ADDENDUM
TO THE SANTANA ROW EXPANSION PROJECT FINAL ENVIRONMENTAL IMPACT REPORT

Pursuant to Section 15164 of the CEQA Guidelines, the City of San Jose has prepared an Addendum to the Santana Row Expansion Project Final Environmental Impact Report (Santana Row Expansion FEIR) because minor changes made to the project, as described below, do not raise important new issues about the significant impacts on the environment.

File No. PDC15-068 – Santana Row Lot 17 Residential Project. Planned Development Permit to allow for the demolition of three existing multi-family attached residential buildings with a total of 47 units and the construction of a five-story, maximum 112 unit multi-family attached residential building on a 0.99 gross acre site. **Location:** Northeast corner of Dudley Avenue and Tisch Way, at 524 – 544 Dudley Avenue (APNs 277-38-003, -004, and -005).

Council District: 6.

The environmental impacts of this project were addressed by a Final Environmental Impact Report entitled "Santana Row Expansion Project Final Environmental Impact Report," adopted by City Council Resolution No. 77532 on September 22, 2015. The proposed project is eligible for an addendum pursuant to CEQA Guidelines §15164, which states that "A lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in CEQA Guidelines §15162 calling for preparation of a subsequent EIR have occurred." Circumstances which would warrant a subsequent EIR include substantial changes in the project or new information of substantial importance which would require major revisions of the previous EIR due to the occurrence of new significant impacts and/or a substantial increase in the severity of previously identified significant effects.

The following impacts were reviewed and found to be adequately considered by the Santana Row Expansion FEIR:

☒ Traffic and Circulation	☒ Soils and Geology	☒ Noise
☒ Cultural Resources	☒ Hazardous Materials	☒ Land Use
☒ Urban Services	☒ Biotic Resources	☒ Air Quality
☒ Aesthetics	☐ Airport Considerations	☐ Microclimate
☒ Energy	☒ Greenhouse Gas Emissions	☒ Construction Period Impacts
☒ Water Quality	☒ Utilities	☒ Facilities and Services

ANALYSIS

The Santana Row Expansion FEIR evaluated the expansion of the Santana Row site to incorporate four parcels totaling about 1.91 acres collectively known as Lot 17. These four parcels include a surface parking lot to the north and three apartment buildings on Dudley Avenue, which together have 47 residential units. The FEIR also evaluated other changes to the Santana Row Planned Development Zoning including an increase in office capacity by 510,000 square feet and an increase retail capacity by 55,641 square feet to allow an expansion of the existing movie theater.

The FEIR assumed that the existing apartment buildings on Dudley Avenue would be demolished and an office building of about 246,000 square feet (out of the 510,000 square foot increase in office entitlement) and a parking garage would be built on Lot 17. The 47 residential units in the three demolished apartment buildings would be credited to the overall Santana Row development capacity, increasing the maximum number of residential units on the Santana Row site to 1,229, of which 395 would be available for future development elsewhere on the Santana Row site.

The proposed project alters the project analyzed in the FEIR by constructing a five-story residential building with up to 112 units instead of a 246,000 square foot office building on the southern portion of Lot 17. Under this proposal, the three existing apartment buildings would still be demolished, but the proposed office development would be built elsewhere on the Santana Row site at a later date. The attached supplemental report evaluates changes to the project as originally evaluated in the FEIR. As demonstrated, the project will not result in any new significant environmental impacts nor in an increase in the severity of any previously identified environmental impact. Therefore, the City prepared an Addendum to the Santana Row Expansion FEIR.

This addendum will not be circulated for public review, but will be attached to the Great Oaks EIR, pursuant to CEQA Guidelines §15164(c).

David Keyon
Environmental Project Manager

5/20/2016
Date

Harry Freitas, Director
Planning, Building and Code Enforcement

Meenaxi R. P.
Deputy

Attachments:

1) Addendum Supplement for the Santana Row Lot 17 project, dated April 2016.
2) Mitigation Monitoring and Reporting Program for the Santana Row Expansion Project.

ADDENDUM
TO THE FINAL ENVIRONMENTAL IMPACT REPORT FOR THE
SANTANA ROW PLANNED DEVELOPMENT REZONING PROJECT

May 2016

1.0 PURPOSE OF ADDENDUM

The California Environmental Quality Act (CEQA) recognizes that between the date an environmental document is certified and the date the project is fully implemented, one or more of the following changes may occur: 1) the project may change; 2) the environmental setting in which the project is located may change; 3) laws, regulations, or policies may change in ways that impact the environment; and/or 4) previously unknown information can arise. Before proceeding with a project, CEQA requires the Lead Agency to evaluate these changes to determine whether or not they affect the conclusions in the environmental document.

On September 22, 2015, the San Jose City Council certified the *Santana Row Planned Development Rezoning Final Environmental Impact Report* (FEIR) (SCH No. 2013122059 and City Council Resolution No. 77532) and approved the Santana Row Expansion Project and Rezoning (File No. PDC13-050). The FEIR analyzed the following: 1) increase in the size of the existing Santana Row site by 1.91 acres, 2) an increase in the allowable office entitlement by 510,000 square feet and the retail entitlement by 55,641 square feet, 3) demolition of three apartment buildings (totaling 47 units) and the transfer of the residential capacity to increase the allowable number of residential units at Santana Row by 47, 4) to increase the maximum number of hotel rooms on-site from 214 to 220 within the existing hotel, and 5) the construction of a new five-level parking structure. The FEIR also evaluated the addition of the Monroe Avenue/Stevens Creek Boulevard intersection to the City's list of protected intersections.

Since certification of the FEIR, changes to the 2015 project have been proposed, which are the subject of this Addendum. The purpose of this Addendum is to analyze the impacts which may result from the modified 2016 Santana Row project (see Section 2.0, *Description of the Proposed Changes to the Project*).

The CEQA Guidelines Section 15162 states that when an EIR has been certified or a negative declaration adopted for a project, no subsequent EIR shall be prepared for that project unless the Lead Agency determined, on the basis of substantial evidence in light of the whole record, one or more of the following:

1. Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

2. Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previous EIR or Negative Declaration due

to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

3. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete of the Negative Declaration was adopted, shows any of the following:
    a. The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
    b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
    c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
    d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

CEQA Guidelines Section 15164 states that the Lead Agency or a Responsible Agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary, but none of the conditions described in 15162 (see above) calling for preparation of a subsequent EIR have occurred.

2.0 DESCRIPTION OF THE PROPOSED CHANGES TO THE PROJECT

Section 2.1 describes the project as approved in 2015 and analyzed in the FEIR. Section 2.2 describes the proposed changes to the previously approved project.

2.1 SUMMARY OF APPROVED PROJECT

The previously approved project included four major components: 1) expansion of the Santana Row site, 2) an increase in the allowable office square footage, 3) an increase in the allowable retail square footage, and 4) and increase in the allowable residential units.

2.1.1 Expansion of the Santana Row Site Area

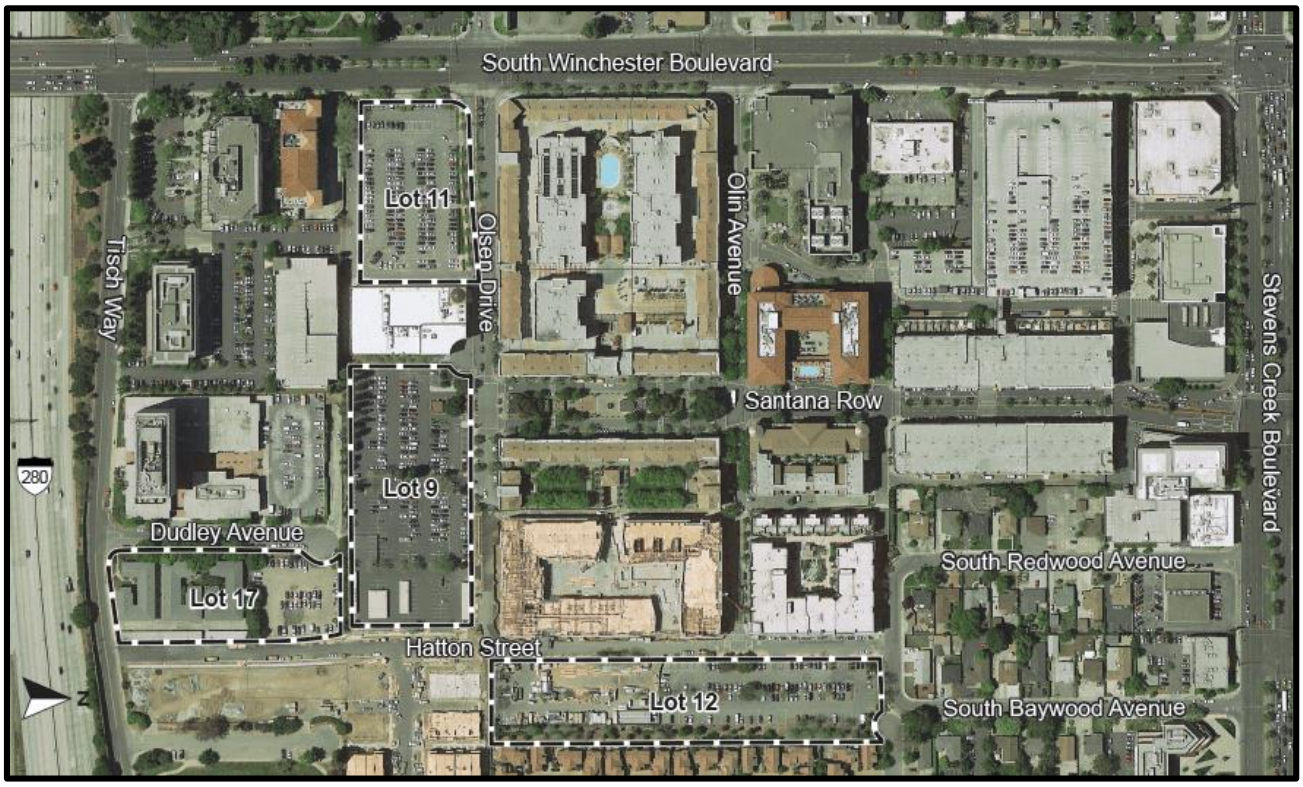
The previously approved Santana Row project encompassed 40.62 acres of land area. The 2015 project was approved to expand the existing boundary of the Santana Row PD zoning to include four adjacent parcels (collectively referred to as Lot 17). Lot 17 (APNs 277-38-003, -004, -005, and -013) is located at the northeast corner of Dudley Avenue and Tisch Way. The combined site area of the four parcels is 1.91 acres. This equated to a new total site area of 42.53 acres.

The southern portion of Lot 17 is currently developed with three two-story apartment buildings with a total of 47 dwelling units. The northern portion of Lot 17 is currently a parking lot, but was previously entitled separate from Santana Row by the City in December 2010 for 69,491 square feet of office space as part of the Monroe Terrace project (PDC10-018).

2.1.2 Increase in Office Entitlement

The 2015 project was approved to increase the allowable office space entitlement on Santana Row by 510,000 square feet. Approximately 264,000 square feet of this entitlement was assumed to be constructed on Lot 9 and approximately 246,000 square feet on Lot 17 (as discussed below).

As noted above, the southern half of Lot 17 is currently developed with three two-story apartment buildings (a total of 47 units) and the northern half of the site is a large surface parking lot. The 2015 project included demolition of the existing apartment buildings and construction of up to 246,000 square feet of office space on the southern end of the site. The office building would be constructed above a parking podium with at least three levels of above-grade parking. One level of underground parking would also be constructed across the site. The 2015 approved office building would be a maximum 180 feet in height. The northern half of Lot 17 would be developed with the five-level parking structure. The office building would be built to achieve LEED Silver certification.



2.1.3 Increase in Retail Entitlement

The 2015 approved rezoning allows for an additional 55,641 square feet of retail space that can utilized for service retail (i.e., retail that sells goods and services) or expansion of the existing movie theater on-site.

2.1.4 Increase in the Number of Housing Units

Lot 17 is currently developed with 47 apartment units. The 2015 project was approved to transfer the development capacity from these apartments by increasing the number of allowable residential units

on the Santana Row site under the PD zoning by 47 for a total of 1,229 units on-site. The future location of these units was not determined as part of the 2105 approval.

2.2 PROPOSED CHANGES TO THE APPROVED PROJECT

The approved entitlements for each land use designation would not change. The current status of the approved entitlements on-site is shown in Table 2.2-1 below.

TABLE 2.2-1
Existing Conditions and Zoning for Santana Row

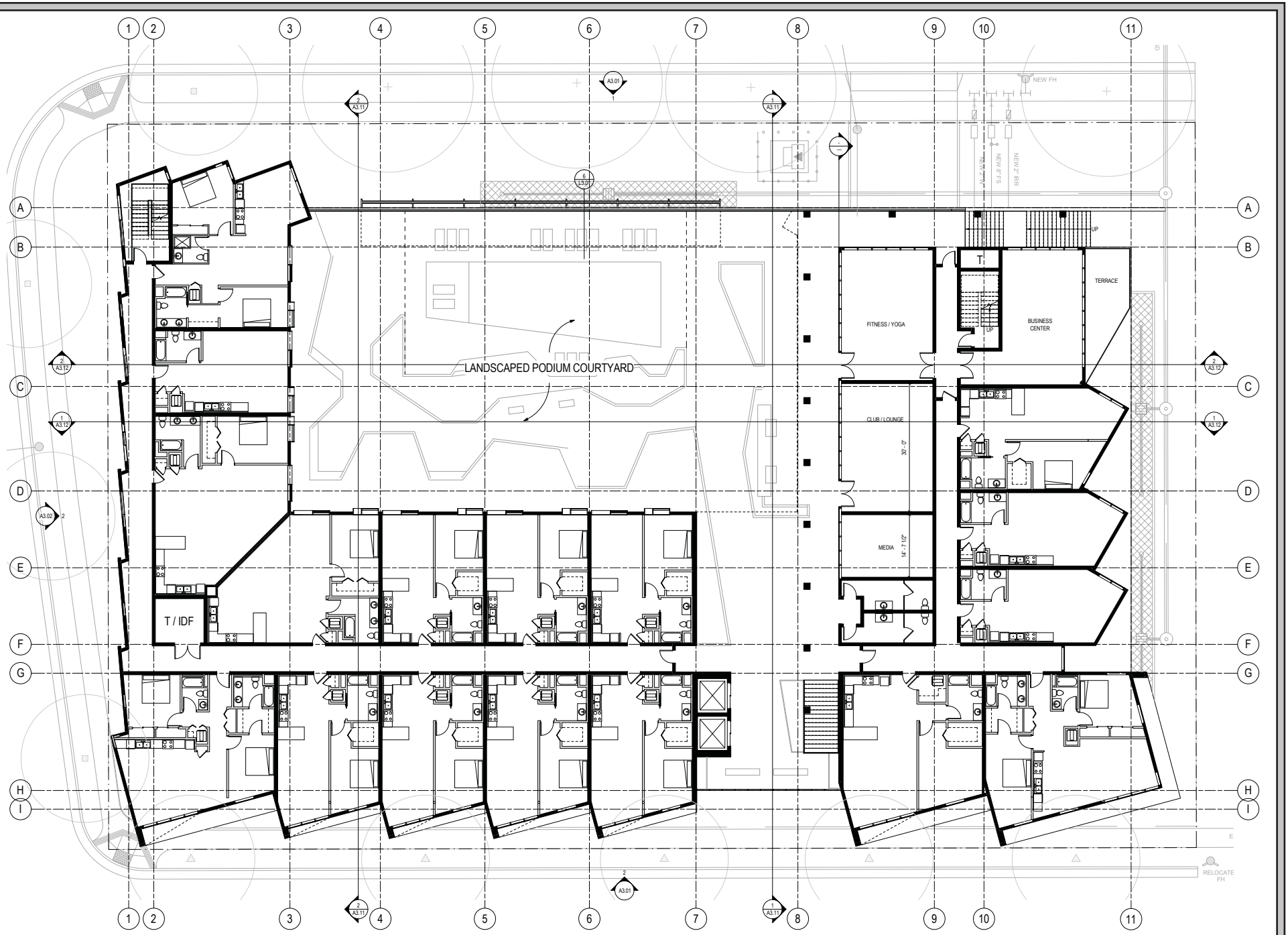
Land Use	Approved Entitlement	Built	Under Construction	Remaining Entitlement
Hotel Rooms	220	214	---	6
Residential	1,229	834	---	395
Commercial Space	2.214,482 sf	1,228,790 sf	230,778 sf	754,914 sf
Retail Combined	708,141 sf	584,395 sf	---	123,746 sf
- Retail	562,941 sf	479,176 sf	2,578 sf	81,187 sf
- Restaurant	145,200 sf	105,219 sf	---	39,981 sf
Office	798,200 sf	60,000 sf	228,200 sf	510,000 sf

The approved 2015 project proposed a 180-foot tall, 246,000 square foot office building on Lot 17. The modified 2016 project proposes to construct a five-story, 112-unit residential building on Lot 17 (see Figure 2.2-1: *Site Plan*) instead of an office building. The residential units would come from the remaining 395 units of existing residential entitlement for the Santana Row site. The office square footage originally approved for Lot 17 would remain in the overall Santana Row development entitlement and would be constructed elsewhere on the Santana Row site at a future date. The future location of the development is, however, not currently known.

