permitted capacity to accommodate the solid waste disposal needs and complying with federal, state, and local statutes and regulations related to solid waste. Overall, the Reduced Growth Alternative would substantially reduce future growth and ultimately enrollment and AAU employment, reducing these less-than-significant impacts of the Proposed Project.

Therefore, because Alternative 3 involves a lower level of AAU activity than would the Proposed Project, Alternative 3 would reduce the less-than-significant utilities and service systems impacts of the Proposed Project. The Reduced Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Public Services

The Reduced Growth Alternative would result in about half the future growth in the study areas needing services. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire and police protection, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered school and library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools and libraries.

Overall, because Alternative 3 involves about half the future occupancy and change of use in the study areas, and would result in a lower level of AAU activity than would the Proposed Project, Alternative 3 would reduce the less-than-significant public services impacts of the Proposed Project. The Reduced Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Biological Resources

The impacts identified associated with biological resource issues would be reduced in the study areas under the Reduced Growth Alternative, as compared to the Proposed Project. Alternative 3 would have the same "no impact" assessments related to riparian habitat or other sensitive natural community, federally protected wetlands, local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. All of the study areas are similarly covered with impervious surfaces, and there are no conservation plans protecting the study areas or project sites. Like the Proposed Project, Alternative 3 would be required to comply with Migratory Bird Treaty

Act and California Fish and Game Code requirements governing any tree removal and therefore, would cause no significant impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites, since all study areas and project sites would be required to comply with the Migratory Bird Treaty Act. The Reduced Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Geology and Soils

The impacts identified associated with geology and soils would be reduced under the Reduced Growth Alternative. Like the Proposed Project, Alternative 3 would have "no impact" assessments related to fault rupture, landslides, erosion and loss of topsoil, wastewater disposal, and change in topography since all study areas equally are covered with impervious surfaces, and all would not be at risk for fault rupture and landslides. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to exposing people or structures to the risk of loss, injury, or death involving strong seismic groundshaking and seismic-related ground failure such as liquefaction, since Alternative 3 includes the same study areas and project sites with half the study area occupancy as the Proposed Project. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to locating on geologic or soil units that are unstable, or that could become unstable as a result of the alternative, since Alternative 3 includes the same study areas and project sites with buildings as the Proposed Project, albeit with half the future growth, which could mean the same amount of building footprint in shorter buildings. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to locating on expansive soil as defined in Table 18-1-B of the Uniform Building Code, since Alternative 3 includes the same study areas and project sites with buildings as the Proposed Project.

Overall, because Alternative 3 involves half the future occupancy and change of use in the study areas and a lower level of AAU activity than would occur with the Proposed Project, Alternative 3 would reduce the less-than-significant geology and soils impacts of the Proposed Project. The Reduced Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Hydrology and Water Quality

The impacts identified associated with hydrology and water quality would be reduced under the Reduced Growth Alternative. Alternative 3 would have similar "no impact" assessments related to depletion of groundwater supplies and interference with groundwater recharge, alteration of drainage patterns, failure of a dam or levee, and seiche or mudflows. Like the Proposed Project,

Alternative 3 would have less-than-significant impacts related to water quality standards and waste discharge requirements, substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increasing the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or creating or contributing runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to placing housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or placing within a 100-year flood hazard area structures that would impede or redirect flood flows. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to exposing people or structures to inundation by tsunami.

Overall, because Alternative 3 would involve half the future growth in the study areas as compared to the Proposed Project, Alternative 3 would have reduced less-than-significant hydrology and water quality impacts compared to the Proposed Project. The Reduced Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Hazards and Hazardous Materials

The impacts identified associated with hazards and hazardous materials would be reduced with the Reduced Growth Alternative 3. Like the Proposed Project, Alternative 3 would have less-than-significant impacts related to transport, use or disposal of hazardous materials and impairing or impeding implementation of emergency response and evacuation plans. Like the Proposed Project, Alternative 3 would have a less-than-significant-with-migitation impact related to hazardous building materials and soil contamination. Alternative 3 would be subject to the same mitigation measures as the Proposed Project for this impact.

Overall, because Alternative 3 involves half the future growth in the study areas and a lower level of AAU activity than would occur under the Proposed Project, Alternative 3 would reduce the less-than-significant hazards and hazardous materials impacts of the Proposed Project. The Reduced Growth Alternative would have reduced less-than-significant-with-mitigation cumulative impacts compared to the Proposed Project.

Mineral and Energy Resources

Similar to the Proposed Project, there would be no impact related to mineral resources, as these resources do not exist in the study areas or project sites. Since the type of growth under Alternative 3 is the same as the Proposed Project, although with only half the future growth in the study areas, there would be a less-than-significant impact related to the use of fuel, water and energy and the use of these in a wasteful manner. Alternative 3 would be subject to the same fuel, water, and energy conservation requirements as the Proposed Project.

Overall, because Alternative 3 involves half the future growth in the study areas and a lower level of AAU activity than would occur under the Proposed Project, Alternative 3 would reduce the less-than-significant energy resource impacts of the Proposed Project. Similar to the Proposed Project, the Reduced Growth Alternative would have reduced less-than-significant cumulative impacts related to energy resources and no impact related to mineral resources.

Agricultural and Forest Resources

Similar to the Proposed Project, there would be no impact related to agricultural and forest resources, as none of these resources exist in the study areas or at project sites. Similar to the Proposed Project, the Reduced Growth Alternative would have no cumulative impact related to agricultural and forest resources.

Alternative 4: Reduced Institutional Growth Alternative

The Proposed Project has four components: program-level growth in 12 study areas; project-level growth at six project sites; legalization approvals for the existing sites; and shuttle expansion. This Reduced Institutional Growth Alternative would reduce program-level institutional growth by 50 percent and maintain all of the program-level residential growth, in 12 study areas; contain the same project-level growth at six sites; contain the same legalization approvals for the existing sites; and expand the shuttle system less to account for the reduced AAU growth.

Alternative 4, Reduced Institutional Growth Alternative, would reduce AAU institutional growth compared to the Proposed Project while holding residential growth steady. Alternative 4 would result in growth of 110,000 sf (400 beds/220 rooms) of residential use and 335,000 sf of institutional use in the 12 study areas, with the use and improvements at the project sites remaining the same as under the Proposed Project. Under the Reduced Institutional Growth Alternative, AAU would implement the Proposed Project with less development potential in the study areas (57 percent of that assumed for the Proposed Project), resulting in approximately 72 percent of the total growth (including half the institutional growth in the study areas, all the residential growth in the study areas, and all of the growth at the project sites) compared to the Proposed Project. The reduced total growth would result in a proportionate reduction in AAU enrollment and faculty/staff compared to the Proposed Project. This alternative was developed to reduce the significant and unavoidable housing demand impact identified for the Proposed Project; it would also reduce the significant and unavoidable cumulative transit impacts for the Kearny/Stockton and Geary corridors identified for the Proposed Project under Cumulative (2035) conditions but not to a less-than-significant level. Alternative 4 would also reduce the less-than-significant-with-mitigation impacts. Alternative 4 would be subject to the same mitigation measures as the Proposed Project.

Project Sponsor Objectives

With regard to meeting the Proposed Project objectives, the Reduced Institutional Growth Alternative would meet or partially meet some of the project sponsor's objectives, including the following:

- Operate in an urban context, where academic programs can contribute to and draw from the cultural wealth of the local communities.
- Create opportunities for students to interact with the urban community (i.e., facilitate the "urban experience") by maintaining facilities throughout the City rather than creating a consolidated campus.
- Occupy and utilize space in existing historic or culturally interesting buildings in need of renovation and/or revitalization.
- Offer on-site residential housing for new full-time students who desire to live in AAU housing.
- Occupy and use space in buildings and properties near existing AAU facilities, where possible.
- Locate future facilities to:
  - > Provide proximity between buildings so students can walk between classes.
  - > Provide a sense of campus unity while still maintaining the benefits of a dispersed urban campus as the learning environment for AAU students.
  - > Locate AAU facilities such that they are easily accessible to all AAU students and faculty/staff, allowing professors to teach and work in close proximity to students' daily activities.
- Locate future facilities in proximity to existing AAU shuttle stops or public transit to discourage use of private automobiles.
- Consolidate administrative and classroom functions for each academic discipline in the same buildings so that students and faculty do not have to travel from building to building unnecessarily.

However, this alternative would not meet any of the Project's primary objectives related to occupying new buildings to provide flexibility in programming such as:[584]

- Manage facilities in a flexible manner to ensure availability of space to meet changing needs of academic programs.
- Enable long-range programs and service planning to meet the needs of the community.

[584] Some of these project sponsor objectives could be met as individual projects are proposed. However, these projects would be subject to future environmental review, compliance with the City's zoning code, and any IMP requirements.

Alternative 4, Reduced Institutional Growth Alternative, Impacts

Land Use

Compared to the Proposed Project, the Reduced Institutional Growth Alternative would provide about 57 percent of the amount of future AAU uses in up to 12 study areas and the same amount and type of future uses at the project sites. Reducing AAU's future use of the study areas by 43 percent may, in some areas, result in less intensive uses but overall would not provide a substantive difference in identified land use impacts. Therefore, Alternative 4 would have reduced, less-than-significant impacts related to land use compared to the Proposed Project.

Like the Proposed Project, Alternative 4 would not physically divide an established community. Institutional uses would be consistent with the existing character of development and range of existing uses in the study areas and at the project sites. Therefore, this impact would be similar in nature where AAU uses occur as compared to the Proposed Project but likely reduced overall. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Aesthetics

The Reduced Institutional Growth Alternative could reduce aesthetic impacts compared to the Proposed Project if it resulted in fewer exterior alterations to existing buildings. Therefore, Alternative 4 would have reduced, less-than-significant impacts related to aesthetics compared to the Proposed Project. Modification to building exteriors under the Reduced Institutional Growth Alternative would be subject to applicable *Planning Code* requirements including, where applicable, the Secretary of Interior's Standards; and would comply with Planning Commission Resolution 9212, which prohibits the use of mirrored or reflective glass; and would minimally change the amount of lighting on site. Therefore, this impact would be reduced from that of the Proposed Project and less than significant. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Population, Housing, and Employment

The Reduced Institutional Growth Alternative would provide all the beds (400) and half the institutional use in the study areas compared to the Proposed Project. Similar to the Proposed Project, under the Reduced Institutional Growth Alternative, AAU would provide growth in areas where such growth would be considered appropriate and planned for (i.e., in areas that are already fairly densely developed, well-supported by public transit, and in close proximity to major transportation corridors), and would not extend infrastructure into previously undeveloped areas or result in leapfrog development that could indirectly induce population growth. The Proposed Project's significant and unavoidable housing demand impact would be reduced because AAU would provide the same number of residences as under the Proposed Project while reducing student, faculty, and staff housing demand by reducing institutional growth. Thus the ratio of

housing provided to population growth anticipated would be improved by Alternative 4. Under this alternative, the housing demand generated by the institutional growth is met to a greater extent than under the Proposed Project. The housing demand impact would, however, remain significant and unavoidable. The Reduced Institutional Growth Alternative would have substantially reduced significant and unavoidable cumulative impacts related to housing demand. As to all other cumulative impacts, the Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts.

Cultural and Paleontological Resources

Since Alternative 4 has the same potential for subsurface excavation and renovation locations as the Proposed Project — possibly, although not necessarily, in fewer locations than under the Proposed Project — it could result in similar cultural and paleontological resource impacts. Reducing by 43 percent AAU growth in study areas would not necessarily reduce the less-than-significant-with-mitigation and less-than-significant impacts of the Proposed Project. Like the Proposed Project, Alternative 4 would have less-than-significant-with-mitigation impacts related to archaeological resources and human remains, as all study areas could experience some subsurface excavation, although a reduced amount overall. Alternative 4 would be subject to the same mitigation measures as the Proposed Project for such impacts. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to any unique paleontological resource or site or unique geological feature, as paleontological resources are located below 10 feet while Project excavation would not go lower than 6 feet, and no geological features would be affected by occupancy of existing buildings, although in fewer locations or for smaller footprints. Like the Proposed Project, Alternative 4 would have less-than-significant-with-mitigation impacts related to disturbing human remains, including those interred outside of formal cemeteries since excavation in the study areas could disturb remains, although these impacts would be reduced overall. Alternative 4 would be subject to the same mitigation measures as the Proposed Project for such impacts. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant-with-mitigation cumulative impacts compared to the Proposed Project.

Transportation and Circulation

Under the Reduced Institutional Growth Alternative, AAU would implement a modified version of the Proposed Project, with select modifications that would lessen the development potential in certain study areas, with use and improvements at the six project sites remaining the same as envisioned under the Proposed Project. For purposes of this analysis, the Reduced Institutional Growth Alternative assumes future AAU growth of approximately 746,070 sf of institutional and recreational uses and 110,000 sf (400 rooms) of residential uses, as compared to 1,080,740 sf of institutional and recreational uses and 110,000 sf of residential uses under the Proposed Project.

Alternative 4, Reduced Institutional Growth Alternative, would result in fewer vehicle trips as compared to the Proposed Project and Alternative 2, Centralized Growth Alternative, but more

vehicle trips than Alternative 3, Reduced Growth Alternative. Therefore, compared to the Proposed Project, Alternative 4 would reduce project trip contributions to nearby intersections and roadways. Like the Proposed Project, Alternative 4 would cause less-than-significant traffic impacts on intersection operations. Improvement Measure I-TR-1 – Implement Transportation Demand Management Strategies to Reduce Single-Occupancy Vehicle Trips, recommended for the Proposed Project, would still apply under the Reduced Institutional Growth Alternative.

Transit. The Reduced Institutional Growth Alternative would result in less transit demand as compared to the Proposed Project and Alternative 2, Centralized Growth Alternative, but more transit demand than Alternative 3, Reduced Growth Alternative. Alternative 4, under Existing plus Project conditions, would, similar to the Proposed Project, not result in a substantial increase in ridership or exceed a capacity utilization threshold established by Muni or a regional transit provider; and would not introduce any design features that would preclude or alter access to nearby transit facilities. Project site transit trips and the less-than-significant impacts on transit demand and conditions at the project sites would remain the same. Therefore, under Existing plus Project conditions, the Reduced Institutional Growth Alternative would reduce the overall transit demand of the AAU's growth and would result in less-than-significant transit impact.

