CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Rosalynn Hughey

SUBJECT: SEE BELOW

DATE: October 19, 2018

Approved D.DSyC

Date 10/22/18

COUNCIL DISTRICT: 6

SUPPLEMENTAL

SUBJECT: FILE NOS. PDC17-058, PT17-063, PD17-029. PLANNED DEVELOPMENT REZONING FROM THE CP COMMERCIAL PEDESTRIAN ZONING DISTRICT TO THE (CP)PD PLANNED DEVELOPMENT ZONING DISTRICT TO ALLOW UP TO 249 RESIDENCES WITH A MINIMUM 0.5 FLOOR AREA RATIO (FAR) OF COMMERCIAL USES; A PLANNED DEVELOPMENT PERMIT TO ALLOW THE DEMOLITION OF FIVE BUILDINGS, REMOVAL OF SIX ORDINANCE SIZE TREES AND THE CONSTRUCTION OF A SEVEN-STORY MIXED USE DEVELOPMENT AND A TWO-LEVEL UNDERGROUND PARKING STRUCTURE; AND A VESTING TENTATIVE MAP TO CONSOLIDATE TWO PARCELS INTO ONE PARCEL ON AN APPROXIMATELY 1.22-GROSS ACRE SITE, ON THE NORTHWEST CORNER OF WEST JULIAN STREET AND STOCKTON AVENUE (715 WEST JULIAN STREET).

REASON FOR THE SUPPLEMENTAL

Pursuant to the California Environmental Quality Act (CEQA), the City prepared an Addendum to the Diridon Station Area Plan Environmental Impact Report (DSAP EIR), Envision San José 2040 General Plan EIR, Supplemental EIR (General Plan EIRs), and Addenda thereto for the subject Planned Development Rezoning, Planned Development Permit, and Tentative Map. The Initial Study, Addendum, and technical reports were posted on the City's website for public review on August 21, 2018. Interested parties were notified via email and a website-generated newsflash that the document was available for review. Minor corrections to the Initial Study that neither presented new information nor changed the analysis or findings of the document were made on September 13, 2018. The Addendum, Initial Study, associated appendices, and other related environmental documents are available on the Planning website at: http://www.sanjoseca.gov/index.aspx?nid=6148.

The City did not receive any comments on the Initial Study/Addendum until the afternoon of the Planning Commission hearing, on September 26, 2018, from Lozeau Drury LLP on behalf Laborers International Union of North America, Local Union 270 (Lozeau Drury). The comment

letter is included as Attachment A to this Supplemental Memorandum. Immediately prior to the Planning Commission hearing, Lozeau Drury also submitted a letter from Smith Engineering & Management on the Transportation Analysis supporting the Initial Study/Addendum (Attachment B). City staff orally responded at the Planning Commission hearing to the CEQA issues raised by Lozeau Drury LLP and Smith Engineering & Management. There is a separate memorandum from the Planning Commission to the City Council summarizing the discussion at the Planning Commission public hearing and recommendations from Planning Commission to the City Council. This supplemental memorandum responds in more details to CEQA comments in the Lozeau Drury and Smith Engineering & Management letters related to the adequacy of the Initial Study/Addendum and the associated air quality and transportation analysis.

ANALYSIS

The letter from Lozeau Drury claimed that an addendum to the DSAP and General Plan EIRs does not satisfy environmental review requirements under CEQA. The letter included supporting technical reports on indoor air quality from Indoor Environmental Engineering, operational air quality from SWAPE, and traffic generation from Smith Engineering & Management. The letter requested that an environmental impact report (EIR) be prepared for the project.

Below is a summary of overall comments and responses. Supplemental responses from the project's air quality specialist, Illingworth & Rodkin, Inc., are included in a memorandum dated October 1, 2018 (Attachment C).

A. *The City cannot rely upon an Addendum to either a General Plan or Area Plan EIR in order to satisfy CEQA's environmental review requirements for a separate development project.*

The project site is located within the boundaries of the Diridon Station Area Plan (DSAP), which is a plan for the development of up to 4,963,400 square feet of office/Research & Development (R&D)/light industrial, 424,100 square feet of retail/restaurant, 2,588 residential units, and 900 hotel rooms encompassing approximately 250 acres. This development capacity was evaluated in the DSAP EIR certified by City Council in 2014. DSAP is divided into three zones, the Northern Zone (Innovation), Central Zone (Commerce and Entertainment), and Southern Zone (Neighborhoods). The project is located within DSAP's Northern Zone. The Northern Zone has a development capacity of 3,012,400 square feet of office/R&D/light industrial, 81,100 square feet of retail/restaurant space, and 223 residential units. The project is within the development capacity anticipated within the Northern Zone in the DSAP and DSAP EIR. The proposed development capacity in DSAP represents a subset of the growth anticipated in the Envision San José 2040 General Plan.

The proposed project is within the development capacity evaluated under the DSAP EIR. The DSAP EIR provides program-level review for future development that implement the DSAP and provide the basis for tiering the subsequent environmental review of future actions.

The DSAP EIR also provides project-level environmental clearance for impacts such as freeway operational impacts, traffic noise impacts, and operational emissions of criteria pollutants. Individual projects, like the proposed project, are reviewed for consistency with the assumptions in the DSAP EIR (including conformance with General Plan policies and measures included in the project). The City conducted supplemental analysis to evaluate any impacts that are unique to the project site or design through the preparation of the Initial Study/Addendum and supporting technical reports. These supporting reports included an air quality assessment, arborist report, historic resources evaluation, Phase I and II Environmental Site Assessments, Noise and Vibration Study, and Transportation Impact Analysis. The Initial Study/Addendum found the project is consistent with the DSAP, the assumptions in the DSAP EIR and General Plan EIRs, and determined that the project would not result in new or substantially greater environmental impacts than those identified in the DSAP EIR or General Plan EIRs in accordance with Sections 15162 and 15164 of the CEQA Guidelines. Therefore, the City determined that a supplemental or subsequent EIR is not required and an Addendum to the DSAP and General Plan EIRs is appropriate.

Finally, the commenter claims that the City did not provide adequate public notice of its intent to adopt an Addendum for the project, avoiding CEQA's public participation requirements. Although an Addendum does not require circulation for public review as set forth in Section 15164 of the CEQA Guidelines, the City still notified the public and interested agencies by posting the Addendum and supporting documents on the City's website for public review on August 21, 2018 (35 days prior to the Planning Commission hearing) and notifying interested parties via email and a website-generated newsflash that the document was available for public review.

B. *An EIR is required because there is a fair argument that the project will have significant indoor air quality impacts through exposure of future residents to significant impacts related to indoor air quality, in particular to emissions from formaldehyde.*

The comment letter and supporting memorandum from Bud Offerman on indoor air quality assert that a fair argument exists for the project to have indoor air quality impacts to future occupants of the project because the project may include interior fixtures, such as composite wood products, that could contain formaldehyde, a known carcinogen. This assertion of a fair argument is incorrect for the following reasons: a) the project will need to comply with the 2016 CalGreen Code, which specifies that composite wood products (such as hardwood plywood and particleboard) meet the requirements for formaldehyde as specified in the California Air Resources Board's Air Toxic Control Measures; and b) Condition 25 of the Planned Development Permit requiring the project to comply with the City's Green Building Ordinance in Chapter 17.84 of the Municipal Code, which includes U.S. Building Council LEED certification for high-rise residential projects (like the proposed project); LEED certification will require measures to improve indoor air quality. The 2016 CalGreen building code does not allow added formaldehyde-based resins or ultra-low emitting formaldehyde resins, and requires documentation of compliance with the California Air Resources Board's Air Toxic Control Measures. Furthermore, the commenter is speculating in the assertion that composite wood materials would be used in the interior of the building. Indoor building materials will not be known until the building permit stage, and as stated above, these materials will be required to

comply with the California Air Resources Board, 2016 CalGreen building code, and LEED certification requirements.

C. *There is substantial evidence of a fair argument that the Project may have significant air pollution and health risk impacts from its emissions of air contaminants.*

The commenter argued that the project may have significant operational air pollution and health risk impacts because the air quality analysis underestimated the future residents and vehicle trips generated by the project. However, based on BAAQMD's screening operational air quality screening levels in their 2017 CEQA Guidelines, which are based on best available science, a mid-rise apartment project would have to have 494 units or more and a commercial center (i.e. a strip mall) would have to have 99,000 square feet or more of area to have an operational air quality impact. The project proposes only 249 apartments and about 26,000 square feet of ground floor retail, which are far below the screening thresholds. Therefore, the project would not have a significant operational air quality impact. However, an operational air quality assessment was still performed which found operations to be far below BAAQMD significance thresholds. Furthermore, the project is primarily a residential project and is not a significant source of Toxic Air Contaminants (TACs), such as a truck distribution center or a new generator.

Supplemental responses from the air quality consultant for the project, Illingworth & Rodkin, Inc., are included in Attachment C.

1. *The MND's air quality analysis is not based on substantial evidence because it relies upon incorrect inputs regarding key characteristics of the Project.*

First, the commenter incorrectly identifies that the air quality modeling is based on 712 residents. The service population was computed as 845 people based on 249 residential units, 3.13 persons per average household in San José and one worker per 1,000 square feet of commercial space (as shown on Air Quality Analysis page 24).

Second, the commenter states that the air quality modeling did not use the calculated vehicle trips in the traffic analysis and incorrectly counts the pass-by trips. The modeling was based on default conditions in the air quality model (CalEEMod) and comparable to the trip generation rate from the traffic report. For the retail uses, the pass-by trip rate was included in the trip generation but the model inadvertently added an additional 4% pass-by rate to this land use.

For informational purposes, the air quality consultant performed a new air quality analysis model to reflect the commercial land use size, effect of pass-by trips, and trip generation rates for existing land uses provided by the commenter. Based on this new air quality modeling using the conservative numbers provided by the commenter, both air pollutant emissions and greenhouse gas emissions increase slightly but would still remain significantly below the BAAQMD significance thresholds for exposure of off-site sensitive receptors to TACs. Therefore, even if the commenter's numbers are used, the project's operational air quality impacts will remain less than significant. The associated modeling data and conclusions are included in Attachment B.

2. *There is substantial evidence of a fair argument that the Project's construction may have significant health risk impacts from its emissions of toxic air contaminants.*

The air quality analysis determined that exhaust from diesel powered construction equipment may exceed the regulatory toxic air contaminant threshold and predicted cancer risk at the nearest residential uses. Therefore, the project would include construction equipment exhaust control measures to reduce construction TAC impacts on sensitive receptors as required by mitigation measure MM AQ-1. This mitigation measures is in accordance with General Plan Policy MS-13.1 and tiers from the DSAP EIR but provides project-specific requirements based on available construction information. Mitigation measure MM AQ-1 requires the development of a plan to limit off-road equipment used on-site to construct the project in order to achieve a fleet-wide average of 81 percent reduction in diesel particulate matter. MM AQ-1 provided measures that could be implemented to achieve this reduction; however, if other measure were proposed a report prepared by a qualified consultant illustrating how the reduction would met is required for approval by the City.

Specifically, the commenter questioned the adequacy of mitigation for construction air quality, claiming MM AQ-1 improperly defers the actual development and identification of the mitigation measure, and cites the lack of availability of Tier 4 construction equipment. However, mitigation measure MM AQ-1 does not defer mitigation for the project air quality impacts. The air quality analysis evaluated project impacts and identified measures that will mitigate them and formulated the mitigation measure to reduce the impact. Additionally, details are provided on how the mitigation will be achieved under the identified measures. Requiring Tier 4 construction equipment is not an uncommon measure to reduce air quality and to date the City has not received feedback that Tier 4 construction equipment is not available to satisfy similar mitigation. Furthermore, the mitigation measure provides alternatives to reducing emissions such that the health risk thresholds are not exceeded such as the use Tier 3 equipment with additional exhaust devices to achieve the desired reduction in diesel particulate matter.

3. *There is substantial evidence of a fair argument that the Project's operation may have significant health risk impacts from its emissions of toxic air contaminants.*

The commenter specifically questioned the TAC analysis provided stating it did not rely on a quantitative assessment. The project did not provide an operational TAC analysis as no stationary sources of TACs, such as generators, are proposed as part of the project. The project is a residential building with ground floor retail with no activities that would be a significant source of localized TAC or particulate matter ($PM_{2.5}$) emissions that could lead to significant operational health or community risks to off-site sensitive receptors. Furthermore, the project would not generate substantial diesel truck trips or include stationary equipment that emits TACs or $PM_{2.5}$. The project would generate new vehicle trips and a few diesel truck trips for deliveries to the ground floor retail, but the total number of new trips would have relatively low emissions of TACs that would be distributed throughout the areas that the vehicle travels and not concentrated at the project site, as further explained in air quality analysis and Attachment C.

Consistent with BAAQMD guidelines, a community health risk assessment was prepared for the project construction and disclosed in the air quality assessment. This analysis determined that

with implementation of a mitigation measure that limits off-road equipment would result in the cancer risk and PM2.5 concentrations to be below BAAQMD thresholds.

D. The traffic analysis understates the net new project trips generation, and the impacts at intersections and freeway segments must be recalculated

This comment was submitted in a separate document from Smith Engineering & Management supporting the comment letter from Lozeau Drury LLP, included in Attachment B. The table below compares the trip generation rates for similar land uses to the proposed project.

#	Trip Generation Rates	Size	Daily		AM Peak Hour				PM Peak Hour			
			Rate	Trip	Rate	In	Out	Total	Rate	In	Out	Total
1	**ITE LU 820 Retail**	27 KSF	37.8	1019	0.94	16	10	25	3.81	49	53	103
	(General Urban/Suburban)											
	ITE Pass-by reduction*											
	Net New Trips							**15**				**66**
2	**ITE LU 820 Retail**	27 KSF	-	-	2.41	35	30	65	4.92	64	69	133
	(Dense Multi-Use Urban)											
	50%PM Pass-by reduction									-32	-34	-66
	Net New Trips									**32**	**35**	**67**
3	**CSJ TRIP GENERATION RATE**											
	Neighborhood Shopping	27 KSF	120	3240	4.8	78	52	130	13.2	178	178	356
	(<100 KSF)											
	25% CSJ Pass-by Reduction											
4	**CSJ TRIP GENERATION RATE**											
	Specialty Retail/	27 KSF	40	1080	1.2	23	10	32	3.6	49	49	97
	Strip Commercial											
	25% CSJ Pass-by Reduction									(12)	(12)	(24)
	Net New Trips									**37**	**37**	**73**

**Trip Generation Handbook, 3rd Edition, Page 189*

The first trip generation rate was used in the traffic study for the proposed 27,000 square feet commercial uses. The consultant selected the Institute of Transpiration Engineers (ITE) Land Use (LU) 820 which has an average sample size of 351,000 square feet. The 10th Edition LU 820 for Shopping Center describes the land use as: "A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its own parking."

The second trip generation rate applies to Dense Multi-Use Urban with an average sample size of 33,000 square feet, more consistent with the proposed project. After the pass-by rate reduction the 27,000 square feet commercial is projected to generate 65 net new AM peak hour trips and 67 net new PM peak hour trips. This rate, after pass-by trip reductions, aligns with the proposed

27,000 square feet retail. The rate used in the analysis was consistent with this rate except for the AM rate. However, when reviewing the results of the LOS analysis, the additional AM trips would not cause an LOS impact.

Additionally, the City of San José also has trip generation rates published in the 2008 Traffic Impact Analysis Handbook, Volume I and II. The third rate above is the rate that was suggested by the commenter. However, the rate is more appropriately used for a used for local neighborhood shopping which includes a market or grocery store. The fourth rate, if the City applied the CSJ trip generation rate, is the most appropriate for a 27,000 square feet strip/specialty retail (typically 40,000 square feet or less). However, the City typically applies the ITE rates for most land uses as ITE is the transportation industry standard for transportation analyses.

Conclusion

The comment letters submitted prior to the September 26, 2018 Planning Commission hearing expressed concerns about the adequacy of the Initial Study/Addendum to provide CEQA clearance for the proposed project based on indoor air quality impacts to future residents, operational air quality impacts, and construction-period air quality. As discussed above and in the attached memorandum from Illingworth & Rodkin, Inc. dated October 1, 2018 (Attachment C), none of these comments raise new issues or provide substantial evidence that the Initial Study/Addendum is inadequate. As disclosed in the Initial Study/Addendum, the project would not result in new or substantially greater environmental impacts than those identified in the DSAP EIR or General Plan EIRs in accordance with Section 15162 and 15164 of the CEQA Guidelines. Therefore, staff determined that a supplemental or subsequent EIR is not required and an Addendum to the DSAP and General Plan EIRs are appropriate.

/s/
ROSALYNN HUGHEY, Director
Planning, Building and Code Enforcement

For questions please contact Krinjal Mathur, Planner II at (408) 535-7874

Attachments:
Attachment A: Comment Letter from Lozeau Drury LLP, dated September 26, 2018
Attachment B: Comment Letter from Smith Engineering & Management, dated September 26, 2018
Attachment C: Response to Comments on Air Quality Made by Lozeau Drury LLP Memo, Illingworth & Rodkin Inc., dated October 1, 2018

Attachment A

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Re: 715 West Julian Mixed Use (File Nos. PDC17-058, PD17-029, PT17-063) - Addendum to the Diridon Station Area Plan Environmental Impact Report (Sch# 2011092022), The Envision San Jose 2040 General Plan Environmental Impact Report (Sch# 2009072096), Supplemental Environmental Impact Report, and Addenda Thereto

Dear Chair Allen, Commissioners, and Mss. Hughey and Mathur:

I am writing on behalf of the Laborers International Union of North America, Local Union 270 and its members living in and around the City of San Jose ("LIUNA") regarding the

addendum prepared for the 715 West Julian Mixed Use Project ("Project") (Project Files Nos. PDC17-058, PD17-029, PT17-063). After reviewing the addendum and the previous environmental impact reports prepared for the City's General Plan and the Diridon Station Area Plan, it is clear that an addendum is not authorized for this mixed use project as a means of satisfying the California Environmental Quality Act's environmental review requirements. In addition, reviews by Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH regarding the Project's indoor air emissions and environmental consulting firm SWAPE of the air emissions and greenhouse gas emission assessments prepared for the Project indicate that the Project may have significant environmental impacts. The Offermann and Swape comments are attached as Exhibits A and B. As a result, an environmental impact report ("EIR") is required to analyze these impacts and to propose all feasible mitigation measures to reduce those impacts. We urge the Planning Commission to decline to approve the addendum and the Project and instead to instruct staff to prepare an EIR for the Project prior to any Project approvals.