Because the precise location(s) and building massing of the future office development is not currently known it cannot be addressed in this Addendum and subsequent environmental review would be required prior to approval of any Planned Development Permit(s) to construct office buildings under this entitlement.

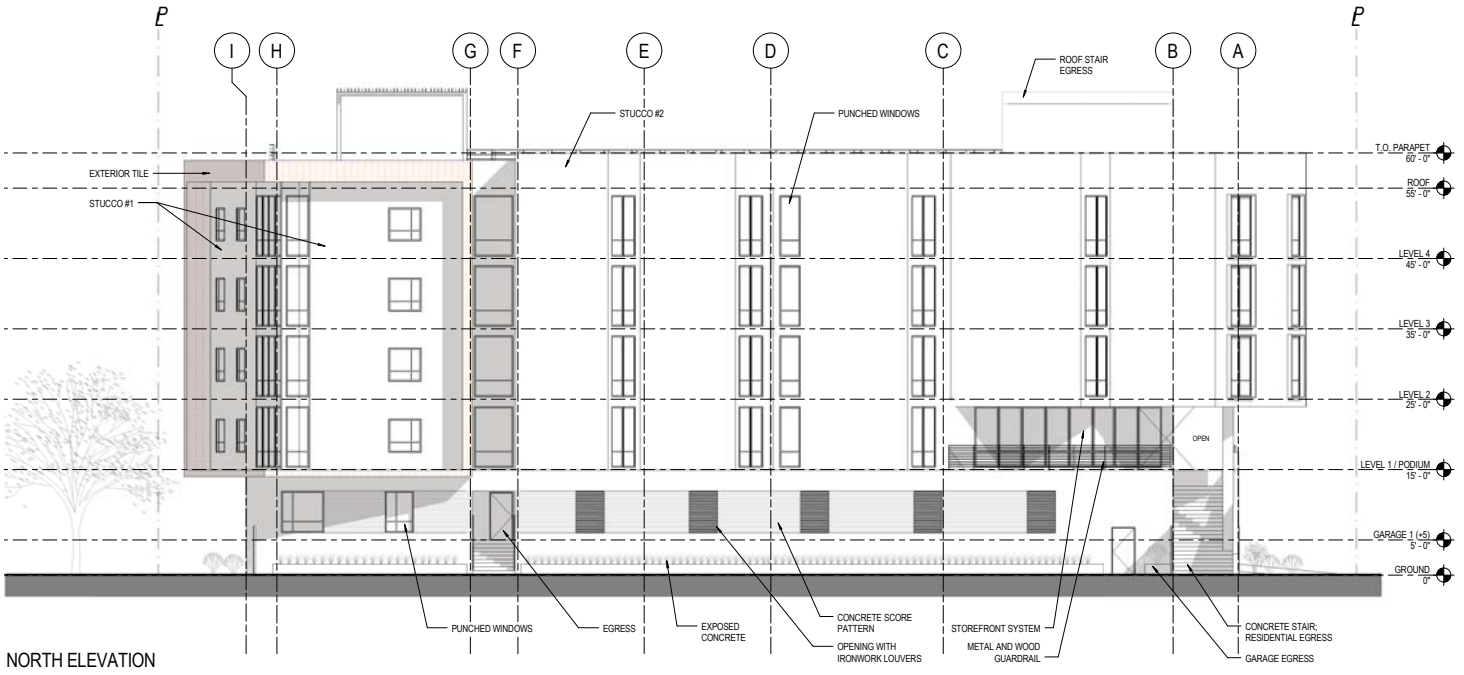
2.2.1 Project Details

As proposed, the 106,180 square foot, 112-unit residential building would be a maximum of five stories (60 feet) with three levels of parking within the building. Open space on-site would consist of an approximately 13,500 square foot landscaped courtyard on the second level of the building (on top of the parking) and a 4,800 square foot roof deck on the northeast corner of the building. The courtyard would have residential units on three sides and be open on the west side of the building.

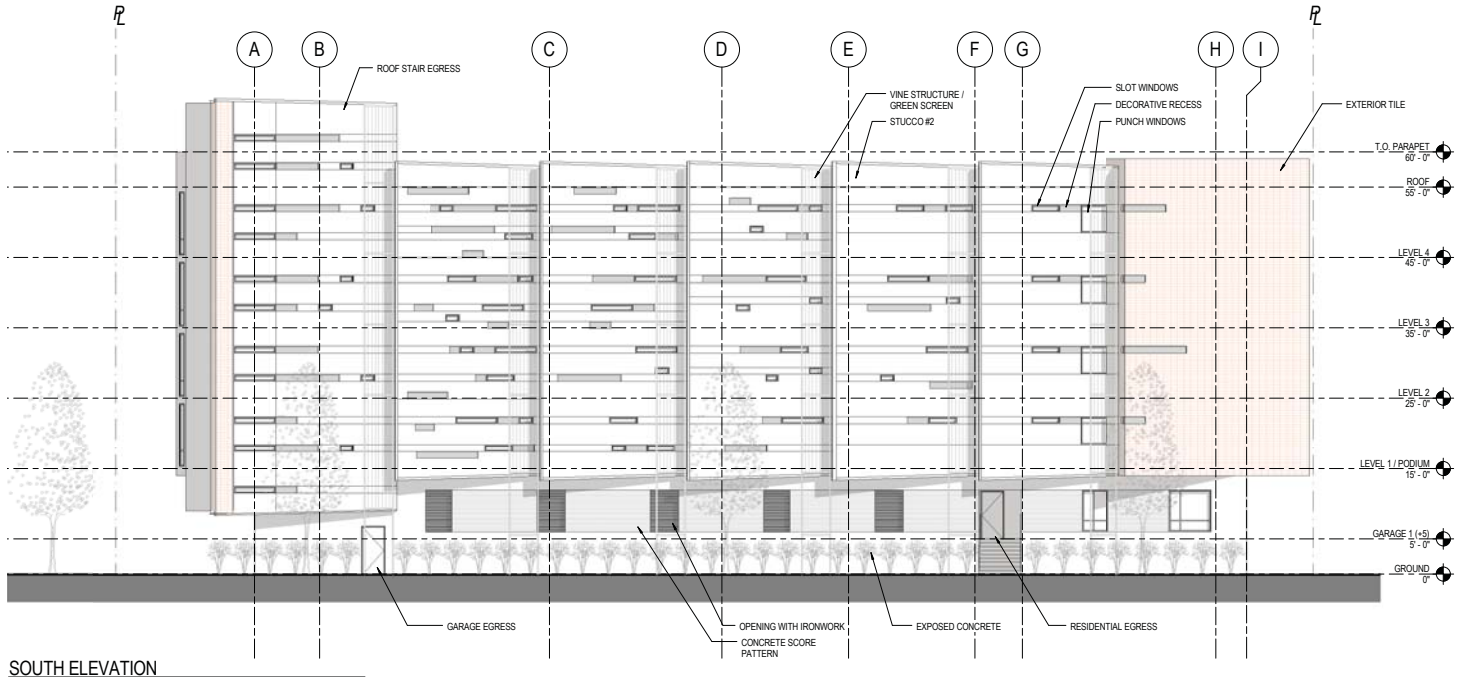


SITE PLAN

FIGURE 2.2-1



NORTH ELEVATION

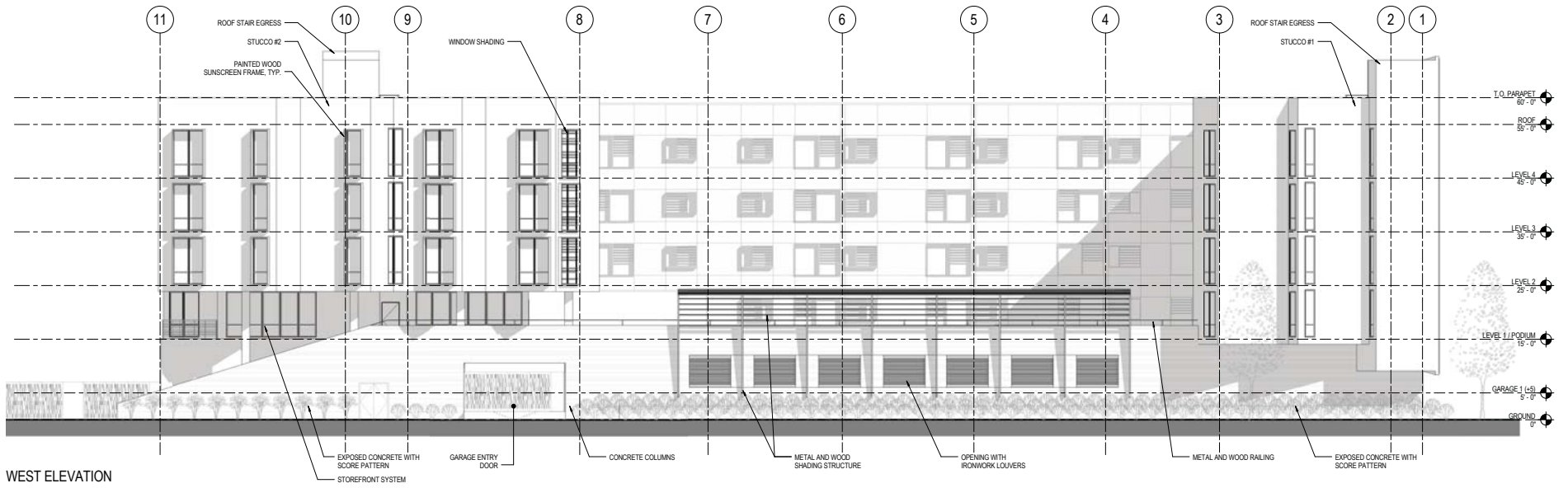


SOUTH ELEVATION

NORTH AND SOUTH BUILDING ELEVATIONS

FIGURE 2.2-2

EAST ELEVATION



WEST ELEVATION

EAST AND WEST BUILDING ELEVATIONS

FIGURE 2.2-3

The parking would include 128 automobile spaces, 23 motorcycle spaces, and 23 bicycle spaces located within one below-grade level (to a depth of 15 feet), one partially below-grade level (five feet below ground level), and one above grade level. The ground floor parking level would have residential units located along the eastern side. Access to the parking would be provided from a driveway on Dudley Avenue.

3.0 ENVIRONMENTAL IMPACTS OF THE PROPOSED CHANGES TO THE PROJECT

The discussion below describes the environmental impacts of the modified 2016 project compared to the impacts of the approved 2015 project, as addressed in the FEIR. Also noted are any changes that have occurred in the environmental setting that would result in new impacts or impacts of greater severity than those identified in the previously certified FEIR. This Addendum only addresses those resource areas which would be potentially affected by the proposed changes to the approved 2015 project (air quality and noise).

The proposed modifications to the approved 2015 project would not alter the analysis in the FEIR with regard to other resources areas, such as hazardous materials, hydrology, public services, and transportation. This is because the overall development capacity and vehicle trips generated by the project would remain the same as the approved project evaluated in the FEIR.

3.1 AIR QUALITY

The change to the 2015 project relevant to air quality is the placement of housing on Lot 17 instead of an office building. The placement of housing on Lot 17 would place sensitive receptors in proximity to sources of toxic air contaminant (TAC) emissions. The following analysis addresses the potential TAC air quality impacts that would result from the construction of residences on Lot 17.

Overall criteria pollutant emissions from full build out of Santana Row would not change because the overall development entitlement would not change. Construction emissions related specifically to the Lot 17 development may be less than was identified in the FEIR because the size of the development of Lot 17 would be reduced. This Addendum does not, however, assume any reduction in construction emissions for Lot 17 and all previously identified mitigation measures would still be required.

3.1.1 Findings of the Previously Certified FEIR

3.1.1.1 Operational Toxic Air Contaminants Impacts to the Project Site

The primary sources of TACs within the project area are traffic on Highway 280 and three off-site stationary sources. The three stationary sources were analyzed for the potential effect of future residential development on the Santana Row site. Table 3.1-1 shows the estimated cancer risk and hazard index, based on BAAQMD permitting data.

TABLE 3.1-1 Stationary Source Emissions Impacts			
Facility	**Cancer Risk**	**$PM_{2.5}$**	**Hazard Index**
602 South Winchester – Gas Station	0.3	0.00	<0.01
425 South Winchester – Gas Station	0.4	0.00	<0.01
500 South Winchester – Emergency Back-up Generator	5.8	<0.01	<0.01
BAAQMD Threshold	***10.0***	***0.3***	***1.0***

As shown in the table, none of the stationary sources within the project area have emissions levels in excess of BAAQMD thresholds and would have a less than significant impact on future residential development on the Santana Row site.

For Highway 280, the analysis determined the cancer risk and hazard index for residential development at various distances from the roadway, as shown in Table 3.1-2, below.

The analysis concluded that there would be a significant cancer risk to future residences within 800 feet of the Highway 280 and a significant $PM_{2.5}$ risk within 200 feet.

TABLE 3.1-2 Mobile Source Emissions Impacts			
Distance from I-280	**Cancer Risk**	**$PM_{2.5}$**	**Hazard Index**
75 feet	52.5	0.45	0.05
100 feet	45.9	0.39	0.05
200 feet	30.9	0.26	0.03
300 feet	23.5	0.19	0.02
400 feet	18.6	0.15	0.02
500 feet	15.3	0.13	0.02
750 feet	10.2	0.08	0.01
1,000 feet	7.3	0.06	0.01
BAAQMD Threshold	***10.0***	***0.3***	***1.0***

No housing was proposed on Lots 9, 11, or 17 under the approved 2015 project, which are the only parcels on the project site within 800 feet of Highway 280.

The FEIR concluded that because the stationary sources would not result in a TAC exposure risk to future residents of the site and because no housing was proposed within 800 feet of Highway 280, TAC emissions in the project area would have a less than significant impact on future residents of the Santana Row site.

3.1.2 TAC Emissions Effects on the Modified Project

The modified project would replace existing housing on Lot 17 with up to 110 new residential units. These units would be located between 90 and 340 feet from Highway 280. The California Supreme Court in a December 2015 opinion [*California Building Industry Association v. Bay Area Air Quality Management District,* 62 Cal. 4th 369 (No. S 213478)], subsequent to certification of the 2015 Santana Row FEIR, confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. While impacts to a project from existing environmental conditions are not a CEQA issue, the City of San José currently has policies that address existing conditions affecting a proposed project. This is consistent with one of the primary objectives of CEQA, which is to provide objective

information to decision-makers and the public regarding a project as a whole. The CEQA Guidelines and the courts are clear that a CEQA document can include information of interest even if such information is not an "environmental impact" as defined by CEQA. Therefore, this section will discuss "planning considerations" that relate to City policies pertaining to existing conditions.

City Policy MS-11.1 requires completion of air quality modeling for sensitive land uses such as new residential developments that are located near sources of pollution such as freeways and industrial uses. This policy requires new residential development projects and projects categorized as sensitive receptors to incorporate effective mitigation into project design or be located an adequate distance from sources of TACs to avoid significant risks to health and safety.

BAAQMD provides Roadway Screening Analysis Tables that are used to assess potential cancer risk and annual $PM_{2.5}$ concentrations from surface streets for each Bay Area county. The criteria used by the City of San José are that a project would result in TAC or $PM_{2.5}$ health risks if:

- An excess cancer risk level of more than 10 in one million, or a non-cancer (chronic or acute) hazard index greater than 1.0.

- An incremental increase of more than 0.3 micrograms per cubic meter ($\mu g/m^3$) annual average $PM_{2.5}$.