Cumulative Transit. The Reduced Institutional Growth Alternative would reduce the number of regional transit trips as compared to the Proposed Project, and would similarly result in a less-than-significant cumulative impact on regional transit demand, which under Cumulative conditions would continue to operate under the 100 percent capacity utilization performance standard. Under Cumulative conditions, the Reduced Institutional Growth Alternative would reduce the number of transit trips being contributed to the Kearny/Stockton Corridor. With a reduction in transit trips to this corridor in the manner described above, Alternative 4 would likely avoid the significant cumulative transit impact to the Kearny/Stockton corridor within the Northeast screenline. Under Cumulative PM peak hour conditions, the Reduced Institutional Growth Alternative could reduce the number of transit trips being contributed to the Geary Corridor. The Reduced Institutional Growth Alternative under Cumulative conditions, would, however, likely have a similar significant and unavoidable impact on the Geary corridor within the Northwest screenline, causing the corridor to worsen above 85 percent capacity. Therefore, even the Reduced Institutional Growth Alternative under Cumulative conditions could have a significant and unavoidable local cumulative transit impact and less-than-significant cumulative regional transit impact. Mitigation Measure C-M-TR-1 – AAU Fair Share Contribution to Cumulative Transit Impact is proposed and would be applicable to the Reduced Institutional Growth Alternative to potentially reduce the significant cumulative transit impact to the Geary corridor under Cumulative conditions with this alternative's transit demand growth.

Shuttle Impacts. The Reduced Institutional Growth Alternative would reduce by approximately 43 percent the future growth in the study areas; therefore, the project-generated shuttle demand could easily be accommodated through the addition of eight fixed-route shuttles, or less, for shuttle

service in the study areas and at the six project sites. Similar to the Proposed Project, the increase of on-demand and fixed-route shuttle services from the Reduced Institutional Growth Alternative would not substantially alter traffic patterns or substantially conflict with existing vehicles, transit, pedestrian, or bicycle traffic. Similar to the Proposed Project, but to a lesser extent, establishment of future on-street shuttle bus white zones might require the elimination of some on-street parking or other parking zones, but approval of these zones would be subject to MTA review and approval. The Reduced Institutional Growth Alternative, at certain shuttle stops could still cause some sidewalk crowding at times in the study areas, but this would be anticipated to be less than under the Proposed Project. Therefore, the Reduced Institutional Growth Alternative would have a substantially reduced demand for shuttles and would not cause substantial conflicts with traffic, public transit, pedestrian, bicycle, and commercial loading or parking conditions, and this impact would be less than significant.

Pedestrian Impacts. The Reduced Institutional Growth Alternative would increase pedestrian and walking trips related to the AAU growth, although not by as much as the Proposed Project in the study areas and to and from each project site. The pedestrian trips and conditions at the six project sites would remain the same under this alternative. The crosswalks analyzed at intersections during the PM peak hour, except at two locations, would still operate acceptably (LOS A through D). At the two crosswalk locations already operating at unacceptable conditions (LOS E or F), the Reduced Institutional Growth Alternative contribution would vary depending on where growth would occur, but would be less than under the Proposed Project and, therefore, a less-than-significant contribution to these LOS E or F crosswalk operations. The Reduced Institutional Growth Alternative would result in fewer vehicle trips in the study areas, and similar vehicle trips at the six project sites. Therefore, the potential for pedestrian-vehicle conflicts under the Reduced Institutional Growth Alternative would be reduced as compared to the Proposed Project, but similar to those analyzed for the Proposed Project at the six project sites. Under this alternative, although a reduced amount of growth would occur, in some study areas, passenger trips may still intermittently and potentially cause sidewalk crowding, similar to the Proposed Project analysis. The Reduced Institutional Growth Alternative would have a similar less-than-significant pedestrian impact as the Proposed Project, where the pedestrian and walking trips would not result in a substantial overcrowding on public sidewalks or otherwise interfere with pedestrian accessibility, nor create potentially hazardous conditions for pedestrians. While this impact would be less than significant, Improvement Measure I-TR-3 – Improvement of Pedestrian Conditions at PS-6, 2225 Jerrold Avenue, is recommended at PS-6 to create a clear pedestrian walkway between the proposed AAU shuttle stop and adjacent parking lot to the building entrance, which may require AAU to stop utilizing up to two of the six existing loading docks east of the parking lot. Additionally, and as part of the abandonment of these loading dock areas, AAU shall remove or reduce in size the curb cuts along Jerrold Avenue, improving pedestrian conditions along Jerrold Avenue.

Bicycle Impacts. Due to the limited number of staff and students who commute by bicycle, the Reduced Institutional Growth Alternative would only slightly increase the bicycle traffic in the study areas and at the six project sites. As compared to the Proposed Project analysis, this alternative would generate fewer PM peak hour bicycle trips. The bicycle impact analysis at the six project sites would be the same as under the Proposed Project analysis, including at PS-3, 625 Polk Street, whose shuttle stop is proposed on Polk Street, a designated bicycle route. Overall, and similar to the Proposed Project analysis, the addition of bicycle trips and the changes to vehicle, loading, and shuttle traffic resulting from the substantially reduced future growth in the study areas under the Reduced Institutional Growth Alternative under Existing plus Project and Cumulative conditions would not result in substantial hazardous conditions for bicyclists, nor otherwise interfere with bicycle accessibility to the site and adjoining areas. Therefore, the impact to bicycles and bicycle facilities would be less than significant.

Commercial Loading Impacts. The Reduced Institutional Growth Alternative's commercial loading demand, as a whole, would be an estimated 72 percent of that of the Proposed Project. Commercial loading demand in the study areas where growth would occur would still, if off-street commercial loading was not provided, compete for on-street spaces. The commercial loading demand and impact analysis at the six project sites would be the same as under the Proposed Project analysis. The Reduced Institutional Growth Alternative's commercial loading impact, due to the amount of commercial truck deliveries and the availability of on-street commercial parking, although limited in some areas, would not result in a substantial commercial loading demand that would constrain roadways, such that a potentially hazardous condition is created or significant delay affecting traffic, transit, bicycles, or pedestrians occurs. Under Cumulative conditions, although the demand for on-street commercial parking spaces would further increase with additional citywide development, this alternative's portion of this cumulative growth in commercial parking demand, further reduced as compared to the Proposed Project analysis, would not be considered substantial. Thus, similar to the Proposed Project analysis, the Reduced Institutional Growth Alternative's impact on commercial loading demand and conditions under Existing plus Project and Cumulative conditions would be less than significant. Improvement Measure I-TR-5 – AAU Monitoring of Commercial Loading Activities would still be recommended under the Reduced Institutional Growth Alternative to further improve conditions in the study areas and at project sites with high existing commercial loading demand, and under the improvement measure AAU would monitor and efficiently manage their commercial loading activities over time and as needed, adjusting times of deliveries or applying for additional on-street commercial loading spaces from SFMTA.

Parking Impacts. Under the Reduced Institutional Growth Alternative, the Proposed Project would result in fewer vehicle trips and, therefore, a lower parking demand as compared to the Proposed Project in the study areas. Parking demand and impacts under Existing plus Project and Cumulative conditions at the six project sites would be the same as under the Proposed Project analysis. Given the amount of potential parking demand created by Reduced Institutional Growth Alternative

growth in the study areas and the availability of on-street parking, although limited in some areas, at a program level the unmet parking demand under Existing plus Project conditions would not be considered substantial, such that it would create hazardous conditions or significant delays to transit, traffic, bicycles, or pedestrians or demonstrably render these modes infeasible. Similar to the Proposed Project, the placement of on-street AAU shuttle stops, although under this alternative at fewer locations, could result in the removal of on-street parking. However, this would be subject to review and approval by SFMTA. Under Cumulative conditions, on-street parking demand within the City would increase related to overall growth and development, and the Reduced Institutional Growth Alternative parking demand would, although less than the Proposed Project, increase this demand. This alternative's portion, similar to the Proposed Project, of this cumulative parking demand growth would not be considered substantial. The Reduced Institutional Growth Alternative parking demand would be up to 72 percent of that of the Proposed Project and similar to the Proposed Project, would be less than significant. Improvement Measure I-TR-1 – Implement Transportation Demand Management Strategies to Reduce Single-Occupancy Vehicle Trips, which includes specific measures to reduce vehicle demand and encourage the use of alternative modes of transportation, would, similar to the Proposed Project, be recommended under the Reduced Institutional Growth Alternative to further reduce the estimated parking demand of staff, visitors, and students.

Emergency Access Impacts. The roadway network and circulation routes would not be changed as a result of AAU uses; therefore, the Reduced Institutional Growth Alternative would, similar to the Proposed Project analysis, have a less-than-significant impact to emergency access.

Construction Impacts. The types of construction-related impacts of the Reduced Institutional Growth Alternative in the study areas and at the six project sites would be similar to those analyzed under the Proposed Project analysis. With reduced growth, fewer construction projects would occur under this alternative. Therefore, construction-related impacts under Existing plus Project Alternative conditions would be less than significant and less than those of the Proposed Project under the Reduced Institutional Growth Alternative. Similarly, in considering potential citywide construction activity, which this alternative would add to, this alternative's contribution to this activity in a cumulative context would not be considered substantial and would be less than those contributed under the Proposed Project. While construction-related impacts under Existing plus Project and Cumulative conditions would be less than significant for the Reduced Institutional Growth Alternative, improvement measures, the same as under the Proposed Project, are recommended to further reduce these less-than-significant impacts. Improvement Measures I-TR-6 – Construction Truck Deliveries During Off-Peak Periods and I-TR-7 – Additions to the Construction Management Plan would further minimize disruption of the general traffic flow on adjacent streets during weekday commute peak commute periods, provide for coordination with SFMTA, the Fire Department, Muni, and the Planning Department to determine feasible measures to reduce traffic

congestion, minimize construction impacts on nearby businesses, and minimize traffic and parking demand associated with construction workers.

Noise

Alternative 4 would likely entail about half of the same types of renovation activities in the study areas as the Proposed Project. Operations would be the same at the project sites and reduced by half in the 12 study areas with Alternative 4. Although Alternative 4 reduces total future growth in the study areas by about 43 percent, it would result in similar noise impacts at any specific site. For construction noise, renovation activities would be the same within any study area; however, it would likely happen in fewer locations and be reduced overall. Construction noise at the project sites would be the same. For operational noise, since only about 72 percent of the growth would occur, therefore, it is reasonable to assume that shuttle buses could be fewer and would result in less noise throughout the City, although at any specific study area and at the project sites, operational noise would be similar to the Proposed Project.

Like the Proposed Project, Alternative 4 would have less-than-significant-with-mitigation impacts related to increased noise levels and siting noisy equipment near off-site sensitive receptors or siting sensitive uses near noisy uses for on-site sensitive receptors. Alternative 4 would be subject to the same mitigation measures as the Proposed Project for this impact. Construction activities would not occur during recognized sleep hours, and would be consistent with the requirements for construction noise that exist in Police Code Sections 2907 and 2908. Like the Proposed Project, Alternative 4 would have less-than-significant-with-mitigation impacts related to exposing noise-sensitive land uses on site to noise levels that exceed the standards established by the City. Alternative 4 would be subject to the same mitigation measures as the Proposed Project for this impact. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to excessive groundborne vibration levels in existing residential neighborhoods adjacent from renovation activities and shuttle buses. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. These impacts could be slightly reduced under Alternative 4 as compared to the Proposed Project, given the overall reduction in growth. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant-with-mitigation cumulative impacts compared to the Proposed Project.

Air Quality

Like the Proposed Project, Alternative 4 would not require demolition or grading; it would entail about 72 percent of the same renovation activities as in the Proposed Project. Operations would be the same at the project sites and reduced by approximately 43 percent in the study areas with Alternative 4. Although Alternative 4 reduces total future growth in the study areas by about half and would thus reduce total air quality impacts, it would result in similar levels of air quality impacts at any specific site. For construction air emissions, renovation activities would be the same

within any study area; however, it would likely occur in fewer locations or at a lower intensity and would be reduced overall. Construction air emissions at the project sites would be the same as under the Proposed Project. For operational air quality impacts, since only about 72 percent of the growth would occur, it is reasonable to assume that shuttle buses could be fewer and would result in fewer air emissions throughout the City, although at any specific study area and at the project sites the emissions levels would be similar to the Proposed Project.

For the less-than-significant impacts related to generating fugitive dust and criteria air pollutants during renovation activities, Alternative 4 would have similar impacts (and fewer overall in the study areas) compared to the Proposed Project. As with the Proposed Project, Alternative 4 would not violate an air quality standard, contribute substantially to an existing or projected air quality violation. Like the Proposed Project, Alternative 4 would have less-than-significant-with-mitigation impacts related to generating toxic air contaminants, including diesel particulate matter, and would not expose sensitive receptors to substantial pollutant concentrations as mitigation would be required in poor air quality areas. Alternative 4 would be subject to the same mitigation measures as the Proposed Project. Because of its reduced level of activity, Alternative 4 would reduce, potentially to a less-than-significant level, the Proposed Project's less-than-significant-with-mitigation impacts from emissions of ROGs during simultaneous building renovations and project operations. Like the Proposed Project, Alternative 4 would have similar, and potentially less, impacts to the Proposed Project as the less-than-significant impacts related to interfering with implementation of the 2010 CAP. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to creating objectionable odors that would affect a substantial number of people.

Overall, because Alternative 4 involves a lower level of AAU growth than does the Proposed Project, Alternative 4 would reduce the less-than-significant-with-mitigation air quality impacts of the Proposed Project. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant-with-mitigation cumulative impacts compared to the Proposed Project.

Greenhouse Gas Emissions

The Reduced Institutional Growth Alternative would be subject to and required to comply with several regulations adopted to reduce GHG emissions as identified in the GHG Reduction Strategy. Therefore, like the Proposed Project, Alternative 4 would also have less-than-significant impacts associated with GHG emissions, but overall GHG emissions under Alternative 4 would be reduced by about 28 percent as compared to the Proposed Project.

Wind and Shadow

Similar to the Proposed Project, there would be no impact related to wind and shadow, as no new structures would be constructed. Similar to the Proposed Project, the Reduced Institutional Growth Alternative would have no cumulative impacts related to wind and shadow.

Recreation

Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to increasing the use of or physically degrading existing recreational facilities such that physical deterioration of those facilities would occur or be accelerated, or require construction or expansion of recreational facilities in a way that would adversely affect the environment. Only 57 percent of the occupancy and change of use of the Proposed Project would occur in the study areas.

Overall, the Reduced Institutional Growth Alternative would reduce the AAU population compared to the Proposed Project and, therefore, would reduce less-than-significant recreation impacts compared to the Proposed Project. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Utilities and Service Systems

The Reduced Institutional Growth Alternative would result in approximately 57 percent of the future growth in the study areas needing services. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to construction of new utility and service system infrastructure, as the City would have sufficient water supply, and wastewater treatment and stormwater capacity, and would not require new or expanded water supply resources or entitlements, exceed capacity of the wastewater treatment provider when combined with other commitments, or exceed wastewater treatment requirements of the Regional Water Quality Control Board. Like the Proposed Project, Alternative 4 would result in a less-than-significant impact related to sufficient permitted capacity to accommodate the solid waste disposal needs and complying with federal, state, and local statutes and regulations related to solid waste. Overall, the Reduced Institutional Growth Alternative would substantially reduce future growth and ultimately enrollment and AAU employment, reducing these less-than-significant impacts of the Proposed Project.