I. PROJECT BACKGROUND

The Project is proposed to be located on a 1.22 acre site at the northeast corner of West Julian Street and Stockton Avenue near downtown San José. Currently zoned as Commercial Pedestrian (CP), the Project seeks to rezone the site as Planned Development (PD). The Project includes the demolition of five single –story buildings that currently occupy the site. The Project would construct a seven story, 272,000 square foot building that would include 249 residential units and 26,585 square feet of ground-level commercial and/or retail space. An underground garage would be constructed including 246 parking spaces and 164 bike parking spaces. The Project would take 26 months to construct.

Staff has opted to prepare an addendum for the Project pursuant to CEQA Guidelines, 14 Cal. Admin. Code § 15164. The addendum was not circulated for public review and comments. Nevertheless, LIUNA submits the following comments objecting to the City's reliance upon an addendum to comply with CEQA for this Project. LIUNA further submits the substantial evidence of possible significant impacts from the Project prepared by several expert consultants.

II. STANDING

Members of LIUNA live, work, and recreate in the vicinity of the Project site. These members will suffer the impacts of a poorly executed or inadequately mitigated Project, just as would the members of any nearby homeowners association, community group or environmental group. LIUNA members live and work in areas that will be affected by air pollution generated by the project. Therefore, LIUNA and its members have a direct interest in ensuring that the Project is adequately analyzed and that its environmental and public health impacts are mitigated to the fullest extent feasible.

III. LEGAL BACKGROUND

As the California Supreme Court held, "[i]f no EIR has been prepared for a nonexempt project, but substantial evidence in the record supports a fair argument that the project may result

in significant adverse impacts, the proper remedy is to order preparation of an EIR." *Communities for a Better Env't v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 319-320 ["*CBE v. SCAQMD*"], citing, *No Oil, Inc. v. City of Los Angeles* (1974) 13 Cal.3d 68, 75, 88; *Brentwood Assn. for No Drilling, Inc. v. City of Los Angeles* (1982) 134 Cal.App.3d 491, 504–505. "Significant environmental effect" is defined very broadly as "a substantial or potentially substantial adverse change in the environment." Pub. Res. Code ["PRC"] § 21068; see also 14 CCR § 15382. An effect on the environment need not be "momentous" to meet the CEQA test for significance; it is enough that the impacts are "not trivial." *No Oil, Inc., supra,* 13 Cal.3d at 83. "The 'foremost principle' in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language." *Communities for a Better Env't v. Cal. Resources Agency* (2002) 103 Cal.App.4th 98, 109 ["*CBE v. CRA*"].

The EIR is the very heart of CEQA. *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1214; *Pocket Protectors v. City of Sacramento* (2004) 124 Cal.App.4th 903, 927. The EIR is an "environmental 'alarm bell' whose purpose is to alert the public and its responsible officials to environmental changes before they have reached the ecological points of no return." *Bakersfield Citizens,* 124 Cal.App.4th at 1220. The EIR also functions as a "document of accountability," intended to "demonstrate to an apprehensive citizenry that the agency has, in fact, analyzed and considered the ecological implications of its action." *Laurel Heights Improvements Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 392. The EIR process "protects not only the environment but also informed self-government." *Pocket Protectors*, 124 Cal.App.4th at 927.

An EIR is required if "there is substantial evidence, in light of the whole record before the lead agency, that the project may have a significant effect on the environment." PRC § 21080(d); see also *Pocket Protectors*, 124 Cal.App.4th at 927. In very limited circumstances, an agency may avoid preparing an EIR by issuing a negative declaration, a written statement briefly indicating that a project will have no significant impact thus requiring no EIR (14 Cal. Code Regs. § 15371), only if there is not even a "fair argument" that the project will have a significant environmental effect. PRC, §§ 21100, 21064.) Since "[t]he adoption of a negative declaration . . . has a terminal effect on the environmental review process," by allowing the agency "to dispense with the duty [to prepare an EIR]," negative declarations are allowed only in cases where "the proposed project will not affect the environment at all." *Citizens of Lake Murray v. San Diego* (1989) 129 Cal.App.3d 436, 440.

Where an initial study shows that the project may have a significant effect on the environment, a mitigated negative declaration may be appropriate. However, a mitigated negative declaration is proper *only* if the project revisions would avoid or mitigate the potentially significant effects identified in the initial study "to a point where clearly no significant effect on the environment would occur, and…there is no substantial evidence in light of the whole record before the public agency that the project, as revised, may have a significant effect on the environment." (Public Resources Code §§ 21064.5 and 21080(c)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331.) In that context, "may" means a *reasonable possibility* of a significant effect on the environment. (Pub. Resources Code, §§ 21082.2(a),

21100, 21151(a); *Pocket Protectors, supra,* 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Resources v. City of Oakland* (1997) 52 Cal.App.4th 896, 904–905.)

Under the "fair argument" standard, an EIR is required if any substantial evidence in the record indicates that a project may have an adverse environmental effect—even if contrary evidence exists to support the agency's decision. 14 CCR § 15064(f)(1); *Pocket Protectors,* 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-15; *Quail Botanical Gardens Found., Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602. The "fair argument" standard creates a "low threshold" favoring environmental review through an EIR rather than through issuance of negative declarations or notices of exemption from CEQA. *Pocket Protectors,* 124 Cal.App.4th at 928.

The "fair argument" standard is virtually the opposite of the typical deferential standard accorded to agencies. As a leading CEQA treatise explains:

> This 'fair argument' standard is very different from the standard normally followed by public agencies in making administrative determinations. Ordinarily, public agencies weigh the evidence in the record before them and reach a decision based on a preponderance of the evidence. [Citations]. The fair argument standard, by contrast, prevents the lead agency from weighing competing evidence to determine who has a better argument concerning the likelihood or extent of a potential environmental impact. The lead agency's decision is thus largely legal rather than factual; it does not resolve conflicts in the evidence but determines only whether substantial evidence exists in the record to support the prescribed fair argument.

Kostka & Zishcke, *Practice Under CEQA,* §6.29, pp. 273-274. The Courts have explained that "it is a question of law, not fact, whether a fair argument exists, and the courts owe no deference to the lead agency's determination. Review is de novo, with a preference for resolving doubts in favor of environmental review." *Pocket Protectors,* 124 Cal.App.4th at 928 [emphasis in original].

IV. DISCUSSION

A. The City Cannot Rely Upon an Addendum to Either a General Plan or Area Plan EIR in Order to Satisfy CEQA's Environmental Review Requirements for a Separate Development Project.

An addendum is authorized by CEQA in certain limited circumstances. "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 Section 15162 calling for preparation of a subsequent EIR have occurred." 14 Cal. Admin Code § 15164(a). Section 15162 establishes a condition precedent that the prior EIR being relied upon be adopted for the same project currently before the agency. Thus, "[w]hen 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 determines, on the basis of substantial evidence in the light of the whole record, one or more of the following…." 14 Cal. Admin. Code § 15162(a) (emphasis added).

A specific development project is not the same as either an area plan or a general plan. Neither the Diridon Station Area nor the Envision San Jose 2040 General Plan describe the 715 West Julian Mixed Use Project. Although not the same projects, CEQA does provide for tiering the environmental review of the 715 West Julian Mixed Use Project from the prior EIR reviews to the extent some of the environmental impact analysis of the overarching plans would be applicable to considering impacts of this specific project. Thus, **"**[a]gencies are encouraged to tier the environmental analyses which they prepare for ***separate*** but related projects including general plans, zoning changes, and development projects." 14 Cal. Admin. Code § 15152(b). Just because tiering is appropriate does not mean that a specific development project is deemed to be the same project as the prior approved area plan or general plan:

> Where an EIR has been prepared and certified for a program, plan, policy, or ordinance consistent with the requirements of this section, any lead agency for ***a later project pursuant to or consistent with*** the program, plan, policy, or ordinance should limit the EIR or negative declaration on the ***later project*** to effects which:
>
> > (1) Were not examined as significant effects on the environment in the prior EIR; or
> > (2) Are susceptible to substantial reduction or avoidance by the choice of specific revisions in the project, by the imposition of conditions, or other means.

14 Cal. Admin. Code § § 15152(d) (emphasis added). Thus, the tiering provision expressly treats a later site specific development project as a separate project from the planning level decisions.

Additionally, when the tiering requirements are being employed by a lead agency, the agency is expressly limited to preparing either an EIR or a negative declaration.

> A ***later EIR shall be required*** when the initial study or other analysis finds that the later project may cause significant effects on the environment that were not adequately addressed in the prior EIR. A ***negative declaration shall be required*** when the provisions of Section 15070 are met.

14 Cal. Admin. Code § § 15152(f) (emphasis added). Although tiering does relieve the lead agency from having to revisit effects of the newer project that were in fact addressed in the prior program-level EIR, it does not eliminate site specific analyses or the need to prepare either an EIR or negative declaration subject to CEQA's public notice, reviewing and hearing requirements. Moreover, by requiring at least a negative declaration when Section 15070's requirements are met, the tiering procedure expressly incorporates CEQA's fair argument standard. Section 15070 provides:

> A public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:
> (a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
> (b) The initial study identifies potentially significant effects, but:
> (1) Revisions in the project plans or proposals made by or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
> (2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

14 Cal. Admin. Code § 15070. There is no authority to use an addendum to another project's EIR in order to tier from that prior program EIR for a specific development project. If, in the end, the City is not presented with substantial evidence of a fair argument that the Project may have a significant environmental effect, it must at least prepare a negative declaration.

The City's attempt to use an addendum to tier the environmental analysis for the Project from the Area Plan's and General Plan's EIRs improperly sidesteps CEQA's important public participation requirements. Even if the City believes that the Project will not have any significant effects, it must still provide notice to the public and other responsible agencies of its intent to rely on the negative declaration (14 Cal. Admin. Code § 15072), allow the public at least a 20-day period (30 days if state agencies must review) to review and comment on the negative declaration (14 Cal. Admin. Code § 15073), and base any adoption of the negative declaration on certain findings (14 Cal. Admin. Code § 15074). All of these requirements have been cast aside by the City's attempted reliance on an addendum to EIRs prepared for separate projects.

B. An EIR Is Required Because There is a Fair Argument that the Project Will Have Significant Indoor Air Quality Impacts

Certified Industrial Hygienist, Francis "Bud" Offermann, PE, CIH concludes that it is likely that the Project will expose future residents to significant impacts related to indoor air quality, and in particular, emissions for the cancer-causing chemical formaldehyde. Mr. Offermann is one of the world's leading experts on indoor air quality and has published extensively on the topic.

Mr. Offermann explains that many composite wood products typically used in modern home construction contain formaldehyde-based glues which off-gas formaldehyde over a very long time period. He states, "The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particle board. These materials are commonly used in residential building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims."

Formaldehyde is a known human carcinogen. Mr. Offermann states that there is a fair argument that residents of the 715West Julian Street project will be exposed to a cancer risk from formaldehyde of approximately 180 per million. This is far above the Bay Area Air Quality Management District (BAAQMD) CEQA significance threshold for airborne cancer risk of 10 per million. (Exhibit C). Mr. Offermann states:

> Therefore, the cancer risk of a resident living in a median California home with the median indoor formaldehyde concentration of 36 $\mu g/m^3$, is 180 per million as a result of formaldehyde alone. Assuming this project will be built using typical materials and construction methods used in California, there is a fair argument that future residents will experience a cancer risk from formaldehyde of approximately 180 per million. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the Bay Area Air Quality Management District (BAAQMD, 2017). There is a fair argument that this project will expose future residents to a significant airborne cancer risk of 180 per million, which is 18 times above the CEQA significance threshold. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

Offermann Comments, p. 2. Mr. Offermann concludes that this significant environmental impact should be analyzed in an EIR and mitigation measures should be imposed to reduce the risk of formaldehyde exposure.

When a Project exceeds a duly adopted CEQA significance threshold, as here, this alone establishes a fair argument that the project will have a significant adverse environmental impact and an EIR is required. Indeed, in many instances, such air quality thresholds are the only criteria reviewed and treated as dispositive in evaluating the significance of a project's air quality impacts. See, e.g. *Schenck v. County of Sonoma* (2011) 198 Cal.App.4th 949, 960 (County applies BAAQMD's "published CEQA quantitative criteria" and "threshold level of cumulative significance"). See also *Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 110-111 ("A 'threshold of significance' for a given environmental effect is simply that level at which the lead agency finds the effects of the project to be significant"). The California Supreme Court made clear the substantial importance that an air district significance threshold plays in providing substantial evidence of a significant adverse impact. *Communities for a Better Environment v. South Coast Air Quality Management Dist.* (2010) 48 Cal.4th 310, 327 ("As the [South Coast Air Quality Management] District's established significance threshold for NOx is 55 pounds per day, these estimates [of NOx emissions of 201 to 456 pounds per day] constitute substantial evidence supporting a fair argument for a significant adverse impact"). Since expert evidence demonstrates that the Project will exceed the BAAQMD's CEQA significance threshold, there is a fair argument that the Project will have significant adverse impacts and an EIR is required.

Mr. Offermann also notes that the high cancer risk that may be posed by the project indoor air emissions is exacerbated to 187 in a million by the additional cancer risk calculated for the project from emissions from nearby roadways and railroad tracks. Offermann Comments, p. 5. Mr. Offermann suggests several feasible mitigation measures, such as requiring the use of no-added-formaldehyde composite wood products, which are readily available. *Id*., pp. 6-7. Mr. Offermann also suggests requiring air ventilation systems which would reduce formaldehyde levels. Since the MND does not analyze this impact at all, none of these or other mitigation measures are considered.

C. There is substantial evidence of a fair argument that the Project may have significant air pollution and health risk impacts from its emissions of air contaminants.

The environmental consulting firm, Soil, Water, Air Protection Enterprise (SWAPE), has reviewed the air modeling conducted for the Project as well as the Addendum's discussion of health risks. SWAPE concludes that the air modeling is not supported by substantial evidence because it applies a number of key inputs that are inconsistent with the project description set forth in the Addendum. As for health risks, SWAPE points out the absence of any quantitative health risk assessment in support of the Addendum's conclusion that the project would not have any significant health risk impacts on nearby residents. SWAPE's screening analysis of the Project's health risks indicates that the Project could create a cancer risk as high as 220 in a million, well above the BAAQMD's threshold of 10 in one million. These potential environmental impacts are not addressed in the previous General Plan and Area Plan EIRs. The Addendum's analysis is not supported by substantial evidence and SWAPE's analysis is substantial evidence that the Project may have significant air quality and health risk impacts.

1. The MND's air quality analysis is not based on substantial evidence because it relies upon incorrect inputs regarding key characteristics of the Project.

The air modeling conducted for the Project is not supported by substantial evidence because it relies upon inputs that understate the number of residents and other key aspects of the Project. As a result, the projected air emissions relied upon by the Addendum are underestimated and unreliable.

First, the air modeling understates the number of residents that will reside at the Project. The Addendum indicates that there will be 779 residents. Addendum, p. 81, Table 8. However, the air modeling is based on only 712 residents, apparently a default number in the CalEEMod model. SWAPE Comment, p. 2. By understating the number of residents, the air modeling underestimates air emissions from the Project.

Second, pollution from vehicles using the Project also are understated. The traffic impact analysis attached to the Addendum at Appendix F estimates that the Project will generate 1,729 vehicle trips per day. Appendix F, p. 32, Table 6. *See* SWAPE Comments, p. 2. Rather than 1,729 vehicle trips, the air modeling assumes only 1,658 vehicle trips. Appendix A, pp. 52. *See*

SWAPE Comments, p. 3. To make matters worse, the air modeling also assumes a higher number of trips already occurring at the site. Appendix F indicates that the existing land uses result in 187 vehicle trips per day. Appendix A, pp. 52. *See* SWAPE Comments, p. 2. The air model boosts this number to 233 existing vehicle trips. Because the air models vehicle trip numbers do not jibe with the traffic impact assessment, the air modeling is not supported by substantial evidence.

Third, the air modeling double counts pass-by trips. SWAPE Comments, pp. 4-5. Because pass-by trips are assumed to be much shorter than other types of trips, using an inflated number of pass-by trips will reduce the vehicle miles travelled associated with the Project. 217 pass-by trips were accounted for in the traffic impact assessment and are taken into account by the 1,729 vehicle trips per day estimated for the Project. Nevertheless, the air modeling takes another percentage discount out of the total vehicle trips purportedly to, once again, account for pass-by trips. This double-counting of pass-by trips again artificially reduces the projected air emissions from the Project.

Because of these inaccuracies, the air pollution modeling result is not supported by substantial evidence. The applicant should rerun the modeling in order to ascertain the actual anticipated emissions from the Project's construction and operation.

2. There is substantial evidence of a fair argument that the Project's construction may have significant health risk impacts from its emissions of toxic air contaminants.

