

Appendix B: Toxic Air Contaminant Analysis Memorandum

MEMO

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To: **Fiona Phung**
David J. Powers & Associates, Inc.
1871 The Alameda, Suite 200
San José, CA 95126
fphung@davidjpowers.com

From: **James A. Reyff & Mimi McNamara**
Illingworth & Rodkin, Inc.
429 E. Cotati Ave
Cotati, CA 94931

RE: **City View Plaza – San Jose, CA**

SUBJECT: **TAC Analysis for the City View Plaza Project** (Job#19-223)

This memorandum is to address a comment received by the City of San José regarding how the DEIR air quality toxic air contaminant (TAC) analysis was prepared. In April 2020, the City received a comment from of a current tenant with concerns that the TAC analysis did not address the effects of construction upon the existing onsite tenants. The commenter stated that the TAC analysis should have been based on the phasing of the construction plan and addressed the impacts of construction upon the onsite tenants, who would be occupying one of the existing buildings during parts of the construction. The following discussion addresses this comment by (1) explaining the Bay Area Air Quality Management District (BAAQMD) methodology for TAC assessments, (2) defining sensitive receptors and the difference in age sensitivity, and (3) noting that maximum feasible mitigation measures were applied.

BAAQMD Guidance for Risks and Hazards

The TAC discussion in the DEIR air quality report analyzed the localized community risk impacts from the construction and the operation to address the project's incremental impacts in accordance with BAAQMD guidelines. The analysis was done based on the guidance contained in the BAAQMD *California Environmental Quality Act (CEQA) Air Quality Guidelines*¹ and the BAAQMD *Recommended Methods for Screening and Modeling Local Risks and Hazards*². BAAQMD recommends that all analyses address significant sources of existing and new sources

¹ Bay Area Air Quality Management District, *CEQA Air Quality Guidelines*, May 2017.

² Bay Area Air Quality Management District (BAAQMD), 2012, *Recommended Methods for Screening and Modeling Local Risks and Hazards*, Version 3.0. May.

of TACs within 1,000 feet of the project site and with the potential to adversely affect existing sensitive receptors. This evaluation addresses TACs and sensitive receptors.

Sensitive Receptors

Per BAAQMD guidance, sensitive receptors are defined as people more sensitive to the effects of air pollutants. The groups most sensitive include children less than 16-years-old, adult seniors, and people with cardiovascular and chronic respiratory diseases. Locations that may contain a high concentration of these sensitive population groups include residential areas, hospitals, daycare facilities, elder care facilities, and elementary schools. Workers are not identified as sensitive receptors and therefore a health risk assessment for this group is not necessary.

The DEIR air quality analysis identified the most sensitive receptor within the project area. These sensitive receptors included infants (assumed at all the residences), children (assumed at all residences) and adults (since the analysis for residences evaluates a 30-year exposure period). Onsite and offsite workers were not addressed since (1) they are not considered sensitive receptors and (2) adults are less sensitive to TACs compared to infants and children.

Unlike adults, infants and children are more sensitive to TACs and air pollution due to their higher breathing rates and less developed respiratory systems/immune systems. Based on differences in breathing rates and Age Sensitivity Factors (ASFs), risks to sensitive receptors would be about 30 times higher. In addition, these sensitive receptors are assumed to be outside for 24 hours per day and 7 days per week, while worker exposures would be exposed 8 hours per day and 5 days per week. Additionally, the residential sensitive receptors are assumed to be constantly exposed to the entire duration of construction (i.e. 24 hours for seven days a week over six years). The onsite tenants would only be exposed to construction for a maximum of three years.

Based on a full exposure period, the maximally impacted adult residential receptor would have an increased cancer risk of 6.9 per million, the hazard index (HI) value would be 0.14, and the annual PM_{2.5} concentration would be 1.60 µg/m³ at this location, assuming 24-hour per day exposure for a full year.³ With the worker construction duration adjustments and the assumption that all onsite tenants are adults, the increased cancer risk, HI value and PM_{2.5} concentration would all be less than the risks for an residential adult receptor. The increased cancer risk and HI value would be less than the BAAQMD single-source thresholds of less than 10 per million and less than 1.0 for HI. The annual PM_{2.5} concentration would also be less than half of the 1.60 µg/m³ concentration. However, that PM_{2.5} concentration would still exceed the BAAQMD PM_{2.5} single-source threshold of less than 0.3µg/m³. Overall, though, the risks and hazards from construction upon these individuals would be substantially less than the residential adult exposure.

³ Note that in the DEIR air quality analysis the maximum annual PM_{2.5} concentration was identified at a different location from where the maximum DPM (i.e. increased cancer risk) was identified. For simplicity, the location of the maximum DPM concentration identified in Figure 2 of the DEIR air quality report was also used to report the maximum annual PM_{2.5} concentration for an residential adult receptor. .

Identified Feasible Mitigation Measures

Extensive mitigation measures to control fugitive dust and diesel particulate matter exhaust emissions were recommended for this project. These mitigation measures include enhanced dust control measures recommended in the BAAQMD CEQA Air Quality Guidelines, all construction equipment larger than 25 horsepower shall meet U.S. Environmental Protection Agency Tier 4 emission standards for nitrogen oxides (NO_x) and PM, restriction on the on-road heavy-duty diesel trucks that can be used, and the use of temporary line power. With this mitigation measure implemented, the adult residential cancer risk would be reduced to 0.4 per million, the HI value would be 0.01, and the PM_{2.5} at this location would be 0.25 µg/m³. Therefore, the mitigation measures recommend for this project would reduce the construction related risks and hazards for the temporary adult onsite tenants.