Within 1,000 feet of the project site, future residents would be exposed to TAC emissions from Highway 280, Winchester Boulevard, and a generator located at 500 S. Winchester. Table 3.1-3 shows the community risks to future residents on Lot 17 from these source emissions.

TABLE 3.1-3
Community Risks From TAC Emissions on Lot 17

Source	Maximum Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ ($\mu g/m^3$)	Maximum Hazard Index
Highway 280	16.3	0.7	<0.1
Winchester Boulevard	1.4	0.1	<0.1
500 S. Winchester Generator	0.7	0.0	0.00
Single Source Threshold	*>10.0*	*>0.3*	*>1.0*
Cumulative Total	18.4	0.8	<0.10
Cumulative Threshold	*>100*	*>0.8*	*>10.0*

The analysis found that the long-term cancer risk and $PM_{2.5}$ concentrations from mobile source emissions on Highway 280 would exceed the BAAQMD threshold. Figures 3 and 4 in Appendix A show the cancer risk and $PM_{2.5}$ exposure relative to location within the building, with the highest concentrations being at the southern façade of the structure.

Consistent with General Plan Policy MS-11.1, the following measures are required as a condition of project approval to reduce exposure to TAC emissions and avoid significant risks to health and safety:

Project Conditions

- The project shall install air filtration devices within the building that have a minimum efficiency reporting value (MERV) rating of 13 and that meet the following minimum design criteria:
    - A MERV-13 rating that represents a minimum of eight percent efficiency to capture small particulates;
    - At least one air exchange(s) per hour of fresh outside filtered air; and
    - At least four air exchange(s) per hour recirculation.

- The approved building permit plans must show the installed air filtration devices.

- The air filtration devices must be in place and operational prior to issuance of occupancy permits.

- A maintenance plan shall be implemented for the useful life of the building's HVAC air filtration system.

- The lease agreements and other property documents shall: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks; (2) include assurance that new owners and tenants are provided information on the ventilation system; and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.

- If modifications to these air pollution control measures are proposed, an authorized air pollutant consultant shall verify that the modifications meet the requirements of General Plan Policy MS-11.1 prior to issuance of necessary building permits or revisions to previously issued building permits.

With implementation of the identified measures, the long-term cancer risk would be reduced to 8.9 cancer cases per million and $PM_{2.5}$ concentrations would be reduced to 0.3 $\mu g/m^3$. As a result, the project would be consistent with General Plan Policy MS-11.1.

Consistent with the California Supreme Court December 2015 opinion [*California Building Industry Association v. Bay Area Air Quality Management District,* 62 Cal. 4th 369 (No. S 213478)], the long-term TAC exposure to future residents of Lot 17 is not a new CEQA impact. Furthermore, by complying with General Plan policy MS-11.1, the project would not result in a long-term health and safety risk for future residents.

3.2 NOISE

The change to the 2015 project relevant to noise is the placement of housing on Lot 17 instead of an office building. The placement of housing on Lot 17 would place sensitive receptors in proximity to noise from Highway 280. The following analysis addresses the potential noise impacts that would result from the construction of residences on Lot 17.

Overall ambient noise levels from full build out of Santana Row would not change because the overall development entitlement would not change. Construction noise related specifically to the Lot

17 development may be less than was identified in the FEIR because the size of the development of Lot 17 would be reduced. This Addendum does not, however, assume any reduction in construction noise for Lot 17 and all previously identified measures included as conditions of approval would still be required.

3.2.1 Findings of the Previously Certified FEIR

3.2.1.1 Noise Impact to the Project Site

The 2015 approved office building on Lot 17 would be approximately 90 feet from Interstate 280. Based on noise measurements near Lots 9 and 17, average ambient noise levels in this area range from 52 to 60 dBA.[1] This is well below the City's acceptable noise threshold of 70 dBA for office and commercial buildings.

The future noise environment on the project site would continue to result primarily from traffic on adjacent freeways and roadways. As a result of increased traffic from planned growth, future noise levels in the project area are expected to increase by 1 dBA over existing noise levels.

Based on future ambient noise levels of 69 dBA along Stevens Creek Boulevard and 71 dBA along Winchester Boulevard, as identified in the General Plan, future residential and retail development within the Santana Row site would meet the City's conditional noise standards of 80 dBA for commercial/retail/office and 75 for residential. Based on State and City standards, interior noise levels should be less than or equal to 45 dBA. With standard building techniques and the shielding of residential units by the commercial and office developments along the north, west, and south perimeters of the site, interior noise levels for all proposed land uses would be met. Therefore, future development on the project site would not be impacted by noise.

The FEIR concluded that because future residents on the Santana Row site would not be exposed to noise levels in excess of City standards, and because the existing noise environmental is compatible with office development on Lot 17, existing noise levels would have a less than significant impact on the Santana Row site.

3.2.2 Noise Effects on the Modified Project

The modified project would replace existing apartment buildings on Lot 17 with up to 110 new apartment units. These units would be located between 90 and 340 feet from Highway 280. The California Supreme Court in a December 2015 opinion [*California Building Industry Association v. Bay Area Air Quality Management District,* 62 Cal. 4th 369 (No. S 213478)], subsequent to certification of the 2015 Santana Row FEIR, confirmed that CEQA, with several specific exceptions, is concerned with the impacts of a project on the environment, not the effects the existing environment may have on a project. While impacts to a project from existing environmental conditions is not a CEQA issue, the City of San José currently has policies that address existing conditions affecting a proposed project. This is consistent with one of the primary objectives of CEQA, which is to provide objective information to decision-makers and the public regarding a

[1] All noise measurements for the previous analysis were taken at locations north of the existing apartment complex on Lot 17, within existing parking lots and along Hatton Street.

project as a whole. The CEQA Guidelines and the courts are clear that a CEQA document can include information of interest even if such information is not an "environmental impact" as defined by CEQA. Therefore, this section will discuss "planning considerations" that relate to City policies pertaining to existing conditions.

City Policy EC-1.1 requires new development to be located in areas where noise levels are appropriate for the proposed uses, considering Federal, State and City noise standards and guidelines as a part of new development review. Within the City of San Jose, applicable standards and guidelines for land uses in San José include:

Interior Noise Levels

The City's standard for interior noise levels in residences, hotels, motels, residential care facilities, and hospitals is 45 dBA DNL. Include appropriate site and building design, building construction and noise attenuation techniques in new development to meeting this standard. For sites with exterior noise levels of 60 dBA or more, an acoustical analysis following protocols in the City-adopted California Building Code is required to demonstrate that development projects can meet this standard. The acoustical analysis shall base required noise attenuation techniques on expected *Environmental General Plan* traffic volumes to ensure land use compatibility and General Plan consistency over the life of the plan.

Exterior Noise Levels

For new multi-family residential projects and for the residential component of mixed-use development, use a standard of 60 dBA DNL in usable outdoor activity areas, excluding balconies and residential stoops and porches facing existing roadways. Some common use areas that meet the 60 dBA DNL exterior standard will be available to all residents. Use noise attenuation techniques such as shielding by buildings and structures for outdoor common use areas. On sites subject to aircraft overflights or adjacent to elevated roadways, use noise attenuation techniques to achieve the 60 dBA DNL standard for noise from sources other than aircraft and elevated roadway segments.

The State of California and the City of San Jose have established guidelines, regulations, and policies designed to limit noise exposure at noise sensitive land uses. For residential development, the General Plan identified exterior noise levels up to 60 dBA as acceptable and up to 75 dBA as conditionally acceptable. The State requires interior noise levels for residential buildings to be 45 dBA.

3.2.2.1 Interior Noise

Measured from the southern façade of the building, the nearest residences would be approximately 135 feet from the centerline of the highway. Upper story residences (those not below the level of the sound wall on the south side of Tisch Way, along Highway 280) would be exposed to exterior noise levels of up to 79 dBA DNL. Standard residential construction provides approximately 15 dBA of exterior-to-interior noise reduction, assuming the windows are partially open for ventilation. Standard construction with the windows closed provides approximately 20 to 25 dBA of noise reduction in interior spaces. With a maximum exterior noise level of 79 dBA, an interior noise level of 45 dBA cannot be achieved with standard residential construction.

Consistent with General Plan Policy EC-1.1, the following measures are required as a condition of project approval to reduce interior noise exposure to future residents on Lot 17:

- All residential units shall be equipped with forced-air mechanical ventilation to allow windows to be kept closed to control noise.

- A qualified acoustical consultant shall review the final site plan, building elevations, and floor plans and recommend building treatments to reduce interior noise levels to 45 dBA DNL. Treatments would include, but are not limited to, sound-rated windows and doors, sound-rated wall and window construction, acoustical caulking, protected ventilation openings, etc. Based on preliminary calculations, windows and doors of stucco sided building facades would need to range from 35 to 38 STC to reduce noise levels indoors at units having the highest noise exposure. The specific determination of what noise insulation treatments are necessary shall be assessed on a unit-by-unit basis during final design of the project. Results of the analysis, including the description of the necessary noise control treatments, shall be submitted to the City, along with the building plans and approved design, prior to issuance of building permits.

With implementation of the identified measures, interior noise levels of 45 dBA DNL would be achieved. As a result, the project would be consistent with General Plan policy EC-1.1.

3.2.2.2 Exterior Noise

As proposed, the modified 2016 project would include two common passive open space areas on Lot 17 for future residents. The recreational areas would include a landscaped courtyard on the second floor (above the parking) and a rooftop deck on the northeast corner of the building. The courtyard would be fully open on the west side of the building and would have a small opening on the east side of the building. The roof deck would be fully open on all sides. As such, both areas would be exposed to traffic noise from Highway 280.

As shown on Figure 1 of Appendix B, noise levels within the courtyard would range from 58 to 65 dBA DNL with the highest noise levels at the southwest corner of the courtyard. The rooftop deck would be exposed to a noise level of 61 dBA DNL. While most of the open space areas would be within the City's acceptable noise range, a small area in the southwest corner of the courtyard would exceed the City's noise standard of 60 dBA DNL.

Because an exterior noise levels of 60 dBA would be achieved within the majority of the proposed courtyard, the project would be consistent with General Plan policy EC-1.1.

Consistent with the California Supreme Court December 2015 opinion [*California Building Industry Association v. Bay Area Air Quality Management District,* 62 Cal. 4th 369 (No. S 213478)], the development of residences on the project site in an area with noise levels in excess of City standards is not a new CEQA impact. Furthermore, by complying with General Plan policy EC-1.1 the project would not result in future residents being exposed to excessive interior or exterior noise levels.

4.0 CONCLUSION

Based on the above analysis and discussion, no substantive revisions are needed to the 2015 FEIR, because no new significant impacts or impacts of substantially greater severity would result from the modified project. There have been no changes in circumstance in the project area that would result in new significant environmental impacts or substantially more severe impacts, and no new information has come to light that would indicate the potential for new significant impacts or substantially more severe impacts than were discussed in the 2015 FEIR. Therefore, no further evaluation is required, and no Subsequent EIR is needed pursuant to State CEQA Guidelines Section 15162, and an EIR Addendum has therefore appropriately been prepared, pursuant to Section 15164.

Pursuant to CEQA Guidelines Section 15164(c), this Addendum need not be circulated for public review, but will be included in the public record file for the *Santana Row Planned Development Rezoning FEIR.*

Appendix A

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
1 Willowbrook Court, Suite 120
Petaluma, CA 94954

Memo

Date: March 3, 2016

To: Shannon George
Senior Project Manager
David J. Powers & Associates, Inc.

From: James A. Reyff
Principal Consultant
Illingworth & Rodkin, Inc.

Subject: **Santana Row Lot 17, San José , CA -**
Community Risk Assessment of Proposed Residential Uses

This memo presents the results of the community risk assessment prepared for the Santana Row Lot 17 project, which consists of 90 residential units on an approximate 1-acre site at the southern portion of Santana Row in San José . The project site is bordered by Tisch Way and Interstate 280 (I-280) on the south, Dudley Avenue on the west, and Hatton Street on the east. The focus of this analysis is the effects of I-280 traffic upon planned residences at Lot 17, in terms of community risk impacts.

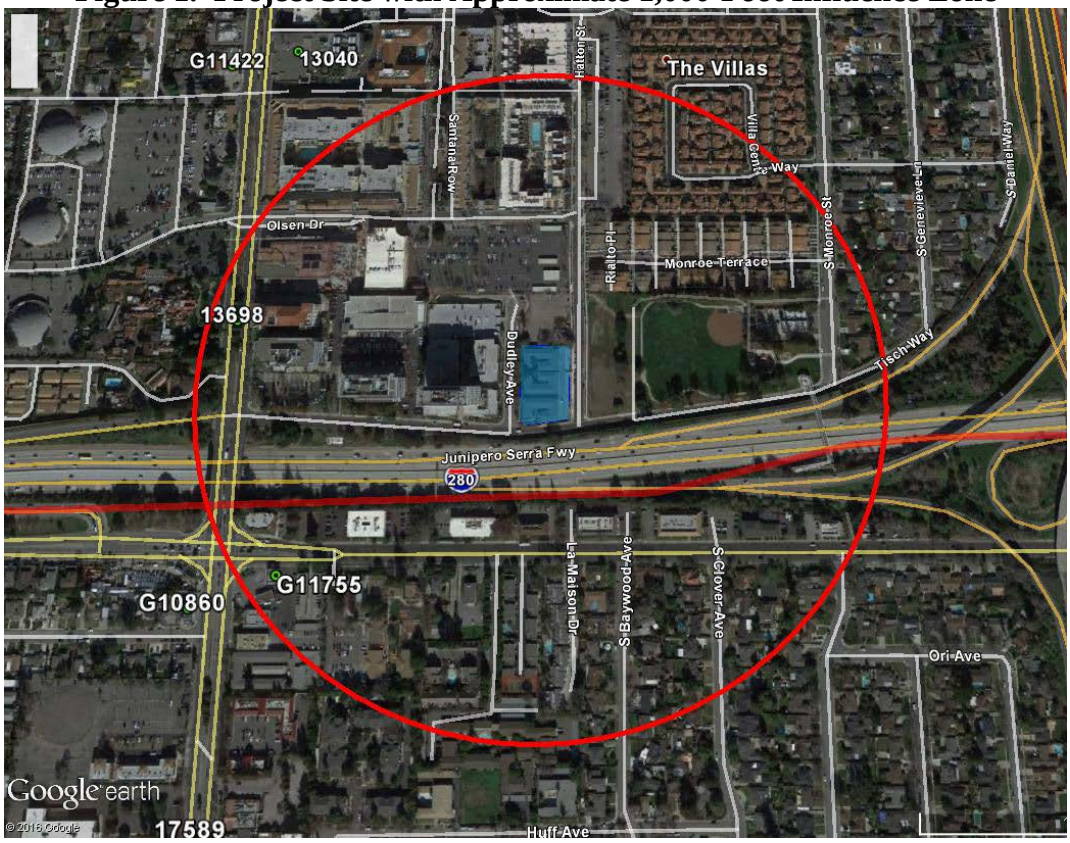
Previous Assessment

The air quality and greenhouse gas emissions were addressed in in our report, dated February 26, 2015. That report described the setting and significance thresholds used for this analysis. That report described impacts from the construction and operation of a parking garage on Lot 17 of the proposed Santana Row Expansion project. The project now proposes 90 multi-family residential units on Lot 17, which would be exposed to I-280 traffic emissions. Table 5 of the report indicates that screening community risk levels exceed cancer risk and annual $PM_{2.5}$ significance thresholds at 100 feet north of the roadway, which would be the setback for the closest planned residences at Lot 17. Therefore, a refined analysis of I-280 traffic was conducted and addressed in this memo.

Focused Community Risk Assessment – Lot 17

The BAAQMD recommends using a 1,000-foot screening radius around a project site for purposes of identifying community health risk from siting a new sensitive receptor or a new source of TACs. These sources are depicted in *Figure 1*. This community risk assessment models concentrations of $PM_{2.5,}$ DPM, and total organic gases (TOG), which are then used to evaluate potential cancer risk, non-cancer health hazards, and annual concentrations of $PM_{2.5}$.