People sensitive to toxic air contaminants live adjacent to the proposed site. "The closest sensitive receptors to the project site are the multi-family residences to the north and west of the project site and single-family homes to the south." Addendum, p. 39. SWAPE measures the Project's distance to the nearest sensitive receptor as approximately 107 feet. SWAPE Comments, p. 10. The BAAQMD has established a significance threshold for cancer risk of 10.0 in one million. The air analysis for the Project concludes that, without mitigations, construction of the Project will result in a cancer risk of 48.4 in one million for an infant exposure. *Id*., p. 44. The Addendum identifies mitigation MM-AQ-1, requiring the applicant to "develop a plan demonstrating that the off-road equipment used on-site to construct the project would achieve a fleet-wide average of 81 percent reduction in diesel particulate matter (DPM) exhaust emissions or greater." *Id*. The Addendum then identifies a nonexclusive list of "[m]easures that can be implemented to achieve this reduction…." *Id*. Two measures are described:

> All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days continuously shall meet, at a minimum, U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent.
>
> The use of equipment with CARB-certified Level 3 Diesel Particulate Filters or alternatively-fueled equipment (i.e., non-diesel), and/or additional exhaust devices.

Addendum, p. 47. The developer is not required to use either of these two measures. "The construction contractor could use other measures to minimize construction period DPM emissions to reduce the predicted cancer risk below the thresholds." *Id*. The types and mix of measures would be set forth in a plan to be submitted to the Planning Department: "A written plan to achieve a fleet-wide average reduction in DPM emissions shall be prepared by a qualified consultant and submitted to the Supervising Environmental Planner of the Planning, Building and Code Enforcement Department prior to issuance of any grading permits." *Id*.

The health risk mitigation measure is inadequate as it is likely infeasible and improperly defers the selection of the actual mitigation measures. Measures to minimize significant environmental impacts must be feasible. 14 Cal. Admin. Code § 15126.4(a)(1). Mitigation measures also must be fully enforceable. 14 Cal. Admin. Code § 15126(a)(2). Measure MM-AQ-1 is neither.

SWAPE's review has identified substantial evidence that indicates it is unlikely that the applicant will be able to identify measures that will achieve a fleet-wide average reduction of 81 percent in diesel particulate matter. SWAPE Comment, pp. 6-8. There is no evidence that Tier 4 equipment will be available for the Project. Based on recent reports, only about 22 percent of all off-road equipment currently available in the State of California

Thus, by stating that the Project could use Tier 4 equipment during construction, the Addendum is relying on a fleet of construction equipment that only accounts for 22% of all off-road equipment currently available in the State of California that meets the Tier 4 standard. Whether or not any Tier 4 equipment will be available to this Project is speculative and unlikely. Because it is unlikely that the applicant would be able to develop a feasible plan to achieve the 81 percent DPM reduction, the City cannot assume this mitigation measure will reduce the Project's health risk impact.

In addition, measure MM-AQ-1 improperly defers the actual development and identification of the mitigation measure. CEQA disallows deferring the formulation of mitigation measures to post-approval studies. CEQA Guidelines § 15126.4(a)(1)(B); *Sundstrom v. County of Mendocino* (1988) 202 Cal.App.3d 296, 308-309. An agency may only defer the formulation of mitigation measures when it possesses "'meaningful information' reasonably justifying an expectation of compliance." *Sundstrom* at 308; *see also Sacramento Old City Association v. City Council of Sacramento* (1991) 229 Cal.App.3d 1011, 1028-29 (mitigation measures may be deferred only "for kinds of impacts for which mitigation is known to be feasible"). A lead agency is precluded from making the required CEQA findings unless the record shows that all uncertainties regarding the mitigation of impacts have been resolved; an agency may not rely on mitigation measures of uncertain efficacy or feasibility. *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 727 (finding groundwater purchase agreement inadequate mitigation because there was no evidence that replacement water was available). This approach helps "insure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism from being swept under the rug." *Concerned Citizens of Costa Mesa, Inc. v. 32nd Dist. Agricultural Assn.* (1986) 42 Cal.3d 929, 935.

Moreover, by deferring the development of specific mitigation measures, the Applicant has effectively precluded public input into the development of those measures. CEQA prohibits this approach. As explained by the *Sundstrom* court:

> An EIR … [is] subject to review by the public and interested agencies. This requirement of "public and agency review" has been called "the strongest assurance of the adequacy of the EIR." The final EIR must respond with specificity to the "significant environmental points raised in the review and consultation process." . . . Here, the hydrological studies envisioned by the use permit would be exempt from this process of public and governmental scrutiny.

Sundstrom, 202 Cal.App.3d at 308.

The second option identified in the Addendum calling for filters on unnamed equipment and measure MM-AQ-1's calling for a future plan setting forth the actual mitigations are mere deferrals of developing the mitigation. Because there is no plan to review during the project approval process, the Planning Commission and public have no idea whether the proposed future measures will achieve an 81 percent reduction. Because there is no evidence of available measures that could achieve the 81 percent reduction, mitigation of the Project's cancer risk has been improperly deferred. There is simply no substantial evidence that whatever plan the applicant comes up with in the future will mitigate the Project's cancer risk.

3. There is substantial evidence of a fair argument that the Project's operation may have significant health risk impacts from its emissions of toxic air contaminants.

As for operation of the Project, the Addendum does not rely on a quantitative assessment. Instead, the Addendum states that "[o]peration of the project is not expected to cause any localized emissions that could expose sensitive receptors to unhealthy air pollutant levels" noting that the Project does not include any stationary sources of toxic air contaminants such as a generator. *Id*., p. 44. As SWAPE points out, "Simply because the Project Applicant states that the Project will not expose "sensitive receptors to unhealthy air pollutant levels" does not mean that an analysis is not needed." SWAPE Comments, p. 9. The BAAQMD CEQA Guidelines specifically recommend that "all receptors located within a 1,000 foot radius of the project's fence line be assessed for potentially significant impacts from the incremental increase in risks or hazards from the proposed new source." BAAQMD CEQA Guidelines, May 2017, p. 5-7; SWAPE Comments, p. 9. Likewise, guidance published by the Office of Environmental Health Hazard Assessment (OEHHA) also recommends the preparation of a quantified health risk assessment. SWAPE Comments, p. 10. In order to fully disclose the potential health risks associated with the Project, an accurate health risk assessment for the entire Project consistent with guidelines published by OEHHA must be prepared. Currently, the Addendum's conclusion that the Project will not result in any significant health risks is not supported by substantial evidence and a fair argument exists that the Project may have significant health risk impacts.

Based on the limited information provided by the Addendum, a fair argument exists that the Project may have a significant health risk impact to nearby sensitive receptors. SWAPE has prepared a Level 2 health risk screening assessment ("HRSA") for the project. BAAQMD recommends a significance threshold of 10 in one million cancer risk for infants, children, adults, and lifetime residency. Applying the U.S. Environmental Protection Agency's AERSCREEN model, as recommended by OEHHA and CAPCOA, SWAPE calculates that construction and operation of the Project will result in cancer risks to infants, children, adults, and nearby residents over the course of a 30-year residential lifetime of, respectively, 92 in one million, 110 in one million, 13 in one million, and 220 in one million, well in excess of BAAQMD's threshold. SWAPE Comment, pp. 10-13. Based on this substantial screening evidence, a fair argument is present that the Project may have significant health risk impacts on nearby residents. A complete health risk assessment must be prepared for the Project in order to provide a substantial basis for any conclusions regarding the Project's health risks to current residents.

V. CONCLUSION

For the foregoing reasons, the Addendum for the Project should be withdrawn, an EIR should be prepared, and the draft EIR should be circulated for public review and comment in accordance with CEQA. Thank you for considering these comments.

Sincerely,



Michael R. Lozeau
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EXHIBIT A

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Date: September 24, 2018

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From: Bud Offermann PE CIH

Subject: Indoor Air Quality: 715 W. Julian Street, San Jose Development

Pages: 9

Indoor Air Quality Impacts

Indoor air quality (IAQ) directly impacts the comfort and health of building occupants, and the achievement of acceptable IAQ in newly constructed and renovated buildings is a well-recognized design objective. For example, IAQ is addressed by major high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014). Indoor air quality in homes is particularly important because occupants, on average, spend approximately ninety percent of their time indoors with the majority of this time spent at home (EPA, 2011). Some segments of the population that are most susceptible to the effects of poor IAQ, such as the very young and the elderly, occupy their homes almost continuously. Additionally, an increasing number of adults are working from home at least some of the time during the workweek.

The concentrations of many air pollutants often are elevated in homes relative to outdoor air because many of the materials and products used indoors contain and release a variety of pollutants to air (Hodgson et al., 2002; Offermann and Hodgson, 2011). With respect to indoor air contaminants for which inhalation is the primary route of exposure, the critical design and construction parameters are the provision of adequate ventilation and

the reduction of indoor sources of the contaminants.

Indoor Formaldehyde Concentrations Impact. In the California New Home Study (CNHS) of 108 new homes in California (Offermann, 2009), 25 air contaminants were measured, and formaldehyde was identified as the indoor air contaminant with the highest cancer risk as determined by the California Proposition 65 Safe Harbor Levels (OEHHA, 2017), No Significant Risk Levels (NSRL) for carcinogens. The NSRL is the daily intake level calculated to result in one excess case of cancer in an exposed population of 100,000 (i.e., ten in one million cancer risk) and for formaldehyde is 40 µg/day. The NSRL concentration of formaldehyde that represents a daily dose of 40 µg is 2 $\mu g/m^3$, assuming a continuous 24-hour exposure, a total daily inhaled air volume of 20 m^3, and 100% absorption by the respiratory system. All of the CNHS homes exceeded this NSRL concentration of 2 $\mu g/m^3$. The median indoor formaldehyde concentration was 36 $\mu g/m^3$, and ranged from 4.8 to 136 $\mu g/m^3$, which corresponds to a median exceedance of the 2 $\mu g/m^3$ NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a median California home with the median indoor formaldehyde concentration of 36 $\mu g/m^3$, is 180 per million as a result of formaldehyde alone. Assuming this project will be built using typical materials and construction methods used in California, there is a fair argument that future residents will experience a cancer risk from formaldehyde of approximately 180 per million. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the Bay Area Air Quality Management District (BAAQMD, 2017). There is a fair argument that this project will expose future residents to a significant airborne cancer risk of 180 per million, which is 18 times above the CEQA significance threshold. This impact should be analyzed in an environmental impact report ("EIR"), and the agency should impose all feasible mitigation measures to reduce this impact. Several feasible mitigation measures are discussed below and these and other measures should be analyzed in an EIR.

Besides being a human carcinogen, formaldehyde is also a potent eye and respiratory irritant. In the CNHS, many homes exceeded the non-cancer reference exposure levels

(RELs) prescribed by California Office of Environmental Health Hazard Assessment (OEHHA, 2017). The percentage of homes exceeding the RELs ranged from 98% for the Chronic REL of 9 µg/m^3 to 28% for the Acute REL of 55 µg/m^3.

The primary source of formaldehyde indoors is composite wood products manufactured with urea-formaldehyde resins, such as plywood, medium density fiberboard, and particle board. These materials are commonly used in residential building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims.

In January 2009, the California Air Resources Board (CARB) adopted an airborne toxics control measure (ATCM) to reduce formaldehyde emissions from composite wood products, including hardwood plywood, particleboard, medium density fiberboard, and also furniture and other finished products made with these wood products (California Air Resources Board 2009). While this formaldehyde ATCM has resulted in reduced emissions from composite wood products sold in California, they do not preclude that homes built with composite wood products meeting the CARB ATCM will have indoor formaldehyde concentrations that are below cancer and non-cancer exposure guidelines.

Outdoor Air Ventilation Impact. Another important finding of the CNHS, was that the outdoor air ventilation rates in the homes were very low. Outdoor air ventilation is a very important factor influencing the indoor concentrations of air contaminants, as it is the primary removal mechanism of all indoor air generated air contaminants. Lower outdoor air exchange rates cause indoor generated air contaminants to accumulate to higher indoor air concentrations. Many homeowners rarely open their windows or doors for ventilation as a result of their concerns for security/safety, noise, dust, and odor concerns (Price, 2007). In the CNHS field study, 32% of the homes did not use their windows during the 24-hour Test Day, and 15% of the homes did not use their windows during the entire preceding week. Most of the homes with no window usage were homes in the winter field session. Thus, a substantial percentage of homeowners never open their windows, especially in the winter season. The median 24-hour measurement was 0.26 ach, with a range of 0.09 ach to 5.3 ach. A total of 67% of the homes had outdoor air exchange rates

below the minimum California Building Code (2001) requirement of 0.35 ach. Thus, the relatively tight envelope construction, combined with the fact that many people never open their windows for ventilation, results in homes with low outdoor air exchange rates and higher indoor air contaminant concentrations.

The mixed-use development proposed at 715 W. Julian Street in San Jose is located close to roads with moderate to high traffic, and as a result has been determined to be a sound impacted site according to the Addendum to the Diridon Station Area Plan Environmental Impact Report- SCH# 2011092022 (City of San Jose, 2018), Chapter 3 - Section L, Noise, and future exterior noise levels of up to 71 dBA L_{dn} may occur at southern and eastern facades of the proposed building. The Standard Permit Conditions in Chapter 3 - Section L of this report state that the project applicant shall retain a qualified acoustical specialist to prepare a detailed analysis of interior residential noise levels resulting from all exterior sources during the final design phase of the project pursuant to requirements set forth in the State Building Code.

As a result of the high outdoor traffic related noise levels, the current project anticipates the need for mechanical supply of outdoor air ventilation air to allow for a habitable interior environment with closed windows and doors within each residential unit. Such a ventilation system would allow windows and doors to be kept closed at the occupant's discretion to control exterior noise within residential interiors.

Mechanical outdoor air ventilation systems may be designed in three airflow configurations; exhaust only systems, balanced outdoor air supply and exhaust systems, and outdoor air supply only systems. Exhaust only systems are the least expensive system, and in multi-family residential buildings, such as those at this project, typically consist of continuously operated bathroom exhaust fans and an acoustically treated opening in the exterior wall, sometimes referred to as a Z-Duct. The Z-Duct exterior opening typically has soundliner installed on the inside surfaces of the opening to reduce the transmission of exterior noise to the indoors. The continuously operating bathroom fans create a negative air pressure in the unit that causes outdoor air to enter the indoor space through the Z-Duct. However, this negative air pressure allows for air to infiltrate the units from adjacent units, the hallways, and the exterior walls. This infiltrating air can cause staining on

carpeting and on walls around electrical outlets, as well as transporting air between adjacent units, which causes complaints from cooking and smoking odors. Since tobacco smoke is a known carcinogen, the transport of the tobacco smoke to adjacent units, poses a health risk to those exposed in the adjacent units. In addition, the negative pressure created in units by exhaust only systems can cause sewer gas to enter the indoor air should plumbing drain traps become dry.

Also, the Z-Duct openings for exhaust only systems preclude the inclusion of efficient outdoor air filtration without adversely impacting the flow of outdoor air into the unit. Both balanced outdoor air supply and exhaust systems, and outdoor air supply only systems, can have efficient outdoor air filtration without adversely impacting the flow of outdoor air into the unit.

$PM_{2.5}$ Outdoor Concentrations Impact. An additional impact of the nearby motor vehicle and railroad traffic and stationary sources associated with this project, are the increased outdoor concentrations of $PM_{2.5}$. The modeled maximum annual $PM_{2.5}$ concentration was determined to be 0.25 $\mu g/m^3$ (City of San Jose, 2018, Table 6). The maximum increased cancer risk for residential receptors was calculated to be 7.1 per million. As a result, the airborne cancer risk for the future residents of the project, including the cancer risk of 180 per million cited earlier for indoor formaldehyde exposures, may be 187 per million.

It should also be noted, that the Total Cancer Risk in Table 6 (see below) from the six sources is 11.77 per million not the 7.1 per million in Table 6.

Table 6 Community Risk to Proposed Residential Occupants			
Source	**Cancer Risk (per million)**	**Annual $PM_{2.5}$ ($\mu g/m^3$)**	**Acute or Chronic Hazard Index**
SR-82 (The Alameda) at ~825 feet SR 82, Link 332 (6-foot elevation)	2.1	0.02	<0.01
Stockton Avenue at 50 feet	4.5	0.16	<0.01
West Julian Street at 50 feet	1.6	0.05	<0.01
Plant #G7202 at ~370 feet (Diesel Internal Combustion Engine distance multiplier)	0.04	0.0	0.0
Plant #3100 at ~370 feet (Diesel Internal Combustion Engine distance multiplier)	0.03	<0.01	<0.01
Railroad line at ~500 feet	3.5	0.01	<0.01
Total	7.1	<0.25	<0.07
BAAQMD Cumulative Source Threshold	*100*	*0.8*	*10.0*
Significant?	No	No	No
* The on-site MEI is at a greater distance from SR-82 than the nearest project site receptor. Hence, the risk at the on-site MEI would be lower.			

Indoor Air Quality Impact Mitigation Measures

The following are recommended mitigation measures to minimize the impacts upon indoor quality:

- indoor formaldehyde concentrations
- outdoor air ventilation
- $PM_{2.5}$ outdoor air concentrations

Indoor Formaldehyde Concentrations Mitigation. Use only composite wood materials (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins (CARB, 2009).