Therefore, because Alternative 4 involves a lower level of AAU activity than would the Proposed Project, Alternative 4 would reduce the less-than-significant utilities and service systems impacts of the Proposed Project. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Public Services

Compared to the Proposed Project, the Reduced Institutional Growth Alternative would result in about 57 percent of the future growth in the study areas needing services. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered fire and police protection, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire and police protection. Like the Proposed Project, Alternative 4 would have less-than-significant impacts

related to substantial adverse physical impacts associated with the provision of, or the need for, new or physically altered school and library facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for schools and libraries.

Overall, because Alternative 4 involves about half the future occupancy and change of use in the study areas, and would result in a lower level of AAU activity than would the Proposed Project, Alternative 4 would reduce the less-than-significant public services impacts of the Proposed Project. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Biological Resources

The impacts identified associated with biological resource issues would be reduced in the study areas under the Reduced Institutional Growth Alternative, as compared to the Proposed Project. Alternative 4 would have the same "no impact" assessments related to riparian habitat or other sensitive natural community, federally protected wetlands, local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance, or conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. All of the study areas are similarly covered with impervious surfaces, and there are no conservation plans protecting the study areas or project sites. Like the Proposed Project, Alternative 4 would be required to comply with Migratory Bird Treaty Act and California Fish and Game Code requirements governing any tree removal and therefore, would cause no significant impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife or U.S. Fish and Wildlife Service. For the same reason, like the Proposed Project, Alternative 4 would have less-than-significant impacts related to interfering substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impeding the use of native wildlife nursery sites. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Geology and Soils

The impacts identified associated with geology and soils would be reduced under the Reduced Institutional Growth Alternative. Like the Proposed Project, Alternative 4 would have "no impact" assessments related to fault rupture, landslides, erosion and loss of topsoil, wastewater disposal, and change in topography since all study areas equally are covered with impervious surfaces, and all would not be at risk for fault rupture and landslides. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to exposing people or structures to the risk of loss, injury, or death involving strong seismic groundshaking and seismic-related ground failure such as

liquefaction, since Alternative 4 includes the same study areas and project sites with reduced study area occupancy compared to the Proposed Project. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to locating on geologic or soil units that are unstable, or that could become unstable as a result of the alternative, since Alternative 4 includes the same study areas and project sites with buildings as the Proposed Project, albeit with half the future growth, which could mean the same amount of building footprint in shorter buildings. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to locating on expansive soil as defined in Uniform Building Code Table 18-1-B, since Alternative 4 includes the same study areas and project sites with buildings as the Proposed Project.

Overall, because Alternative 4 involves 57 percent of the future occupancy and change of use in the study areas and a lower level of AAU activity than would occur with the Proposed Project, Alternative 4 would reduce the less-than-significant geology and soils impacts of the Proposed Project. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Hydrology and Water Quality

The impacts identified associated with hydrology and water quality would be reduced under the Reduced Institutional Growth Alternative. Alternative 4 would have similar "no impact" assessments related to depletion of groundwater supplies and interference with groundwater recharge, alteration of drainage patterns, failure of a dam or levee, and seiche or mudflows. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to water quality standards and waste discharge requirements, substantially altering the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increasing the rate or amount of surface runoff in a manner that would result in flooding on site or off site, or creating or contributing runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to placing housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other authoritative flood hazard delineation map, or placing within a 100-year flood hazard area structures that would impede or redirect flood flows. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to exposing people or structures to inundation by tsunami.

Overall, because Alternative 4 would involve approximately 57 percent of the future growth in the study areas as compared to the Proposed Project, Alternative 4 would have reduced less-than-significant hydrology and water quality impacts compared to the Proposed Project. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Hazards and Hazardous Materials

The impacts identified associated with hazards and hazardous materials would be reduced with the Reduced Institutional Growth Alternative 4. Like the Proposed Project, Alternative 4 would have less-than-significant impacts related to transport, use or disposal of hazardous materials and impairing or impeding implementation of emergency response and evacuation plans. Like the Proposed Project, Alternative 4 would have a less-than-significant-with-mitigation impact related to hazardous building materials and soil contamination. Alternative 4 would be subject to the same mitigation measures as the Proposed Project for this impact.

Overall, because Alternative 4 involves approximately 57 percent of the future growth in the study areas and a lower level of AAU activity than would occur under the Proposed Project, Alternative 4 would reduce the less-than-significant hazards and hazardous materials impacts of the Proposed Project. The Reduced Institutional Growth Alternative would have similar or reduced less-than-significant cumulative impacts compared to the Proposed Project.

Mineral and Energy Resources

Similar to the Proposed Project, there would be no impact related to mineral resources, as these resources do not exist in the study areas or project sites. Since the type of growth under Alternative 4 is the same as the Proposed Project, although with only 57 percent of the future growth in the study areas, there would be a less-than-significant impact related to the use of fuel, water and energy and the use of these in a wasteful manner. Alternative 4 would be subject to the same City requirements for reduction of fuel, water, and energy use as the Proposed Project.

Overall, because Alternative 4 involves approximately 57 percent of the future growth in the study areas and a lower level of AAU activity than would occur under the Proposed Project, Alternative 4 would reduce the less-than-significant energy resource impacts of the Proposed Project. Similar to the Proposed Project, the Reduced Institutional Growth Alternative would have no cumulative impacts related to mineral resources; and less-than-significant cumulative impacts related to energy resources.

Agricultural and Forest Resources

Similar to the Proposed Project, there would be no impact related to agricultural and forest resources, as none of these resources exist in the study areas or at project sites. Similar to the Proposed Project, the Reduced Institutional Growth Alternative would have no cumulative impacts.

6.2 COMPARISON OF THE PROPOSED PROJECT AND THE PROJECT ALTERNATIVES: PROJECT OBJECTIVES

Table 6-2, Comparison of Proposed Project and Project Alternatives: Ability to Meet Project Objectives, identifies each project objective and whether it can be achieved by the Proposed Project

and each of the project alternatives. In addition, a general discussion of the alternatives' ability to meet the project objectives is also provided in the alternatives analysis. Table 1-2, Comparison of Proposed Project and Project Alternatives: Impacts, p. 6-75, identifies the relative impacts associated with the Proposed Project and the Project Alternatives.

Table 6-2 Comparison of Proposed Project and Project Alternatives: Ability to Meet Project Objectives

Project Objectives	*Proposed Project*	*No Project Alternative*	*Centralized Growth Alternative*	*Reduced Growth Alternative*	*Reduced Institutional Alternatives*
Operate in an urban context, where academic programs can contribute to and draw from the cultural wealth of the local communities.	M	M/P	M/P	M/P	M/P
Create opportunities for students to interact with the urban community (i.e., facilitate the "urban experience") by maintaining facilities throughout the City rather than creating a consolidated campus.	M	M/P	M/P	M/P	M/P
Offer on-site residential housing for new full-time students who desire to live in AAU housing.	M	N	M/P	N	M/P
Consolidate administrative and classroom functions for each academic discipline in the same buildings so that students and faculty do not have to travel from building to building unnecessarily.	M	N	M	M/P	M/P
Manage facilities in a flexible manner to ensure availability of space to meet changing needs of academic programs.	M	N	N	N	N
Enable long-range programs and service planning to meet the needs of the community.	M	N	N	M/P	M/P
Occupy and use space in buildings and properties near existing AAU facilities, where possible.	M	N	M/P	M/P	M/P
Locate future facilities to: ■ Provide proximity between buildings so students can walk between classes. ■ Provide a sense of campus unity while still maintaining the benefits of a dispersed urban campus as the learning environment for AAU students. ■ Locate AAU facilities such that they are easily accessible to all AAU students and faculty/staff, allowing professors to teach and work in close proximity to students' daily activities.	M	N	M/P	M/P	M/P
Locate future facilities in proximity to existing AAU shuttle stops or public transit to discourage use of private automobiles.	M	N	M/P	M/P	M/P
Occupy and utilize space in existing historic or culturally interesting buildings in need or renovation and/or revitalization.	M	M/P	M/P	M/P	M/P

M = Meets the objective
M/P = Meets or partially meets
N = Does not meet

Table 6-3 Comparison of Proposed Project and Project Alternatives: Impacts

NI = No impact; LTS = Less than significant or negligible impact; no mitigation required; SM = Significant but mitigable; SU = Significant and unavoidable adverse impact, no feasible mitigation; SUM = Significant and unavoidable adverse impact, after mitigation

	Proposed Project	*Alternative 1: No Project Alternative*	*Alternative 2: Centralized Growth Alternative*	*Alternative 3: Reduced Growth*	*Alternative 4: Reduced Institutional Growth*
Description	This includes 110,000 sf of institutional residential, 669.670 sf of institutional nonresidential and 17,533 sf of institutional recreation in 12 study areas and 393.537 sf of institutional nonresidential at six project sites	Vacation of three project sites and 164-399 rooms of existing residential, and no AAU growth in study areas	Project growth in five study areas along major transit corridors and six project sites	Approximately 33% reduction in Project growth (335,000 sf institutional, 55,000 sf residential, and 17,533 sf recreational in 12 study areas and 393,537 sf at six project sites)	Approximately 28% reduction in Project growth (335,000 sf institutional, 110,000 sf residential, and 17,533 sf recreational in 12 study areas and 393,537 sf at six project sites)
Ability to Meet Project Sponsor's Objectives	Meets all of the project sponsor's objectives	Meets or partially meets three of ten of the project sponsor's objectives	Meet eight of ten of the project sponsor's objectives	Meets or partially meets seven of ten of the project sponsor's objectives	Meets or partially meets eight of ten of the project sponsor's objectives
SIGNIFICANT AND UNAVOIDABLE IMPACTS					
Population, Housing, and Employment					
Housing	**Impact PH-2.1** The Proposed Project, including growth in the 12 study areas, would displace substantial numbers of people, or existing housing units, or create demand for additional housing elsewhere, or displace a substantial number of businesses or employees. (SU)	Substantially less than proposed project. (LTS)	Similar to proposed project. (SU)	Substantially less than proposed project. (SU)	Substantially less than proposed project. (SU)
Transportation and Circulation					
Transit	**Impact C-TR-2.3a** The Proposed Project, including growth in the 12 study areas, in combination with past, present, and reasonably foreseeable future projects in the vicinity of the study areas and project sites, would result in a substantial increase in local transit demand that could not be accommodated by adjacent Muni transit capacity at the Kearny/Stockton and Geary corridors under 2035 Cumulative plus Project conditions. (SU)	No impact. (NI)	Similar to proposed project. (SU)	Substantially less than proposed project. (SU)	Substantially less than proposed project. (SU)

Table 6-3 Comparison of Proposed Project and Project Alternatives: Impacts

NI = No impact; LTS = Less than significant or negligible impact; no mitigation required; SM = Significant but mitigable; SU = Significant and unavoidable adverse impact, no feasible mitigation; SUM = Significant and unavoidable adverse impact, after mitigation

	Proposed Project	*Alternative 1: No Project Alternative*	*Alternative 2: Centralized Growth Alternative*	*Alternative 3: Reduced Growth*	*Alternative 4: Reduced Institutional Growth*
LESS-THAN-SIGNIFICANT IMPACTS WITH MITIGATION MEASURES					
Cultural and Paleontological Resources					
Archaeological Resources	**Impact CP-2.1** identifies a potentially significant impact to archaeological resources pursuant to Section 15064.5 in the study areas that would be less than significant with preparation of a Project-Specific Preliminary Archaeological Assessment which shall determine if an Archeological Research Design Treatment Plan (ARDTP) shall be required. This archeological mitigation measure shall apply to any project involving any soils disturbing or soils-improving activities including excavation, utilities installation, grading, soils remediation, compaction/chemical grouting to a depth of two feet or greater within the following study areas: This archeological mitigation measure shall apply to any project involving any soils-disturbing or soils-improving activities including excavation, utilities installation, grading, soils remediation, compaction/chemical grouting to a depth of two feet or greater within the following study areas: SA-2, Lombard Street/Van Ness Avenue, SA-5, Mid Market Street; SA-6, Fourth Street/Howard Street; SA-7, Rincon Hill East; SA-8, Third Street/Bryant Street; SA-9, Second Street/Brannan Street; and SA-12, Ninth Street/Folsom Street; and to a depth of four feet bgs or greater and located within properties within the remaining study areas (SA-1, Lombard Street/Divisadero Street; SA-3, Mid Van Ness Avenue; SA-4, Sutter Street/Mason Street; SA-10, Fifth Street/Brannan Street; and SA-11, Sixth Street/Folsom Street). Unless no or lesser thresholds are identified in the Area Plan EIR Archeological Mitigation Zones outlined in Table 4.5-2, Area Plan EIR Archeological Resources Mitigation Measures, for projects covered by those Zones, then the no or lesser depth of soil disturbance would be used. Projects to which this mitigation measure applies shall be subject to Preliminary Archeology Review (PAR) by the San Francisco Planning Department	No impact. (NI)	Similar to proposed project. (SM)	Similar to proposed project. (SM)	Similar to proposed project. (SM)

Table 6-3 Comparison of Proposed Project and Project Alternatives: Impacts

NI = No impact; LTS = Less than significant or negligible impact; no mitigation required; SM = Significant but mitigable; SU = Significant and unavoidable adverse impact, no feasible mitigation; SUM = Significant and unavoidable adverse impact, after mitigation

	Proposed Project	*Alternative 1: No Project Alternative*	*Alternative 2: Centralized Growth Alternative*	*Alternative 3: Reduced Growth*	*Alternative 4: Reduced Institutional Growth*
	archeologist, or a Preliminary Archeological Sensitivity Study (PASS) may be required in consultation with the San Francisco Planning Department archeologist. Based on the PAR or PASS, the Environmental Review Officer (ERO) shall determine if an Archeological Research Design Treatment Plan (ARDTP) shall be required to more definitively identify the potential for California Register-eligible archeological resources to be present at the project site and determine the appropriate action necessary to reduce the potential effect of the project on archeological resources to a less-than-significant level. (SM)				
Human Remains	**Impact CP-4.1** identifies a potentially significant impact associated with disturbing any human remains, including those interred outside of formal cemeteries, in each of the study areas that would be less than significant with preparation of a Project-Specific Preliminary Archaeological Assessment) which shall determine if an Archeological Research Design Treatment Plan (ARDTP) shall be required. (SM)	No impact. (NI)	Similar to proposed project. (SM)	Similar to proposed project. (SM)	Similar to proposed project. (SM)
Air Quality					
Toxic Air Contaminants	**Impact AQ-2.3** identifies a potentially significant impact associated with generation of toxic air contaminants, including diesel particulate matter, during operation of an AAU site in each of the study areas within an Air Pollutant Exposure Zone that would be less than significant with Air Filtration Measures within an Air Pollutant Exposure Zone (preparation of a Construction Emissions Minimization Plan, Reporting, and Certification Statement and On-Site Requirements). (SM)	No impact. (NI)	Similar to proposed project. (SM)	Similar to proposed project. (SM)	Similar to proposed project. (SM)
Criteria Air Pollutants	**Impact AQ-3.3** identifies a potentially significant impact associated with generation of criteria air pollutants, from renovation activities of an AAU site in the study areas and at the project sites, that would be less than significant by limiting maximum daily construction activities. (SM)	No impact. (NI)	Similar to proposed project. (SM)	Similar to proposed project. (SM)	Similar to proposed project. (SM)