Figure 1. Project Site with Approximate 1,000-Foot Influence Zone



Health Impact Evaluation Methodology

A health risk assessment (HRA) for exposure to TACs requires the application of a risk characterization model to the results from the air dispersion model to estimate potential health risk at each sensitive receptor location. The State of California Office of Environmental Health Hazard Assessment (OEHHA) and CARB develop recommended methods for conducting health risk assessments. The most recent OEHHA risk assessment guidelines were published in February of 2015.[1] These guidelines incorporate substantial changes designed to provide for enhanced protection of children, as required by State law, compared to previous published risk assessment guidelines. CARB has provided additional guidance on implementing OEHHA's recommended methods.[2] This health risk assessment used the recent 2015 OEHHA risk assessment guidelines and CARB guidance. While the OEHHA guidelines use substantially more conservative assumptions than the current BAAQMD guidelines, BAAQMD has not formally adopted recommended procedures for applying the newest OEHHA guidelines. BAAQMD is in the process of developing new guidance and has developed proposed HRA Guidelines as part of the proposed amendments to Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants.[3] Exposure parameters from the OEHHA guidelines and newly proposed BAAQMD HRA Guidelines were used in this evaluation.

[1] OEHHA, 2015. *Air Toxics Hot Spots Program Risk Assessment Guidelines, The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. Office of Environmental Health Hazard Assessment. February.
[2] CARB, 2015. *Risk Management Guidance for Stationary Sources of Air Toxics*. July 23.
[3] BAAQMD, 2016. *Workshop Report. Proposed Amendments to Air District Regulation 2, Rule 5: New Source Review of Toxic Air Contaminants. Appendix C. Proposed Air District HRA Guidelines*. January 2016.

Cancer Risk

Potential increased cancer risk from inhalation of TACs are calculated based on the TAC concentration over the period of exposure, inhalation dose, the TAC cancer potency factor, and an age sensitivity factor to reflect the greater sensitivity of infants and children to cancer causing TACs. The inhalation dose depends on a person's breathing rate, exposure time and frequency of exposure, and the exposure duration. These parameters vary depending on the age, or age range, of the persons being exposed and whether the exposure is considered to occur at a residential location or other sensitive receptor location.

The current OEHHA guidance recommends that cancer risk be calculated by age groups to account for different breathing rates and sensitivity to TACs. Specifically, they recommend evaluating risks for the third trimester of pregnancy to age zero, ages zero to less than two (infant exposure), ages two to less than 16 (child exposure), and ages 16 to 70 (adult exposure). Age sensitivity factors (ASFs) associated with the different types of exposure are an ASF of 10 for the third trimester and infant exposures, an ASF of 3 for a child exposure, and an ASF of 1 for an adult exposure. Also associated with each exposure type are different breathing rates, expressed as liters per kilogram of body weight per day (L/kg-day). As recommended by the BAAQMD, 95th percentile breathing rates are used for the third trimester and infant exposures, and 80th percentile breathing rates for child and adult exposures. Additionally, CARB and the BAAQMD recommend the use of a residential exposure duration of 30 years for sources with long-term emissions (e.g., roadways).

Under previous OEHHA and BAAQMD HRA guidance, residential receptors are assumed to be at their home 24 hours a day, or 100 percent of the time. In the 2015 Risk Assessment Guidance, OEHHA includes adjustments to exposure duration to account for the fraction of time at home (FAH), which can be less than 100 percent of the time, based on updated population and activity statistics. The FAH factors are age-specific and are: 0.85 for third trimester of pregnancy to less than 2 years old, 0.72 for ages 2 to less than 16 years, and 0.73 for ages 16 to 70 years. BAAQMD recommends using these FAH factors for residential exposures.

Functionally, cancer risk is calculated using the following parameters and formulas:

Cancer Risk (per million) = $CPF \times Inhalation\ Dose \times ASF \times ED/AT \times FAH \times 10^{6}$

Where:

CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = $C_{air} \times DBR \times A \times (EF/365) \times 10^{-6}$

Where:

C_{air} = concentration in air ($\mu g/m^3$)
DBR = daily breathing rate (L/kg body weight-day)

A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

The health risk parameters used in this evaluation are summarized in *Table 1*.

Table 1. Health Risk Parameters Used for Cancer Risk Calculations

Parameter	*Exposure Type* / *Age Range*	Infant		Child	Adult
		3rd Trimester	0<2	2 < 16	16 - 30
DPM Cancer Potency Factor (mg/kg-day)$^{-1}$		1.10E+00	1.10E+00	1.10E+00	1.10E+00
Daily Breathing Rate (L/kg-day)*		361	1,090	572	261
Inhalation Absorption Factor		1	1	1	1
Averaging Time (years)		70	70	70	70
Exposure Duration (years)		0.25	2	14	14
Exposure Frequency (days/year)		350	350	350	350
Age Sensitivity Factor		10	10	3	1
Fraction of Time at Home		0.85	0.72	0.72	0.73

* 95th percentile breathing rates for 3rd trimester and infants and 80th percentile for children and adults

Non-Cancer Hazards

Potential non-cancer health hazards from TAC exposure are expressed in terms of a hazard index (HI), which is the ratio of the TAC concentration to a reference exposure level (REL). OEHHA has defined acceptable concentration levels for contaminants that pose non-cancer health hazards. TAC concentrations below the REL are not expected to cause adverse health impacts, even for sensitive individuals. The total HI is calculated as the sum of the HIs for each TAC evaluated and the total HI is compared to the BAAQMD significance thresholds to determine whether a significant non-cancer health impact from a project would occur.

Typically, for residential projects located near roadways with substantial TAC emissions, the primary TAC of concern with non-cancer health effects is DPM. For DPM, the chronic inhalation REL is 5 micrograms per cubic meter ($\mu g/m^3$).

Annual $PM_{2.5}$ Concentrations

While not a TAC, $PM_{2.5}$ has been identified by the BAAQMD as a pollutant with potential non-cancer health effects that should be included when evaluating potential community health impacts under CEQA. The thresholds of significance for $PM_{2.5}$ (project level and cumulative) are in terms of an increase in the annual average concentration. When considering $PM_{2.5}$ impacts, the contribution from all sources of $PM_{2.5}$ emissions should be included. For projects with potential impacts from nearby local roadways, the $PM_{2.5}$ impacts should include those from vehicle exhaust emissions, $PM_{2.5}$ generated from vehicle tire and brake wear, and fugitive emissions from re-suspended dust on the roads.

Community Risk from Nearby Sources

A review of the area within 1,000 feet of the project indicates that the project is adjacent to I-280 and near Winchester Boulevard, which is considered a busy local roadway and within 1,000 feet of the project. These roadways are considered sources of TACs and $PM_{2.5}$. I-280 is considered a highway source of TACs and Winchester Boulevard is the only busy local roadway identified near the project. A review of BAAQMD's *Stationary Source Screening Analysis Tool* shows one stationary sources of TAC emissions near the project.[4] Community risk impacts from these sources upon the project are reported in *Table 2*. A description of how these impacts were predicted is described below.

Table 2. Community Risk Impacts to New Project Residences

Source	Maximum Cancer Risk (per million)	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)	Maximum Hazard Index
I-280 based on refined modeling using EMFAC2014, Caltrans AADT, Cal3qhcr dispersion modeling and San Jose International Airport meteorological data	**16.3**	**0.7**	<0.1
Winchester Boulevard (Roadway Screening Calculator, north-south roadway in Santa Clara County at 900 feet west with 30,000 ADT)	1.4	0.1	<0.1
Plant 13698, Belmont Corp Generator at 500 S. Winchester (with 0.08 distance adjustment factor for 650 feet). Source adjusted for new OEHHA guidance	0.7	0.0	0.00
Cumulative Total	18.4	0.8	<0.10
BAAQMD Threshold – Single Source (bold values indicate significant source)	***>10.0***	***>0.3***	*>1.0*
Significant	***Yes***	***Yes***	*No*
BAAQMD Threshold – Cumulative Sources	*>100*	***>0.8***	*>10.0*
Significant	***No***	***No***	***No***

Screening Local Roadway Community Risk

For local roadways, BAAQMD has provided the *Roadway Screening Analysis Calculator* to assess whether roadways with traffic volumes of over 10,000 vehicles per day may have a potentially significant effect on a proposed project. Two adjustments were made to the cancer risk predictions made by this calculator: (1) adjustment for latest vehicle emissions rates and (2) adjustment of cancer risk to reflect new OEHHA guidance described above.

The calculator uses EMFAC2011 emission rates for the year 2014. Overall, emission rates will decrease by the time the project is constructed and occupied. The project is not likely to be occupied prior to 2018. In addition, a new version of the emissions factor model, EMFAC2014 is available. This version predicts much lower emission rates than EMFAC2011 and the rates for 2018 are lower than the rates for 2014. Using a fleet mix typical of local roadways operating at

[4] See http://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/ceqa-tools , accessed December 16, 2015.

30 mph, EMFAC2014 predicts diesel (DSL) $PM_{2.5}$ aggregate emission rates in 2018 that are 46 percent of EMFAC2011 rates for 2014.[5] TOG for gasoline-powered vehicle rates are 56 percent of EMFAC2011 year 2014 rates. An adjustment factor of 0.5 was applied to the *Roadway Screening Analysis Calculator* results.

The adjusted predicted cancer risk was then adjusted again using a factor of 1.3744 to account for new OEHHA guidance (see discussion above regarding cancer risk calculation methodology). This factor was provided by BAAQMD for use with their CEQA screening tools that are used to predict cancer risk.[6]

Traffic for local roadways was estimated based on the TIA predicted peak-hour volume for the south leg at the intersection of Winchester Boulevard and Stevens Creek Boulevard. For *Background Plus Project Conditions*, the peak-hour volume was computed at 3,275 vehicles. Assuming this is about equal to the average daily traffic (ADT) volume, an ADT of 32,750 vehicles was used.. The edge of the travel way for this north-south roadway is estimated at 900 feet or further from the nearest residential portion of the project site. The roadway orientation, distance and direction, and traffic volume were input to the BAAQMD *Roadway Screening Analysis Calculator* for Santa Clara County. Potential cancer risk, non-cancer hazards, and annual $PM_{2.5}$ concentrations from these roadways would be below the BAAQMD significance thresholds for community risk for this single source.

Stationary Sources

Permitted stationary sources of air pollution near the project site were identified using BAAQMD's *Stationary Source Risk & Hazard Analysis Tool*. This mapping tool uses Google Earth to identify the locations of stationary sources and their estimated risk and hazard impacts (see *Figure 1*). Plant 13698 is a diesel generator operated by the Belmont Corp at 500 S. Winchester Blvd. Based on examination of aerial photos, the source appears to be 650 feet or further from the nearest portion of the site that could include residences. The screening risk levels were adjusted using BAAQMD's *Distance Adjustment Multiplier for Diesel IC Engines*. The risk was also adjusted based on current OEHHA guidance. The community risk levels would be well below the single-source thresholds.

Refined Highway Community Risk Impacts – I-280

A refined analysis of the impacts of TAC and $PM_{2.5}$ is necessary to evaluate potential cancer risks and $PM_{2.5}$ concentrations from I-280 traffic. In the project area, I-280 has 185,000 ADT, as reported by the California Department of Transportation (Caltrans).[7] A review of the Caltrans truck traffic information indicates this volume includes 3.1 percent trucks, of which 1.6 percent are considered heavy duty trucks and 1.5 percent are medium duty trucks.[8]

[5] Comprised mostly of light- and medium-duty vehicles.
[6] Email from Virginia Lau, BAAQMD to Bill Popenuck of Illingworth & Rodkin, Inc, dated November 15, 2015.
[7] California Department of Transportation. 2015a. *2014 Traffic Volumes on California State Highways*
[8] California Department of Transportation. 2015b. *2014 Annual Average Daily Truck Traffic on California State Highways*

Traffic Emissions Modeling

DPM, organic TACs, and PM2.5 emissions for traffic on I-280 were computed using the CARB EMFAC2014 emission factor model and the traffic mix developed from Caltrans data. EMFAC2014 is the most recent version of the CARB motor vehicle emission factor model. DPM emissions are projected to decrease in the future and are reflected in the EMFAC2014 emissions data.

Residential occupation of the project was assumed to begin in 2018 or thereafter. In order to estimate TAC and $PM_{2.5}$ emissions for calculating increased cancer risks to new residents from traffic on I-280, the EMFAC2014 model was used to develop vehicle emission factors for the year 2020 using the calculated mix of cars and trucks and assuming a 1 percent per year growth rate in traffic volume. Year 2020 emissions were conservatively assumed as being representative of conditions for the entire residential exposure period (2018 through 2047), overall vehicle emissions and, in particular, diesel truck emissions will decrease in the future. Default EMFAC2014 vehicle model fleet age distributions for Santa Clara County were assumed in calculating the emissions.

Average hourly traffic distributions for Santa Clara County roadways were developed using the EMFAC model,[9] which were then applied to the average daily traffic volumes to obtain estimated hourly traffic volumes and emissions for I-280. For all hours of the day, other than during peak a.m. and p.m. periods, an average speed of 65 mph was assumed for all vehicles other than trucks, which were assumed to travel at a speed of 60 mph. Based on traffic data from the Santa Clara Valley Transportation Authority's 2012 Monitoring and Conformance Report,[10] traffic speeds during the peak a.m. and p.m. periods were identified. For peak a.m. period the free-flow travel speed was assumed for eastbound I-280 traffic and 15 mph for westbound traffic. For peak p.m. period the and average travel speed of 50 mph was assumed for eastbound I-280 traffic and the free-flow travel speed for westbound traffic.

Emissions of TOGs were also calculated using the EMFAC2014 model. These TOG emissions were then used in modeling the organic TACs (i.e., TACs associated with motor vehicle from TOG exhaust emissions and evaporative TOG emissions). TOG emissions from exhaust and running evaporative loses from gasoline vehicles were calculated using the default model values for Santa Clara County along with the traffic volumes and vehicle mixes for I-280.

$PM_{2.5}$ emissions for vehicles traveling on I-280 were evaluated were modeled using the same basic modeling approach that was used for assessing TAC impacts. All $PM_{2.5}$ emissions from all vehicles were used, rather than just the $PM_{2.5}$ fraction from diesel powered vehicles, because all vehicle types (i.e., gasoline and diesel powered) produce $PM_{2.5}$. Additionally, $PM_{2.5}$ emissions from vehicle tire and brake wear and from re-entrained roadway dust were included in these emissions. The assessment involved, first, calculating $PM_{2.5}$ emission rates from traffic traveling on the highway. These emissions were calculated using the EMFAC2014 model for the 2020 traffic volumes and were calculated in the same manner as discussed earlier for the TAC

[9] The Burden output from EMFAC2007, CARB's previous version of the EMFAC model, was used for this since the current web-based version of EMFAC2011 does not include Burden type output with hour by hour traffic volume information.
[10] Santa Clara Valley Transportation Authority, 2012. *Monitoring and Conformance Report,* 2012. May.

modeling. $PM_{2.5}$ re-entrained dust emissions from vehicles traffic were calculated using CARB emission calculation procedures.[11]

Dispersion Modeling

Dispersion modeling was conducted using the CAL3QHCR model, which is recommended by the BAAQMD for this type of analysis.[12] A five-year data set for 1991-1995 of hourly meteorological data from San Jose International Airport, prepared by the BAAQMD, was used in the modeling. Other inputs to the model included road geometry, road elevations, hourly traffic volumes, emission factors, and on-site project receptor locations and heights. North and south bound traffic on I-280 within about 1,000 feet of the project site was evaluated with the model.

Receptors are specific locations, identified by modeling coordinates, where TAC or $PM_{2.5}$ concentrations are predicted by the dispersion model. The modeling used a grid of receptors within the proposed residential area of the project, with receptors spaced every 6 meters (20 feet). In the buildings in the residential area, the third floor level would be the lowest level with residences. A receptor height of 6.1 meters (20 feet) was used in modeling to represent the breathing heights of residents of the lowest floor with dwelling units. Impacts on upper floor residential levels would be slightly lower. The CAL3QHCR provides annual concentrations at each receptor. *Figure 2* shows the roadway links and receptor locations used in the modeling.

Computed Cancer Risk

Increased cancer risks for new residents at the project site from traffic on I-280 were calculated using modeled TAC concentrations and the methods and exposure parameters described previously. The maximum increased cancer risk from traffic at residential receptors was computed as 16.3 in one million at the project maximally exposed individual (MEI). This was modeled at the southern portion of the project site, as shown on *Figure 2*. Cancer risks from I-280 at other residential locations and floor levels would be lower than the maximum risk. Cancer risks at the site are shown in *Figure 3*. The cancer risks at the project site are above the BAAQMD's threshold of greater than 10 in one million excess cancer cases per million.