Outdoor Air Ventilation Mitigation. Provide each habitable room with a mechanical supply of outdoor air that meets or exceeds the California 2016 Building Energy Efficiency Standards (California Energy Commission, 2015) requirements of the greater of 15 cfm/occupant or 0.15 cfm/ft^2 of floor area. Following installation of the system

conduct testing and balancing to insure that required amount of outdoor air is entering each habitable room and provide a written report documenting the outdoor air flow rates. Do not use exhaust only mechanical outdoor air systems, use only balanced outdoor air supply and exhaust systems or outdoor air supply only systems. Provide a manual for the occupants that describes the purpose of the mechanical outdoor air system and the operation and maintenance requirements of the system.

$PM_{2.5}$ Outdoor Air Concentration Mitigation. Install air filtration with a minimum efficiency of MERV 13 to filter the outdoor air entering the mechanical outdoor air supply system. Install the air filters in the system such that that they are accessible for replacement by the occupants. Include in the mechanical outdoor air ventilation system manual instructions on how to replace the air filters and the estimated frequency of replacement.

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EXHIBIT B

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September 25, 2018

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Subject: Comments on the 715 West Julian Mixed-Use Project

Dear Mr. Lozeau,

We have reviewed the August 2018 Addendum to the Diridon Station Area Plan Environmental Impact Report ("Addendum") for the 715 West Julian Mixed-Use Project ("Project") located in the City of San Jose ("City"). The Project lot lies within the boundaries of the Diridon Station Area Plan (DSAP) and the Project is proposing a Planned Development Rezoning and Permit in order to combine two lots into one parcel and rezone the site from CP Commercial Pedestrian Zoning District and LI Light Industrial Zoning District to CP (PD) Planned Development Zoning District. The Project proposes to demolish five existing buildings in order to construct 249 residential units and 26,585 square feet of commercial and/or retail space in a seven-story building with two below-grade levels of parking.

Our review concludes that the Addendum fails to adequately evaluate the Project's Air Quality and Greenhouse Gas (GHG) impacts. As a result, emissions and health impacts associated with construction and operation of the proposed Project are underestimated and inadequately addressed. An updated CEQA document should be prepared to adequately assess and mitigate the potential health risk and GHG impacts the Project may have on the surrounding environment.

Air Quality

Unsubstantiated Input Parameters Used to Estimate Project Emissions

The Addendum relies on emissions calculated from the California Emissions Estimator Model Version CalEEMod.2016.3.2 ("CalEEMod").[1] CalEEMod provides recommended default values based on site specific information, such as land use type, meteorological data, total lot acreage, project type and typical equipment associated with project type. If more specific project information is known, the user can change the default values and input project-specific values, but the California Environmental Quality

[1] CalEEMod website, *available at*: http://www.caleemod.com/

Act (CEQA) requires that such changes be justified by substantial evidence.[2] Once all of the values are inputted into the model, the Project's construction and operational emissions are calculated, and "output files" are generated. These output files disclose to the reader what parameters were utilized in calculating the Project's air pollutant emissions, and make known which default values were changed as well as provide a justification for the values selected.[3]

When we reviewed the Project's CalEEMod output files, found in Appendix A, we found that several of the values inputted into the model were not consistent with information disclosed in the Addendum. As a result, the Project's construction and operational emissions are greatly underestimated. An updated CEQA document should be prepared to include an updated air quality analysis that adequately evaluates the impacts that construction and operation of the Project will have on local and regional air quality.

Failure to Use Project Specific Data

According to the Addendum, the proposed Project will be populated with 779 residents (Table 8, pp. 81). However, review of the Project's CalEEMod demonstrates that the Project uses CalEEMod's default number of residents to estimate Project emissions (see excerpt below) (Appendix A, pp. 50).

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	27.00	1000sqft	0.00	27,000.00	0
Enclosed Parking with Elevator	246.00	Space	0.00	98,400.00	0
Apartments High Rise	249.00	Dwelling Unit	1.22	249,000.00	712

As you can see in the excerpt above, the Project Applicant underestimated the number of the residents. According to the CalEEMod User's Guide, "If the actual population data is known, the user should override the default value."[4] Therefore, the Project Applicant should have estimated emissions with the correct number of residents in order to accurately estimate emissions.

Incorrect Daily Vehicle Trip Estimation

Review of the Traffic Impact Analysis (TIA) found in Appendix F demonstrates that the Project Applicant modeled the existing and proposed land uses with an incorrect number of daily vehicle trips. As a result, both the existing emissions and proposed Project's emissions are incorrect.

According to the TIA, conducted by Hexagon Transportation Consultants, Inc., the proposed Project would generate 1,729 vehicle trips per day and the existing land uses generate 187 vehicle trips per day (see excerpt below) (Table 6, Appendix F, pp. 32).

[2] CalEEMod User Guide, p. 1, 11, *available at:* http://www.caleemod.com/
[3] CalEEMod User Guide, p. 8, 12, *available at:* http://www.caleemod.com/ (A key feature of the CalEEMod program is the "remarks" feature, where the user explains why a default setting was replaced by a "user defined" value. These remarks are included in the report.)
[4] CalEEMod Model 2016.3.2 User's Guide, pp. 2,30, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/01_user-39-s-guide2016-3-2_15november2017.pdf?sfvrsn=4

Table 6
Project Trip Generation Estimates

Land Use	Size	Daily Rate	Daily Trips	AM Peak Hour Rate	AM In	AM Out	AM Total	PM Peak Hour Rate	PM In	PM Out	PM Total
Proposed Uses											
Apartments [1]	249 units	5.44	1,355	0.36	23	67	90	0.44	67	43	110
Transit Reduction for Residential (9%) [2]			(122)		(2)	(6)	(8)		(6)	(4)	(10)
Housing and Retail Internal Reduction (15%) [2]			(153)		(2)	(2)	(4)		(8)	(7)	(15)
Subtotal			*1,080*		*19*	*59*	*78*		*53*	*32*	*85*
Retail Space [3]	27,000 s.f.	37.75	1,019	0.94	16	9	25	3.81	49	54	103
Housing and Retail Internal Reduction (15%) [2]			(153)		(2)	(2)	(4)		(7)	(8)	(15)
Retail Pass-By Reduction (25%) [4]			(217)		(3)	(3)	(6)		(11)	(11)	(22)
Subtotal			*649*		*11*	*4*	*15*		*31*	*35*	*66*
Total Project Trips			**1,729**		**30**	**63**	**93**		**84**	**67**	**151**
Existing Uses											
Apartments [5]	6 units	7.32	(44)	0.46	(1)	(2)	(3)	0.56	(2)	(1)	(3)
Single-Family Residential [6]	2 units	9.44	(19)	0.74	0	(1)	(1)	0.99	(1)	(1)	(2)
General Light Industrial [7]	25.000 s.f.	4.96	(124)	0.70	(16)	(2)	(18)	0.63	(2)	(14)	(16)
Subtotal			*(187)*		*(17)*	*(5)*	*(22)*		*(5)*	*(16)*	*(21)*
Net Project Trips			**1,542**		**13**	**58**	**71**		**79**	**51**	**130**

Notes:
[1] Multifamily Housing (Mid-Rise) (Land Use 221) average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017.*
[2] Based on reduction percentages published in VTA's *Transportation Impact Analysis Guidelines, 2014.*
[3] Shopping Center (Land Use 820) average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017.*
[4] A typical 25% pass-by trip reduction was applied to the retail component of the project during the peak hour.
[5] Multifamily Housing (Low-Rise) (Land Use 220) average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017.*
[6] Single-Family Detached Residential (Land Use 210) average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017.*
[7] General Light Industrial (Land Use 110) average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017.*

However, review of the Addendum's CalEEMod model for the proposed Project demonstrates the Project Applicant modeled emissions assuming the Project would generate approximately 1,658 trips per day (see excerpt below) (Appendix A, pp. 52).

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate: Weekday	Saturday	Sunday	Unmitigated: Annual VMT	Mitigated: Annual VMT
Apartments High Rise	1,045.80	1,240.02	908.85	2,434,283	2,434,283
Enclosed Parking with Elevator	0.00	0.00	0.00		
Strip Mall	612.09	136.62	58.32	716,201	716,201
Total	1,657.89	1,376.64	967.17	3,150,484	3,150,484

As you can see in the excerpt above, the Project Applicant underestimates the number of vehicle trips generated by the proposed Project by 71 trips per day, or 25,915 trips per year. Therefore, the operational emissions from the proposed Project are significantly underestimated.

Furthermore, review of the Addendum's CalEEMod model for the existing land uses demonstrates that the Project Applicant modeled existing emissions assuming the Project would generate approximately 233 trips per day (see excerpt below) (Appendix A, pp. 59).

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	39.90	38.34	35.16	90,075	90,075
General Light Industry	174.25	33.00	17.00	384,229	384,229
Single Family Housing	19.04	19.82	17.24	43,638	43,638
Total	233.19	91.16	69.40	517,942	517,942

As you can see in the excerpt above, the Project Applicant overestimates the number of vehicle trips generated by the existing land uses by approximately 46 vehicle trips per day, or 16,790 trips per year. As a result, the emissions generated by the existing land uses are significantly overestimated.

The Addendum incorrectly models the vehicle trips generated by the proposed and existing land uses. As a result, the CalEEMod models are incorrect and should not be used to determine Project significance.

Use of Incorrect Trip Purpose Percentage

Review of the Project's CalEEMod output files demonstrate that the model double counts the number of pass-by trips expected to occur throughout Project operation. As a result, the model underestimates the Project's operational emissions.

CalEEMod separates the operational trip purposes into three categories: primary, diverted, and pass-by trips. According to Appendix A of the CalEEMod User's Guide, the primary trips utilize the complete trip lengths associated with each trip type category. Diverted trips are assumed to take a slightly different path than a primary trip and are assumed to be 25% of the primary trip lengths. Pass-by trips are assumed to be 0.1 miles in length and are a result of no diversion from the primary route.[5] Review of the Project's CalEEMod output files demonstrates that the trip purpose percentage was divided amongst primary, diverted, and pass-by trip types for the Project's proposed retail land uses (see excerpt below) (Appendix A, pp. 52).

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Enclosed Parking with Elevator	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	45	40	15

However, as demonstrated in the Addendum's TIA, pass-by trips for the retail land uses were already accounted for in the TIA's Trip Generation calculations (see excerpt below) (Table 6, Appendix F, pp. 32).

[5] "CalEEMod User's Guide, Appendix A: Calculation Details for CalEEMod." *SCAQMD, available at:* http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2, p. 20

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[6] Single-Family Detached Residential (Land Use 210) average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017.*
[7] General Light Industrial (Land Use 110) average rates published in ITE's *Trip Generation Manual, 10th Edition, 2017.*

Therefore, the CalEEMod model should have divided the trip purpose between primary and diverted trips for the retail land uses, as pass-by trips are already accounted for in the 1,729-daily trip total. By spreading the trip purpose percentages amongst the three categories, the model is accounting for pass-by trips that have already been accounted for in the TIA. Because the proposed Project's CalEEMod model incorrectly allocates the Project's operational trips to the various categories of trip purposes, the emissions associated with these trips are underestimated and, as a result, the Project's operational emissions are underestimated. An updated CalEEMod model must be prepared in an Addendum in order to accurately estimate the Project's operational emissions.

Diesel Particulate Matter Health Risk Emissions Inadequately Evaluated

According to the Addendum, Project construction will cause an increased infant health risk of 48.4 in one million (Table 5, p. 47). The Project Applicant states that with mitigation, the infantile health risk will be reduced to 5.4 in one million and, therefore, will be less than significant (see excerpt below) (Table 5, p. 47).

Table 5 Impacts from Combined Sources at Construction MEI			
Source	**Maximum Cancer Risk (per million)**	**$PM_{2.5}$ concentration ($\mu g/m^3$)**	**Hazard Index**
Project Construction Unmitigated Construction Mitigated Construction	 **48.4** 5.4	 0.25 0.04	 0.05 0.01
BAAQMD Threshold – Single Source	*10.0*	*0.3*	*1.0*
SR-82 (The Alameda)	1.7	0.01	0.00
Stockton Avenue	2.4	0.08	<0.02
West Julian Street at ~200 feet	0.9	0.02	0.00
Plant #G7202 at ~550 feet	0.0	0.00	0.00
Plant #3100 at ~550 feet	0.0	0.00	0.00
Rail line	<3.5	0.01	0.00
Combined Sources Unmitigated Construction Mitigated Construction	 56.9 13.9	 0.37 0.16	 <0.07
BAAQMD Threshold – Combined Sources	*100*	*0.8*	*10.0*
Significant? Unmitigated Mitigated	 Yes No	 No No	 No No

However, review of the Addendum demonstrates that the assessment fails to adequately evaluate the potential health risk impact that the proposed Project would have on nearby sensitive receptors. Specifically, the HRA: (1) relies on a mitigation that is not feasible; (2) defers proposing all necessary mitigation to reduce the construction health risk; and (3) fails to prepare a quantitative operational health risk assessment to the nearest sensitive receptor as a result of the Project. As a result, the Addendum's conclusion that the Project would not result in a significant health risk is incorrect and unsubstantiated.

Construction Health Risk Significance Determination Relies on Mitigation that is not Feasible

As previously stated, the Project Applicant determines that the Project's construction health risk would be less than significant with mitigation (Table 5, p. 47). However, review of the proposed mitigation in MM AQ-1 demonstrates that not all of the measures proposed are feasible. Specifically, the Addendum states,

> "All mobile diesel-powered off-road equipment larger than 25 horsepower and operating on the site for more than two days continuously shall meet, at a minimum, U.S. EPA particulate matter emissions standards for Tier 4 engines or equivalent" (p. 47).

Due to the limited number of Tier 4 Interim and Tier 4 Final construction equipment available, the Project should have assessed the feasibility in obtaining engines equipped with Tier 4 engines for all 34 pieces of construction equipment (Appendix A, pp. 35-36). By failing to demonstrate how the Project will actually comply with this mitigation measure, this measure may not actually be feasible and thus, the Addendum cannot claim the emissions reductions from this measure.

The United States Environmental Protection Agency's (USEPA) 1998 nonroad engine emission standards were structured as a three-tiered progression. Tier 1 standards were phased-in from 1996 to 2000 and Tier 2 emission standards were phased in from 2001 to 2006. Tier 3 standards, which applied to engines from 37-560 kilowatts (kW) only, were phased in from 2006 to 2008. The Tier 4 emission standards were introduced in 2004, and were phased in from 2008 to 2015.[6] These tiered emission standards, however, are only applicable to newly manufactured nonroad equipment. According to the USEPA, "if products were built before EPA emission standards started to apply, they are generally not affected by the standards or other regulatory requirements."[7] Therefore, pieces of equipment manufactured prior to 2000 are not required to adhere to Tier 2 emission standards, and pieces of equipment manufactured prior to 2006 are not required to adhere to Tier 3 emission standards. Construction equipment often lasts more than 30 years; as a result, Tier 1 equipment and non-certified equipment are currently still in use.[8] It is estimated that of the two million diesel engines currently used in construction, 31 percent were manufactured before the introduction of emissions regulations.[9]

Although Tier 4 Interim engines are currently being produced and installed in new off-road construction equipment, the vast majority of existing diesel off-road construction equipment in California is not equipped with Tier 4 Interim engines.[10] In a 2010 white paper, the California Industry Air Quality Coalition estimated that approximately 7% and less than 1% of all off-road heavy duty diesel equipment in California was equipped with Tier 2 and Tier 3 engines, respectively.[11] Similarly, based on information and data provided in the *San Francisco Clean Construction Ordinance Implementation Guide for San Francisco Public Projects*, the availability of Tier 3 equipment is extremely limited. In 2014, 25% of all off-road equipment in the state of California were equipped with Tier 2 engines, approximately 12% were equipped with Tier 3 engines, approximately 18% were equipped with Tier 4 Interim engines, and only 4% were equipped with Tier 4 Final engines (see excerpt below).[12]

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[6] Emission Standards, Nonroad Diesel Engines, *available at:* https://www.dieselnet.com/standards/us/nonroad.php#tier3

[7] "Frequently Asked Questions from Owners and Operators of Nonroad Engines, Vehicles, and Equipment Certified to EPA Standards." United States Environmental Protection Agency, August 2012. *Available at:* http://www.epa.gov/oms/highway-diesel/regs/420f12053.pdf

[8] "Best Practices for Clean Diesel Construction." Northeast Diesel Collaborative, August 2012. *Available at:* http://northeastdiesel.org/pdf/BestPractices4CleanDieselConstructionAug2012.pdf

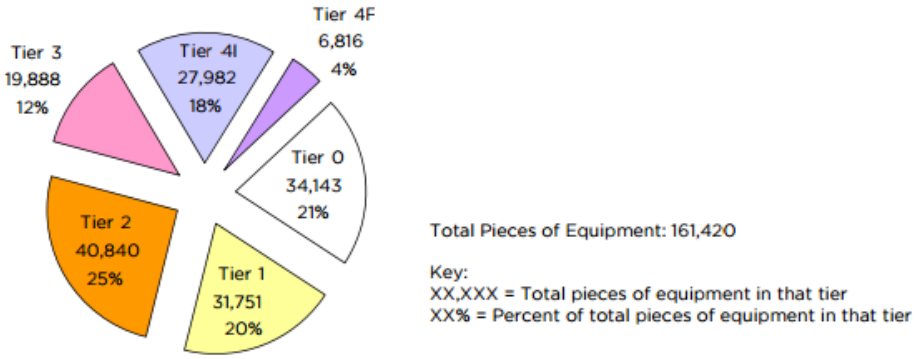
[9] Northeast Diesel Collaborative Clean Construction Workgroup, *available at:* http://northeastdiesel.org/construction.html

[10] California Industry Air Quality Coalition White Paper, p. 3, *available at:* http://www.agc-ca.org/uploadedFiles/Member_Services/Regulatory-Advocacy-Page-PDFs/White_Paper_CARB_OffRoad.pdf

[11] "White Paper: An Industry Perspective on the California Air Resources Board Proposed Off-Road Diesel Regulations." Construction Industry Air Quality Coalition, *available at:* http://www.agc-ca.org/uploadedFiles/Member_Services/Regulatory-Advocacy-Page-PDFs/White_Paper_CARB_OffRoad.pdf

[12] "San Francisco Clean Construction Ordinance Implementation Guide for San Francisco Public Projects." August 2015, *available at:* https://www.sfdph.org/dph/files/EHSdocs/AirQuality/San_Francisco_Clean_Construction_Ordinance_2015.pdf, p. 6

Figure 4: 2014 Statewide All Fleet Sizes (Pieces of Equipment)



As demonstrated in the figure above, Tier 4 Interim and Tier 4 Final equipment only accounts for 18% and 22%, respectively, of all off-road equipment currently available in the state of California. Thus, by stating that the Project proposes to use Tier 4 equipment during construction, the Addendum is relying on a fleet of construction equipment that only accounts for 22% of all off-road equipment currently available in the state of California. Therefore, by failing to evaluate the feasibility of implementing Tier 4 mitigation into the Project's construction phases, the Project's construction emissions are underestimated. Thus, we find the Addendum to be incorrect and this mitigation should not be used to determine the Project's health risk.