Table 6-3 Comparison of Proposed Project and Project Alternatives: Impacts

NI = No impact; LTS = Less than significant or negligible impact; no mitigation required; SM = Significant but mitigable; SU = Significant and unavoidable adverse impact, no feasible mitigation; SUM = Significant and unavoidable adverse impact, after mitigation

	Proposed Project	*Alternative 1: No Project Alternative*	*Alternative 2: Centralized Growth Alternative*	*Alternative 3: Reduced Growth*	*Alternative 4: Reduced Institutional Growth*
Toxic Air Contaminants	**Impact AQ-4.1** identifies a potentially significant impact associated with generation of toxic air contaminants, including diesel particulate matter, from use of generators and boilers during operation of an AAU site in each of the study areas, and within an Air Pollutant Exposure Zone that would be less than significant with implementation of Best Available Control Technology for Diesel Generators, Best Available Control Technology for Boilers, and/or Air Filtration Measures within an Air Pollutant Exposure Zone. (SM)	No impact. (NI)	Similar to proposed project. (SM)	Similar to proposed project. (SM)	Similar to proposed project. (SM)
Hazardous Building Materials	**Impact HZ-2.3** identifies a potentially significant impact associated with releasing hazardous building materials to the environment that would be less than significant with implementation of Testing and Removal of Hazardous Building Materials. (SM)	No impact. (NI)	Similar to proposed project. (SM)	Similar to proposed project. (SM)	Similar to proposed project. (SM)

6.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA Guidelines Section 15126.6(e)(2) indicates that an analysis of alternatives to a project shall identify an Environmentally Superior Alternative among the alternatives evaluated in an EIR. The CEQA Guidelines also state that, should it be determined that the No Project Alternative is the Environmentally Superior Alternative, the EIR shall identify another Environmentally Superior Alternative among the remaining alternatives.

The comparative summary of the environmental impacts anticipated under each alternative with the environmental impacts associated with the Proposed Project indicates that the Reduced Growth Alternative would be considered the Environmentally Superior Alternative. Overall, Alternative 3 would reduce the impacts of the Proposed Project, including the significant and unavoidable impacts associated with housing demand and shuttle demand affecting local transit, because it would reduce AAU activities. Alternative 3 would not reduce the significant and unavoidable impact on the Geary corridor to a less-than-significant level. However, this alternative would fail to meet or would significantly fall short of three of the basic project objectives: to offer on-site residential housing for new full-time students who desire to live in AAU housing; to manage facilities in a flexible manner to ensure availability of space to meet changing needs of academic programs; or to enable long-range programs and service planning to meet the needs of the community and provide increased employment opportunities. Although Alternative 4 Reduced Institutional Growth would also reduce the impacts of the Proposed Project, it would not provide as much reduced growth as would Alternative 3 as it maintains the program amount of residential growth.

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Appendix A Notice of Preparation, Revised NOP, and Summary of NOP Comments

SAN FRANCISCO
PLANNING DEPARTMENT

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RE: NOTICE OF PREPARATION OF AN ENVIRONMENTAL IMPACT REPORT AND NOTICE OF PUBLIC SCOPING MEETING FOR ACADEMY OF ART UNIVERSITY PROJECT (CASE NO. 2008.0586E)

To Responsible Agencies, Trustee Agencies, and Interested Parties:

A Notice of Preparation (NOP) of an Environmental Impact Report (EIR) and a Notice of Public Scoping Meeting for the above-referenced project has been issued by the Planning Department. This notice has been sent to you because you have expressed an interest in the proposed project or the project area, or because you have been identified by the Planning Department as potentially having an interest in the project. A project description is attached to this notice or available upon request from **Nannie Turrell**, whom you may reach at **(415) 575-9047** or at the above address. The NOP/Notice of Public Scoping Meetings will also be available on-line at http://mea.sfplanning.org by approximately September 29, 2010.

Project Description: The Academy of Art University ("the Academy") is a private school of art and design with facilities at 35 locations throughout San Francisco; 18 of the sites are institutional uses (educational and administrative space), and 17 of the sites are residential uses (student housing). As of fall 2009, the Academy had an enrollment of 15,791 students; 10,138 students (64 percent) attend classes in San Francisco (on-site) and 5,653 (36 percent) take classes on-line. The Academy currently employs 2,269 faculty and staff. The Academy facilities currently encompass about 972,217 square feet (sf) of institutional space and 479,584 sf of student residential space. The Academy expects enrollment to grow to about 26,263 by 2020, of which 15,758 (60 percent) of students would take classes on-site and 10,505 (40 percent) of students would take classes on-line. The Academy estimates about 460,000 sf of institutional uses (for studios, classrooms, and administrative offices), and approximately 400 beds (110,000 sf of residential uses), would be required to accommodate this growth. The Academy leases recreational facilities at 17 locations in San Francisco, Berkeley, and San Bruno, and seeks to acquire or develop recreational facilities to support its Division II athletic teams. The Academy estimates that it would need approximately 100,000 square feet for indoor recreational uses.

The Academy plans to accommodate growth in enrollment and programs through reuse of existing buildings and has identified 17 Study Areas in San Francisco for future expansion; each area contains one or more building(s) that the Academy has an interest in utilizing. The EIR will therefore analyze potential growth in 17 Study Areas that encompass those buildings. One Study Area is along Lombard Street, two are along the Van Ness corridor, one encompasses the Mid-Market area, seven are in the South of Market area, one is in the Nob Hill/Tenderloin area, two are near Union Square, one is in the Mission Bay area, one is in Bayview/Hunters Point, and one is along Jerrold Avenue. A map of the Study Areas is available on-line at http://mea.sfplanning.org. The Academy also operates a private shuttle service to transport students, faculty and staff among these locations. The Academy may extend shuttle service to newly acquired sites.

The Planning Department has determined that an EIR must be prepared for the proposed project. The purpose of the EIR is to provide information about potential significant physical environmental effects of the proposed project, to identify possible ways to minimize the significant effects, and to describe and analyze possible alternatives to the proposed project. Preparation of an NOP or EIR does not indicate a decision by the City to approve or to disapprove the project. However, prior to making any such decision, the decision makers must review and consider the information contained in the EIR.

The Planning Department is holding a **Public Scoping Meeting** concerning the environmental review process for the above mentioned project on **Tuesday, October 26, 2010 at 6 pm at the Academy of Art University, Morgan Auditorium, 491 Post Street, San Francisco, CA 94102.**

The purpose of this meeting is to assist the Planning Department in reviewing the scope and content of the environmental impact analysis and information to be contained in the EIR for the project. Depending on the turnout at the meeting, each member of the public may have a limited amount of time to comment and offer testimony for consideration. Written comments will also be accepted at this meeting.

Comments concerning the environmental effects of this project are welcomed. In order for your concerns to be considered during this environmental process, your written comments about the scope of the EIR will be accepted until the close of business on November 5, 2010. Please provide written comments at either the public scoping meeting or send comments by mail to Bill Wycko, Environmental Review Officer, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

If you work for an agency that is a Responsible or a Trustee Agency, we need to know the views of your agency as to the scope and content of the environmental information that is relevant to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. We will also need the name of the contact person for your agency. If you have questions concerning the attached materials and the environmental review process, or if you wish to receive a copy of the Draft EIR when it is available, please contact **Nannie Turrell** of the San Francisco Planning Department at **(415) 575-9047**. Documents relating to the proposed project can be viewed at 1650 Mission Street, Suite 400, San Francisco, CA 94103.

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Notice of Preparation of an Environmental Impact Report

Date:	September 29, 2010
Case No.:	**2008.0586E**
Project Title:	**Academy of Art University Project EIR**
BPA Nos.:	N/A
Zoning:	C-2, C-3-G, C-3-O, C-3-R, C-3-S, HP-RA, M-1, MUO, NC-2, NC-3, NCD, NCT, NCT-2, MUG, P, PDR-1-G, PDR-2, RC-3, RC-4, RH-2, RH-3, RH DTR, RM-2, RM-3, RM-4, RSD, SB DTR, SLI, SLR, SSO, SSP, UMU
Block/Lot:	Refer to Figure 1
Lot Size:	Various
Sponsor Contact:	Academy of Art University
Contact Person:	Paul Correa - (415) 618-6580
Lead Agency:	San Francisco Planning Department
Staff Contact:	Nannie Turrell - (415) 575-9047 Nannie.Turrell@sfgov.org

PROJECT DESCRIPTION

The Academy of Art University ("the Academy") is a private school of art and design with facilities at 35 locations throughout San Francisco; 18 of the sites are institutional uses (educational and administrative space), and 17 of the sites are residential uses (student housing). As of fall 2009, the Academy had an enrollment of 15,791 students; 10,138 students (64 percent) attend classes in San Francisco (on-site) and 5,653 (36 percent) take classes on-line. The Academy currently employs 2,269 faculty and staff. The Academy facilities currently encompass about 972,217 square feet (sf) of institutional space and 479,584 sf of student residential space. The Academy expects enrollment to grow to about 26,263 by 2020, of which 15,758 (60 percent) of students would take classes on site and 10,505 (40 percent) of students would take classes on-line. The Academy estimates about 460,000 sf of institutional uses (for studios, classrooms, and administrative offices), and approximately 400 beds (110,000 sf of residential uses), would be required to accommodate this growth. The Academy also leases recreational facilities at 17 locations in San Francisco, Berkeley, and San Bruno, and seeks to acquire or develop recreational facilities to support its Division II athletic teams. The Academy estimates that it would need approximately 100,000 square feet for indoor recreational uses.

The Academy plans to accommodate growth in enrollment and programs through reuse of existing buildings and has identified 17 areas in San Francisco for future expansion; each area contains one or more building(s) that the Academy has an interest in utilizing. The EIR will therefore analyze potential growth in 17 Study Areas that encompass those buildings. The Academy also operates a private shuttle service to transport students, faculty and staff among these locations. The Academy may extend shuttle service to newly acquired sites.

Many of the Academy's existing buildings were previously used for retail, offices, schools, or churches. Buildings that have been converted to residential use were previously used as residential hotels, apartments, group housing facilities, or other types of housing uses. Some of the reuses have involved interior construction and/or reconstruction. Others have involved the addition of exterior signage.

San Francisco Planning and Building Department Requirements. The Academy has expanded its uses without applying for construction, change of use, or sign permits from the San Francisco Planning and Building Departments. The Academy filed an Institutional Master Plan in 1988, but failed to update it until 2006, in violation of Planning Code Section 304.5.

Building Permit Violations. In the spring of 2010, an interdepartmental task force was formed to assess whether the Academy's facilities were in compliance with the building code. The task force performed inspections at each of the Academy's existing 35 locations. A Notice of Violation was issued for each of the locations. The Academy is currently working with the Planning and Building Departments to correct the violations and obtain proper permits. Permits to address some of the most serious code violations have been submitted for buildings that were inspected. Permits for life safety issues have been prioritized by the Planning Department.

Sign Violations. Many of the Academy's properties are in violation of the City's signage regulations. Some of the properties that are in violation have underlying land use issues that do not allow the legalization of the Academy signs at this time. In those cases, the Department is requiring removal of the signs (with such removal documented through a building permit application). For properties without underlying land use issues, the Academy may seek legalization of existing signs with a building permit application (subject to relevant Planning Code requirements) or removal of these signs (documented through a building permit application).

The Academy has submitted a number of permits to the Planning Department to remove some of the illegal signage. Included in these initial permits to remove signage are projection signs, wall signs (both electric and painted), window signs, awnings, and canopy signs. The Academy is working with Department staff to establish a complete sign survey for the institution and has pledged to continue to remove unpermitted signs.

Institutional Master Plan. Planning Code Section 304.5 requires secondary schools and universities to keep a current Institutional Master Plan (IMP) on file with the Planning Department.

In 2006, in response to a Notice of Violation issued by the Planning Department the Academy filed an IMP (Case No. 2006.07371). Reviewing properties listed in the IMP, the Department determined that the Academy had converted multiple properties to group housing or post-secondary educational institution uses without the required building permits or Conditional Use Authorizations, and in 2007, the Department issued a Notice of Alleged Violation (NAV) outlining the Academy's violations. The Academy continued to acquire and convert properties without benefit of the proper land use authorizations.

A revised Draft IMP was submitted to the Planning Department and reviewed by the City of San Francisco Planning Commission (Planning Commission) in November 2007. A second revised Draft IMP was re-submitted in April 2008 to the Planning Commission. At that time, the Planning Commission requested that the Academy provide a Transportation Management Plan (TMP) that analyzed existing and potential impacts of the Academy's shuttle system on San Francisco's neighborhoods, roads, and transportation systems.

The TMP was initiated in September 2008. During the preparation of the TMP, the need for additional data collection was identified. Preparation of the TMP was split into a two-phase process to

accommodate the required data collection. The Phase I TMP was submitted on September 25, 2009. The Phase II TMP is expected to be completed in 2010.

The IMP lists and discusses the Academy's vision, mission statement, and values, and provides an overview of the Academy's existing and proposed facilities at each of the existing 35 locations, as well as statistical information about current and future enrollment, and staff and faculty information. Based on current enrollment, past trends, and future projected growth, the IMP outlines the long-range development program for the Academy including some predictions for future real estate needs and potential acquisitions. The transit systems serving the Academy and the Academy's shuttle service and campus parking policies are also discussed.

The Draft IMP is currently in the process of being updated. As a part of the IMP update, the Academy has identified its projected growth needs through the year 2020. The Academy plans to accommodate growth in enrollment and programs through acquisition and reuse of existing buildings and has identified 17 targeted geographic areas in San Francisco for future expansion, as shown in Figure 1. Each area contains one or more building(s) that the Academy has an interest in acquiring for reuse. The EIR will therefore analyze potential growth in 17 Study Areas that encompass those buildings. The Academy also operates a private shuttle service to transport students, faculty and staff among these locations. The Academy would extend shuttle service to newly acquired sites.

These 17 areas are identified and described further under Future Expansion Scenario, below.

Conditional Use Authorizations. To date, in order to comply with Planning Department requirements, the Academy has filed 16 Conditional Use authorization applications. One application was subsequently denied.

Shuttle System. The Academy runs a private courtesy shuttle system to transport students, faculty, and staff among various Academy locations. The City does not require permits for the operation of a private shuttle system. Other agency requirements for the shuttle system are discussed under Existing Facilities and Operations, below.