Non-Cancer Health Effects

For non-cancer health effects from DPM, a chronic HI of 0.01 was computed based on an average DPM concentration of 0.02 $\mu g/m^3$. This HI is well below the BAAQMD HI threshold

$PM_{2.5}$ Concentrations from Modeled Roadways

The model predicted the maximum annual $PM_{2.5}$ concentration from I-280 traffic of 0.7 $\mu g/m^3$, which would occur at the same residential receptor that had the maximum cancer risk in the northeast corner of the project residential area (see *Figure 2*). The range in annual $PM_{2.5}$ concentrations is shown in *Figure 4*. The maximum annual $PM_{2.5}$ concentration is above the $PM_{2.5}$ threshold of greater than 0.3 $\mu g/m^3$.

[11] CARB, 2014. *Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust*. Revised and updated, April 2014.
[12] BAAQMD, 2012. *Recommended Methods for Screening and Modeling Local Risks and Hazards*. May.

Figure 2. Project Site, On-Site Sensitive Receptors, Roadway Segments Modeled, and Receptor with Maximum TAC Impacts

Cumulative Sources

Cumulative TAC impacts are assessed by predicting the combined community risk impacts from the project and nearby sources at the sensitive receptor most affected by the project (i.e., within 1,000 feet). This receptor is referred to as the MEI. *Table 2* shows the contribution by each source and the combination of impacts from all sources at the MEI. Cumulative cancer risk, annual $PM_{2.5}$ and HI would be below the cumulative thresholds. The hourly traffic distributions, emission rates, dispersion modeling summary, and risk modeling calculations used in the analysis are shown in *Attachment 1*.

Mechanical Ventilation with Filtration

The BAAQMD CEQA Air Quality Guidelines recommend as mitigation that projects install and maintain air filtration systems of fresh air supply to reduce TAC impacts from particulate matter. These systems should be installed on either an individual unit-by-unit basis, with individual air intake and exhaust ducts ventilating each unit separately, or through a centralized building ventilation system. The ventilation system should be certified to achieve certain effectiveness.

Figure 3 Increased Cancer Risks (per million) from I-280 Traffic

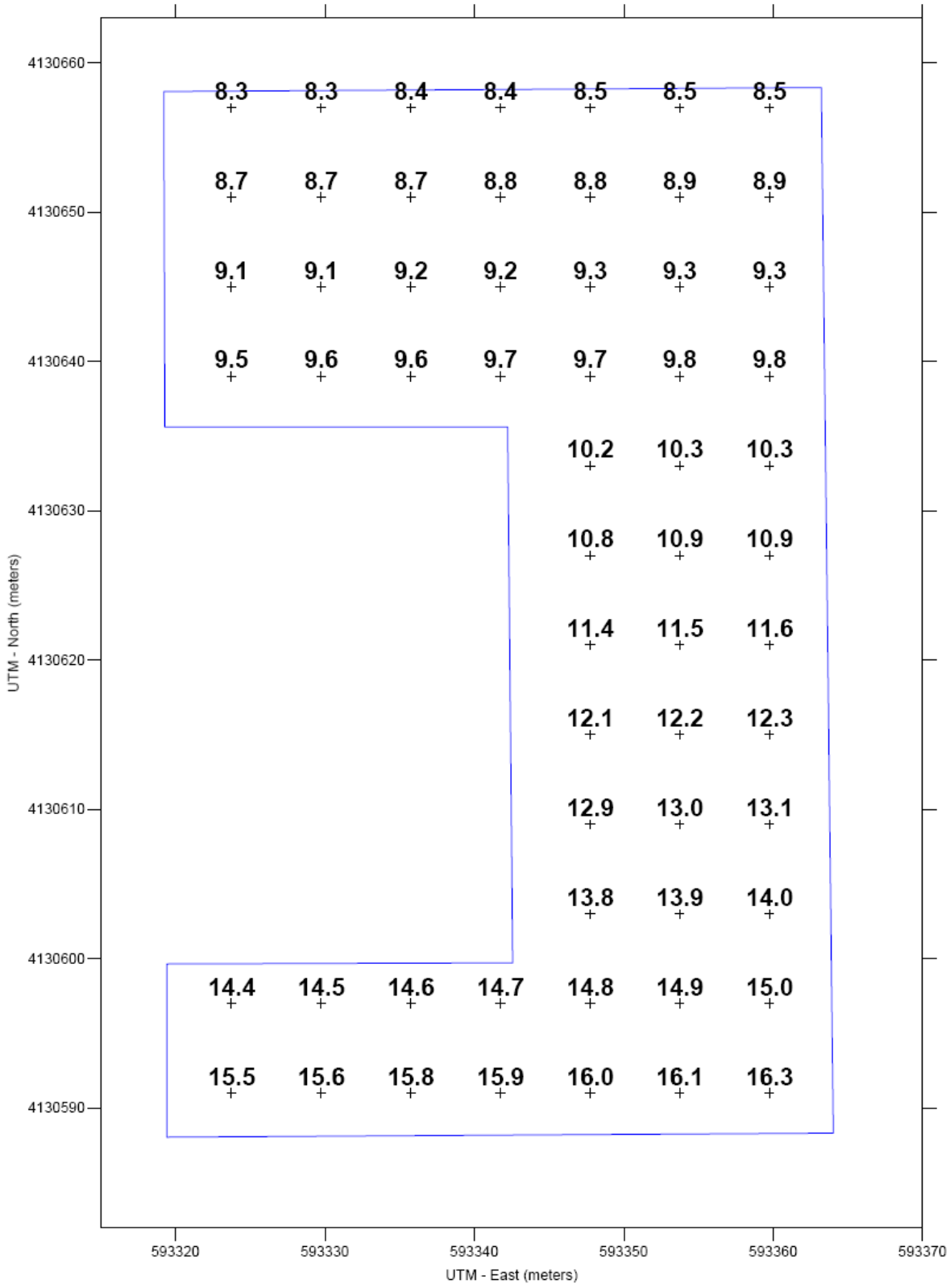
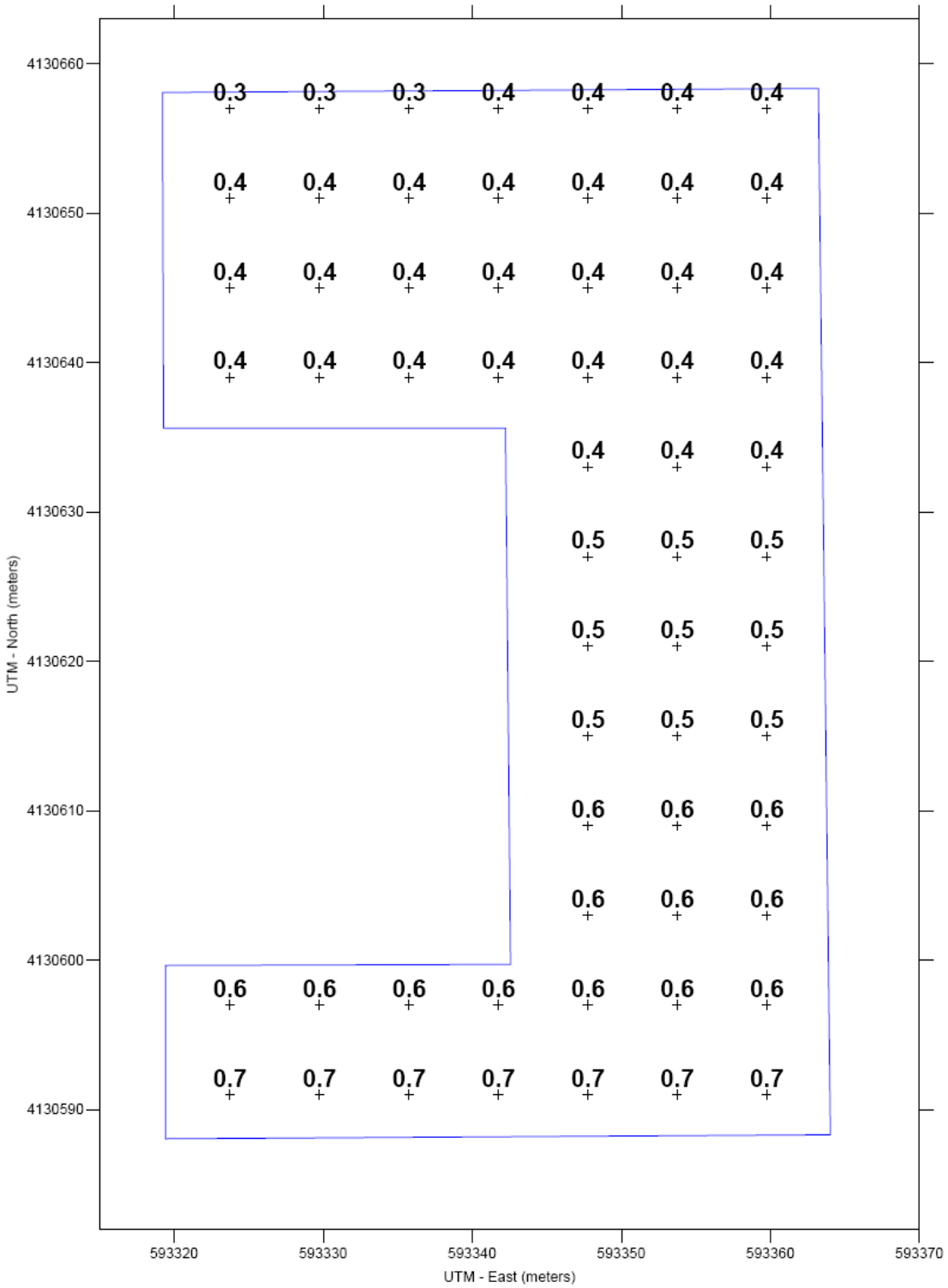


Figure 4 Maximum Annual Total PM2.5 Concentrations (µg/m^3) from I-280 Traffic



The U.S. EPA reports particle size removal efficiency for filters rated MERV 13 of 90 percent for particles in the size range of 1 to 3 µm and less than 75 percent for particles 0.3 to 1 µm.[13] MERV 16 filters are listed to have removal efficiency for those particles (i.e, 0.3 to 3 µm) of 90 percent or greater. Studies by the South Coast AQMD indicate that MERV 13 filters could achieve reductions of about 60 percent for ultra-fine particles and about 35 percent for black carbon, while MERV 16 filters exceeded 85 percent.[14]

In 2012, CARB compiled a synthesis of the status of potential mitigation concepts to reduce exposure to nearby traffic air pollution.[15] Because mechanical ventilation has not been used in residential buildings until recently, there has been limited assessment of its impact on entry of particles and other pollutants into homes. CARB-reviewed studies of homes and schools have shown that high-efficiency filtration in mechanical ventilation systems can be effective in reducing levels of incoming outdoor particles. They noted that one study of residences in Northern California found that the homes with active filtration in a mechanical system had a notably lower portion of indoor particles from outdoors when the systems were on (filtration active) than when they were turned off (no filtration). In another study reviewed by CARB that included modeling study of Korean residential units with mechanical ventilation, filters rated lower than MERV 7 were insufficient for reducing contaminants that enter through the ventilation filter, and concluded that filters should exceed MERV 11. The CARB review also notes that in a school pilot study, a combination of MERV 16 filters used as a replacement for the normal panel filter in the ventilation system and in a separate filtration unit reduced indoor levels of outdoor-generated black carbon, ultrafine particles and $PM_{2.5}$ by 87 percent to 96 percent in three Southern California schools (SCAQMD 2009 study). Use of the MERV 16 panel filter alone in the HVAC system achieved average particle reductions of nearly 90 percent. Another study reviewed by CARB found indoor submicron particle counts in a Utah school were reduced to just one-eighth of the outdoor levels in a building with a mechanical system using a MERV 8 filter.

Mitigation Measure

The project shall include the following measures to minimize long-term toxic air contaminant (TAC) exposure for new residences.

1. Install air filtration in residential buildings that would include sensitive receptors at the project site. Air filtration devices should be rated MERV 13 or higher, depending on the impact at the site (see *Figures 3 and 4*). To ensure adequate health protection to sensitive receptors, a ventilation system should meet the following minimal design:

    - A MERV-13, or higher, rating that represents a minimum of 80 percent efficiency to capture small particulates;
    - At least one air exchange(s) per hour of fresh outside filtered air; and
    - At least four air exchange(s) / hour recirculation.

[13] U.S. EPA 2009. *Residential Air Cleaners Second Edition. A Summary of Available Information. Indoor Air Quality (IAQ).* EPA 402-F-09-002 | Revised August 2009 | www.epa.gov/iaq
[14] South Coast AQMD. 2009. *Pilot Study of High Performance Air Filtration for Classrooms Applications.* Draft – October.
[15] CARB. 2012. *Status of Research on Potential Mitigation Concepts to Reduce Exposure to Nearby Traffic Pollution.* August 23.

As part of implementing this measure, an ongoing maintenance plan for the buildings' HVAC air filtration system shall be required. Recognizing that emissions from air pollution sources are decreasing, the maintenance period shall last as long as significant excess cancer risk or annual $PM_{2.5}$ exposures are predicted. Subsequent studies could be conducted to identify the ongoing need for the ventilation systems as future information becomes available.

2. Ensure that the lease agreement and other property documents: (1) require cleaning, maintenance, and monitoring of the affected buildings for air flow leaks; (2) include assurance that new owners and tenants are provided information on the ventilation system; and (3) include provisions that fees associated with owning or leasing a unit(s) in the building include funds for cleaning, maintenance, monitoring, and replacements of the filters, as needed.

3. Require that an authorized air pollutant consultant verify any modifications to this mitigation.

Effectiveness of Mitigation

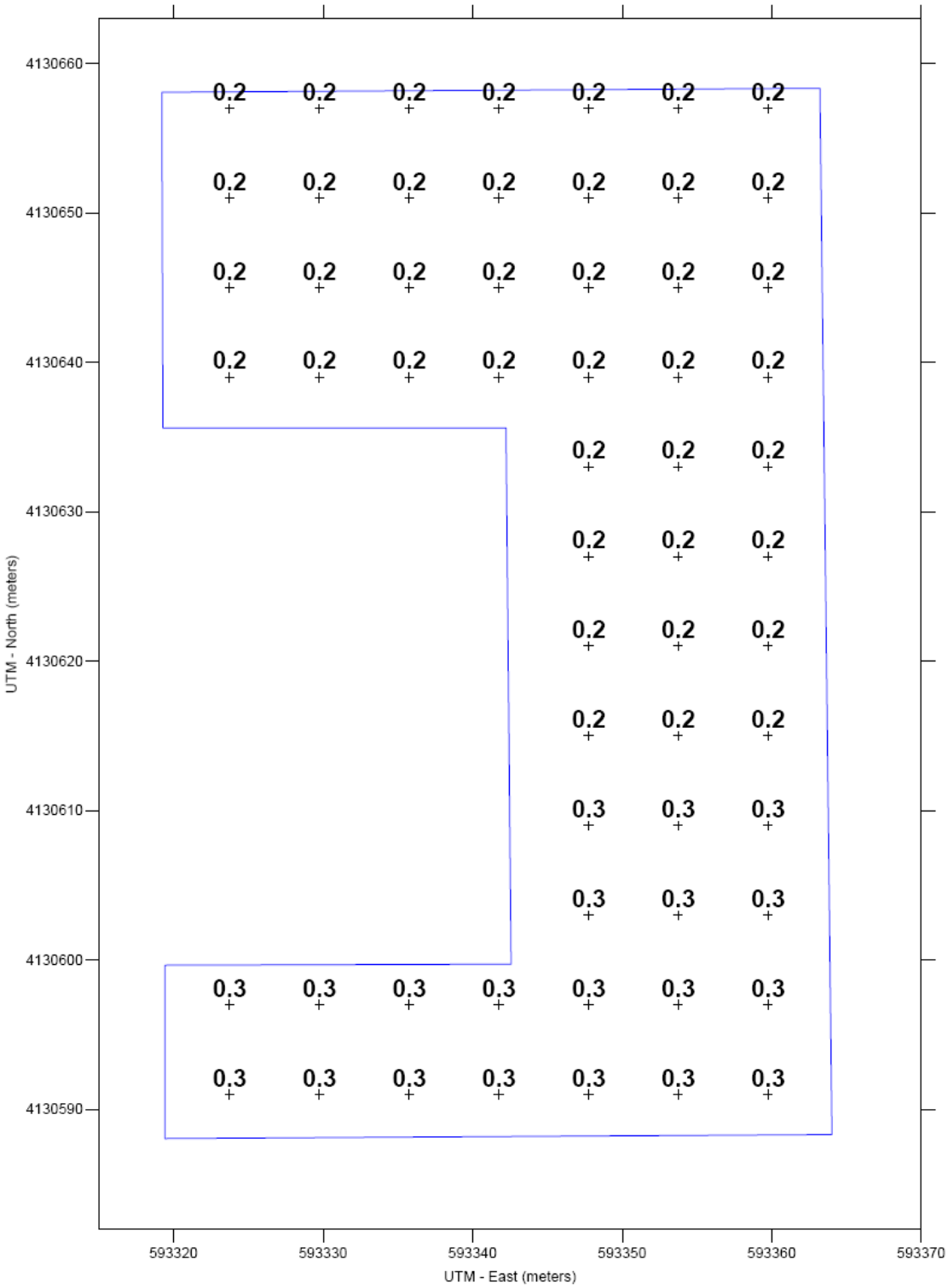
A properly installed and operated ventilation system with MERV 13 air filters may reduce $PM_{2.5}$ concentrations from DPM mobile and stationary sources by approximately 60 to 70 percent indoors when compared to outdoors. The U.S. EPA reports that people, on average, spend 90 percent of their time indoors[16]. The overall effectiveness calculations take into effect time spent outdoors and away from home. Assuming 60-percent effectiveness for this filtration, with 21 hours per day of exposure to filtered air and 3 hours per day to unfiltered air (uncontrolled or 0-percent effectiveness), the overall effectiveness of filtration systems would be about 52.5 percent. In addition, a 0.85 fraction at home was applied (see *Table 4* for cancer risk calculations – infant exposure).