Mitigation Measures Necessary to Reduce Construction Health Risk Deferred

Furthermore, MM AQ-1 recommends mitigation measures in order to achieve a fleet-wide average reduction of diesel particulate matter (DPM) emissions by 81% (p. 51). In order to reach the reduction target, MM AQ-1 recommends that all construction equipment have Tier 4 engines and meet CARB-Certified Level 3 Diesel Particulate Filters or have alternatively fueled equipment (p. 53). MM AQ-1 also states,

> "The construction contractor could use other measures to minimize construction period DPM emissions to reduce the predicted cancer risk below the thresholds. A written plan to achieve a fleet-wide average reduction in DPM emissions shall be prepared by a qualified consultant and submitted to the Supervising Environmental Planner of the Planning, Building and Code Enforcement Department prior to issuance of any grading permits" (p. 53).

However, the Project Applicant fails to actually list any other mitigation measures that the Project should implement in order to reach an 81% reduction in DPM emissions. Instead, the Project Applicant is deferring the proposal of any other mitigation to a later date. The California Supreme Court case decision in *Madera Oversight Coalition, Inc. v. County of Madera* (2011) 199 Cal.App.4th 48 (*Madera* Case)[13] makes clear that it is improper to defer mitigation to the future. The *Madera* Case decision states,

> "An additional legal error arises because mitigation measures MM4.5-2(a) through (e) improperly defer the formulation of actual mitigation measures to the future. (Guidelines, §

[13] https://cases.justia.com/california/court-of-appeal-5th-appellate-district/F059153.PDF

15126.4, subd. (a)(1)(B).) Despite being labeled as mitigation measures in the EIR, these provisions simply are statements that the County will decide the mitigation to be adopted after it received the recommendation of a professional archaeologist. The proper course of action —was not to defer the specification and adoption of mitigation measures [until after receiving further recommendations], but, rather, to defer approval of the Project until proposed mitigation measures were fully developed , clearly defined, and made available to the public and interested agencies for review and comment.‖ (Communities for a Better Environment v. City of Richmond, supra, 184 Cal.App.4th at p. 95.)"[14]

The *Madera* case clearly states that rather than deferring the adoption of mitigation measures, the Project itself should defer approval until the Project Applicant can propose all mitigation necessary. Therefore, the Addendum is completely incorrect by relying on unknown mitigation measures to reduce DPM emissions by 81%. Since the Project Applicant fails to propose all necessary mitigation measures in the Addendum to reduce DPM emissions by these levels, the mitigated construction health risk is completely underestimated and should not be used to determine Project significance.

Failure to Conduct an Operational Health Risk Assessment

Additionally, the Project fails to conduct a health risk assessment for nearby sensitive receptors as a result of Project operation. The Addendum states,

> "Project impacts related to increased community risk can occur either by introducing a new sensitive receptor, such as a residential use, in proximately to an existing source of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity. The BAAQMD recommends using a 1,000-foot screening radius around a project site to identify community health risk from siting a new sensitive receptor or a new source of TACs. Operation of the project is not expected to cause any localized emissions that could expose sensitive receptors to unhealthy air pollutant levels. No stationary sources of TACs, such as generators, are proposed as part of the project" (p. 44-45).

This justification for failing to conduct an operational health risk is incorrect for several reasons.

First, as stated by the Addendum, the Bay Area Air Quality Management District (BAAQMD) recommends that, should a Project be located within 1,000 feet of a sensitive receptor, the potential impacts to that sensitive receptor should be evaluated. Specifically, the BAAQMD CEQA Guidelines state,

> "BAAQMD recommends that all receptors located within a 1,000 foot radius of the project's fence line be assessed for potentially significant impacts from the incremental increase in risks or hazards from the proposed new source".[15]

Simply because the Project Applicant states that the Project will not expose "sensitive receptors to unhealthy air pollutant levels" does not mean that an analysis is not needed. According to Google Earth,

[14] https://cases.justia.com/california/court-of-appeal-5th-appellate-district/F059153.PDF, p. 40-41
[15] "CEQA Guidelines". BAAQMD, May 2017, *available at:* http://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en, p. 5-7.

the nearest residential receptor is approximately 107 feet from the Project site. Therefore, according to the BAAQMD, the Project Applicant should determine the health risk posed to this sensitive receptor during both construction and operation. The potential health-related impacts posed to that sensitive receptor as a result of emissions generated during operation should be properly assessed in an updated Addendum.

Second, the omission of a quantified operational health risk to nearby sensitive receptors is inconsistent with the most recent guidance published by Office of Environmental Health Hazard Assessment (OEHHA), the organization responsible for providing recommendations and guidance on how to conduct health risk assessments in California. In February of 2015, OEHHA released its most recent *Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments*, which was formally adopted in March of 2015.[16] This guidance document describes the types of projects that warrant the preparation of a health risk assessment. Project operation will generate truck trips, which will generate exhaust emissions, thus continuing to expose nearby sensitive receptors to DPM emissions. The OEHHA document recommends that exposure from projects lasting more than 6 months should be evaluated for the duration of the project, and recommends that an exposure duration of 30 years be used to estimate individual cancer risk for the maximally exposed individual resident (MEIR). [17] Even though we were not provided with the expected lifetime of the Project, we can reasonably assume that the Project will operate for at least 30 years, if not more. Therefore, per OEHHA guidelines, health risk impacts from Project operation should have been evaluated by the Addendum. These recommendations reflect the most recent health risk assessment policy, and as such, an assessment of health risks to nearby sensitive receptors from operation should be included in a revised CEQA evaluation for the Project.

Updated Health Risk Assessment for Nearby Sensitive Receptors

In an effort to demonstrate the potential risk posed by Project operation to nearby sensitive receptors, we prepared a simple screening-level HRA. The results of our assessment, as described below, provide substantial evidence that the Project's operational DPM emissions may result in a potentially significant health risk impact that was not previously identified.

In order to conduct our screening level risk assessment we relied upon AERSCREEN, which is a screening level air quality dispersion model. [18] The model replaced SCREEN3, and AERSCREEN is included in the OEHHA[19] and the California Air Pollution Control Officers Associated (CAPCOA)[20] guidance as the appropriate air dispersion model for Level 2 health risk screening assessments ("HRSAs"). A Level 2 HRSA

[16] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/hotspots2015.html
[17] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf, p. 8-6, 8-15
[18] "AERSCREEN Released as the EPA Recommended Screening Model," USEPA, April 11, 2011, *available at:* http://www.epa.gov/ttn/scram/guidance/clarification/20110411_AERSCREEN_Release_Memo.pdf
[19] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* http://oehha.ca.gov/air/hot_spots/2015/2015GuidanceManual.pdf
[20] "Health Risk Assessments for Proposed Land Use Projects," CAPCOA, July 2009, *available at:* http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA_HRA_LU_Guidelines_8-6-09.pdf

utilizes a limited amount of site-specific information to generate maximum reasonable downwind concentrations of air contaminants to which nearby sensitive receptors may be exposed. If an unacceptable air quality hazard is determined to be possible using AERSCREEN, a more refined modeling approach is required prior to approval of the Project.

We prepared a preliminary operational HRA of the Project's health-related impact to sensitive receptors using the annual PM10 exhaust estimates from the Project Applicant's CalEEMod output files, which includes the on-road mobile vehicle trips (Appendix A, pp. 51). According to Google Maps, the closest sensitive receptor is approximately 107 feet, or approximately 33 meters, from the Project site. Consistent with recommendation from the Office of Environmental Health and Hazard Assessment (OEHHA), we used a residential exposure duration of 30 years, starting from the 3rd trimester stage of life. The annual CalEEMod model's annual emissions indicate that operational activities will generate approximately 60.2 pounds of DPM per year. The AERSCREEN model relies on a continuous average emission rate to simulate maximum downward concentrations from point, area, and volume emission sources. To account for the variability in equipment usage and truck trips over Project operation, we calculated an average DPM emission rate by the following equation.

$$Emission\ Rate\ \left(\frac{grams}{second}\right) = \frac{60.2\ lbs}{365\ days} \times \frac{453.6\ grams}{lbs} \times \frac{1\ day}{24\ hours} \times \frac{1\ hour}{3{,}600\ seconds} = \mathbf{0.000866\ g/s}$$

Using this equation, we estimated an operational emission rate of 0.000866 g/s. Operational activity was simulated as a 1.22-acre lot with dimensions of 81 meters by 61 meters. A release height of three meters was selected to represent the height of exhaust stacks on operational equipment and other heavy-duty vehicles, and an initial vertical dimension of one and a half meters was used to simulate instantaneous plume dispersion upon release. An urban meteorological setting was selected with model-default inputs for wind speed and direction distribution.

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project site. EPA guidance suggests that in screening procedures, the annualized average concentration of an air pollutant be estimated by multiplying the single-hour concentration by 10%.[21] For example, for the MEIR the single-hour concentration estimated by AERSCREEN for Project operation is approximately 3.287 µg/m^3 DPM at approximately 25 meters downwind. Multiplying this single-hour concentration by 10%, we get an annualized average concentration of 0.3287 µg/m^3 for Project operation at the MEIR.

We calculated the excess cancer risk to the residential receptors located closest to the Project site using applicable HRA methodologies prescribed by OEHHA and the BAAQMD. The annualized average concentration for operation was used for the entire the 30-year exposure period, which makes up the third trimester of pregnancy (0.25), the infant stages of life (0-2 years), the child stages of life (2 to 16 years) and adult stages of life (16 to 30 years). Consistent with OEHHA guidance, we used Age Sensitivity Factors (ASFs) to account for the heightened susceptibility of young children to the carcinogenic toxicity

[21] http://www.epa.gov/ttn/scram/guidance/guide/EPA-454R-92-019_OCR.pdf

of air pollution.[22] According to the updated guidance, quantified cancer risk should be multiplied by a factor of ten during the first two years of life (infant) and should be multiplied by a factor of three during the child stage of life (2 to 16 years). Furthermore, in accordance with guidance set forth by OEHHA, we used 95th percentile breathing rates for infants.[23] Finally, according to BAAQMD guidance, we used a Fraction of Time At Home (FAH) Value of 0.85 for the 3rd trimester and infant receptors, 0.72 for child receptors, and 0.73 for the adult receptors.[24] We used a cancer potency factor of 1.1 (mg/kg-day)$^{-1}$ and an averaging time of 25,550 days. The results of our calculations are shown below.

Parameter	Description	Units	3rd Trimester	Infant	Child	Adult
Cair	Concentration	µg/m^3	0.3287	0.3287	0.3287	0.3287
DBR	Daily breathing rate	L/kg-day	361	1090	745	261
EF	Exposure Frequency	days/year	350	350	350	350
ED	Exposure Duration	years	0.25	2.00	14.00	14.00
AT	Averaging Time	days	25550	25550	25550	25550
	Inhaled Dose	(mg/kg-day)	4.1E-07	9.8E-06	4.7E-05	1.6E-05
CPF	Cancer Potency Factor	1/(mg/kg-day)	1.1	1.1	1.1	1.1
ASF	Age Sensitivity Factor	-	10	10	3	1
FAH	Fraction of Time at Home	-	0.85	0.85	0.72	0.73
	Cancer Risk by Age Group		***3.8E-06***	***9.2E-05***	***1.1E-04***	***1.3E-05***
	Total Operational Cancer Risk			**2.2E-04**		

The excess cancer risk to adults, children, infants, and during the third trimester pregnancy at a sensitive receptor located approximately 25 meters away, over the course of Project operation is approximately 13, 110, 92, and 3.8 in one million, respectively. Furthermore, the excess cancer risk over the course of a residential exposure (30 years) is approximately 220 in one million. Consistent with OEHHA and BAAQMD guidance, exposure was assumed to begin at the 3rd trimester stage of life to provide the most conservative estimates of air quality hazards. The infant, child, adult, and lifetime cancer risks exceed the BAAQMD's threshold of 10 in one million, thus resulting in a potentially significant impact not previously addressed or identified by the Addendum.

[22] "Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

[23] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act," June 5, 2015, *available at:* http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab2588-risk-assessment-guidelines.pdf?sfvrsn=6, p. 19
"Risk Assessment Guidelines Guidance Manual for Preparation of Health Risk Assessments." OEHHA, February 2015, *available at:* https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf

[24] "Air Toxics NSR Program Health Risk Assessment (HRA) Guidelines." BAAQMD, January 2016, *available at:* http://www.baaqmd.gov/~/media/files/planning-and-research/rules-and-regs/workshops/2016/reg-2-5/hra-guidelines_clean_jan_2016-pdf.pdf?la=en

It should be noted that our analysis represents a screening-level health risk assessment, which is known to be more conservative, and tends to err on the side of health protection.[25] The purpose of a screening-level HRA is to determine if a more refined HRA needs to be conducted. If the results of a screening-level health risk are above applicable thresholds, then the Project should conduct a more refined HRA that is more representative of site specific concentrations. Our screening-level HRA demonstrates that construction and operation of the Project could result in a potentially significant health risk impact. As a result, a refined health risk assessment must be prepared to examine the air quality impacts generated by Project construction and operation using site-specific meteorology and specific equipment usage schedules. A revised Addendum must be prepared to adequately evaluate the Project's health risk impact, and should include additional mitigation measures to reduce these impacts to a less-than-significant level.

Sincerely,



Matt Hagemann, P.G., C.Hg.



Hadley Nolan

[25] https://oehha.ca.gov/media/downloads/crnr/2015guidancemanual.pdf p. 1-5

SMITH ENGINEERING & MANAGEMENT

September 26, 2018

Mr. Michael Lozeau
Lozeau Drury
410 12th Street, Suite 250
Oakland, CA 94607

Subject: **715 W. Julian Mixed Use Project, File Nos. PDC 17-058, PD 17-029 & Pt 17-063** P18039

Dear Mr. Lozeau:

At your request, I have reviewed the Proposed Addendum to the Diridon Station Area Plan Environmental Impact Report (the "Addendum") related to the proposed 715 W. Julian Mixed Use Project (the "Project"). My review is specific to the traffic and transportation.

My qualifications to perform this review include registration as a Civil and Traffic Engineer in California and over 50 years professional consulting engineering practice in the traffic and transportation industry. I have both prepared and performed adequacy reviews of numerous transportation and circulation sections of environmental impact reports prepared under the California Environmental Quality Act (CEQA). My professional resume is attached. Findings of my review are summarized below.

The Addendum Traffic Analysis Seriously Understates Trip Generation For the Project

The Addendum estimates trip generation for the Project's retail component at average rates for shopping centers (ITE *Trip Generation, 10th Edition,* Land Use Category 820. The problem with this is that very large shopping centers generate trips at lower than average rates while small retail developments generate trips at much higher than average shopping center trip rates. The size of shopping centers that generate trips at about average rates is about 400,000 square feet. The proposed retail component of the Project is only 27,000 square feet. It is evident that the analysis should have considered the retail component as a "neighborhood shopping center" (retail less than 100,000 square feet).[1] Had the Addendum analyzed the retail component as a neighborhood center per this reference, it would have found the gross trip generation of the retail to be 3,240 trips daily, 130 in the AM peak and 356 in the PM peak instead of

[1] See San Jose Traffic Impact Analysis Handbook, November, 2009, specifically page 49.

the respective gross totals of only 1,019, 25 and 103 reported in the Addendum. And although we doubt that the 25 percent passer-by attraction could be achieved for a small amount of retail encapsulated in a residential building that would require attracted passers-by to enter an underground parking structure to be able to shop there, just maintaining the trip discounts assumed in the Addendum analysis plus the same trip credits for existing uses, the net new trip generation of the Project would be 3,170 daily, 151 in the AM Peak and 316 in the PM peak instead of the respective net new trip totals of 1,729 daily, 93 AM peak and 151 PM peak trips reported in the Addendum's Appendix F.

Due to the Gross Underestimates of Net New Project Trips Generation, the Impacts At Intersections and Freeway Segments Must Be Recalculated

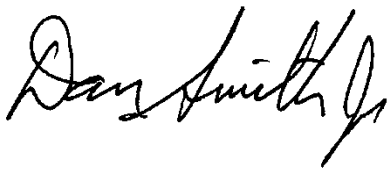
The error in under-reporting net new trips generated by the Project is over 62 percent in the AM peak and 109 percent in the PM peak. Since everything else flows from the trip generation numbers, these levels of error invalidate all the findings based on the intersection and freeway impact calculations. These must be done based on an appropriate trip generation analysis as input.