Existing Facilities and Operations. The Academy operates three types of facilities: residential, institutional, and recreational. Institutional uses include studios, classrooms, and administrative offices. Residential uses include student housing, associated offices, study rooms, recreation rooms, computer rooms, and in some buildings communal kitchens and laundry facilities. Recreational facilities include practice facilities leased by the Academy, as well as recreation rooms or facilities located in the Academy's institutional or residential buildings.

Institutional. Currently, the Academy operates institutional facilities at 18 locations that are owned by the Academy or an affiliated entity.[1] The main administration building is located at 79 New Montgomery Street (Location 11) and provides the following services: Admissions, Alumni & Career Services, the Athletics Department, Campus Housing, Curriculum, Financial Aid, Human Resources, Information Technology, Registration, Student Affairs, Student Advisors Offices, and other student services.

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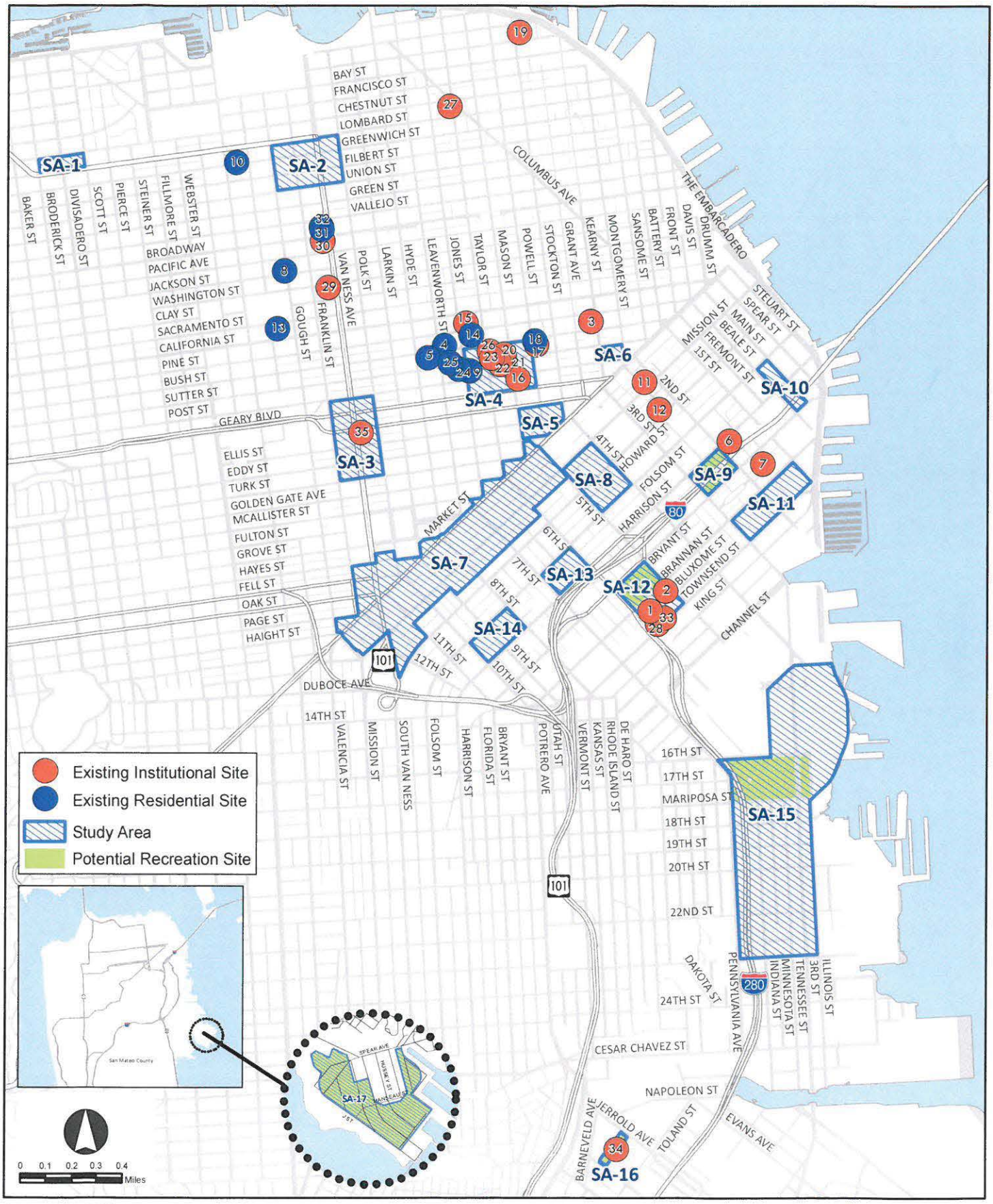
[1] Throughout the discussion of facilities, buildings will be referred to as owned by the Academy if they are owned by the Academy or an affiliated entity. A description of a building that is leased means that the building is owned by a wholly unaffiliated entity.



Source: AAU, PBS&J

ACADEMY OF ART UNIVERSITY EIR

FIGURE 1: EXISTING SITES AND EIR STUDY AREAS

Residential. The Academy provides student housing at 17 locations. Many buildings are owned by the Academy or an affiliated entity, but some are leased on a short- or long-term basis. As of spring 2010, approximately 1,319 students resided in these residential facilities. There is capacity for as many as 1,873 students.

Recreational. The Academy leases recreational facilities at 17 locations in San Francisco, Berkeley, and San Bruno for intercollegiate games, practices and student activities. The Academy rents these facilities since they do not have intercollegiate athletic facilities of their own. The Academy owns a gym at 620 Sutter Street (Location 20), which is used by both intercollegiate athletes and students for swimming and recreational and dance classes and workshops. There are billiards facilities at Locations 19 and 22, and basketball facilities at Location 2.

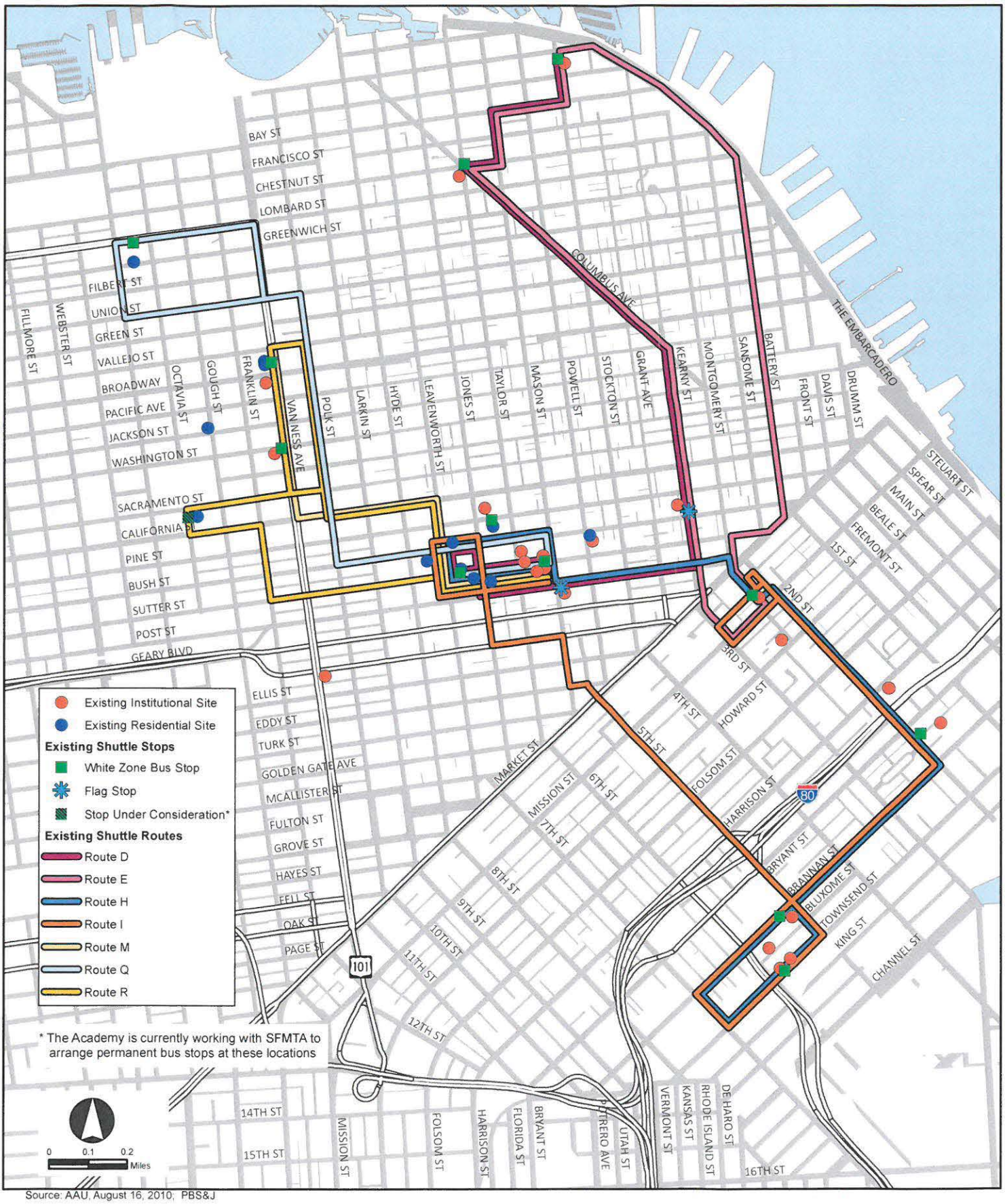
Shuttle System. The Academy runs a private shuttle system to transport students, staff and faculty between the 35 existing locations. The shuttle system consists of seven bus routes with ridership of approximately 41,500 students and staff weekly. The shuttle stops at 15 locations within the City and operates seven days a week with limited routes running on Saturday and Sunday. Due to traffic restrictions, buses do not stop at all school facility buildings. Shuttle service is also provided to the 17 athletic facilities on an as-needed basis. Shuttle stops and weekday routes are shown in Figure 2. The Academy maintains a current permit to operate the shuttle system though the California Public Utilities Commission (CPUC).

The San Francisco Municipal Transportation Agency (SFMTA) regulates curb priority in bus zones, in some cases allowing passenger loading and unloading at Muni stops. SFMTA grants use of Muni stops by ordinance. Enforcement is conducted by either the San Francisco Police Department (SFPD) or SFMTA Parking Control Officers. The Academy has applied to SFMTA for use of Muni shuttle stops and/or acquisition of curb loading designations at four locations. The Academy has not received any authorizations, to date.

As of the 2010 spring semester, the shuttle system includes: Weekday Shuttle Lines D, E, H, I, M, Q & R, Saturday Shuttle Lines 1-4, Sunday Shuttle Lines 1 and 2, and the Campus Cruiser, with limited service for emergencies only. The hours of operation for the Academy shuttle system run in conjunction with class times for all students.

Academy policies encourage use of public transit and the shuttle system. No parking for students is provided at any of the Academy facilities. Based on origin-destination (O/D) surveys collected in April and May of 2010, zero percent of students living in Academy housing drive to classes. Ten percent of commuting students drive alone and four percent carpool.

Future Expansion Scenario. The Academy expects enrollment to grow to 26,263 by 2020, of which 15,758 (60 percent) of students would take classes on site. This represents a 56 percent increase in students taking classes on site. The Academy's projected growth is a response to several factors: student demand for additional and more varied programming, the growth of arts employers in particular fields especially digital arts and media, and the Academy's desire to adapt with the changing markets, coupled with an admission policy which guarantees admission to all qualified students. The Academy is currently experiencing a high demand for Animation, Fashion, and Graphic Design programs, and therefore expects to expand those programs.



Source: AAU, August 16, 2010; PBS&J

ACADEMY OF ART UNIVERSITY EIR

FIGURE 2: EXISTING SHUTTLE ROUTES AND SHUTTLE STOPS

Since the Academy plans to accommodate this growth through reuse of existing buildings, the number of buildings that would be required would depend on the building size. Each Study Area includes one or more buildings that the Academy is interested in acquiring. The Study Areas were identified as a way of evaluating a proposed change of use in the area, without identifying individual buildings, which are not yet owned by the Academy.

Proposed uses for each Study Area are included in Table 1. The proposed uses are based on what could be accommodated in the existing building(s) being considered by the Academy for expansion within each Study Area for residential uses and institutional uses. For indoor recreational uses, the program of development is based on the size of the building. No new construction is anticipated. For outdoor recreational uses, the program of development is based on the size of the site. More detail on potential recreational uses is included in Table 2.

TABLE 1
ACADEMY OF ART UNIVERSITY FUTURE EXPANSION OPTIONS – SUMMARY TABLE*

Land Use Type	Residential (rooms)	Residential (beds)	Institutional (square feet)	Recreational (acres/sq ft)	Existing
Study Area 1	45 - 75	81 - 135	--	--	45-75 rooms
Study Area 2	300 - 450	540 - 720			300 - 450 rooms
Study Area 3	200 - 275	360 - 495	130,000 - 140,000	--	200 - 275 rooms/ 90,000 - 100,000 sf
Study Area 4	550 - 600	990 - 1,080	--	--	550-600 rooms
Study Area 5	125 - 150	225 - 270	--	--	125-150 rooms
Study Area 6	--	--	60,000	--	60,000 sf
Study Area 7	100	180	140,000 -175,000	--	140,000-175,000 sf
Study Area 8	--	--	50,000-100,000	--	50,000 - 100,000
Study Area 9	125-150	225-270	25,000-50,000	25,000-50,000	125-150 rooms/ 25,000 - 50,000 sf
Study Area 10	--	--	350,000-450,000	--	350,000 - 450,000 sf
Study Area 11	--	--	75,000-100,000	--	75,000 - 100,000 sf
Study Area 12	--	--	50,000-75,000	50,000-75,000	100,000 - 150,000 sf
Study Area 13	--	--	20,000-40,000	--	20,000 - 40,000 sf
Study Area 14	20-30	36-54	--	--	20 - 30 rooms
Study Area 15	--	--	120,000 +	31 acres	120,000 sf/ 31 acres
Study Area 16	--	--	6,500 - 28,000	85,470 - 62,220	90,000 sf
Study Area 17	--	--	--	69.8 - 96.7 acres	70 - 77 acres

Source: Academy of Art University, 2010.

* The proposed future expansion would not exceed 220 rooms (400 beds), 460,000 square feet of institutional uses, and 100,000 square feet of recreational uses.

TABLE 2
PROPOSED INTERCOLLEGIATE ATHLETIC AND RECREATIONAL TRAINING FACILITIES

Recreation Site No.	Facility Location	Proposed Uses	Facility Size
R1	SA-15	Multi-use field (men's and women's soccer, lacrosse, football, etc.), baseball and softball fields, and tennis courts (women's tennis)	31 acres
R2	SA-12	Indoor recreational uses for AAU students including practice courts for basketball and volleyball and/or a weight room	50,000-75,000 sf
R3	2225 Jerrold Avenue SA-16	Track field, basketball courts, volleyball courts, batting cages, golf cages, tennis instructional area, baseball and softball infield, turf field for soccer, sports medicine facility, strength and conditioning center, locker rooms, academic support center, nutrition center, player's lounge, and administrative offices	90,000 sf
R4	SA-9	Indoor recreational uses for AAU students	25,000-50,000 sf
R5	SA-17	Soccer/football, baseball, and volleyball fields, warm-up fields, restrooms, and food concessions[1]	69.8 – 96.7 acres

Source: Academy of Art University, 2010.

Notes:

1. Source: Candlestick Park-Hunters Point Shipyard Phase II Development Plan EIR, Chapter 2, Project Description, p. II-32, and Chapter 4, Project Variants, p. IV-2. Certified June 3, 2010. File No. 2007.0347E.

Institutional Uses. The Academy estimates that this increase in enrollment would result in a need for at least 460,000 square feet for institutional uses; including 400,000 square feet for classrooms, studios, and lecture halls, and 60,000 square feet for administrative offices.

Residential Uses. The Academy guarantees on-site residential housing for all incoming freshman. Given the projected on-site enrollment of 15,758 students by 2020, the Academy estimates a need for approximately 400 new beds or approximately 110,000 square feet of residential uses.

Recreational Uses. The Academy has also indicated a desire to acquire or develop recreational facilities to support the Academy's Division II athletic team. The Academy currently has the following Division II teams: Men's and Women's Basketball, Women's Volleyball, Men's and Women's Soccer, Baseball, Softball, Women's Tennis, Men's and Women's Golf, Men's and Women's Cross Country, and Men's and Women's Track and Field. The Academy plans to expand its athletics program to potentially include sports such as lacrosse and football.

The Academy plans to develop intercollegiate athletic and recreational training facilities in two phases, Phase I would be an indoor training facility, and Phase II would be additional outdoor athletic facilities. The Academy estimates that approximately 100,000 square feet would be required for the indoor facility. The size of the outdoor facility has not been estimated and would depend on the size of the property acquired by the Academy.

Phase I. The Academy has acquired property at 2225 Jerrold Avenue for the development of an athletic facility which would require approvals from the Planning Commission. The site is zoned PDR-2, whether or not rezoning would be required would be at the discretion of the Zoning Administrator. Per Section 210.11 of the Municipal Code (regarding PDR-2 District: Core Production, Distribution, and Repair):

> The intent of this district is to encourage the introduction, intensification, and protection of a wide range of light and contemporary industrial activities. Thus, this district, prohibits new housing, large office developments, large-scale retail, and the heaviest of industrial uses, such as incinerators. Generally, all other uses are permitted. The conservation of existing flexible industrial buildings is also encouraged. These districts permit certain non-industrial, non-residential uses, including small-scale retail and office, entertainment, certain institutions, and similar uses that would not create conflicts with the primary industrial uses or are compatible with the operational characteristics of businesses in the area.

No application has been filed and the feasibility of this proposed use has not been discussed with the Planning Department. If the site were approved for intercollegiate athletics, it could provide specific training areas for men's and women's basketball, women's volleyball, baseball, softball, men's and women's soccer, and a track for the men's and women's cross country and the men's and women's track and field teams, plus golf and tennis instructional areas. If approved, the site could be used for a strength and conditioning center, a sports medicine treatment area, an athletic academic support center, a nutrition center, and administrative offices.

Phase II. In addition to the indoor training facility, the Academy plans to acquire or lease various locations on which to create a multi-use field and a sports complex facility for Academy students. One option would be to share the recreational facilities proposed at Study Area 17, as described in the *Candlestick Point-Hunters Point Shipyard Phase II Development Plan EIR*.[2] The Hunters Point Shipyard Phase II Project would include the construction of a Sports Field Complex and a multi-use lawn that would surround the proposed 49ers stadium. The Sports Field Complex would include soccer/football, baseball, and volleyball fields, as well as warm-up fields, restrooms, and food concessions. The Sports Field Complex would be used for sports events during day- and night-time hours. The multi-use field would provide event-day parking for events at the stadium, but would be covered with specially engineered soils and turf to allow dual-use of the parking lot for athletic fields. At other times, this large open space would provide for informal recreational activities, sporting, and other events as needed.

Four variants on the programmed sports fields and active recreation areas were presented in the Candlestick Park-Hunters Point Shipyard Phase II Development Plan EIR. As shown in the Study Area information sheet for SA-17, the four variants totaled 91.6, 69.8, 96.7, and 70.9 acres, respectively.

Shuttle Service Expansion. The Academy's shuttle system provides transit connections which allow the 35 locations to function as a single academic campus. The 17 Study Areas identified for future expansion are also decentralized. Therefore, the Academy proposes to include a shuttle stop at, and provide shuttle

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[2] City and County of San Francisco, Planning Department, Candlestick Park-Hunters Point Shipyard Phase II Development Plan EIR, Comments and Responses. Certified June 3, 2010. File No. 2007.0946E.

service to, each of these Study Areas. The impacts of expanded shuttle service are analyzed as part of the programmatic analysis.

CEQA Review. This EIR is largely focused on the analysis of the Academy's Future Expansion Scenario, the Academy's projected growth between now and the IMP planning horizon, the year 2020, and will provide environmental review of potential impacts to the physical environment that may result from implementation of the Academy of Art University Project, as described below.

The Academy of Art University Project will be analyzed, under CEQA, at a program-level and at a project-level.

Program-Level CEQA Review. The Future Expansion Scenario includes expansion of the Academy's residential, institutional, and recreational facilities and shuttle service expansion to accommodate growth through 2020, and will be analyzed at a program-level.

Under CEQA, program-level environmental review is used in environmental analyses for a series of actions that can be characterized as one large project because they are logically related. The series of actions can be related geographically or can be logical parts in a chain of contemplated actions. The Academy of Art University Project Future Expansion Scenario is a program of development designed to accommodate future expansion of the Academy of Art University, within San Francisco, through the year 2020. The project includes expansion of residential, institutional, and recreational facilities and the connection of these facilities via expanded shuttle service. These project components are a logically related series of actions to achieve the overall goal of the Academy's expansion within the City.

Project-Level CEQA Review. Shuttle-related permits and sign permit actions will be analyzed at a project-level. Conditional Use authorizations will be discussed, separately, for informational purposes.

<u>Shuttle-Related Permits.</u> Given that the acquisition of colored curbs from the SFMTA is a discretionary action subject to a public review process, each application for a colored curb is analyzed as a project. The Academy has applied to SFMTA for use of Muni shuttle stops and/or colored curbs at 4 locations. Each will be analyzed as a separate project (SSP-1 – SSP-4).

<u>Sign Permit Actions.</u> Illegal signage is being removed at Locations 5, 9, 13, 14, 18, 26, 27, and 29-32. Application for new signs will be filed for these locations following certification of this EIR. Installation of new signage at each location (Locations 5, 9, 13, 14, 18, 26, 27, and 29-32), will be evaluated as a 'project' (SP-1 – SP-11) in this EIR.

<u>Conditional Use Authorizations.</u> As discussed earlier, at approximately 15 locations, the Academy changed the use of the property without obtaining the appropriate Conditional Use authorizations. CEQA requires an analysis of changes to the environment from the current existing conditions, regardless of whether the current existing conditions are legally sanctioned. Given this, the primary analysis for the purposes of this EIR will be of the actions to legalize the use through the Conditional Use application.

This analysis would not, however, provide the public with an analysis of the physical environmental change, if any, caused by the unauthorized change of use of the property. In order to provide the public and decision makers with additional information, the EIR will discuss the change of use from the pre-change of use to the current unpermitted use for informational purposes.

POTENTIAL ENVIRONMENTAL ISSUES

The proposed project could result in potentially significant environmental effects. As required by CEQA, the EIR will examine those effects, identify mitigation measures, and analyze whether proposed mitigation measures would reduce the environmental effects to a less than significant level. The EIR will analyze the following environmental issues:

- Plans and Policies
- Land Use
- Aesthetics
- Population and Housing
- Cultural and Paleontological Resources
- Transportation and Circulation
- Noise
- Air Quality
- Greenhouse Gas Emissions
- Wind and Shadow
- Recreation
- Utilities and Service Systems
- Public Services
- Biological Resources
- Geology, Soils, and Mineral Resources
- Hydrology and Water Quality
- Hazards and Hazardous Materials
- Agriculture and Forest Resources

FINDING

This project may have a significant effect on the environment and an Environmental Impact Report is required. This determination is based upon the criteria of the State CEQA Guidelines, Sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance). The purpose of the Environmental Impact Report (EIR) is to provide information about potentially significant effects of the proposed project, to identify possible ways to minimize the significant effects, and to describe and analyze possible alternatives to the proposed project. Preparation of a Notice of Preparation (NOP) or EIR does not indicate a decision by the City to approve or disapprove the project. However, prior to making any such decision, the decision makers must review and consider the information contained in the EIR.

PUBLIC SCOPING PROCESS

Pursuant to the State of California Public Resources Code Section 21083.9 and California Environmental Quality Act Guidelines Section 15206, a public scoping meeting will be held at the following time and location:

Tuesday, October 26, 2010
Academy of Art University
Morgan Auditorium
491 Post Street
San Francisco, CA 94102
6:00 p.m.

The purpose of this meeting is to assist the Planning Department in reviewing the scope and content of the environmental impact analysis and information to be contained in the EIR for the project. Each member of the public will be given three (3) minutes to comment and offer testimony for consideration. Written comments will also be accepted at this meeting and until the close of business **on November 5, 2010.** Written comments should be sent to Bill Wycko, San Francisco Planning Department, 1650 Mission Street, Suite 400, San Francisco, CA 94103.

If you work for a responsible State agency, we need to know the views of your agency regarding the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency may need to use the EIR when considering a permit or other approval for this project. Please include the name of a contact person in your agency.

September 23, 2010
Date

Bill Wycko
Environmental Review Officer

SAN FRANCISCO
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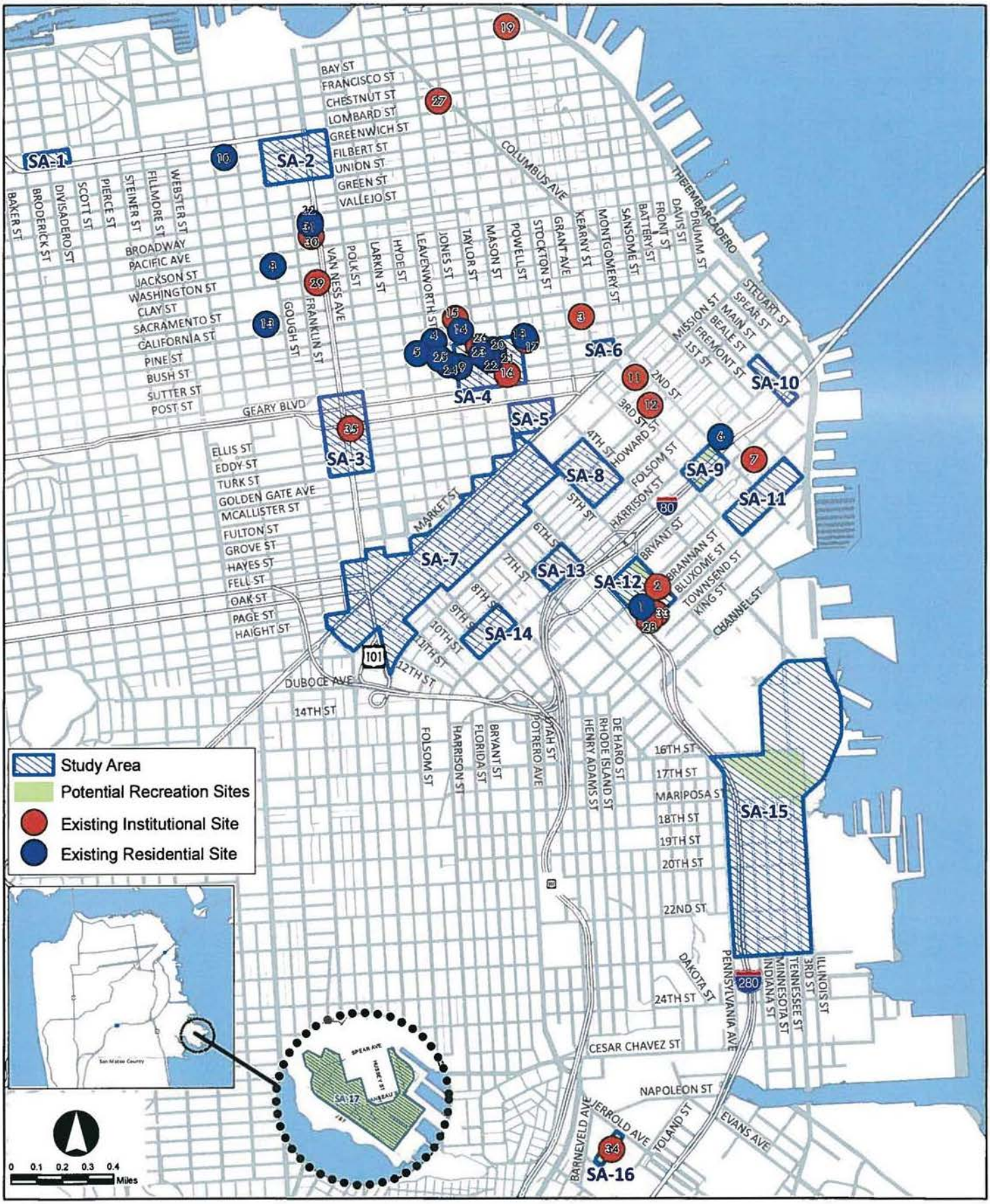
DATE: September 29, 2010

TO: Distribution List for academy of Art University Project EIR, Case No. 2008.0586E

FROM: Nannie Turrell, Senior Environmental Planner NRJ

RE: Revised NOP

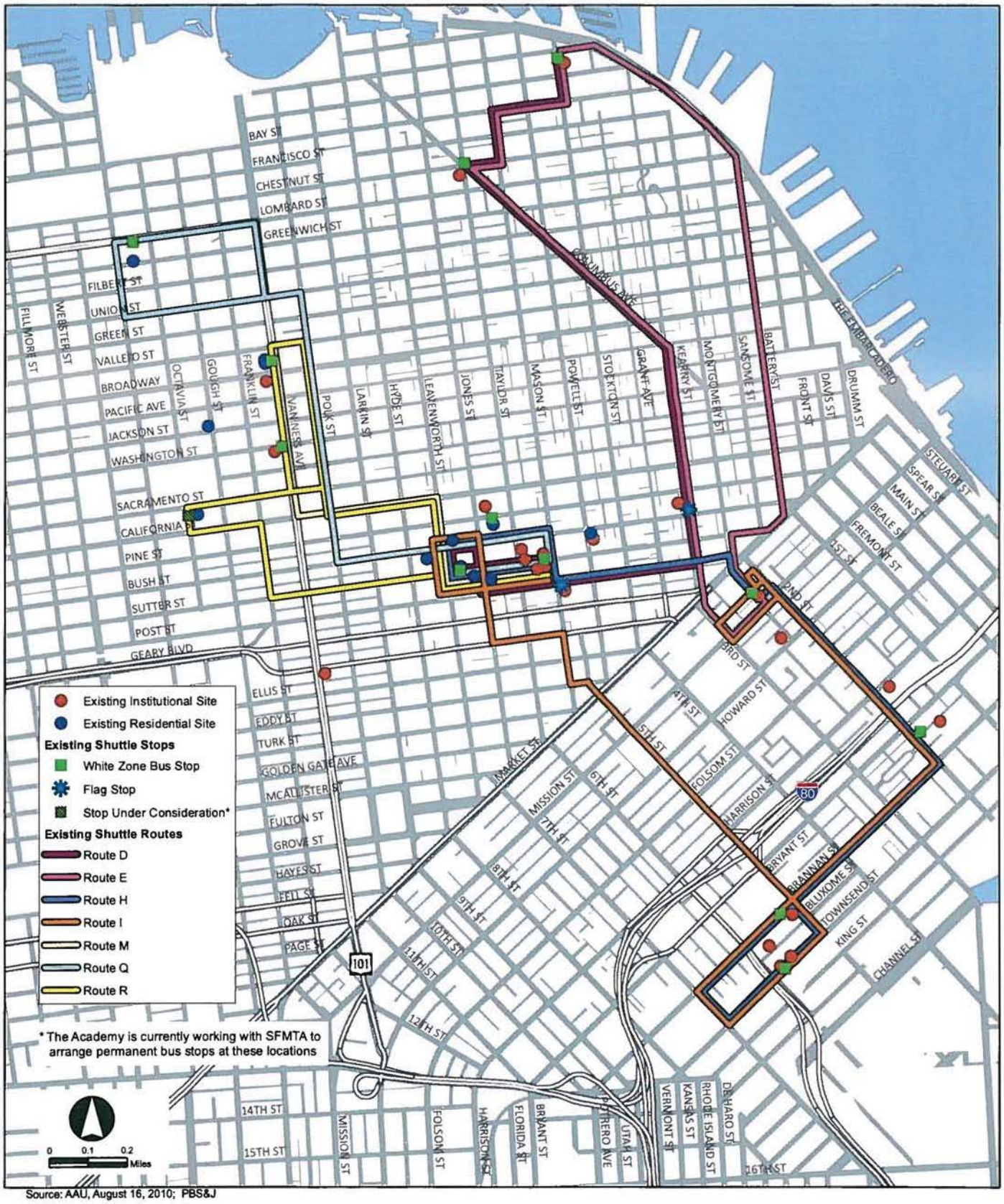
You are being sent a revised NOP for the above-mentioned project. In the prior version of the NOP, on Figure 1, Existing Sites and EIR Study Areas, Location No(s). 1, 6, 20, 21, 22, 23, and 24 were inadvertently colored red indicating that they were currently institutional uses. These locations are actually being used for residential purposes, and should have been colored blue. The correction has been made in this version of the document.



Source: AAU, PBS&J

ACADEMY OF ART UNIVERSITY EIR

FIGURE 1: EXISTING SITES AND EIR STUDY AREAS



Source: AAU, August 16, 2010; PBS&J

ACADEMY OF ART UNIVERSITY EIR

FIGURE 2: EXISTING SHUTTLE ROUTES AND SHUTTLE STOPS

Table A-1 Summary of NOP Comments

Date	Type of Comment	Comment From	Organization	Summary
9/30/2010	Letter	Brian Boisson		Concerned about traffic from shuttle buses, which double park on various streets. Shuttle buses cause traffic. Suggested not operating buses during peak commute times.
10/3/2010	Email	Shirley Fogarino		Unable to access NOP. Requested new web address.
10/4/2010	Letter	Irv Caplan		Would like more information as to AAU's real estate holdings, whether any is rented out. Would also like to know graduation and employment rate for students.
10/5/2010	Email	Nurit Rechnitz		Concerned with the proliferation of Academy shuttle buses. Suggests that AAU create a fleet of non-polluting buses rather than expand..
10/5/2010	Letter	Anonymous		Suggested that the Academy should pay taxes.
10/8/2010	Email	Bert Polacci	Public Advocacy Partners	Requested inclusion on notification list.
10/11/2010	Email	Janet Carpinelli	Dogpatch Neighborhood Association	Requests that representatives of the Dogpatch neighborhood attend neighborhood association meetings meetings to discuss any possible plans.
10/18/2010	Email	Carol Ann Rogers		Please include on notification list.
10/19/2010	Email	Lorraine Fedorak	SOMA Development	Requests a copy of the EIR once available.
10/25/2010	Letter	Joanne F. Allen	1860 Washington Street Condominium Association	Concerned with the noise and parking associated with the presence of the University across the street from 1860 Washington Street.
11/5/2010	Email	Alice Carey		Concern over sidewalks blocked by students (pedestrian circulation), benches, garbage cans, sidewalks. Idling buses giving off air pollution. buses blocking Muni-only lane along Sutter, AAU buses use yellow zones rather than white.
11/5/2010	Letter	Sue Hestor	San Franciscans for Reasonable Growth	Alternative analyzed for this project should be a Compact, Transit-Oriented AAU Campus focused in Mid-Market/Civic Center area; The analysis of that bus system should show the impacts of having buses and students idling and blocking traffic adjacent to AAU academic or residential facilities; Letter identifies zoning issues in SA-15, SA-16, and SA-17; eliminate these sites. Suggested capping on-site enrollment.
11/5/2010	Letter	Stan Muraoka	Contra Costa Department of Conservation and Development, Senior Planner	The proposed project would affect land that is within five Redevelopment Project Areas. The Agency requests that the Planning Department begin to actively consult with the Agency on the project and the environmental review of the project. Requested that SA-17 and SA-15 to be removed from the EIR.

Table A-1 Summary of NOP Comments

Date	Type of Comment	Comment From	Organization	Summary
n.d.	Letter	Hisashi Sugaya (Bill)		Shuttle routes, analysis of existing facilities, historic resources survey, increased enrollment and housing demand, justification for Study Areas with no current AAU facilities, information on the proposed athletic facilities, consider an alternative of a compact campus.
9/29/2010	Letter	Scott Morgan	State Clearinghouse	Transmitting the cover letter to reviewing agencies for the NOP
9/30/2010	Letter	Scott Morgan	State Clearinghouse	Transmitting a correction to the cover letter to reviewing agencies for the NOP
10/26/2010	Scoping Meeting	Sally Evans		Concerned with noise, safety, and garbage from Academy students living in her apartment building. Additionally, AAU shuttle buses block Muni buses 2, 3, & 4 from stopping on her block.
10/26/2010	Scoping Meeting	Brenda King-Randle		The Academy provides the West Contra Costa Unified School District students with scholarships to attend the AAU summer art program.
10/26/2010	Scoping Meeting	Douglas Chan	Council of Asian American Business Associations San Francisco Human Rights Commission	Suggests considering economic effects, including purchases and revenue generation for small businesses.
10/26/2010	Scoping Meeting	Brad Paul		Would like EIR to assess the conversion of 17 rent-controlled apartments to student dorms. What impact does that have on rents in the city? What impact does that have on the availability of apartments and residential hotels to people who need them? Consider an alternative for concentrated development, look at ways to control development, and new construction.
10/26/2010	Scoping Meeting	Genevieve Joponda	Filipina Women's Network	Discussed the positive impact that the Academy of Art University has given back to the community in three ways: through diversity, economic development, philanthropy, and through advocacy.
10/26/2010	Scoping Meeting	Linda Chapman	Middle Polk Neighborhood Association	Issue of displacement. When the Academy buys residential hotels, where do the residents go? Shuttles produce noise and pollution and waste energy.
10/26/2010	Scoping Meeting	Rudy Asercion	West Bay Pilipino Multi-Service Center	Supports AAU being located throughout neighborhoods and the work they do with Filipino youth.
10/26/2010	Scoping Meeting	Janet Schulze		Supports the Academy and the work they do with San Francisco High Schools providing scholarships and art supplies to minority students.
10/26/2010	Scoping Meeting	Jerry W. Brown	Bethany Center Senior Housing	Enjoys the economic impact that AAU brings to the City. Believes that AAU shuttle buses are environmentally responsible and keep people off of the Muni or Bart, which tend to get crowded. Supports the Academy and the volunteer work that the students provide at the Bethany Center in the Mission.
10/26/2010	Scoping Meeting	Gayle Roberts	San Francisco Lesbian, Gay, Bisexual, and Transgender Community Center	The Academy has been helping the San Francisco Lesbian, Gay, Bisexual, and Transgender Community Center in several different ways: through their financial support, through student involvement, and also through educational opportunities.

Table A-1 Summary of NOP Comments

Date	Type of Comment	Comment From	Organization	Summary
10/26/2010	Scoping Meeting	Elli Shahideh	John O'Connell High School	Supports the Academy and the work they do with San Francisco High Schools providing scholarships and art supplies to minority students.
10/26/2010	Scoping Meeting	Reverend Timothy Dews	Baptist Ministers of San Francisco Executive Council	Supports the Academy and the work they have done with San Francisco communities.
10/26/2010	Scoping Meeting	Kevin Martin	AAU Campus Safety Department	Supports the Academy and the educational opportunities they provide for the community.
10/26/2010	Scoping Meeting	Steve Johnson	San Francisco Police Officers Association	Supports the Academy and benefits they provide to the city. The property taxes they pay allow for the city to hire more police officers.
10/26/2010	Scoping Meeting	Millard Brewer (Bud)		Too many student housing units in a small area. Noise at the corner of Leavenworth and Sutter is especially an issue.
10/26/2010	Scoping Meeting	Byron Cook		Since the Academy has moved into the neighborhood, the number of affordable housing units has been reduced and the price of rent has gone up. Quality of life has deteriorated – shuttle buses, graffiti, and noise have all become issues.
10/26/2010	Scoping Meeting	Tim Grant		The area around Leavenworth and Sutter is over-saturated with students, which are a source of noise and garbage. Too many shuttle buses and the drivers are at times unsafe.
10/26/2010	Scoping Meeting	Crisanta Malig	Fashion Arts & Youth Enterprise	Supports the Academy and the scholarships they provide for underprivileged students.
10/26/2010	Scoping Meeting	Robin Talmadge		Supports the Academy and their efforts to abate graffiti and clean up the neighborhood.
10/26/2010	Scoping Meeting	Joe Talmadge	Heffernan Insurance Brokers	Supports the Academy and their efforts to abate graffiti and clean up the neighborhood. Stated that the Academy is receptive and responsive to the community.
10/26/2010	Scoping Meeting	Shirley Fogarino		Would like to see a detailed description of how noise and traffic would increase; how it would impact the neighbors; how it would impact businesses. Lombard Street is over-congested; over-populated; and over-trafficked.
10/26/2010	Scoping Meeting	Gavin Tolentino	Filipino American Arts Exposition	Concerned about unregulated expansion, especially in displacing existing residents. Concerned about bicycle safety with additional bus service. Supports the Academy for the support they provide to the Academy.

Table A-1 Summary of NOP Comments				
Date	***Type of Comment***	***Comment From***	***Organization***	***Summary***
10/26/2010	Scoping Meeting	Sue Hestor		Would like there to be a real discussion of alternatives; There are huge transportation impacts as well as displacement impacts by having this many locations all over the city in the northwest quadrant; Would like a concentrated location of the student programs in one or two areas -- small areas of the city -- will help the students get back and forth to classes; Would like the EIR to be explicit in what is told to the students about their compliance with the rent control ordinance. The Website has said that student housing is not protected by rent control, which is 180 degrees wrong. The students should be told they are protected by the rent ordinance from rent increases and eviction and have the full rights of tenants in the city; Illegal conversion of housing – why are live-work lofts not listed; There needs to be a thorough transportation analysis that starts mitigating the transportation impacts – such as reducing the number of shuttle buses; Housing demand - What is the housing demand for 2,269 faculty and staff?
10/26/2010	Scoping Meeting	Robert Garcia	Save Our Streets Tenants and Merchants Association	Main concern is the graffiti in the downtown Civic Center area.
11/5/2010	Letter	Stan Muraoka	Contra Costa Department of Conservation and Development, Senior Planner	Project as proposed would affect five Redevelopment Project Areas and the Mid-Market Redevelopment Survey Area. Redevelopment Agency (the Agency) requests that the Planning Department begin “actively consulting” with them on the project and environmental review. Mission Bay: The Agency requests that SA-12 (referred to as SA-15 in the letter) be removed because many of the proposed uses are inconsistent with the Redevelopment Plan, however there is potential for inclusion if they conform to the Plan. Hunters Point Shipyard: The Agency requests that SA-17 be removed because many of the proposed uses are inconsistent with the Redevelopment Plan. AAU’s proposal to use a sports complex is inconsistent with Proposition G. The facility would also restrict public access to open space Bayview Hunters Point and SOMA: The Agency will need to coordinate with the Planning Department on the environmental and project review to ensure consistency with the Redevelopment Plan. Mid Market: The Agency will need to coordinate with the Planning Department to coordinate the two EIR efforts in the Mid-Market study area. Required Public Outreach: Agency and Planning Department will need to coordinate the review by citizen advisory bodies on land use proposals.

Table A-1 Summary of NOP Comments				
Date	***Type of Comment***	***Comment From***	***Organization***	***Summary***
11/5/2010	Letter	Sue Hestor		Analyzed the compact, transit-oriented Alternative of the Project. This Alternative would mitigate impacts of the current campus and the surrounding neighborhoods. Buses idling at stops. Crowds of students gathering. Low-income residents displaced by student housing. The burden of these impacts has been shifted onto the City. Limited number of study areas would mitigate potential environmental impacts. Existing sites should not be labeled as such unless they are consistent and legally acceptable as either an institutional or residential use. Should analyze the impact of AAU consolidating its campus into a single building. Analyze the transportation impact of consolidating the Academy's student housing in the Mid-Market region. Incentivize AAU to build their own dorms through the Dufty Student Housing legislation. Land Use restrictions in SA-12 (referred to as SA-15) would allow very little housing. Analyze the impacts of SA-16 as such a remote site. Analyze an alternative that caps on-site enrollment at a reasonable limit imposed by the Planning Commission in its institutional master plan capacity
10/20/2010	Letter	Lori Yamauchi	UCSF Campus Planning	Land proposed for use by AAU has permanent structures built by UCSF. UCSF requests that SA-12 (referred to as SA-15) not include any of UCSF's Mission Bay campus.
9/30/2010	Phone	Alan Gross		Concerned about the potential land use conflicts of existing uses and AAU's plans.
9/30/2010	Phone	Steve Rogers	Coast Counties Property Management	Manages 55 New Montgomery. Estimates 232 buses per every 24 hours with many lining up and idling.
10/1/2010	Phone	Laura Larson		Concerned about development at Jerrold and shrinking supply of PDR land use
10/4/2010	Phone	Eva (NLN)		Wanted to know location of parcels to be acquired.
10/5/2010	Phone	Stan Muraoka	Contra Costa Department of Conservation and Development, Senior Planner	Concerned about location of sites in Redevelopment Areas -Hunters Point, Mission Bay, Shipyard areas. Redevelopment Agency is Responsible Agency for sites in Redevelopment Areas, and may be co-lead in EIR. He will let Tiffany Bohee in Mayor's office know.
10/12/2010	Letter	Mike Awadalla	Cybelle's Pizza	Supports the Academy and their efforts to clean graffiti. Significant revenue generator for small businesses.
10/04/2010	Letter	Jon William Schuck		Concerned about transit bus pollution and noise, litter, and cigarette smoke from students standing outside.
10/26/2010	Scoping Meeting	Drew Payne		No comment, just signed in on the scoping meeting sheet
10/26/2010	Scoping Meeting	Laura Kellough		No comment, just signed in on the scoping meeting sheet
10/26/2010	Scoping Meeting	Jannan New		No comment, just signed in on the scoping meeting sheet

Table A-1 Summary of NOP Comments

Date	Type of Comment	Comment From	Organization	Summary
10/26/2010	Scoping Meeting	Tessa Lispie		No comment, just signed in on the scoping meeting sheet
10/26/2010	Scoping Meeting	Nellie Yeo		No comment, just signed in on the scoping meeting sheet
10/26/2010	Scoping Meeting	Christine Haw		No comment, just signed in on the scoping meeting sheet
10/26/2010	Scoping Meeting	J.D. Lumpkin		No comment, just signed in on the scoping meeting sheet
10/26/2010	Scoping Meeting	Carmen Hejazi		No comment, just signed in on the scoping meeting sheet
10/26/2010	Scoping Meeting	Sara Evans		No comment, just signed in on the scoping meeting sheet
10/28/2010	Letter	Lisa Carboni	Caltrans	Comments regarding consultation, encroachment permits, traffic mitigation fees, transportation demand management strategies, roadway improvements, transit discounts, bike parking, shuttle sharing, requirements for traffic impact study, secondary effects on pedestrians and bicyclists need to be studied.
11/01/2010	Email	David Shipnuck		Requested link for NOP
9/30/2010	Phone	Marvis Phillips	Alliance for a Better District	No message
9/30/2010	Phone	Roy Bolla		Wanted to know location on Lombard Street
9/30/2010	Phone	Kevin O'Conner		No message
10/1/2010	Phone	Doris Giuliotti		Wanted to know location on Lombard Street
10/1/2010	Phone	Anne Ehrajrdt		No message
10/4/2010	Phone	Anonymous		Complaints about work at St. Brigid's Church at 2 AM.
10/4/2010	Phone	Louise Rigg		No message
10/4/2010	Phone	Mark Becchelli	Flower Market Cafe	Explained some history about his experience at Flower Market
10/7/2010	Phone	Mark Becchelli		No message
10/4/2010	Phone	Donald Karr		Wanted to know if school was allowed next to his property at 559 Sutter St.

Table A-1 Summary of NOP Comments

Date	Type of Comment	Comment From	Organization	Summary
10/5/2010	Phone	Carolyn (NLN)		No message
10/5/2010	Phone	Robert Rossi		Complaints about buses. His business has suffered.
10/5/2010	Phone	Stan Muraoka		Concern about location of sites in Redevelopment Areas -Hunters Point, Mission Bay, Shipyard areas. Redevelopment Agency is Responsible Agency for sites in Redevelopment Areas, and may be co-lead in EIR.
10/6/2010	Phone	Christian Lumpkin		No message
10/6/2010	Phone	Jennifer Carri		No message
10/7/2010	Phone	Roger Hall		No message
10/12/2010	Phone	Janet Carpinelli		No message
10/13/2010	Phone	Carol Rogers		Request to be on the mailing list.
10/15/2010	Phone	Carol Rogers		No message
10/13/2010	Phone	Bob Oatsa		Publication of map in NOP will further adversely affect the Flower Market
10/14/010	Phone	Margaret Lerian		No message
10/15/2010	Phone	Gerry Lee		Wanted information on the project.
10/27/2010	Phone	Linda Chapman		No message
10/19/2010	Phone	Shan Sayles		No message
10/26/2010	Phone	Noel Radcliff		No message
10/26/2010	Phone	Joanne Allen		No message
10/26/2010	Phone	Carlos Bueno		Wanted to know if building being bought; already half the renters are AAU students
10/28/2010	Phone	Paule Anglim		No message

Appendix B Shuttle Bus Service Policy

6/17/14, Revised 11/7/14

Shuttle Bus Service Policy

AAU provides two types of shuttle bus services: fixed-route and on-demand. Fixed-route shuttle buses transport students and staff among Academy of Art academic buildings and residence halls free of charge during building hours: before and after classes, workshops, lab hours, meals and studio times. Access to AAU fixed-route shuttle bus services is restricted to students, faculty, and staff of Academy of Art University. ID badges are required to board vehicles. Riders without ID are not permitted unless accompanied by students or staff with ID.

AAU's fleet of buses and vans also provides on-demand shuttle service for class field trips, student activities, athletics, faculty & staff transportation needs, and regular voluntary and charitable donations of transportation for local community needs. On-demand shuttle service is limited to thirty trips per day, and must be requested in advance by departmental administrative staff via web-based scheduling software.

Fixed Route Structure

Routing needs are determined by location of facilities, clustered proximity of these buildings to one another, student population density within these clustered locations, daily opening and closing times of these buildings, and class start/end times. Clusters of academic buildings within a radius of up to two city blocks are served by a single designated shuttle stop. Shuttle stops are added to support new university locations when these locations lie outside the two-block radius of any pre-existing shuttle stops, but only if per-day ridership necessitates such an addition on an ongoing basis.

There are three types of fixed-route services: Regular loop routes, Express routes, and Limited-Direct routes.

Regular loop routes are designed to connect more than two buildings within a specific area of campus, and to connect to shuttle bus hubs, from which students can transfer to other routes thereby reaching other areas of campus.

Express routes are continuous regular loop routes with only two stops.

Limited/Direct routes supplement the regular looping shuttle service, and are only provided during peak periods. These routes allow students to travel directly between classes from far sides of the campus more quickly because they eliminate hub-transfer.

Shuttle buses are routed to travel the most direct and least congested path among locations, with the following controls:

- No streets and areas restricted by SFMTA

- No streets or areas where residential complaints have been resolved with an agreement to keep buses away

Bus Stops

There are three types of bus stops:

- Regular Stop
- Hub Stop
- Flag Stop

Regular Stops

Wherever possible, AAU will apply for white passenger loading zones for shuttle bus loading along the frontage of the AAU buildings, pending SFMTA approval. If a zone is desired in an area where no AAU building frontage exists, AAU will seek a letter of concurrence from the owner of the property adjoining the desired curb space. Length of passenger loading zones requested depends on the length and frequency of the vehicles serving the location. Typical lengths are 20- to 25-foot zones for small and medium length buses, and 40- to 103-foot zones for the frequent loading of larger transit buses.

Hub Stops

Bus hubs are shuttle stops shared by all routes in the system, designed to allow students, faculty, and staff to transfer from one route to another in cases where direct service via the continuously looping routes is unavailable. No breaks or layovers are conducted at the designated hub locations. Route schedules are designed without lag times that would allow for idling or layovers at hubs or other stops. Change of drivers does occur at hub locations and takes less than five minutes. Hub stops are located in areas where sufficient passenger loading zones are available to accommodate the need for bus loading. Curb usage is monitored via surveillance cameras by the Transportation Department to ensure that sufficient number of spaces are available. The majority of fixed-route shuttles are scheduled with relief drivers taking over at hub stops to maintain looping service on routes while regular drivers are on break. In cases where ridership demand does not support continuous looping service, shuttles are designated to return to the bus yard during breaks.

Bus layover is required at times. When scheduled breaks do not permit buses to return to the bus yard without excessive carbon footprint, shuttles are directed to use legal parking spaces as available in the vicinity. Parking meter cards are issued to these drivers as needed.

Flag Stops

Flag stops may be established if average ridership per day is less than 20 passengers. In such cases these locations are not assigned stop times, but are indicated along routes as places where drivers stop and board passengers only if someone is waiting at the curb and signals to the bus that they wish to board.

Operating Policy

Diesel buses are equipped with auto-shutoff anti-idling regulators which activate after five minutes. Gasoline buses are not equipped in this way, as the idling of gas buses is not regulated by California's commercial vehicle idling laws. Field Supervisors are tasked with daily surveillance of hub locations to ensure that vehicles are not stacking up, and are not laying over.

Frequency of service is monitored and adjusted prior to the start of each semester, and is subject to adjustment mid-semester as well. Ridership data (on-boarding) is gathered by bus drivers, and routes are continually monitored for hour-by-hour ridership statistics. The following threshold criteria are applied for peak and off-peak-hour frequencies when making adjustments:

During peak hours, shuttle frequencies increase as needed. Frequencies are evaluated and adjusted based on comparison of data about shuttle loads received from drivers' passenger count sheets, student feedback, and driver reports about overloading. If shuttles are filled to maximum capacity, standing room is utilized, and auxiliary shuttles are required. Backup routes are scheduled as limited regular service to supplement during peak periods only.

When average ridership per day on a given loop at a certain off-peak time of day indicates low usage of that loop in per-hour periods of two or more consecutive hours, the loop will be considered for removal if total average daily ridership indicates fewer than 10 passengers on-boarding per-hour during that time period daily.

Changes in building hours necessitate the cancellation or addition of service.

Bus Fleet

The size and quantity of vehicles assigned to each route are monitored and adjusted prior to the start of each semester, and are subject to adjustment throughout each semester as well. When route ridership falls below average threshold minimums, quantity of shuttles on a given route will be decreased, and/or vehicle size will be adjusted, and/or routes may go out of service entirely during the predictable periods of low ridership. Determinations about which of these measures are appropriate are made by factors such as alternative bus availability and passenger data. The following threshold criteria are applied when making adjustments:

When the on-boarding average ridership per day on a given bus indicates low usage of that bus throughout the day, the bus will be considered for removal from the route if total average daily ridership indicates fewer than 40 passengers per day.

Vehicles are replaced or retrofitted to comply with California Air Resource Board low emission requirements. Fleet is maintained as predominantly gas-fueled vehicles. Vehicle replacement policy is to progressively minimize quantity of diesel vehicles in fleet.

Management, Coordination, and Communication

AAU is committed to provide students, faculty, and staff with convenient and easily accessible data on shuttle bus routes and schedules. AAU provides shuttle routes and schedules on the AAU website and includes the data in the kiosks in the lobbies of academic buildings. AAU also provides a mobile app which gives students, faculty, and staff access to GPS data, allowing them to locate shuttles en route.

AAU is committed to ongoing communication, problem solving, and cooperation to alleviate and eliminate complaints and concerns received from the public, adjacent neighbors, and city agencies. In addition, AAU transportation managers participate in SFMTA coordination meetings regarding bus stop policies and programs.

The Campus Safety Communication Center at 180 New Montgomery shares two-way radio access with drivers, dispatchers, supervisors and managers in the Transportation Department. This allows for quick response times in emergency situations.

AAU Shuttle Route Controls

When considering new, expanded, or relocated shuttle routes, routes shall avoid all residential streets where feasible. If it is infeasible to avoid residential streets due to the location of the AAU building, AAU's shuttle routing will take into account factors such as stop locations, schedules, and the minimum size of shuttle vehicle needed to meet demand.

Drivers on established shuttle routes shall generally adhere to those routes. In cases of congestion, shuttle drivers shall avoid diverting to residential streets.

As routes change, AAU will document changes/selection of routes and make the documentation available to the City and the public promptly on the AAU website, annually directly to the City, and upon request directly to members of the public.

AAU will conduct routine (Fall, Spring and Summer term) analysis of shuttle ridership demand and routes to make necessary adjustments. This analysis shall include goals of reducing routes/buses with low capacity utilization and methods to address any community concerns.

For more efficient routing and perhaps the reduction of shuttles, AAU will identify the shuttle vehicles that can accommodate standing riders and calculate shuttle capacity

based on both seated and standing passengers, similar to how public transit capacity is determined. Use this capacity information in the triannual optimization analysis of shuttle ridership demand, routes, and adjustments.

AAU will provide a contact for shuttle bus traffic/routing to the public and for the City. This contact information will be posted clearly on AAU's website. AAU will log, and make available to the City upon request, all complaints and resulting resolutions of complaints related to shuttle routing and/or service.

AAU Shuttle Stop Controls

No use of Muni or regional transit stops by AAU shuttles unless previously approved by SFMTA.

Establish shuttle routes and stops to minimize the risk of double-parking. Inform shuttle drivers not to double-park or otherwise block vehicle travel lanes to load or unload shuttle passengers unless both a) the shuttle driver cannot stop at an AAU white zone or other AAU stop because it is blocked by an unauthorized vehicle; and b) the driver promptly notifies the Department of Parking and Traffic of the unauthorized blockage. When AAU double parking or blocking of vehicle lanes that is not caused by such third-party activity is documented to occur, AAU shall take measures to correct this traffic violation (such as through the provision of a white zone, or relocation of a shuttle stop).

Shuttles shall not idle at stops when not actively loading or unloading passengers, particularly at hub stops.

Similar to route controls, AAU will provide a contact person for AAU shuttle stop concerns from the public, which will be clearly posted on AAU's website, and will keep a log of any complaints received, with resolutions to be made available to the City upon request.

As changes are made or flag stops established, make these changes available to the City.

Provide direct contact for MTA of "two-way radio access" operator, i.e. the AAU Communications Center and Transportation Dispatcher, to resolve any day-to-day concerns from Muni drivers as they arise.

PLACE
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Chelsea Fordham
San Francisco Planning Department
Major Environmental Analysis Division
1650 Mission Street, Suite 400
San Francisco, CA 94103

PLEASE CUT ALONG DOTTED LINES

PLEASE RETURN THIS POSTCARD TO REQUEST A COPY OF
THE FINAL ENVIRONMENTAL IMPACT REPORT

(NOTE THAT THE DRAFT EIR PLUS THE COMMENTS AND RESPONSES
DOCUMENT CONSTITUTE THE FINAL EIR)

REQUEST FOR FINAL ENVIRONMENTAL IMPACT REPORT

Planning Department Case No. 2008.0586E

Academy of Art University Project Draft Environmental Impact Report

Check one box: ☐ Please send me a copy of the Final EIR on CD-ROM.
☐ Please send me a paper copy of the Final EIR.

Signed: _____

Name: _____

Street: _____

City: _____ State: _____ Zip: _____