The ventilation system with MERV 13 filtration would reduce the maximum single-source annual $PM_{2.5}$ concentrations to $0.3 \mu g/m^3$ and maximum cancer risk to 8.9 chances per million. Note that the cancer risk reductions only apply to the risk caused by DPM exposure and not those attributable to other gaseous TACs (e.g., toxic organics contained in motor vehicle exhaust TOG).

Note that the mitigation measure is driven by the significant $PM_{2.5}$ exposures. Effectively mitigating $PM_{2.5}$ exposures would also effectively mitigate significant cancer risk. Since exposures vary across the site, some portions of the project would not be significantly exposed. *Figure 5* shows the reduced $PM_{2.5}$ concentrations with this mitigation measured in effect.

[16] Klepeis, N.E., Nelsen, WC., Ott, WR., Robinson, JP., Tsang, AM., Switzer, P., Behar, JV., Hern, SC., and Engelmann, WH. 2001. *The National Human Activity Pattern Survey (NHAPS): a resource for assessing exposure to environmental pollutants.* J. Expo Anal Environ Epidemial. 2001 May-Jun;11(3):231-52.

Figure 5 Maximum Annual Total PM2.5 Concentrations (µg/m^3) from I-280 Traffic with MERV-13 Filtration



Attachment 1

Bay Area Air Quality Management District

Roadway Screening Analysis Calculator

County specific tables containing estimates of risk and hazard impacts from roadways in the Bay Area.

INSTRUCTIONS:

Input the site-specific characteristics of your project by using the drop down menu in the "Search Parameter" box. We recommend that this analysis be used for roadways with 10,000 AADT and above.

• County: Select the County where the project is located. The calculator is only applicable for projects within the nine Bay Area counties.

• Roadway Direction: Select the orientation that best matches the roadway. If the roadway orientation is neither clearly north-south nor east-west, use the highest values predicted from either orientation.

• Side of the Roadway: Identify on which side of the roadway the project is located.

• Distance from Roadway: Enter the distance in feet from the nearest edge of the roadway to the project site. The calculator estimates values for distances greater than 10 feet and less than 1000 feet. For distances greater than 1000 feet, the user can choose to extrapolate values using a distribution curve or apply 1000 feet values for greater distances.

• Annual Average Daily Traffic (ADT): Enter the annual average daily traffic on the roadway. These data may be collected from the city or the county (if the area is unincorporated).

When the user has completed the data entries, the screening level PM2.5 annual average concentration and the cancer risk results will appear in the Results Box on the right. Please note that the roadway tool is not applicable for California State Highways and the District refers the user to the Highway Screening Analysis Tool at: http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx.

Notes and References listed below the Search Boxes

Search Parameters

County	Santa Clara
Roadway Direction	North-South
Side of the Roadway	East
Distance from Roadway	900 feet
Annual Average Daily Traffic (ADT)	32,750

Results

Santa Clara County

NORTH-SOUTH DIRECTIONAL ROADWAY

PM2.5 annual average

0.047 ($\mu g/m^3$)

Cancer Risk

2.09 (per million)

Winchester at Stevens Creel

Data for Santa Clara County based on meteorological data collected from San Jose Airport in 1997

Adjusted for 2015 OEHHA and EMFAC2014 for 2018

1.43

(per million)

Note that EMFAC2014 predicts DSL PM2.5 aggragate rates in 2018 that are 46% of EMFAC2011 for 2014. TOG gasoline rates are 56% of EMFAC2011 year 2014 rates. This is for light- and medium-duty vehciles traveling at 30 mph for Bay Area

Notes and References:

1. Emissions were developed using EMFAC2011 for fleet mix in 2014 assuming 10,000 AADT and includes impacts from diesel and gasoline vehicle exhaust, brake and tire wear, and resuspended dust.
2. Roadways were modeled using ~~CALINE4~~ Cal3qhcr air dispersion model assuming a source length of one kilometer. Meteorological data used to estimate the screening values are noted at the bottom of the "Results" box.
3. Cancer risks were estimated for 70 year lifetime exposure starting in 2014 that includes sensitivity values for early life exposures and OEHHA toxicity values adopted in 2013.

Lot 17- Santana Row, San Jose, CA
I-280
DPM Modeling - Roadway Links, Traffic Volumes, and DPM Emissions
Year = 2020

Road Link	Description	Direction	No. Lanes	Link Length (m)	Link Width (ft)	Link Width (m)	Release Height (m)	Diesel ADT	Average Speed (mph)
EB-I280	Eastbound I-280	E	4	868	68	20.6	3.4	2,352	variable
WB-I280	Westbound I-280	W	4	871	68	20.6	3.4	2,352	variable

2020 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - EB-I280

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.67%	63	0.0385	9	7.04%	166	0.0286	17	6.43%	151	0.0185
2	1.59%	37	0.0329	10	5.01%	118	0.0404	18	4.71%	111	0.0150
3	1.70%	40	0.0300	11	6.98%	164	0.0289	19	4.16%	98	0.0197
4	2.43%	57	0.0420	12	7.39%	174	0.0296	20	3.22%	76	0.0150
5	1.48%	35	0.0385	13	6.87%	162	0.0292	21	2.10%	49	0.0388
6	2.43%	57	0.0431	14	6.85%	161	0.0289	22	2.93%	69	0.0406
7	4.39%	103	0.0426	15	6.18%	145	0.0277	23	1.61%	38	0.0382
8	5.94%	140	0.0270	16	5.29%	124	0.0249	24	0.58%	14	0.0369
								Total		2,352	

2020 Hourly Diesel Traffic Volumes Per Direction and DPM Emissions - WB-I280

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	2.67%	63	0.0385	9	7.04%	166	0.0347	17	6.43%	151	0.0283
2	1.59%	37	0.0329	10	5.01%	118	0.0404	18	4.71%	111	0.0211
3	1.70%	40	0.0300	11	6.98%	164	0.0289	19	4.16%	98	0.0197
4	2.43%	57	0.0420	12	7.39%	174	0.0296	20	3.22%	76	0.0150
5	1.48%	35	0.0385	13	6.87%	162	0.0292	21	2.10%	49	0.0388
6	2.43%	57	0.0431	14	6.85%	161	0.0289	22	2.93%	69	0.0406
7	4.39%	103	0.0426	15	6.18%	145	0.0277	23	1.61%	38	0.0382
8	5.94%	140	0.0331	16	5.29%	124	0.0249	24	0.58%	14	0.0369
								Total		2,352	

I-280
PM2.5 & TOG Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020

Group Link	Description	Direction	No. Lanes	Link Length (m)	Link Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
EB-I280	Eastbound I-280	E	4	868	68	20.6	1.3	98,191	variable
WB-I280	Westbound I-280	W	4	871	68	20.6	1.3	98,191	variable

2020 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - EB-I280

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.10%	1078	0.0227	9	7.08%	6950	0.0206	17	7.38%	7244	0.0197
2	0.37%	361	0.0242	10	4.28%	4205	0.0215	18	8.27%	8123	0.0195
3	0.30%	292	0.0250	11	4.60%	4521	0.0209	19	5.79%	5685	0.0198
4	0.20%	198	0.0375	12	5.85%	5747	0.0208	20	4.36%	4278	0.0197
5	0.46%	447	0.0237	13	6.17%	6063	0.0204	21	3.29%	3226	0.0202
6	0.83%	819	0.0247	14	6.03%	5923	0.0205	22	3.31%	3251	0.0206
7	3.78%	3715	0.0212	15	7.08%	6949	0.0202	23	2.47%	2425	0.0202
8	7.90%	7754	0.0199	16	7.21%	7083	0.0199	24	1.89%	1855	0.0197
								Total		98,191	

2020 Hourly Traffic Volumes Per Direction and PM2.5 Emissions - WB-I280

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.10%	1078	0.0227	9	7.08%	6950	0.0239	17	7.38%	7244	0.0201
2	0.37%	361	0.0242	10	4.28%	4205	0.0215	18	8.27%	8123	0.0198
3	0.30%	292	0.0250	11	4.60%	4521	0.0209	19	5.79%	5685	0.0198
4	0.20%	198	0.0375	12	5.85%	5747	0.0208	20	4.36%	4278	0.0197
5	0.46%	447	0.0237	13	6.17%	6063	0.0204	21	3.29%	3226	0.0202
6	0.83%	819	0.0247	14	6.03%	5923	0.0205	22	3.31%	3251	0.0206
7	3.78%	3715	0.0212	15	7.08%	6949	0.0202	23	2.47%	2425	0.0202
8	7.90%	7754	0.0233	16	7.21%	7083	0.0199	24	1.89%	1855	0.0197
								Total		98,191	

Lot 17- Santana Row, San Jose, CA
I-280
Entrained PM2.5 Road Dust Modeling - Roadway Links, Traffic Volumes, and PM2.5 Emissions
Year = 2020

Group Link	Description	Direction	No. Lanes	Link Length (m)	Link Width (ft)	Link Width (m)	Release Height (m)	ADT	Average Speed (mph)
EB-I280	Eastbound I-280	E	4	868	68	20.6	1.3	98,191	variable
WB-I280	Westbound I-280	W	4	871	68	20.6	1.3	98,191	variable

2020 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - EB-I280

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.10%	1078	0.0100	9	7.08%	6950	0.0100	17	7.38%	7244	0.0100
2	0.37%	361	0.0100	10	4.28%	4205	0.0100	18	8.27%	8123	0.0100
3	0.30%	292	0.0100	11	4.60%	4521	0.0100	19	5.79%	5685	0.0100
4	0.20%	198	0.0100	12	5.85%	5747	0.0100	20	4.36%	4278	0.0100
5	0.46%	447	0.0100	13	6.17%	6063	0.0100	21	3.29%	3226	0.0100
6	0.83%	819	0.0100	14	6.03%	5923	0.0100	22	3.31%	3251	0.0100
7	3.78%	3715	0.0100	15	7.08%	6949	0.0100	23	2.47%	2425	0.0100
8	7.90%	7754	0.0100	16	7.21%	7083	0.0100	24	1.89%	1855	0.0100
								Total		98,191	

2020 Hourly Traffic Volumes Per Direction and Road Dust PM2.5 Emissions - WB-I280

Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile	Hour	% Per Hour	VPH	g/mile
1	1.10%	1078	0.0100	9	7.08%	6950	0.0100	17	7.38%	7244	0.0100
2	0.37%	361	0.0100	10	4.28%	4205	0.0100	18	8.27%	8123	0.0100
3	0.30%	292	0.0100	11	4.60%	4521	0.0100	19	5.79%	5685	0.0100
4	0.20%	198	0.0100	12	5.85%	5747	0.0100	20	4.36%	4278	0.0100
5	0.46%	447	0.0100	13	6.17%	6063	0.0100	21	3.29%	3226	0.0100
6	0.83%	819	0.0100	14	6.03%	5923	0.0100	22	3.31%	3251	0.0100
7	3.78%	3715	0.0100	15	7.08%	6949	0.0100	23	2.47%	2425	0.0100
8	7.90%	7754	0.0100	16	7.21%	7083	0.0100	24	1.89%	1855	0.0100
								Total		98,191	

Lot 17- Santana Row, San Jose, CA

I-280 Traffic Data and PM2.5 & TOG Emission Factors - 60 mph Trucks & 65 mph Other Vehicles

Analysis Year = ***2020***

Vehicle Type	2014 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors: Diesel Vehicles DPM (g/VMT)	All Vehicles: Total PM2.5 (g/VMT)	All Vehicles: Exhaust PM2.5 (g/VMT)	Gas Vehicles: Exhaust TOG (g/VMT)	Gas Vehicles: Running TOG (g/VMT)
LDA	129,927	137,722	1.06%	1,464	65	0.0101	0.0193	0.0015	0.0158	0.044
LDT	49,338	52,299	0.17%	91	65	0.0143	0.0193	0.0015	0.0243	0.096
MDT	2,747	2,912	9.92%	289	60	0.0130	0.0228	0.0021	0.0449	0.185
HDT	2,988	3,167	90.12%	2,854	60	0.0431	0.0881	0.0382	0.1025	0.110
Total	185,000	196,100	-	4,698	62.5	-	-		-	-
Mix Avg Emission Factor						**0.03038**	**0.02044**	**0.00212**	**0.01867**	**0.06011**
Increase From 2014		1.06								
Vehicles/Direction		98,050		2,349						
Avg Vehicles/Hour/Direction		**4,085**		**98**						

Traffic Data Year = ***2014***

Caltrans 2014 Truck AADTs		Total	Truck by Axle			
	Total	Truck	2	3	4	5
I-280, A, San Jose Rtes 17/880	185,000	5,735	2,747	998	275	1,715
			47.90%	17.40%	4.80%	29.90%
Percent of Total Vehicles		3.10%	1.48%	0.54%	0.15%	0.93%

Traffic Increase per Year (%) = ***1.00%***

Lot 17- Santana Row, San Jose, CA

I-280 Traffic Data and PM2.5 & TOG Emission Factors - 50 mph

Analysis Year = ***2020***

Vehicle Type	2014 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors: Diesel Vehicles DPM (g/VMT)	All Vehicles: Total PM2.5 (g/VMT)	All Vehicles: Exhaust PM2.5 (g/VMT)	Gas Vehicles: Exhaust TOG (g/VMT)	Gas Vehicles: Running TOG (g/VMT)
LDA	129,927	137,722	1.06%	1,464	50	0.0085	0.0190	0.0012	0.0129	0.044
LDT	49,338	52,299	0.17%	91	50	0.0117	0.0190	0.0012	0.0201	0.096
MDT	2,747	2,912	9.92%	289	50	0.0157	0.0252	0.0045	0.0442	0.185
HDT	2,988	3,167	90.12%	2,854	50	0.0263	0.0741	0.0242	0.1114	0.110
Total	185,000	196,100	-	4,698	50	-	-		-	-
Mix Avg Emission Factor						**0.01980**	**0.01997**	**0.00166**	**0.01548**	**0.06011**

Lot 17- Santana Row, San Jose, CA

I-280 Traffic Data and PM2.5 & TOG Emission Factors - 15 mph

Analysis Year = ***2020***

Vehicle Type	2014 Caltrans Number Vehicles (veh/day)	2020 Number Vehicles (veh/day)	2020 Percent Diesel	Number Diesel Vehicles (veh/day)	Vehicle Speed (mph)	Emission Factors: Diesel Vehicles DPM (g/VMT)	All Vehicles: Total PM2.5 (g/VMT)	All Vehicles: Exhaust PM2.5 (g/VMT)	Gas Vehicles: Exhaust TOG (g/VMT)	Gas Vehicles: Running TOG (g/VMT)
LDA	129,927	137,722	1.06%	1,464	15	0.0207	0.0224	0.0047	0.0496	0.044
LDT	49,338	52,299	0.17%	91	15	0.0289	0.0225	0.0047	0.0753	0.096
MDT	2,747	2,912	9.92%	289	15	0.0398	0.0391	0.0184	0.1713	0.185
HDT	2,988	3,167	90.12%	2,854	15	0.0438	0.0873	0.0374	0.3428	0.110
Total	185,000	196,100	-	4,698	15	-	-	-	-	-
Mix Avg Emission Factor						**0.03605**	**0.02376**	**0.00544**	**0.05873**	**0.06011**