Conclusion

This concludes my comments on the Addendum for the 715 Julian Mixed Use Project. Because of the critical flaw in trip generation, the Addendum must be revised and recirculated.

Sincerely,

Smith Engineering & Management
A California Corporation





Daniel T. Smith Jr., P.E.
President

Attachment 1
Resume of Daniel T. Smith Jr., P.E.

SMITH ENGINEERING & MANAGEMENT

DANIEL T. SMITH, Jr.
President

EDUCATION

Bachelor of Science, Engineering and Applied Science, Yale University, 1967
Master of Science, Transportation Planning, University of California, Berkeley, 1968

PROFESSIONAL REGISTRATION

California No. 21913 (Civil)
California No. 938 (Traffic)
Nevada No. 7969 (Civil)
Washington No. 29337 (Civil)
Arizona No. 22131 (Civil)

PROFESSIONAL EXPERIENCE

Smith Engineering & Management, 1993 to present. President.
DKS Associates, 1979 to 1993. Founder, Vice President, Principal Transportation Engineer.
De Leuw, Cather & Company, 1968 to 1979. Senior Transportation Planner.
Personal specialties and project experience include:

Litigation Consulting. Provides consultation, investigations and expert witness testimony in highway design, transit design and traffic engineering matters including condemnations involving transportation access issues; traffic accidents involving highway design or traffic engineering factors; land use and development matters involving access and transportation impacts; parking and other traffic and transportation matters.

Urban Corridor Studies/Alternatives Analysis. Principal-in-charge for State Route (SR) 102 Feasibility Study, a 35-mile freeway alignment study north of Sacramento. Consultant on I-280 Interstate Transfer Concept Program, San Francisco, an AA/EIS for completion of I-280, demolition of Embarcadero freeway, substitute light rail and commuter rail projects. Principal-in-charge, SR 238 corridor freeway/expressway design/environmental study, Hayward (Calif.) Project manager, Sacramento Northeast Area multi-modal transportation corridor study. Transportation planner for I-80N West Terminal Study, and Harbor Drive Traffic Study, Portland, Oregon. Project manager for design of surface segment of Woodward Corridor LRT, Detroit, Michigan. Directed staff on I-80 National Strategic Corridor Study (Sacramento-San Francisco), US 101-Sonoma freeway operations study, SR 92 freeway operations study, I-880 freeway operations study, SR 152 alignment studies, Sacramento RTD light rail systems study, Tasman Corridor LRT AA/EIS, Fremont-Warm Springs BART extension plan/EIR, SRs 70/99 freeway alternatives study, and Richmond Parkway (SR 93) design study.

Area Transportation Plans. Principal-in charge for transportation element of City of Los Angeles General Plan Framework, shaping nations largest city two decades into 21'st century. Project manager for the transportation element of 300-acre Mission Bay development in downtown San Francisco. Mission Bay involves 7 million gsf office/commercial space, 8,500 dwelling units, and community facilities. Transportation features include relocation of commuter rail station; extension of MUNI-Metro LRT; a multi-modal terminal for LRT, commuter rail and local bus; removal of a quarter mile elevated freeway; replacement by new ramps and a boulevard; an internal roadway network overcoming constraints imposed by an internal tidal basin; freeway structures and rail facilities; and concept plans for 20,000 structured parking spaces. Principal-in-charge for circulation plan to accommodate 9 million gsf of office/commercial growth in downtown Bellevue (Wash.). Principal-in-charge for 64 acre, 2 million gsf multi-use complex for FMC adjacent to San Jose International Airport. Project manager for transportation element of Sacramento Capitol Area Plan for the state governmental complex, and for Downtown Sacramento Redevelopment Plan. Project manager for Napa (Calif.) General Plan Circulation Element and Downtown Riverfront Redevelopment Plan, on parking program for downtown Walnut Creek, on downtown transportation plan for San Mateo and redevelopment plan for downtown Mountain View (Calif.), for traffic circulation and safety plans for California cities of Davis, Pleasant Hill and Hayward, and for Salem, Oregon.

Transportation Centers. Project manager for Daly City Intermodal Study which developed a $7 million surface bus terminal, traffic access, parking and pedestrian circulation improvements at the Daly City BART station plus development of functional plans for a new BART station at Colma. Project manager for design of multi-modal terminal (commuter rail, light rail, bus) at Mission Bay, San Francisco. In Santa Clarita Long Range Transit Development Program, responsible for plan to relocate system's existing timed-transfer hub and development of three satellite transfer hubs. Performed airport ground transportation system evaluations for San Francisco International, Oakland International, Sea-Tac International, Oakland International, Los Angeles International, and San Diego Lindberg.

Campus Transportation. Campus transportation planning assignments for UC Davis, UC Berkeley, UC Santa Cruz and UC San Francisco Medical Center campuses; San Francisco State University; University of San Francisco; and the University of Alaska and others. Also developed master plans for institutional campuses including medical centers, headquarters complexes and research & development facilities.

Special Event Facilities. Evaluations and design studies for football/baseball stadiums, indoor sports arenas, horse and motor racing facilities, theme parks, fairgrounds and convention centers, ski complexes and destination resorts throughout western United States.

Parking. Parking programs and facilities for large area plans and individual sites including downtowns, special event facilities, university and institutional campuses and other large site developments; numerous parking feasibility and operations studies for parking structures and surface facilities; also, resident preferential parking .

Transportation System Management & Traffic Restraint. Project manager on FHWA program to develop techniques and guidelines for neighborhood street traffic limitation. Project manager for Berkeley, (Calif.), Neighborhood Traffic Study, pioneered application of traffic restraint techniques in the U.S. Developed residential traffic plans for Menlo Park, Santa Monica, Santa Cruz, Mill Valley, Oakland, Palo Alto, Piedmont, San Mateo County, Pasadena, Santa Ana and others. Participated in development of photo/radar speed enforcement device and experimented with speed humps. Co-author of Institute of Transportation Engineers reference publication on neighborhood traffic control.

Bicycle Facilities. Project manager to develop an FHWA manual for bicycle facility design and planning, on bikeway plans for Del Mar, (Calif.), the UC Davis and the City of Davis. Consultant to bikeway plans for Eugene, Oregon, Washington, D.C., Buffalo, New York, and Skokie, Illinois. Consultant to U.S. Bureau of Reclamation for development of hydraulically efficient, bicycle safe drainage inlets. Consultant on FHWA research on effective retrofits of undercrossing and overcrossing structures for bicyclists, pedestrians, and handicapped.

MEMBERSHIPS

Institute of Transportation Engineers Transportation Research Board

PUBLICATIONS AND AWARDS

Residential Street Design and Traffic Control, with W. Homburger *et al*. Prentice Hall, 1989.

Co-recipient, Progressive Architecture Citation, *Mission Bay Master Plan*, with I.M. Pei WRT Associated, 1984.

Residential Traffic Management, State of the Art Report, U.S. Department of Transportation, 1979.

Improving The Residential Street Environment, with Donald Appleyard et al., U.S. Department of Transportation, 1979.

Strategic Concepts in Residential Neighborhood Traffic Control, International Symposium on Traffic Control Systems, Berkeley, California, 1979.

Planning and Design of Bicycle Facilities: Pitfalls and New Directions, Transportation Research Board, Research Record 570, 1976.

Co-recipient, Progressive Architecture Award, *Livable Urban Streets, San Francisco Bay Area and London*, with Donald Appleyard, 1979.

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M E M O

Date: October 1, 2018

To: **Leianne Humble**
Denise Duffy and Associates
947 Cass St.., Suite 5
Monterey, CA 93940

From: James A. Reyff
Illingworth & Rodkin, Inc.
1 Willowbrook Court, Suite 120
Petaluma, CA 94954

RE: 715 W. Julian Mixed Use Project – San Jose, CA

SUBJECT: Response to Comments on Air Quality Made by Lozeau Drury LLP Job#17-232

This memo addresses comments on the air quality analysis for the 715 W. Julian Street Mixed Use Development in San Jose, CA made by Lozeau Drury LLP, dated September 26, 2018 (ABJ&C). Illingworth & Rodkin, Inc. prepared the air quality assessment for this project (Air Quality Analysis)[1]. Attached to this memo is revised CalEEMod modeling of operational emissions to correct minor discrepancies in emissions due to traffic forecasts.

Issue 1: Based on the CalEEMod modeling output, the Air Quality Analysis understates the number of residents that will reside at the project site.

Response 1: The air quality analysis does not rely on the CalEEMod model to compute the number of new residents that would rely at the project site. Rather the service population was computed as 845 people based on 249 residential units, 3.13 persons per average household in San Jose and one worker per 1,000 square feet of commercial space (see page 24 of the Air Quality Analysis).

Issue 2: Two discrepancies in the operational air quality analysis were pointed out that include differences in trip generation used in the CalEEMod modeling and the effect of Passby Trips.

[1] Illingworth & Rodkin, Inc. 2018. *715 W. Julian Street Mixed Use Development Air Quality and GHG Assessment.* March 29.

Response 2: The Air Quality Analysis used slightly different trip generation data than were used in the EIR Addendum and did include a slight overestimate of Passby trips. The Air Quality Analysis assumed 26,590 square feet of commercial space where the trip generation data in the and the EIR Addendum used 27,000 square feet. For the retail uses, the Passby trip rate was included in the trip generation but the CalEEMod modeling inadvertently added an additional 4% Passby rate to this land use. Also, the CalEEMod modeling for existing uses was provided as information but not used in the impact analysis. That modeling was based on default CalEEMod conditions and did not include the trip generation rate from the traffic report.

The Air Quality Analysis CalEEMod modeling was revised to reflect the differences in commercial land use size, to correct for the effect of Passby trips and includes the precise trip generation rates for existing land uses. The results of this analysis and the CalEEMod Output are provided as an attachment to this memo.

Air Pollutant Emissions

The difference in results in for operational air pollutant emissions are reported in Table 1. Based on the revised CalEEMod modeling, air pollutant emissions increase slightly but remain well below the BAAQMD significance thresholds.

Table 1. ***Operational Air Pollutant Emissions (see Air Quality Analysis Table 3).***

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
Annual Emissions				
Previous - 2022 Project Operational Emissions (*tons/year*)	1.69 tons	1.54 tons	1.20 tons	0.34 tons
Updated - 2022 Project Operational Emissions (*tons/year*)	2.27 tons	1.64 tons	1.41 tons	0.48 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Updated - Exceed Threshold?	**No**	**No**	**No**	**No**
Daily Emissions				
Previous - 2022 Project Operational Emissions (*lbs/day*)	9.3 lbs.	8.4 lbs.	6.6 lbs.	1.9 lbs.
Updated - 2022 Project Operational Emissions (*lbs/day*)	12.4 lbs.	9.0 lbs.	7.7 lbs.	2.6 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Updated - Exceed Threshold?	**No**	**No**	**No**	**No**
Notes: [1] Assumes 365-day operation.				

GHG Emissions

The effect of the revised modeling of GHG emissions is reported in Table 2. This table also includes a model run for year 2030 (to compare GHG emissions in 2030 to the 2030 threshold that

the City uses) and increases the service population to 847 persons to account for the slightly larger service population associated with 27,000 square feet of commercial use. Based on the revised CalEEMod modeling, GHG emissions increase slightly but remain below the significance thresholds.

Table 2. ***Operational GHG Emissions (see Air Quality Analysis Table 6).***

Scenario	Existing	Project in 2022	Project in 2030
Previous - Operational Emissions (metric tons)	300	1,672	NR
Per capita in metric tons		1.98	NR
Updated - Operational Emissions (metric tons)	252	1,767	1,502
Per capita in metric tons		2.09	1.77
Threshold (metric tons /year/ per capita)	--	*4.6 to 2.6*	*2.6**
Updated - Exceed Threshold?		**No**	**No**
* Per capita emissions based on 2030 target and 845 persons for the original analysis and 847 persons for the Updated analysis			

Issue 3: Mitigation Measure to reduce construction emissions that lead to significant community risk impacts is deferred mitigation.

Response 3: The mitigation measure requires an 81 percent reduction in diesel exhaust emissions. A method to achieve this reduction was identified with that mitigation measure.

Issue 4: Feasibility of using Tier 4 construction fleet.

Response 4: The mitigation measure provides alternatives to reducing emissions such that the health risk thresholds are not exceeded. This also includes the use of Tier 3 equipment with diesel particulate matter filters or alternatively fueled equipment that has no diesel exhaust emissions. Tier 4 equipment has been available for several years with the first class of Tier 4 interim engines coming on the market in 2008 (i.e., engines with horsepower of less than 75 HP). All equipment had to meet Tier 3 or Tier 4 interim standards in 2008, while the phase in for Tier 3 began in 2005. Tier 4 interim engines, which meets the particulate matter standards of U.S. EPA Tier 4 engine requirements, became effective for all engines sold on January 1, 2011. Tier 4 equipment is available and has been required by the City on several projects.

Issue 5: Claim that significant amounts of TACs will be emitted during operation, that combined with construction would have significant health risks.

Response 5: The project is not considered a source of localized TAC or $PM_{2.5}$ emissions that would lead to significant operational health or community risks. The project would not generate substantial diesel truck trips or include stationary equipment that emits TACs or $PM_{2.5}$. The project

would generate new vehicle trips, but the total number of new trips would have relatively low emissions of TACs that would be distributed throughout the areas that the vehicle travels and not concentrated at the project site. Note that DPM, as stated above, is the primary cancer risk in the Bay Area, although diesel traffic accounts for only about 6% of the region-wide travel[2]. It should also be noted that BAAQMD does not apply the single-source community risk thresholds to the combined activity of construction and operation.[3]

Attachment: Updated Operational Air Quality and GHG Emissions Analysis

[2] CARB. EMFAC2017 for San Francisco Bay Area in year 2018. See https://www.arb.ca.gov/emfac/2017/ accessed August 28, 2018.
[3] Phone conversation between Alison Kirk of BAAQMD and James Reyff of Illingworth & Rodkin, Inc. on October 1, 2018.

Attachment: Updated Operational Air Quality and GHG Emissions Analysis

Operational Emissions were revised to (1) reflect the land uses used in the EIR Addendum used 27,000 square feet of retail space, (2) properly adjust the passby trip rate for commercial uses and (3) update the existing GHG emissions to be consistent with the trip generation rates used in the EIR Addendum.

Operational Period Emissions

Operational air emissions from the project would be generated primarily from autos driven by future residents, employees and customers. Evaporative emissions from architectural coatings and maintenance products (classified as consumer products) are typical emissions from these types of uses. CalEEMod was used to estimate emissions from operation of the proposed project assuming full build-out.

Land Uses

The proposed project land uses were input into CalEEMod, which included: 249 dwelling units entered as "Apartment High Rise," 27,000 sf as "Strip Mall" *(instead of 26,950 sf "General Office Building")*, and 246 spaces as "Enclosed Parking with Elevator."

Model Year

Emissions associated with vehicle travel depend on the year of analysis because emission control technology requirements are phased-in over time. Therefore, the earlier the year analyzed in the model, the higher the emission rates utilized by CalEEMod. The earliest the project could possibly be constructed and begin operating would be 2022. Emissions associated with build-out later than 2022 would be lower. *For GHG emissions, the year 2030 was also considered to compare emissions against the target per capita threshold.*

Trip Generation Rates

CalEEMod allows the user to enter specific vehicle trip generation rates, which were input to the model using the daily trip generation rate provided in the project trip generation table, including the adjustments for residential transit reduction, internal trips and retail passby adjustments. The default trip lengths and trip types specified by CalEEMod were used.

Energy Usage

CalEEMod defaults for energy use were used, which include the 2016 Title 24 Building Standards. The electricity produced emission rate was modified in CalEEMod. CalEEMod has a default emission factor of 641.3 pounds of CO_2 per megawatt of electricity produced, which is based on PG&E's 2008 emissions rate. PG&E published 2015 emissions rates for 2009 through 2015, which showed the emission rate for delivered electricity had been reduced to 405 pounds CO2 per

megawatt of electricity delivered[1]. The projected GHG intensity factor for the year 2020 is 290 pounds of CO_2 per megawatt of electricity produced, which was input to the model[2].

Other Inputs

Default model assumptions for emissions associated with solid waste generation and water/wastewater use were applied to the project.

Existing Uses

Although not considered in the impact analysis, emissions associated with existing uses were modeled with CalEEMod to include: 2 dwelling units entered as "Single Family Housing," 6 dwelling units entered as "Apartments Mid Rise" and 25,000 sf as "General Light Industry." These are the same land uses used in the original analysis; however, the operational trip generation rates were corrected to reflect the trip generation data in the EIR Addendum.

Service Population Emissions

The project service population efficiency rate is based on the number of future residences plus full-time employees. The number of future residences is estimated at 779 based on the latest US Census data of 3.13 average persons per household for the City of San Jose[3]. The number of future full-time employees is estimated at 68 based on an approximate 2.5 employees per 1,000 sf of retail space. The total service population considering future residence and employees was calculated as 847 people.

Operational Air Pollutant Emissions

As shown in Table 3, operational emissions would not exceed the BAAQMD significance thresholds. This would be considered a *less-than-significant* impact.

[1] PG&E 2017. Climate Change. See http://www.pgecorp.com/corp_responsibility/reports/2017/en02_climate_change.html accessed March 13, 2018.
[2] PG&E. 2015. Greenhouse Gas Emission Factors: Guidance for PG&E Customers See: https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf
[3] U.S. Census, 2012-16. See: https://www.census.gov/quickfacts/fact/table/sanjosecitycalifornia,US/HSD310216#viewtop Accessed March 13, 2018.

Table 3. Operational Emissions

Scenario	ROG	NOx	PM_{10}	$PM_{2.5}$
2022 Project Operational Emissions (*tons/year*)	2.27 tons	1.64 tons	1.41 tons	0.48 tons
BAAQMD Thresholds (tons /year)	*10 tons*	*10 tons*	*15 tons*	*10 tons*
Exceed Threshold?	**No**	**No**	**No**	**No**
2022 Project Operational Emissions (*lbs/day*)	12.4 lbs.	9.0 lbs.	7.7 lbs.	2.6 lbs.
BAAQMD Thresholds (pounds/day)	*54* lbs.	*54* lbs.	*82* lbs.	*54* lbs.
Exceed Threshold?	**No**	**No**	**No**	**No**
Notes: [1] Assumes 365-day operation.				

GHG Operational Emissions

The CalEEMod model, along with the project vehicle trip generation rates, was used to estimate daily emissions associated with operation of the fully-developed site under the proposed project. In 2022 as shown in Table 6, annual emissions resulting from operation of the proposed project are predicted to be 1,767 MT of CO2e. The annual emissions from operation of the existing buildings are computed as 252 MT of CO2e. The net emissions resulting from the project would be 1,515 MT of CO2e. The service population threshold was used to determine the significance of this project. As shown in Table 6, service population emissions would be below the BAAQMD threshold for 2020 and the projected future threshold (i.e., for 2030) and, therefore, this would be considered a *less-than-significant* impact.

Table 6. Annual Project GHG Emissions (CO_2e) in Metric Tons

Source Category	Existing	Proposed Project in 2022	Proposed Project in 2030
Area	1	13	13
Energy Consumption	74	319	319
Mobile	151	1,334	1069
Solid Waste Generation	18	72	72
Water Usage	9	30	30
Total	252	1,767	1,502
Net New Emissions		1,515	
Service Population Emissions		2.09	1.77
Significance Threshold		4.6 in 2020 2.6 in 2030	

Operational 2022

715 Julian - Santa Clara County, Annual

715 Julian

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	27.00	1000sqft	0.00	27,000.00	0
Unenclosed Parking with Elevator	246.00	Space	0.00	98,400.00	0
Apartments High Rise	249.00	Dwelling Unit	1.22	249,000.00	712

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Based on project construction worksheet and TIA for retail

Construction Phase - Provided construction worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Demolition - see Construction Worksheet

Grading - see Construction Worksheet

Vehicle Trips - Based on trip generation with adjustments - Res =4.34,5.14, 3.77 Comm = 24.04,22.80,11.08 Adjust for passby (included in trip gen rate)\52.47.0

Woodstoves - No wood burning 0,80

Energy Use -

Water And Wastewater - WTP treatment - no septic or lagoons

Construction Off-road Equipment Mitigation - BMPs Tier 2 and Level 3 DPF

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblFireplaces	NumberGas	37.35	80.00
tblFireplaces	NumberWood	42.33	0.00
tblLandUse	LotAcreage	0.62	0.00
tblLandUse	LotAcreage	2.21	0.00
tblLandUse	LotAcreage	4.02	1.22
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	3,955.00
tblVehicleTrips	DV_TP	40.00	47.00

tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	45.00	53.00
tblVehicleTrips	ST_TR	4.98	5.14
tblVehicleTrips	ST_TR	42.04	22.80
tblVehicleTrips	SU_TR	3.65	3.77
tblVehicleTrips	SU_TR	20.43	11.08
tblVehicleTrips	WD_TR	4.20	4.34
tblVehicleTrips	WD_TR	44.32	24.04
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3328	0.0300	1.8570	1.5000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	13.0121	13.0121	3.1200e-003	1.8000e-004	13.1446
Energy	0.0119	0.1023	0.0448	6.5000e-004		8.2500e-003	8.2500e-003		8.2500e-003	8.2500e-003	0.0000	316.5095	316.5095	0.0221	6.2700e-003	318.9303
Mobile	0.3803	1.5856	4.2792	0.0146	1.3344	0.0124	1.3468	0.3572	0.0116	0.3688	0.0000	1,332.7636	1,332.7636	0.0458	0.0000	1,333.9084
Waste						0.0000	0.0000		0.0000	0.0000	29.0054	0.0000	29.0054	1.7142	0.0000	71.8596
Water						0.0000	0.0000		0.0000	0.0000	6.4474	18.2440	24.6915	0.0240	0.0144	29.5826
Total	**1.7250**	**1.7179**	**6.1810**	**0.0154**	**1.3344**	**0.0316**	**1.3660**	**0.3572**	**0.0308**	**0.3880**	**35.4528**	**1,680.5293**	**1,715.9821**	**1.8092**	**0.0209**	**1,767.4255**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3328	0.0300	1.8570	1.5000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	13.0121	13.0121	3.1200e-003	1.8000e-004	13.1446
Energy	0.0119	0.1023	0.0448	6.5000e-004		8.2500e-003	8.2500e-003		8.2500e-003	8.2500e-003	0.0000	316.5095	316.5095	0.0221	6.2700e-003	318.9303
Mobile	0.3803	1.5856	4.2792	0.0146	1.3344	0.0124	1.3468	0.3572	0.0116	0.3688	0.0000	1,332.7636	1,332.7636	0.0458	0.0000	1,333.9084
Waste						0.0000	0.0000		0.0000	0.0000	29.0054	0.0000	29.0054	1.7142	0.0000	71.8596
Water						0.0000	0.0000		0.0000	0.0000	6.4474	18.2440	24.6915	0.0240	0.0144	29.5826

Total	**1.7250**	**1.7179**	**6.1810**	**0.0154**	**1.3344**	**0.0316**	**1.3660**	**0.3572**	**0.0308**	**0.3880**	**35.4528**	**1,680.5293**	**1,715.9821**	**1.8092**	**0.0209**	**1,767.4255**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3803	1.5856	4.2792	0.0146	1.3344	0.0124	1.3468	0.3572	0.0116	0.3688	0.0000	1,332.7636	1,332.7636	0.0458	0.0000	1,333.9084
Unmitigated	0.3803	1.5856	4.2792	0.0146	1.3344	0.0124	1.3468	0.3572	0.0116	0.3688	0.0000	1,332.7636	1,332.7636	0.0458	0.0000	1,333.9084

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	1,080.66	1,279.86	938.73	2,514,796	2,514,796
Strip Mall	649.08	615.60	299.16	1,073,684	1,073,684
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,729.74	1,895.46	1,237.89	3,588,481	3,588,481

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	53	47	0
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Strip Mall	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Unenclosed Parking with Elevator	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	198.2973	198.2973	0.0198	4.1000e-003	200.0156
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	198.2973	198.2973	0.0198	4.1000e-003	200.0156
NaturalGas Mitigated	0.0119	0.1023	0.0448	6.5000e-004		8.2500e-003	8.2500e-003		8.2500e-003	8.2500e-003	0.0000	118.2122	118.2122	2.2700e-003	2.1700e-003	118.9147
NaturalGas Unmitigated	0.0119	0.1023	0.0448	6.5000e-004		8.2500e-003	8.2500e-003		8.2500e-003	8.2500e-003	0.0000	118.2122	118.2122	2.2700e-003	2.1700e-003	118.9147

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.15122e+006	0.0116	0.0991	0.0422	6.3000e-004		8.0100e-003	8.0100e-003		8.0100e-003	8.0100e-003	0.0000	114.7975	114.7975	2.2000e-003	2.1000e-003	115.4796
Strip Mall	63990	3.5000e-004	3.1400e-003	2.6300e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.4148	3.4148	7.0000e-005	6.0000e-005	3.4350
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0120**	**0.1023**	**0.0448**	**6.5000e-004**		**8.2500e-003**	**8.2500e-003**		**8.2500e-003**	**8.2500e-003**	**0.0000**	**118.2122**	**118.2122**	**2.2700e-003**	**2.1600e-003**	**118.9147**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.15122e+006	0.0116	0.0991	0.0422	6.3000e-004		8.0100e-003	8.0100e-003		8.0100e-003	8.0100e-003	0.0000	114.7975	114.7975	2.2000e-003	2.1000e-003	115.4796
Strip Mall	63990	3.5000e-004	3.1400e-003	2.6300e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.4148	3.4148	7.0000e-005	6.0000e-005	3.4350
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0120**	**0.1023**	**0.0448**	**6.5000e-004**		**8.2500e-003**	**8.2500e-003**		**8.2500e-003**	**8.2500e-003**	**0.0000**	**118.2122**	**118.2122**	**2.2700e-003**	**2.1600e-003**	**118.9147**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.02796e+006	135.2196	0.0135	2.8000e-003	136.3913
Strip Mall	288630	37.9669	3.8000e-003	7.9000e-004	38.2959
Unenclosed Parking with	190896	25.1108	2.5100e-003	5.2000e-004	25.3284
Total		**198.2973**	**0.0198**	**4.1100e-003**	**200.0156**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.02796e+006	135.2196	0.0135	2.8000e-003	136.3913
Strip Mall	288630	37.9669	3.8000e-003	7.9000e-004	38.2959
Unenclosed Parking with	190896	25.1108	2.5100e-003	5.2000e-004	25.3284
Total		**198.2973**	**0.0198**	**4.1100e-003**	**200.0156**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3328	0.0300	1.8570	1.5000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	13.0121	13.0121	3.1200e-003	1.8000e-004	13.1446
Unmitigated	1.3328	0.0300	1.8570	1.5000e-004		0.0109	0.0109		0.0109	0.0109	0.0000	13.0121	13.0121	3.1200e-003	1.8000e-004	13.1446

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0843					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0100e-003	8.6200e-003	3.6700e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	9.9871	9.9871	1.9000e-004	1.8000e-004	10.0465
Landscaping	0.0561	0.0214	1.8534	1.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	3.0250	3.0250	2.9300e-003	0.0000	3.0981
Total	**1.3328**	**0.0300**	**1.8570**	**1.6000e-004**		**0.0109**	**0.0109**		**0.0109**	**0.0109**	**0.0000**	**13.0121**	**13.0121**	**3.1200e-003**	**1.8000e-004**	**13.1446**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0843					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0100e-003	8.6200e-003	3.6700e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	9.9871	9.9871	1.9000e-004	1.8000e-004	10.0465
Landscaping	0.0561	0.0214	1.8534	1.0000e-004		0.0102	0.0102		0.0102	0.0102	0.0000	3.0250	3.0250	2.9300e-003	0.0000	3.0981

Total	**1.3328**	**0.0300**	**1.8570**	**1.6000e-004**		**0.0109**	**0.0109**		**0.0109**	**0.0109**	**0.0000**	**13.0121**	**13.0121**	**3.1200e-003**	**1.8000e-004**	**13.1446**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	24.6915	0.0240	0.0144	29.5826
Unmitigated	24.6915	0.0240	0.0144	29.5826

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	16.2234 / 10.2278	21.9960	0.0214	0.0128	26.3505
Strip Mall	1.99996 / 1.22578	2.6955	2.6300e-003	1.5800e-003	3.2321
Unenclosed Parking with	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.6915**	**0.0240**	**0.0144**	**29.5826**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	16.2234 / 10.2278	21.9960	0.0214	0.0128	26.3505
Strip Mall	1.99996 / 1.22578	2.6955	2.6300e-003	1.5800e-003	3.2321
Unenclosed Parking with	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.6915**	**0.0240**	**0.0144**	**29.5826**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	29.0054	1.7142	0.0000	71.8596
Unmitigated	29.0054	1.7142	0.0000	71.8596

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	114.54	23.2506	1.3741	0.0000	57.6023
Strip Mall	28.35	5.7548	0.3401	0.0000	14.2573
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000
Total		**29.0054**	**1.7142**	**0.0000**	**71.8596**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	114.54	23.2506	1.3741	0.0000	57.6023
Strip Mall	28.35	5.7548	0.3401	0.0000	14.2573
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000
Total		**29.0054**	**1.7142**	**0.0000**	**71.8596**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

715 Julian - Santa Clara County, Annual

Operational 2030 GHG

715 Julian

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Strip Mall	27.00	1000sqft	0.00	27,000.00	0
Unenclosed Parking with Elevator	246.00	Space	0.00	98,400.00	0
Apartments High Rise	249.00	Dwelling Unit	1.22	249,000.00	712

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2030
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - PG&E 2020 rate

Land Use - Based on project construction worksheet and TIA for retail

Construction Phase - Provided construction worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Off-road Equipment - see Construction Worksheet

Demolition - see Construction Worksheet

Grading - see Construction Worksheet

Vehicle Trips - Based on trip generation with adjustments - Res =4.34,5.14, 3.77 Comm = 24.04,22.80,11.08 Adjust for passby (included in trip gen rate)\52.47.0

Woodstoves - No wood burning 0,80

Energy Use -

Water And Wastewater - WTP treatment - no septic or lagoons

Construction Off-road Equipment Mitigation - BMPs Tier 2 and Level 3 DPF

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
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tblFireplaces	NumberWood	42.33	0.00
tblLandUse	LotAcreage	0.62	0.00
tblLandUse	LotAcreage	2.21	0.00
tblLandUse	LotAcreage	4.02	1.22
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	HaulingTripNumber	0.00	3,955.00
tblVehicleTrips	DV_TP	40.00	47.00

tblVehicleTrips	PB_TP	15.00	0.00
tblVehicleTrips	PR_TP	45.00	53.00
tblVehicleTrips	ST_TR	4.98	5.14
tblVehicleTrips	ST_TR	42.04	22.80
tblVehicleTrips	SU_TR	3.65	3.77
tblVehicleTrips	SU_TR	20.43	11.08
tblVehicleTrips	WD_TR	4.20	4.34
tblVehicleTrips	WD_TR	44.32	24.04
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWoodstoves	WoodstoveWoodMass	582.40	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3321	0.0299	1.8501	1.5000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	13.0121	13.0121	3.0800e-003	1.8000e-004	13.1437
Energy	0.0119	0.1023	0.0448	6.5000e-004		8.2500e-003	8.2500e-003		8.2500e-003	8.2500e-003	0.0000	316.5095	316.5095	0.0221	6.2700e-003	318.9303
Mobile	0.2448	1.0526	2.7296	0.0116	1.3341	7.8300e-003	1.3419	0.3570	7.2800e-003	0.3643	0.0000	1,067.8168	1,067.8168	0.0311	0.0000	1,068.5945
Waste						0.0000	0.0000		0.0000	0.0000	29.0054	0.0000	29.0054	1.7142	0.0000	71.8596
Water						0.0000	0.0000		0.0000	0.0000	6.4474	18.2440	24.6915	0.0240	0.0144	29.5826
Total	**1.5888**	**1.1848**	**4.6246**	**0.0124**	**1.3341**	**0.0270**	**1.3611**	**0.3570**	**0.0265**	**0.3835**	**35.4528**	**1,415.5824**	**1,451.0352**	**1.7945**	**0.0209**	**1,502.1108**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.3321	0.0299	1.8501	1.5000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	13.0121	13.0121	3.0800e-003	1.8000e-004	13.1437
Energy	0.0119	0.1023	0.0448	6.5000e-004		8.2500e-003	8.2500e-003		8.2500e-003	8.2500e-003	0.0000	316.5095	316.5095	0.0221	6.2700e-003	318.9303
Mobile	0.2448	1.0526	2.7296	0.0116	1.3341	7.8300e-003	1.3419	0.3570	7.2800e-003	0.3643	0.0000	1,067.8168	1,067.8168	0.0311	0.0000	1,068.5945
Waste						0.0000	0.0000		0.0000	0.0000	29.0054	0.0000	29.0054	1.7142	0.0000	71.8596
Water						0.0000	0.0000		0.0000	0.0000	6.4474	18.2440	24.6915	0.0240	0.0144	29.5826

Total	**1.5888**	**1.1848**	**4.6246**	**0.0124**	**1.3341**	**0.0270**	**1.3611**	**0.3570**	**0.0265**	**0.3835**	**35.4528**	**1,415.5824**	**1,451.0352**	**1.7945**	**0.0209**	**1,502.1108**

	ROG	**NOx**	**CO**	**SO2**	**Fugitive PM10**	**Exhaust PM10**	**PM10 Total**	**Fugitive PM2.5**	**Exhaust PM2.5**	**PM2.5 Total**	**Bio- CO2**	**NBio-CO2**	**Total CO2**	**CH4**	**N20**	**CO2e**
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2448	1.0526	2.7296	0.0116	1.3341	7.8300e-003	1.3419	0.3570	7.2800e-003	0.3643	0.0000	1,067.8168	1,067.8168	0.0311	0.0000	1,068.5945
Unmitigated	0.2448	1.0526	2.7296	0.0116	1.3341	7.8300e-003	1.3419	0.3570	7.2800e-003	0.3643	0.0000	1,067.8168	1,067.8168	0.0311	0.0000	1,068.5945

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments High Rise	1,080.66	1,279.86	938.73	2,514,796	2,514,796
Strip Mall	649.08	615.60	299.16	1,073,684	1,073,684
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,729.74	1,895.46	1,237.89	3,588,481	3,588,481

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments High Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00	53	47	0
Unenclosed Parking with	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments High Rise	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Strip Mall	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651
Unenclosed Parking with Elevator	0.621541	0.034056	0.180136	0.101248	0.011859	0.005060	0.013110	0.022881	0.002221	0.001470	0.005122	0.000646	0.000651

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	198.2973	198.2973	0.0198	4.1000e-003	200.0156
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	198.2973	198.2973	0.0198	4.1000e-003	200.0156
NaturalGas Mitigated	0.0119	0.1023	0.0448	6.5000e-004		8.2500e-003	8.2500e-003		8.2500e-003	8.2500e-003	0.0000	118.2122	118.2122	2.2700e-003	2.1700e-003	118.9147
NaturalGas Unmitigated	0.0119	0.1023	0.0448	6.5000e-004		8.2500e-003	8.2500e-003		8.2500e-003	8.2500e-003	0.0000	118.2122	118.2122	2.2700e-003	2.1700e-003	118.9147