Lot 17- Santana Row, San Jose, CA
I-280 Traffic Data and Entrained PM2.5 Road Dust Emission Factors

$E_{2.5} = [k(sL)^{0.91} \times (W)^{1.02} \times (1-P/4N) \times 453.59$

where:

$E_{2.5}$ = $PM_{2.5}$ emission factor (g/VMT)

k = particle size multiplier (g/VMT) [$k_{PM2.5} = k_{PM10}$ x (0.0686/0.4572) = 1.0 x 0.15 = 0.15 g/VMT][a]

sL = roadway specific silt loading (g/m^2)

W = average weight of vehicles on road (Bay Area default = 2.4 tons)[a]

P = number of days with at least 0.01 inch of precipitation in the annual averaging period

N = number of days in the annual averaging period (default = 365)

Notes: [a] CARB 2014, Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust (Revised and updated, April 2014)

Road Type	Silt Loading (g/m^2)	Average Weight (tons)	County	No. Days ppt > 0.01"	$PM_{2.5}$ Emission Factor (g/VMT)
Freeway	0.02	2.4	Santa Clara	64	0.00996

SFBAAB[a]

Road Type	Silt Loading (g/m^2)
Collector	0.032
Freeway	0.02
Local	0.32
Major	0.032

SFBAAB[a]

County	>0.01 inch precipitation
Alameda	61
Contra Costa	60
Marin	66
Napa	68
San Francisco	67
San Mateo	60
Santa Clara	64
Solano	54
Sonoma	69

Lot 17 Santana Row, San Jose, CA - I-280 DPM, PM2.5 & TOG TACs
AERMOD Risk Modeling Parameters and Maximum Concentrations
On-Site Residential Receptors (1.5 meter receptor heights)

Receptor Information

Number of Receptors	60
Receptor Height =	6.1 meters
Receptor distances =	6 meter grid in residential areas

Meteorological Conditions

San Jose Airport Hourly Data	1991-1995
Land Use Classification	urban
Wind speed =	variable
Wind direction =	variable

MEI Maximum Concentrations

Meteorological Data Year	Concentration (µg/m^3)		
	DPM	Exhaust TOG	Evaporative TOG
1991	0.01651	0.39667	1.12516
1992	0.01775	0.43040	1.22086
1993	0.02043	0.49700	1.40975
1994	0.01997	0.48069	1.36349
1995	0.01938	0.46818	1.32800
Maximum	**0.0204**	**0.4970**	**1.4097**
Average	**0.0188**	**0.4546**	**1.2895**

Meteorological Data Year	PM2.5 Concentrations (µg/m^3)		
	Total PM2.5	Road Dust PM2.5	Vehicle PM2.5
1991	0.55910	0.17769	0.38141
1992	0.60696	0.19311	0.41385
1993	0.70114	0.22326	0.47788
1994	0.67770	0.21550	0.46220
1995	0.66034	0.21017	0.45017
Maximum	**0.7011**	**0.2233**	**0.4779**
Average	**0.6410**	**0.2039**	**0.4371**

Lot 17 Santana Row, San Jose, CA - I-280 Traffic Maximum Cancer Risks
On-Site Residential Receptors (6.1 meter receptor heights)
70-Year Residential Exposure

Cancer Risk Calculation Method

Cancer Risk (per million) = CPF x Inhalation Dose x ASF x ED/AT x FAH x 1.0E6

Where: CPF = Cancer potency factor $(mg/kg\text{-}day)^{-1}$
ASF = Age sensitivity factor for specified age group
ED = Exposure duration (years)
AT = Averaging time for lifetime cancer risk (years)
FAH = Fraction of time spent at home (unitless)

Inhalation Dose = C_{air} x DBR x A x (EF/365) x 10^{-6}

Where: C_{air} = concentration in air $(\mu g/m^3)$
DBR = daily breathing rate (L/kg body weight-day)
A = Inhalation absorption factor
EF = Exposure frequency (days/year)
10^{-6} = Conversion factor

Values

Cancer Potency Factors $(mg/kg\text{-}day)^{-1}$

TAC	CPF
DPM	1.10E+00
Vehicle TOG Exhaust	6.28E-03
Vehicle TOG Evaporative	3.70E-04

	Infant/Child			Adult
Age -->	3rd Trimester	0 - <2	2 - <16	16 - 30
Parameter				
ASF	10	10	3	1
DBR* =	361	1090	572	261
A =	1	1	1	1
EF =	350	350	350	350
ED =	0.25	2	14	14
AT =	70	70	70	70
FAH =	1.00	1.00	1.00	0.73

* 95th percentile breathing rates

Road Traffic Cancer Risk by Year - Maximum Impact Receptor Location

				Maximum - Exposure Information				Cancer Risk (per million)			
					Annual DPM Conc (ug/m3)						
Exposure Year	Year	Exposure Duration (years)	Age	Age Sensitivity Factor	DPM	Exhaust TOG	Evaporative TOG	DPM	Exhaust TOG	Evaporative TOG	Total
0	2018	0.25	-0.25 - 0*	10	0.0188	0.4546	1.2895	0.26	0.035	0.006	0.30
1	2018	1	1	10	0.0188	0.4546	1.2895	3.09	0.426	0.071	3.59
2	2019	1	2	10	0.0188	0.4546	1.2895	3.09	0.426	0.071	3.59
3	2020	1	3	3	0.0188	0.4546	1.2895	0.49	0.067	0.011	0.56
4	2021	1	4	3	0.0188	0.4546	1.2895	0.49	0.067	0.011	0.56
5	2022	1	5	3	0.0188	0.4546	1.2895	0.49	0.067	0.011	0.56
6	2023	1	6	3	0.0188	0.4546	1.2895	0.49	0.067	0.011	0.56
7	2024	1	7	3	0.0188	0.4546	1.2895	0.49	0.067	0.011	0.56
8	2025	1	8	3	0.0188	0.4807	1.3635	0.49	0.071	0.012	0.57
9	2026	1	9	3	0.0188	0.4807	1.3635	0.49	0.071	0.012	0.57
10	2027	1	10	3	0.0188	0.4807	1.3635	0.49	0.071	0.012	0.57
11	2028	1	11	3	0.0188	0.4807	1.3635	0.49	0.071	0.012	0.57
12	2029	1	12	3	0.0188	0.4807	1.3635	0.49	0.071	0.012	0.57
13	2030	1	13	3	0.0188	0.4682	1.3280	0.49	0.069	0.012	0.57
14	2031	1	14	3	0.0188	0.4682	1.3280	0.49	0.069	0.012	0.57
15	2032	1	15	3	0.0188	0.4682	1.3280	0.49	0.069	0.012	0.57
16	2033	1	16	3	0.0188	0.4682	1.3280	0.49	0.069	0.012	0.57
17	2034	1	17	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
18	2035	1	18	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
19	2036	1	19	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
20	2037	1	20	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
21	2038	1	21	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
22	2039	1	22	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
23	2040	1	23	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
24	2041	1	24	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
25	2042	1	25	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
26	2043	1	26	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
27	2044	1	27	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
28	2045	1	28	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
29	2046	1	29	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
30	2047	1	30	1	0.0188	0.4682	1.3280	0.05	0.008	0.001	0.063
Total Increased Cancer Risk			**Total**					14.0	2.0	0.3	**16.3**

* Third trimester of pregnancy

Appendix B

ILLINGWORTH & RODKIN, INC.
Acoustics • Air Quality
1 Willowbrook Court, Suite 120
Petaluma, CA 94954

Memo

Date: March 3, 2016

To: Shannon George
Senior Project Manager
David J. Powers & Associates, Inc.

From: Michael Thill
Principal Consultant
Illingworth & Rodkin, Inc.

Subject: **Santana Row Lot 17, San José , CA -**
Noise and Land Use Compatibility of Proposed Residential Uses

This memo presents the results of the noise and land use compatibility assessment prepared for the Santana Row Lot 17 project, which consists of 90 residential units on an approximate 1-acre site at the southern portion of Santana Row in San José. The project site is bordered by Tisch Way and Interstate 280 (I-280) on the south, Dudley Avenue on the west, and Hatton Street on the east.

Regulatory Criteria

The Environmental Leadership Chapter in the Envision San José 2040 General Plan sets forth policies with the goal of minimizing the impact of noise on people through noise reduction and suppression techniques, and through appropriate land use policies in the City of San José. The following policies are applicable to the proposed project:

EC-1.1 Locate new development in areas where noise levels are appropriate for the proposed uses. Consider federal, state, and City noise standards and guidelines as a part of new development review. Applicable standards and guidelines for land uses in San José include:

Interior Noise Levels

- The City's standard for interior noise levels in residences, hotels, motels, residential care facilities, and hospitals is 45 dBA DNL. Include appropriate site and building design, building construction and noise attenuation techniques in new development to meet this standard. For sites with exterior noise levels of 60 dBA DNL or more, an acoustical analysis following protocols in the City-adopted California Building Code is required to demonstrate that development projects can meet this standard. The acoustical analysis shall base required noise attenuation techniques on expected Envision General Plan

traffic volumes to ensure land use compatibility and General Plan consistency over the life of this plan.

Exterior Noise Levels

- The City's acceptable exterior noise level objective is 60 dBA DNL or less for residential and most institutional land uses (Table EC-1). The acceptable exterior noise level objective is established for the City, except in the environs of the San José International Airport and the Downtown, as described below:

    - For new multi-family residential projects and for the residential component of mixed-use development, use a standard of 60 dBA DNL in usable outdoor activity areas, excluding balconies and residential stoops and porches facing existing roadways. Some common use areas that meet the 60 dBA DNL exterior standard will be available to all residents. Use noise attenuation techniques such as shielding by buildings and structures for outdoor common use areas. On sites subject to aircraft overflights or adjacent to elevated roadways, use noise attenuation techniques to achieve the 60 dBA DNL standard for noise from sources other than aircraft and elevated roadway segments.
    -

Table EC-1: Land Use Compatibility Guidelines for Community Noise in San José

LAND USE CATEGORY	EXTERIOR NOISE EXPOSURE (DNL IN DECIBELS (DBA)) 55 60 65 70 75 80
1. Residential, Hotels and Motels, Hospitals and Residential Care[1]	
2. Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	
3. Schools, Libraries, Museums, Meeting Halls, Churches	
4. Office Buildings, Business Commercial, and Professional Offices	
5. Sports Arena, Outdoor Spectator Sports	
6. Public and Quasi-Public Auditoriums, Concert Halls, Amphitheaters	

[1]Noise mitigation to reduce interior noise levels pursuant to Policy EC-1.1 is required.

Normally Acceptable:

- Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable:

- Specified land use may be permitted only after detailed analysis of the noise reduction requirements and needed noise insulation features included in the design.

Unacceptable:

- New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies.

Future Exterior Noise Levels

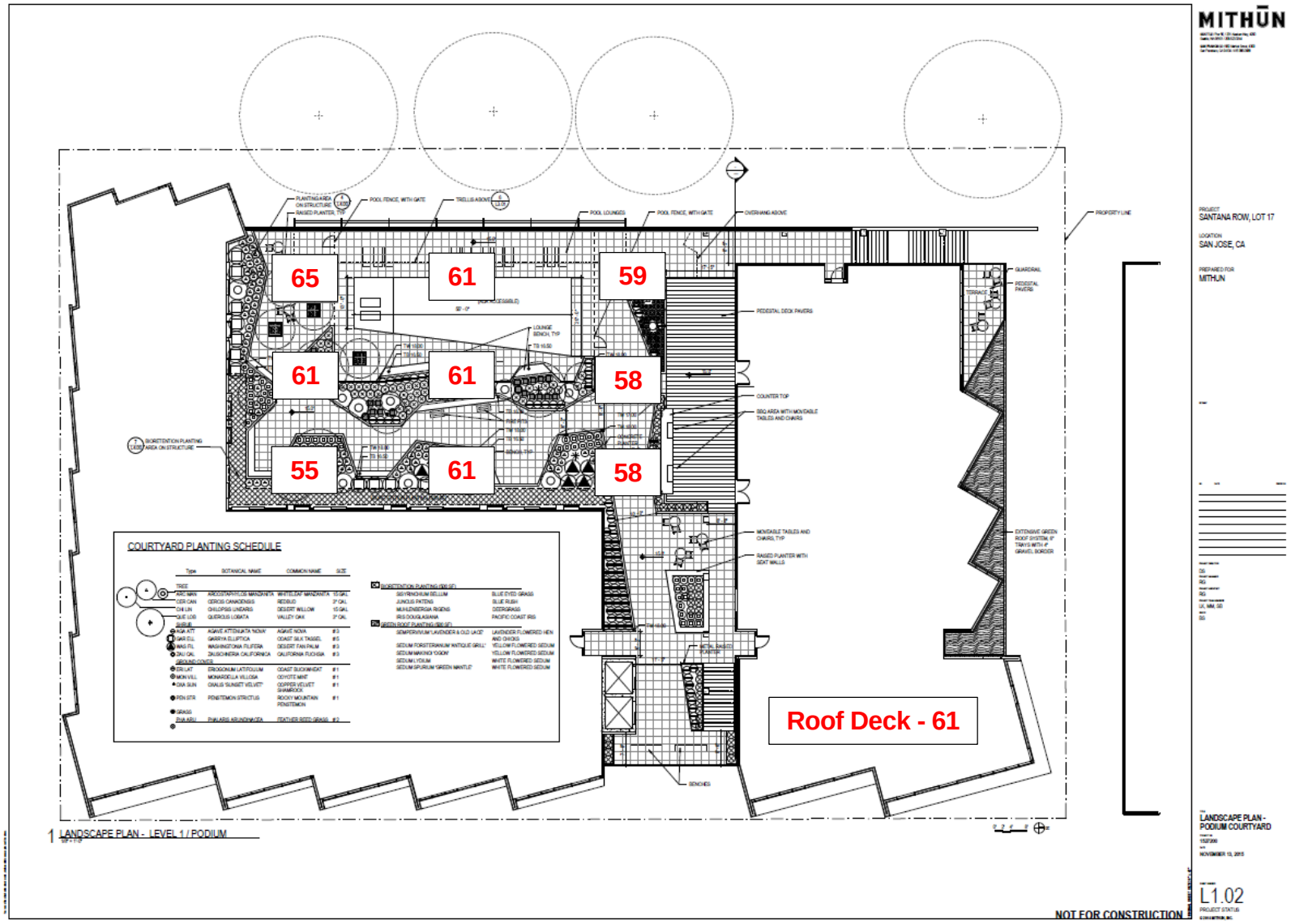
According to the City's General Plan, noise levels in outdoor use areas that are affected by transportation noise are required to be maintained at or below 60 dBA DNL to be considered normally acceptable for residential land uses, except in the environs of the San José International Airport and the Downtown where some common use areas will be available to all residents that meet the 60 dBA DNL exterior standard.

Future noise levels at proposed residential outdoor activity areas would result primarily from vehicular traffic along the I-280 mainline and ramps and Tisch Way. The traffic noise modeling completed by Illingworth & Rodkin, Inc. for the improvements at the SR-17/I-280/I-880 Interchange and the I-880/Winchester Boulevard Interchange[1] was updated to reflect the proposed residential project proposed on Lot 17. Traffic noise levels were calculated using the Federal Highway Administration's Traffic Noise Model (TNM v. 2.5). TNM calculates traffic noise levels based on the geometry of the site, which includes the positioning of travel lanes, receptors, barriers, terrain, and ground type. The noise source is the traffic flow, which is input into the program in terms of hourly volumes of automobiles, medium trucks, and heavy trucks. Traffic speeds are also input according to vehicle type.

Figure 1 shows the locations of the modeling receptors assessed as part of this analysis. Modeling receptors were distributed throughout the outdoor amenities proposed at the project site including the podium courtyard and the roof deck. As shown on Figure 1, future exterior noise levels at common use areas are calculated to range from 55 to 65 dBA DNL. The highest traffic noise levels would occur at the southwest corner of the podium courtyard because this location would receive the least amount of acoustical shielding from the proposed residential building. The lowest traffic noise levels would be expected in well-shielded areas at the southeast corner of the podium courtyard. The vast majority of the podium courtyard and roof deck would be exposed to future exterior noise levels ranging from 58 to 61 dBA DNL. Exterior noise levels at the northernmost and easternmost portions of the podium courtyard would be considered "Normally Acceptable", and noise levels in areas receiving less acoustical shielding, such as the westernmost portion of the podium courtyard and roof deck, would be considered "Conditionally Acceptable". Therefore, some common use areas will be available to all residents that meet the 60 dBA DNL exterior standard. However, a minimum 5-foot high barrier could be considered along the westernmost boundary of the outdoor podium courtyard to reduce exterior noise levels at a greater percentage of the courtyard area into compliance with the "Normally Acceptable" noise level threshold of 60 dBA DNL.

[1] Illingworth & Rodkin, Inc., Modifications to the I-880/Stevens Creek Boulevard, SR-17/I-280/I-880, and I-280/Winchester Boulevard Interchanges Noise Study Report, March 2009.

Figure 1 Landscape Plan Showing Future Predicted Noise Levels (dBA, DNL)



Future Interior Noise Levels

The City of San José requires that interior noise levels be maintained at 45 dBA DNL or less for residences.

The south façade of the proposed building would have residential units located approximately 135 feet from the centerline of I-280. Upper story residences would have direct line-of-sight to I-280 traffic and would be exposed to future exterior noise levels up to 79 dBA DNL. The northern and southern façades of the proposed residential building would have future exterior noise exposures ranging from 71 to 76 dBA DNL.

Interior noise levels would vary depending upon the design of the buildings (relative window area to wall area) and the selected construction materials and methods. Standard residential construction provides approximately 15 dBA of exterior-to-interior noise reduction, assuming the windows are partially open for ventilation. Standard construction with the windows closed provides approximately 20 to 25 dBA of noise reduction in interior spaces. Where exterior noise levels range from 60 to 65 dBA DNL, the inclusion of adequate forced-air mechanical ventilation is often the method selected to reduce interior noise levels to acceptable levels by closing the windows to control noise. Where noise levels exceed 65 dBA DNL, forced-air mechanical ventilation systems and sound-rated construction methods are normally required. Such methods or materials may include a combination of smaller window and door sizes as a percentage of the total building façade facing the noise source, sound-rated windows and doors, sound-rated exterior wall assemblies, and mechanical ventilation so windows may be kept closed at the occupant's discretion.

The following measures shall be incorporated into the project's conditions of approval to ensure that interior noise levels are reduced to 45 dBA DNL or less:

- Provide a suitable form of forced-air mechanical ventilation, as determined by the local building official, for all residences on the project site, so that windows can be kept closed to control noise.

- A qualified acoustical consultant shall review the final site plan, building elevations, and floor plans prior to construction and recommend building treatments to reduce interior noise levels to 45 dBA DNL or lower. Treatments would include, but are not limited to, sound-rated windows and doors, sound-rated wall and window constructions, acoustical caulking, protected ventilation openings, etc. Based on preliminary calculations, windows and doors of stucco sided building facades would need to range from 35 to 38 STC to reduce noise levels indoors at units having the highest noise exposure. The specific determination of what noise insulation treatments are necessary shall be conducted on a unit-by-unit basis during final design of the project. Results of the analysis, including the description of the necessary noise control treatments, shall be submitted to the City, along with the building plans and approved design, prior to issuance of a building permit.

APPENDIX A:

Fundamentals of Environmental Noise

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its loudness. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. A decibel (dB) is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table A-1.

There are several methods of characterizing sound. The most common in California is the A-weighted sound level or dBA. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table A-2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.
The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

TABLE A-1 Definition of Acoustical Terms Used in this Report

Term	Definition
Decibel, dB	A unit describing, the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure. The reference pressure for air is 20 micro Pascals.
Sound Pressure Level	Sound pressure is the sound force per unit area, usually expressed in micro Pascals (or 20 micro Newtons per square meter), where 1 Pascal is the pressure resulting from a force of 1 Newton exerted over an area of 1 square meter. The sound pressure level is expressed in decibels as 20 times the logarithm to the base 10 of the ratio between the pressures exerted by the sound to a reference sound pressure (e. g., 20 micro Pascals). Sound pressure level is the quantity that is directly measured by a sound level meter.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure. Normal human hearing is between 20 Hz and 20,000 Hz. Infrasonic sound are below 20 Hz and Ultrasonic sounds are above 20,000 Hz.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Noise Level, L_{dn} or DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Source: Handbook of Acoustical Measurements and Noise Control, Harris, 1998.

TABLE A-2 Typical Noise Levels in the Environment

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110 dBA	Rock band
Jet fly-over at 1,000 feet		
	100 dBA	
Gas lawn mower at 3 feet		
	90 dBA	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80 dBA	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	70 dBA	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60 dBA	
		Large business office
Quiet urban daytime	50 dBA	Dishwasher in next room
Quiet urban nighttime	40 dBA	Theater, large conference room
Quiet suburban nighttime		
	30 dBA	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20 dBA	
		Broadcast/recording studio
	10 dBA	
	0 dBA	

Source: Technical Noise Supplement (TeNS), Caltrans, September 2013.

MITIGATION MONITORING OR REPORTING PROGRAM

SANTANA ROW
EXPANSION PROJECT

FILE NO. PDC13-050

CITY OF SAN JOSÉ

August/September 2015

P R E F A C E

Section 21081 of the California Environmental Quality Act (CEQA) requires a Lead Agency to adopt a Mitigation Monitoring or Reporting Program whenever it approves a project for which measures have been required to mitigate or avoid significant effects on the environment. The purpose of the monitoring or reporting program is to ensure compliance with the mitigation measures during project implementation.

The Environmental Impact Report concluded that the implementation of the project could result in significant effects on the environment and mitigation measures were incorporated into the proposed project or are required as a condition of project approval. This Mitigation Monitoring or Reporting Program addresses those measures in terms of how and when they will be implemented.

This document does *not* discuss those subjects for which the Environmental Impact Report concluded that the impacts from implementation of the project would be less than significant.

SOURCE: City of San José, **Santana Row Environmental Impact Report**, March 2015

MITIGATION MONITORING OR REPORTING PROGRAM

Impact	Mitigation	Responsibility for Monitoring Compliance	Method of Compliance	Timing of Compliance
TRANSPORTATION				
Impact TRAN-1: Implementation of the proposed project would have a significant impact on the Winchester Boulevard/Stevens Creek Boulevard, Monroe Street/Stevens Creek Boulevard, San Tomas Expressway/ Stevens Creek Boulevard, and San Tomas Expressway/ Moorpark Avenue intersections under background plus project conditions.	**MM TRAN-1.1:** Winchester Boulevard and Stevens Creek Boulevard: This intersection, which is also impacted under existing plus project conditions, has been identified by the City of San Jose as a protected intersection. Therefore, in lieu of physical improvements to the intersection, the project applicant shall construct offsetting improvements to other parts of the citywide transportation system. The final improvements required will be identified by the City of San Jose based on the traffic impact fees paid by the project. Offsetting improvements shall be required to be implemented prior to issuance of occupancy permits for the new buildings on Lots 9 and 17. Pursuant to the City's policy, the implementation of offsetting improvements would provide project benefits that outweigh the project's significant impact.	Director of Planning, Building, and Code Enforcement (PBCE), Director of the Department of Public Works (DPW)	The project applicant shall construct offsetting improvements to other parts of the citywide transportation system. The final improvements required will be identified by the City of San Jose based on the traffic impact fees paid by the project per Council Policy 5-3).	Offsetting improvements shall be constructed prior to issuance of occupancy permits for the new buildings on Lots 9 and 17.

MITIGATION MONITORING OR REPORTING PROGRAM				
Impact	**Mitigation**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
Impact TRAN-1 (continued)	**MM TRAN-1.2:** Monroe Street and Stevens Creek Boulevard: There are no feasible capacity improvements for this intersection due to right-of-way restrictions. The addition of project traffic to the intersection would result in a significant unavoidable impact. Therefore, the intersection is proposed for addition to the City's list of protected intersections.	Director of Planning, Building, and Code Enforcement (PBCE), Director of the Department of Public Works (DPW)	This intersection is proposed to be added to the City's list of protected intersections as part of the project. The project applicant shall construct offsetting improvements to other parts of the citywide transportation system. The final improvements required will be identified by the City of San Jose based on the traffic impact fees paid by the project per Council Policy 5-3).	At time of City Council project approval (if approved) and certification of the EIR. Offsetting improvements shall be constructed prior to issuance of occupancy permits for the new buildings on Lots 9 and 17.

MITIGATION MONITORING OR REPORTING PROGRAM				
Impact	**Mitigation**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
Impact TRAN-1 (continued)	**MM TRAN-1.3:** San Tomas Expressway and Stevens Creek Boulevard: The LOS of this intersection would be improved to an acceptable LOS D with the addition of a fourth through lane. The Comprehensive County Expressway Planning Study identified the widening of San Tomas Expressway as a Tier 1 priority. The project applicant shall pay a fair share contribution towards the County's addition of new through lanes on San Tomas Expressway. The payment of fair share fees would reduce the project's impact to a less than significant level. **MM TRAN-1.4:** San Tomas Expressway and Moorpark: The LOS of this intersection would be improved to an acceptable LOS D with the addition of a fourth through lane. The Comprehensive County Expressway Planning Study identified the widening of San Tomas Expressway as a Tier 1 priority. The project applicant shall pay a fair share contribution towards the County's addition of new through lanes on San Tomas Expressway. The payment of fair share fees would reduce the project's impact to a less than significant level. **Less Than Significant With Mitigation (with the exception of Monroe Street/Stevens Creek Boulevard which is Significant and Unavoidable.**	Director of Planning, Building, and Code Enforcement (PBCE), Director of the Department of Public Works (DPW)	The project applicant shall pay a fair share contribution towards the County's addition of new through lanes on San Tomas Expressway. Proof of payment of these fees shall be submitted to the Supervision Planner of PBCE's Environmental Review Division prior to issuance of building permits.	Fair share fees must be paid prior to the issuance of building permits.

MITIGATION MONITORING OR REPORTING PROGRAM				
Impact	**Mitigation**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
Impact TRAN-2: Implementation of the proposed project would have a significant impact on the westbound segment of I-280 between Meridian Avenue and I-880, one northbound segment of I-880 between I-280 and Stevens Creek Boulevard, and one southbound segment of I-880 between N. Bascom Avenue and Stevens Creek Boulevard.	There are no feasible mitigation measures available to reduce project impacts on local freeways to a less than significant level**.** **Significant Unavoidable Impact**	No Mitigation	N/A	N/A

MITIGATION MONITORING OR REPORTING PROGRAM				
Impact	**Mitigation**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
AIR QUALITY				
Impact AIR-1: Full build out of the PD zoning would have a significant ROG, NOx, and PM10 operational air quality impact.	There are no mitigation measures available to reduce identified ROG, NOx, and PM10 emissions impacts to a less than significant level**.** **Significant Unavoidable Impact**	No mitigation.	No mitigation.	N/A
Impact AIR-2: Construction of the proposed project would result in a temporary community risk impact.	**MM AIR 2-1:** All diesel-powered off-road equipment larger than 50 horsepower and operating at the site for more than two days continuously shall meet U.S. EPA particulate matter emissions standards for Tier 2 engines or equivalent; **MM AIR 2-2:** All diesel-powered forklifts, aerial lifts, air compressors, and generators shall meet U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent; or the construction contractor shall use other measures to minimize construction period diesel particulate matter emissions to reduce the predicted cancer risk below the threshold. Such measures may include the use of alternative-powered equipment (e.g., LPG-powered forklifts, electric compressors), alternative fuels (e.g., biofuels), added exhaust devices, or a combination of measures, provided that these measures are approved by the lead agency; and **MM AIR 2-3:** Minimize the number of hours that equipment will operate, including the use of idling restrictions.	Director of Planning, Building, and Code Enforcement (PBCE)	All measures shall be printed on all construction documents, contracts, and approved project plans for building and grading permits.	Measures shall be included on the approved project plans for building and grading permits. The measure shall be implemented for the duration of construction activities.

MITIGATION MONITORING OR REPORTING PROGRAM				
Impact	**Mitigation**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
NOISE				
Impact NOI-1: Use of the proposed parking structure outside standard operating hours could have a significant effect on nearby residences.	**MM NOI-1.1:** The project applicant shall construct the eastern façade of the parking structure as a solid wall to shield nearby residences from project generated noise with the structure during sensitive evening hours. If it is not feasible to construct a solid wall on the eastern side of the parking structure, then the project applicant shall permanently prohibit, through the use of signs, gates, and/or movable barricades, parking within the two easternmost parking aisles (as demonstrated in Figure 4 of Appendix C) Monday through Saturday from 9:00 PM to 8:00 AM and Sunday from 7:00 PM to 8:00 AM..	Director of Planning, Building, and Code Enforcement (PBCE)	Noise reduction measures (i.e. construction of a solid wall or parking restrictions) shall be shown on approved plans for the Planned Development (PD) Permit. Prior to approval of the PD Permit for the parking garage, a noise report by a qualified acoustician shall be submitted which confirms the noise attenuation measures will be sufficient to reduce noise to a less than significant level. Parking restrictions shall be included as a condition of approval for the PD Permit for the garage.	The noise report and noise attenuation measures must be approved prior to issuance of the PD Permit for construction of the parking garage.

MITIGATION MONITORING OR REPORTING PROGRAM				
Impact	**Mitigation**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
GEOLOGY AND SOILS				
Impact GEO-1: Future development under the proposed PD rezoning could impact ground water.	**MM GEO-1.1:** To account for seasonal variations in the groundwater level and regional rise in the groundwater table during the life of the structures, the geotechnical report recommends the following measures to account for long-term groundwater levels greater than those currently encountered at the site: • Excavate an additional 12 to 18 inches below subgrade, place a layer of stabilization fabric at the bottom, and backfill with clean crushed rock. • Extend the wall drainage system to a depth of 42 feet below existing grades, and design the floor slabs and the portions of the walls below a depth of 42 feet to resist hydrostatic pressure. As an alternative, the wall drainage system could be lowered to decrease the hydrostatic load on the walls and floor slab. • Dewatering shall adhere to all applicable laws and regulations, including those in the General Plan, to ensure potential impacts to groundwater are less than significant.	Director of Planning, Building, and Code Enforcement (PBCE), Director of the Department of Public Works (DPW)	The recommended measures shall be included on all approved plans for the PD Permit, Grading Permits, and Building Permits.	Measures shall be noted on all approved plans for the PD Permit, Grading Permits, and Building permits, and shall be implemented at the grading and building phases of the project.

MITIGATION MONITORING OR REPORTING PROGRAM				
Impact	**Mitigation**	**Responsibility for Monitoring Compliance**	**Method of Compliance**	**Timing of Compliance**
BIOLOGICAL RESOURCES				
Impact BIO-1: Construction activities associated with the proposed project could result in the loss of fertile eggs, nesting raptors or other migratory birds, or nest abandonment.	**MM BIO 1-1:** The project applicant shall schedule construction to avoid the nesting season to the extent feasible. The nesting season for most birds, including most raptors, in the San Francisco Bay area extends from February through August. **MM BIO 1-2:** If it is not possible to schedule demolition and construction between September and January, then pre-construction surveys for nesting birds shall be completed by a qualified ornithologist to ensure that no nests are disturbed during project implementation. This survey shall be completed no more than 14 days prior to the initiation of grading, tree removal, or other demolition or construction activities during the early part of the breeding season (February through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the ornithologist shall inspect all trees and other possible nesting habitats immediately adjacent to the construction areas for nests. If an active nest is found sufficiently close to work areas to be disturbed by construction, the ornithologist, in consultation with CDFW, shall determine the extent of a construction-free buffer zone to be established around the nest, typically 250 feet, to ensure that raptor or migratory bird nests will not be disturbed during project construction.	Director of Planning, Building, and Code Enforcement (PBCE)	If work is scheduled during the nesting season, the pre-construction surveys shall be conducted prior to site disturbance in accordance with the timeframes in MM BIO 1-2. The ornithologist shall submit a report to the Supervising Planner of the Environmental Review Division of PBCE prior to issuance of tree-removal, or demolition permits. Any recommendations from the report shall be included on approved tree-removal, demolition, or grading plans.	Prior to issuance of tree-removal, demolition, or grading permits and the start of site disturbance activities.