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.15122e+006	0.0116	0.0991	0.0422	6.3000e-004		8.0100e-003	8.0100e-003		8.0100e-003	8.0100e-003	0.0000	114.7975	114.7975	2.2000e-003	2.1000e-003	115.4796
Strip Mall	63990	3.5000e-004	3.1400e-003	2.6300e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.4148	3.4148	7.0000e-005	6.0000e-005	3.4350
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0120**	**0.1023**	**0.0448**	**6.5000e-004**		**8.2500e-003**	**8.2500e-003**		**8.2500e-003**	**8.2500e-003**	**0.0000**	**118.2122**	**118.2122**	**2.2700e-003**	**2.1600e-003**	**118.9147**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments High Rise	2.15122e+006	0.0116	0.0991	0.0422	6.3000e-004		8.0100e-003	8.0100e-003		8.0100e-003	8.0100e-003	0.0000	114.7975	114.7975	2.2000e-003	2.1000e-003	115.4796
Strip Mall	63990	3.5000e-004	3.1400e-003	2.6300e-003	2.0000e-005		2.4000e-004	2.4000e-004		2.4000e-004	2.4000e-004	0.0000	3.4148	3.4148	7.0000e-005	6.0000e-005	3.4350
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0120**	**0.1023**	**0.0448**	**6.5000e-004**		**8.2500e-003**	**8.2500e-003**		**8.2500e-003**	**8.2500e-003**	**0.0000**	**118.2122**	**118.2122**	**2.2700e-003**	**2.1600e-003**	**118.9147**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.02796e+006	135.2196	0.0135	2.8000e-003	136.3913
Strip Mall	288630	37.9669	3.8000e-003	7.9000e-004	38.2959
Unenclosed Parking with	190896	25.1108	2.5100e-003	5.2000e-004	25.3284
Total		**198.2973**	**0.0198**	**4.1100e-003**	**200.0156**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments High Rise	1.02796e+006	135.2196	0.0135	2.8000e-003	136.3913
Strip Mall	288630	37.9669	3.8000e-003	7.9000e-004	38.2959
Unenclosed Parking with	190896	25.1108	2.5100e-003	5.2000e-004	25.3284
Total		**198.2973**	**0.0198**	**4.1100e-003**	**200.0156**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.3321	0.0299	1.8501	1.5000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	13.0121	13.0121	3.0800e-003	1.8000e-004	13.1437
Unmitigated	1.3321	0.0299	1.8501	1.5000e-004		0.0110	0.0110		0.0110	0.0110	0.0000	13.0121	13.0121	3.0800e-003	1.8000e-004	13.1437

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0843					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0100e-003	8.6200e-003	3.6700e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	9.9871	9.9871	1.9000e-004	1.8000e-004	10.0465
Landscaping	0.0554	0.0213	1.8465	1.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	3.0250	3.0250	2.8900e-003	0.0000	3.0972
Total	**1.3321**	**0.0299**	**1.8501**	**1.6000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**13.0121**	**13.0121**	**3.0800e-003**	**1.8000e-004**	**13.1437**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.1914					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.0843					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	1.0100e-003	8.6200e-003	3.6700e-003	6.0000e-005		7.0000e-004	7.0000e-004		7.0000e-004	7.0000e-004	0.0000	9.9871	9.9871	1.9000e-004	1.8000e-004	10.0465
Landscaping	0.0554	0.0213	1.8465	1.0000e-004		0.0103	0.0103		0.0103	0.0103	0.0000	3.0250	3.0250	2.8900e-003	0.0000	3.0972

Total	**1.3321**	**0.0299**	**1.8501**	**1.6000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**	**0.0000**	**13.0121**	**13.0121**	**3.0800e-003**	**1.8000e-004**	**13.1437**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	24.6915	0.0240	0.0144	29.5826
Unmitigated	24.6915	0.0240	0.0144	29.5826

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	16.2234 / 10.2278	21.9960	0.0214	0.0128	26.3505
Strip Mall	1.99996 / 1.22578	2.6955	2.6300e-003	1.5800e-003	3.2321
Unenclosed Parking with	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.6915**	**0.0240**	**0.0144**	**29.5826**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments High Rise	16.2234 / 10.2278	21.9960	0.0214	0.0128	26.3505
Strip Mall	1.99996 / 1.22578	2.6955	2.6300e-003	1.5800e-003	3.2321
Unenclosed Parking with	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**24.6915**	**0.0240**	**0.0144**	**29.5826**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	29.0054	1.7142	0.0000	71.8596
Unmitigated	29.0054	1.7142	0.0000	71.8596

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	114.54	23.2506	1.3741	0.0000	57.6023
Strip Mall	28.35	5.7548	0.3401	0.0000	14.2573
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000
Total		**29.0054**	**1.7142**	**0.0000**	**71.8596**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments High Rise	114.54	23.2506	1.3741	0.0000	57.6023
Strip Mall	28.35	5.7548	0.3401	0.0000	14.2573
Unenclosed Parking with	0	0.0000	0.0000	0.0000	0.0000
Total		**29.0054**	**1.7142**	**0.0000**	**71.8596**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Updated 713 Julian Existing Emissions - Santa Clara County, Annual

Existing Emissions in 2022

Updated 713 Julian Existing Emissions

Santa Clara County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	6.00	Dwelling Unit	1.30	6,000.00	17
Single Family Housing	2.00	Dwelling Unit	0.00	3,600.00	6
General Light Industry	25.00	1000sqft	0.00	25,000.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	58
Climate Zone	4			**Operational Year**	2022
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MWhr)	290	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Existing Uses

Land Use - Based on TIA

Construction Phase - No Construction

Off-road Equipment - No Construction

Vehicle Trips - Traffic from TIA

Woodstoves - Assume existing

Water And Wastewater - WTP treatment - no septic or faculitative lagoons

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	2.00	1.00
tblConstructionPhase	PhaseEndDate	10/30/2018	10/26/2018
tblGrading	AcresOfGrading	0.00	1.00
tblLandUse	LotAcreage	0.16	1.30
tblLandUse	LotAcreage	0.65	0.00
tblLandUse	LotAcreage	0.57	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	641.35	290
tblTripsAndVMT	WorkerTripNumber	0.00	8.00
tblVehicleTrips	ST_TR	6.39	7.03
tblVehicleTrips	ST_TR	1.32	0.94
tblVehicleTrips	ST_TR	9.91	9.83
tblVehicleTrips	SU_TR	5.86	6.20
tblVehicleTrips	SU_TR	0.68	0.09
tblVehicleTrips	SU_TR	8.62	8.90
tblVehicleTrips	WD_TR	6.65	7.32
tblVehicleTrips	WD_TR	6.97	4.96
tblVehicleTrips	WD_TR	9.52	9.44
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AerobicPercent	87.46	100.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00
tblWater	SepticTankPercent	10.33	0.00

tblWoodstoves	WoodstoveWoodMass	582.40	0.00
tblWoodstoves	WoodstoveWoodMass	956.80	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1814	1.1200e-003	0.0869	5.0000e-005		4.0600e-003	4.0600e-003		4.0600e-003	4.0600e-003	0.3317	0.2723	0.6039	1.0000e-004	3.0000e-005	0.6161
Energy	4.1500e-003	0.0374	0.0293	2.3000e-004		2.8700e-003	2.8700e-003		2.8700e-003	2.8700e-003	0.0000	73.6119	73.6119	4.0400e-003	1.4300e-003	74.1379
Mobile	0.0376	0.1641	0.4627	1.6400e-003	0.1530	1.3800e-003	0.1544	0.0410	1.2900e-003	0.0423	0.0000	150.4739	150.4739	4.9400e-003	0.0000	150.5975
Waste						0.0000	0.0000		0.0000	0.0000	7.3645	0.0000	7.3645	0.4352	0.0000	18.2453
Water						0.0000	0.0000		0.0000	0.0000	2.2298	4.6372	6.8671	8.1400e-003	4.9500e-003	8.5442
Total	**0.2231**	**0.2026**	**0.5789**	**1.9200e-003**	**0.1530**	**8.3100e-003**	**0.1613**	**0.0410**	**8.2200e-003**	**0.0492**	**9.9260**	**228.9953**	**238.9213**	**0.4525**	**6.4100e-003**	**252.1409**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1814	1.1200e-003	0.0869	5.0000e-005		4.0600e-003	4.0600e-003		4.0600e-003	4.0600e-003	0.3317	0.2723	0.6039	1.0000e-004	3.0000e-005	0.6161

Energy	4.1500e-003	0.0374	0.0293	2.3000e-004		2.8700e-003	2.8700e-003		2.8700e-003	2.8700e-003	0.0000	73.6119	73.6119	4.0400e-003	1.4300e-003	74.1379
Mobile	0.0376	0.1641	0.4627	1.6400e-003	0.1530	1.3800e-003	0.1544	0.0410	1.2900e-003	0.0423	0.0000	150.4739	150.4739	4.9400e-003	0.0000	150.5975
Waste						0.0000	0.0000		0.0000	0.0000	7.3645	0.0000	7.3645	0.4352	0.0000	18.2453
Water						0.0000	0.0000		0.0000	0.0000	2.2298	4.6372	6.8671	8.1400e-003	4.9500e-003	8.5442
Total	**0.2231**	**0.2026**	**0.5789**	**1.9200e-003**	**0.1530**	**8.3100e-003**	**0.1613**	**0.0410**	**8.2200e-003**	**0.0492**	**9.9260**	**228.9953**	**238.9213**	**0.4525**	**6.4100e-003**	**252.1409**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0376	0.1641	0.4627	1.6400e-003	0.1530	1.3800e-003	0.1544	0.0410	1.2900e-003	0.0423	0.0000	150.4739	150.4739	4.9400e-003	0.0000	150.5975
Unmitigated	0.0376	0.1641	0.4627	1.6400e-003	0.1530	1.3800e-003	0.1544	0.0410	1.2900e-003	0.0423	0.0000	150.4739	150.4739	4.9400e-003	0.0000	150.5975

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	43.92	42.18	37.20	98,647	98,647
General Light Industry	124.00	23.50	2.25	269,325	269,325

Single Family Housing	18.88	19.66	17.80	43,506	43,506
Total	186.80	85.34	57.25	411,478	411,478

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00	92	5	3
Single Family Housing	10.80	4.80	5.70	31.00	15.00	54.00	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
General Light Industry	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740
Single Family Housing	0.610498	0.036775	0.183084	0.106123	0.014413	0.005007	0.012610	0.021118	0.002144	0.001548	0.005312	0.000627	0.000740

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	32.5502	32.5502	3.2600e-003	6.7000e-004	32.8322
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	32.5502	32.5502	3.2600e-003	6.7000e-004	32.8322
NaturalGas Mitigated	4.1500e-003	0.0374	0.0293	2.3000e-004		2.8700e-003	2.8700e-003		2.8700e-003	2.8700e-003	0.0000	41.0617	41.0617	7.9000e-004	7.5000e-004	41.3057

NaturalGas Unmitigated	4.1500e-003	0.0374	0.0293	2.3000e-004		2.8700e-003	2.8700e-003		2.8700e-003	2.8700e-003	0.0000	41.0617	41.0617	7.9000e-004	7.5000e-004	41.3057

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	51836.7	2.8000e-004	2.3900e-003	1.0200e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7662	2.7662	5.0000e-005	5.0000e-005	2.7826
General Light Industry	659500	3.5600e-003	0.0323	0.0272	1.9000e-004		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	35.1934	35.1934	6.7000e-004	6.5000e-004	35.4026
Single Family Housing	58130.2	3.1000e-004	2.6800e-003	1.1400e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1021	3.1021	6.0000e-005	6.0000e-005	3.1205
Total		**4.1500e-003**	**0.0374**	**0.0293**	**2.3000e-004**		**2.8700e-003**	**2.8700e-003**		**2.8700e-003**	**2.8700e-003**	**0.0000**	**41.0617**	**41.0617**	**7.8000e-004**	**7.6000e-004**	**41.3057**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	51836.7	2.8000e-004	2.3900e-003	1.0200e-003	2.0000e-005		1.9000e-004	1.9000e-004		1.9000e-004	1.9000e-004	0.0000	2.7662	2.7662	5.0000e-005	5.0000e-005	2.7826
General Light Industry	659500	3.5600e-003	0.0323	0.0272	1.9000e-004		2.4600e-003	2.4600e-003		2.4600e-003	2.4600e-003	0.0000	35.1934	35.1934	6.7000e-004	6.5000e-004	35.4026
Single Family Housing	58130.2	3.1000e-004	2.6800e-003	1.1400e-003	2.0000e-005		2.2000e-004	2.2000e-004		2.2000e-004	2.2000e-004	0.0000	3.1021	3.1021	6.0000e-005	6.0000e-005	3.1205
Total		**4.1500e-003**	**0.0374**	**0.0293**	**2.3000e-004**		**2.8700e-003**	**2.8700e-003**		**2.8700e-003**	**2.8700e-003**	**0.0000**	**41.0617**	**41.0617**	**7.8000e-004**	**7.6000e-004**	**41.3057**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	24770.1	3.2583	3.3000e-004	7.0000e-005	3.2865
General Light Industry	206500	27.1634	2.7200e-003	5.6000e-004	27.3988
Single Family Housing	16181.1	2.1285	2.1000e-004	4.0000e-005	2.1469
Total		**32.5502**	**3.2600e-003**	**6.7000e-004**	**32.8322**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	24770.1	3.2583	3.3000e-004	7.0000e-005	3.2865
General Light Industry	206500	27.1634	2.7200e-003	5.6000e-004	27.3988
Single Family Housing	16181.1	2.1285	2.1000e-004	4.0000e-005	2.1469
Total		**32.5502**	**3.2600e-003**	**6.7000e-004**	**32.8322**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1814	1.1200e-003	0.0869	5.0000e-005		4.0600e-003	4.0600e-003		4.0600e-003	4.0600e-003	0.3317	0.2723	0.6039	1.0000e-004	3.0000e-005	0.6161
Unmitigated	0.1814	1.1200e-003	0.0869	5.0000e-005		4.0600e-003	4.0600e-003		4.0600e-003	4.0600e-003	0.3317	0.2723	0.6039	1.0000e-004	3.0000e-005	0.6161

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0198					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1351					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0246	4.3000e-004	0.0272	4.0000e-005		3.7300e-003	3.7300e-003		3.7300e-003	3.7300e-003	0.3317	0.1748	0.5065	0.0000	3.0000e-005	0.5162
Landscaping	1.8200e-003	6.9000e-004	0.0597	0.0000		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	0.0975	0.0975	9.0000e-005	0.0000	0.0999
Total	**0.1814**	**1.1200e-003**	**0.0869**	**4.0000e-005**		**4.0600e-003**	**4.0600e-003**		**4.0600e-003**	**4.0600e-003**	**0.3317**	**0.2723**	**0.6039**	**9.0000e-005**	**3.0000e-005**	**0.6161**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0198					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1351					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0246	4.3000e-004	0.0272	4.0000e-005		3.7300e-003	3.7300e-003		3.7300e-003	3.7300e-003	0.3317	0.1748	0.5065	0.0000	3.0000e-005	0.5162
Landscaping	1.8200e-003	6.9000e-004	0.0597	0.0000		3.3000e-004	3.3000e-004		3.3000e-004	3.3000e-004	0.0000	0.0975	0.0975	9.0000e-005	0.0000	0.0999
Total	**0.1814**	**1.1200e-003**	**0.0869**	**4.0000e-005**		**4.0600e-003**	**4.0600e-003**		**4.0600e-003**	**4.0600e-003**	**0.3317**	**0.2723**	**0.6039**	**9.0000e-005**	**3.0000e-005**	**0.6161**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	6.8671	8.1400e-003	4.9500e-003	8.5442
Unmitigated	6.8671	8.1400e-003	4.9500e-003	8.5442

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e

Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.390924 / 0.246452	0.5300	5.2000e-004	3.1000e-004	0.6350
General Light Industry	5.78125 / 0	6.1604	7.4500e-003	4.5300e-003	7.6976
Single Family Housing	0.130308 / 0.0821507	0.1767	1.7000e-004	1.0000e-004	0.2117
Total		**6.8670**	**8.1400e-003**	**4.9400e-003**	**8.5442**

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	0.390924 / 0.246452	0.5300	5.2000e-004	3.1000e-004	0.6350
General Light Industry	5.78125 / 0	6.1604	7.4500e-003	4.5300e-003	7.6976
Single Family Housing	0.130308 / 0.0821507	0.1767	1.7000e-004	1.0000e-004	0.2117
Total		**6.8670**	**8.1400e-003**	**4.9400e-003**	**8.5442**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e

	MT/yr			
Mitigated	7.3645	0.4352	0.0000	18.2453
Unmitigated	7.3645	0.4352	0.0000	18.2453

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	2.76	0.5603	0.0331	0.0000	1.3880
General Light Industry	31	6.2927	0.3719	0.0000	15.5900
Single Family Housing	2.52	0.5115	0.0302	0.0000	1.2673
Total		**7.3645**	**0.4352**	**0.0000**	**18.2453**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	2.76	0.5603	0.0331	0.0000	1.3880
General Light Industry	31	6.2927	0.3719	0.0000	15.5900
Single Family Housing	2.52	0.5115	0.0302	0.0000	1.2673

Total		**7.3645**	**0.4352**	**0.0000**	**18.2453**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation