# Attachment No. 5

Response to Comments, Comment Letters, Mitigation Monitoring and Reporting Program, and Draft Initial Study/Mitigated Negative Declaration

Technical Appendices:
www.arcadiaca.gov/significantprojects

# Response to Comments Memorandum

## Arcadia Town Center Project
## SCH No. 2024110749


Submitted to

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January 2025

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# SECTION 1.0 INTRODUCTION AND SUMMARY

Pursuant to Section 15072 of the State California Environmental Quality Act (CEQA) Guidelines, a Notice of Intent to Adopt a Mitigated Negative Declaration (NOI) for the Arcadia Town Center Project (Project) was distributed on November 19, 2024, by the City of Arcadia (City) to the public, applicable responsible and trustee agencies, and other appropriate agencies and organizations. The Arcadia Town Center Project Initial Study/Mitigated Negative Declaration (IS/MND) was available for public review and comment for a 30-day period from Thursday, November 21, 2024, through Friday, December 20, 2024.

Section 15074(b) of the State CEQA Guidelines states that, prior to approving a project, the lead agency must consider a proposed IS/MND together with any comments received on that document during the public review period. Pursuant to Section 15367 of the State CEQA Guidelines, the City of Arcadia is the lead agency for the Project.

Written comments on the Arcadia Town Center Project IS/MND were received from a total of two parties during the 30-day public review period that closed on December 20, 2024. Although CEQA does not require written responses to comments on an IS/MND, the City–as the lead agency–has evaluated all comments received as well as prepared written responses. The City's responses to any significant environmental issues raised in comments on the IS/MND are provided in Section 2.0, Responses to Comments, of this document. When comments did not address the completeness or adequacy of the CEQA documentation or raise significant environmental issues, the receipt of the comment is noted, and no further response is provided.

## 1.1 CONCLUSION OF THE CEQA PROCESS

The City has reviewed all comments received to determine whether any significant environmental issues have been raised. Based on substantial evidence and in light of the whole record, including the evaluation in the IS/MND together with the comments received, the City has determined no significant new environmental issues have been raised that have not been adequately addressed in the IS/MND and/or this Responses to Comments Memorandum. All potential impacts associated with the Project were identified and found to be less than significant with the incorporation of identified mitigation measures, where applicable. Accordingly, the Arcadia Town Center Project would not result in any significant impacts, and an IS/MND is the appropriate environmental document in accordance with CEQA (*California Public Resources Code*, Section 21000 et. seq.) and the State CEQA Guidelines (*California Code of Regulations*, Title 14, Section 15000 et. seq.).

The City of Arcadia's Planning Commission will consider the IS/MND together with the comments received during the public review process and this Response to Comments Memorandum. The Planning Commission, as the decision-making body of the lead agency for this Project, will adopt the proposed IS/MND and approve the Project only if they find, on the basis of the whole record before it, that there is no substantial evidence that the Project would have a significant effect on the environment and that the IS/MND reflects the lead agency's independent judgment and analysis.

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# SECTION 2.0 RESPONSES TO COMMENTS

As described in Section 1.0, written comments on the Arcadia Town Center Project IS/MND were received from the two parties by December 20, 2024 (the close of the public review period), as follows:

**Agencies**

- California Department of Transportation (Caltrans), District 7 – December 19, 2024

**Individuals and Organizations**

- Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") – December 20, 2024

Each comment letter has been numbered and then divided into sequential numbered comments (e.g., Letter 1, comments 1.1, 1.2, and so forth). The numbered comment letter is immediately followed with correspondingly numbered responses.

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STATE OF CALIFORNIA—CALIFORNIA STATE TRANSPORTATION AGENCY GAVIN NEWSOM, Governor

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*Making Conservation a California Way of Life*

December 19, 2024

Letter 1

Edwin Arreola, Senior Planner
Development Services Department
City of Arcadia
240 West Huntington Drive
Arcadia, CA 91007

RE: Arcadia Town Center
SCH # 2024110749
Vic. LA-210/PM R31.92
GTS # LA-2024-04691-MND

Dear Edwin Arreola:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced environmental document. The proposed project entails a mixed-use development comprising 181 residential units, 13,130 square feet (sf) ground-floor commercial uses, 43 bicycle parking stalls, and associated amenities located at the northwest corner of Santa Anita Avenue and Huntington Drive in the City of Arcadia. Additionally, the IS/MND addresses the City's proposed upsizing of approximately 1.3 miles of sewer line to 12-inch diameter along Santa Anita Avenue between Huntington Drive and Camino Real Avenue as part of future capital improvement projects and must be completed prior to issuance of an occupancy permit for the Project. Caltrans has reviewed the Draft IS/MND, with particular focus on Section 3.17 (Transportation), and provides the following comments and recommendations to enhance the project's compliance with CEQA and alignment with state and regional transportation goals. 1

The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. Senate Bill 743 (2013) has codified into CEQA law and mandated that CEQA review of transportation impacts of proposed development be modified by using Vehicle Miles Traveled (VMT) as the primary metric in identifying transportation impacts for all future development projects. You may reference the Governor's Office of Planning and Research (OPR) for more information: 2

https://opr.ca.gov/ceqa/#guidelines-updates

As a reminder, VMT is the standard transportation analysis metric in CEQA for land use projects after July 1, 2020, which is the statewide implementation date.

Caltrans is aware of challenges that the region faces in identifying viable solutions to alleviating congestion on State and Local facilities. With limited room to expand vehicular capacity, this project should incorporate multi-modal and complete streets transportation elements that will actively promote alternatives to car use and better manage existing parking assets. Prioritizing and allocating space to efficient modes of travel such as bicycling and public transit can allow streets to transport more people in a fixed amount of right-of-way.

Caltrans encourages city planning that promotes complete streets and pedestrian safety through measures like road diets, recognized for enhancing safety and being cost-effective when combined with street resurfacing. City planning should focus on reducing single-occupancy vehicle trips, improving safety, lowering vehicle miles traveled (VMT), and cutting greenhouse gas emissions.

The project's proximity to the Metro A Line Arcadia Station, located approximately 950 feet northeast, offers a significant opportunity to support transit-oriented development. However, we recommend collaborating with LA Metro to enhance transit accessibility by considering extended bus routes or additional transit amenities near the site. Additionally, integrating accessible, shaded, and well-lit bus stops at key access points along Santa Anita Avenue and Huntington Drive will encourage transit use and reduce vehicle dependency. 3

The existing pedestrian infrastructure along Huntington Drive and Santa Anita Avenue provides a foundation for walkability, but further enhancements are needed. We recommend the construction of continuous, ADA-compliant sidewalks along all project-adjacent roadways. High-visibility crosswalks and pedestrian signals at key intersections should be included to improve safety and accessibility for all users. Furthermore, connections between the internal pedestrian network and the Metro A Line station should be strengthened, potentially through enhanced wayfinding signage and improved crossings at key locations.

Currently, the IS/MND does not provide information on nearby bike lane connectivity. To support active transportation, we recommend incorporating Class II or Class IV bike lanes along Santa Anita Avenue and Huntington Drive. The project should also include secure bicycle parking, repair stations, and bike-sharing facilities at both residential and commercial access points to encourage cycling as a viable transportation option. These measures will complement the proposed 43 bicycle parking stalls and align with regional goals to reduce VMT.

The project's location within a Transit Priority Area (TPA) is advantageous, but additional measures are necessary to mitigate VMT impacts. While the IS/MND identifies the project as consistent with regional VMT goals, we recommend that strategies such as subsidized transit passes, enhanced broadband infrastructure to support remote work, and incentivized carpooling/vanpooling programs should also be explored. 3 cont

As a reminder, any transportation of heavy construction equipment and/or materials which require use of oversized transport vehicles on State highways will need a Caltrans transportation permit. We recommend large-size truck trips be limited to off-peak commute periods. Truck drivers should cover construction trucks with tarpaulin to avoid debris spillage onto the State Highway. Maintaining clear and continuous emergency access routes during construction is also essential. 4

If you have any questions, please feel free to contact Mr. Alan Lin, the project coordinator, at (213) 269-1124 and refer to GTS # LA-2024-04691-MND.

Sincerely,

Anthony Higgins

Anthony Higgins
Acting LDR Branch Chief

Cc: State Clearinghouse

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## Response to Comment Letter 1

**California Department of Transportation (Caltrans), District 7**
**December 19, 2024**

**Response 1.1:** This comment is acknowledged. The summary of the Project provided in the comment letter is accurate. No further response is required.

**Response 1.2:** This comment related to Caltrans' mission and reminder that vehicle miles traveled (VMT) is the required metric for the CEQA analysis of transportation impacts is acknowledged. The IS/MND analyzes transportation impacts consistent with the requirements of Senate Bill (SB) 743 and Section 15064.3 et. seq. of the State CEQA Guidelines.

Specifically, refer to Section 3.17, Transportation, on pages 3-95 through 3-100 of the IS/MND, which summarizes the *Traffic Impact Study for the Arcadia Town Center Project* (Traffic Study), dated September 2024 and provided as Appendix H to the document. The Traffic Study was prepared in accordance with the *City of Arcadia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* and the Governor's Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA*. No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

**Response 1.3:** This comment providing Caltrans' suggestions for additional features supporting multi-modal transportation and reduction in VMT beyond the current scope and/or footprint of the Project is acknowledged. As demonstrated in the Traffic Study prepared for the Project and summarized in the IS/MND, in accordance with both City and State guidelines, the Project would result in less than significant impacts related to VMT and conflict with circulation system programs, plans, ordinances, or policies, and no mitigation is required (see pages 3-96 through 3-98 of the IS/MND).

Regarding the statement that "the IS/MND does not provide information on nearby bike lane connectivity", the Project does not propose features that extend from the Project site to connect to bike lanes and therefore this information is beyond the scope of the proposed Project and this IS/MND. Also, note that the relevant threshold from Appendix G of the State CEQA Guidelines asks if a project would "**conflict with** (emphasis added) a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities". Accordingly, the Traffic Study and IS/MND address the proposed features of the Project against applicable planning directives. The IS/MND analyzes the Project as designed; the Project's features that support bicyclist and pedestrian activity and accessibility are analyzed to determine whether they conflict with any applicable circulation system directives (see pages 3-97 and 3-98 of the IS/MND). As noted previously, the IS/MND concluded the Project would have less than significant impacts. The cited lack of information on bike lane connectivity does not, therefore, represent an inadequacy of the CEQA documentation.

As stated on page 2-9, of the IS/MND, in Section 2.0, Environmental Setting and Project Description, it is noted the City's Development Code requires that long-term bicycle parking includes one of the following:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
- Lockable bike rooms with permanently anchored racks; or
- Lockable, permanently anchored bicycle lockers.

Therefore, the Project would include "secure bicycle parking". Caltrans' other suggested additions to the Project design related to bicycling are acknowledged.

Regarding the statements that "additional measures are necessary to mitigate VMT impacts" notwithstanding the Project's "advantageous" location in a Transit Priority Area [TPA] and "we recommend that strategies…should also be explored" after acknowledging "the IS/MND identifies the project as consistent with regional VMT goals", the Traffic Study prepared as part of the IS/MND concluded the Project–as designed and described in the IS/MND–would result in less than significant impacts related to VMT pursuant to Section 15064.3(b) of the State CEQA Guidelines, and no mitigation is required. To reiterate, the Traffic Study was prepared in accordance with the City's adopted VMT guidelines, which were in turn prepared and adopted in accordance with SB 743. This comment does not substantiate the assertion that (1) there is a significant VMT impact and (2) mitigation measures for this impact are required. Specifically, Caltrans identification of additional VMT-reducing features that could conceivably be included in the Project is not equivalent to identifying an undisclosed significant transportation impact that requires additional mitigation.

In summary, this comment does not provide evidence of significant and/or undisclosed transportation impacts nor the need for additional mitigation measures. No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

**Response 1.4:** This comment relates to transportation of heavy construction equipment and/or materials that require use of oversized transport vehicles on State highways. The City of Arcadia would ensure the contractor acquires all necessary permits, as required by Caltrans, including a Caltrans transportation permit, if applicable. Additionally, short-term and long-term emergency access is fully addressed in Section 3.17, Transportation, of the IS/MND, beginning on page 399. As presented beginning on pages 1-5 and 3-99 of the IS/MND, mitigation measure (MM) TRANS-1 requires the preparation of a Construction Management Plan, which would ensure "clear and continuous emergency access routes during construction". The comment related to the commenter's contact information is acknowledged. No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

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**VIA EMAIL**

December 20, 2024

Letter 2

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Marilynne Wilander, Chair
And Honorable Commissioners
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**Re: Comment on the Mitigated Negative Declaration for the Arcadia Town Center Project (SCH No. 2024110749)**

Dear Mr. Arreola, Ms. Flores, and Honorable Members of the Arcadia City Planning Commission:

This comment is submitted on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") regarding the Mitigated Negative Declaration ("MND") prepared for the Arcadia Town Center Project (SCH No. 2024110749) ("Project"), located on the cross-streets of West Huntington Drive and North Santa Anita Avenue in downtown Arcadia, CA. The Project involves the development of a five-story, 181-unit, mixed-use residential and commercial building with one level of above-ground parking and one level of underground parking. 1

As discussed below, there is a fair argument that the Project may result in significant adverse impacts on biological resources, noise, air quality, and indoor air quality. Therefore, SAFER respectfully requests that the City of Arcadia ("City") prepare an environmental impact report ("EIR") before approving the Project to analyze and mitigate these impacts in accordance with the California Environmental Quality Act ("CEQA"). 2

SAFER's review of the MND was assisted by expert wildlife biologist Dr. Shawn

Smallwood, Ph.D; noise expert Ani Toncheva from the acoustical consulting firm Wilson Ihrig; air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul Rosenfeld, Ph.D., from the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE"); and indoor air quality expert and certified industrial hygienist Francis Offermann, P.E., C.I.H. Dr. Smallwood's written comments and CV are attached hereto as Exhibit A and are incorporated herein by reference in their entirety. Ms. Toncheva's written comments and CV are attached hereto as Exhibit B and are incorporated herein by reference in their entirety. SWAPE's written comments and CV are attached hereto as Exhibit C and are incorporated herein by reference in their entirety. Mr. Offermann's written comments and CV are attached hereto as Exhibit D and are incorporated herein by reference in their entirety. 2 cont

**PROJECT DESCRIPTION**

The Project involves the construction of a new five-story, mixed-use residential and commercial building with a total combined floor area of 440,938 square feet. The building includes 13,130 square feet of commercial space on the ground floor. It will also have 181 multifamily residential units, including 41 one-bedroom units, 108 two-bedroom units, and 32 three-bedroom units. The Project has 3,890 square feet of residential amenity space and 38,713 square feet of public and private open space. Additionally, the Project will have one level of ground-floor parking and one level of subterranean parking, for 378 parking spaces total. The Project requires the grading of approximately 44,520 cubic yards of earth as well.

The Project involves the consolidation of five existing contiguous parcels encompassing 2.27 acres into a single lot occupying 2.19 net acres (95,396.4 square feet) of buildable lot area. The Project site's Assessor Parcel Numbers are 5775-025-032, -033, -034, -037, and -038. All parcels on the site have a land use designation of Downtown Mixed-Use and are zoned as Downtown Mixed-Use. 3

The site is located at 5-19 West Huntington Drive and 25-75 North Santa Anita Avenue, in a fully developed portion of the downtown area of the City of Arcadia. The site is bounded by West Huntington Drive to the south, North Santa Anita Avenue to the east, Morlan Place to the north, and an Elks Lodge to the west. The site is surrounded to the north, east, and west by existing urban development, including retail, eateries, offices, a car dealership, and associated surface parking. Single-family residences are located about 410 feet northwest of the site across, and multifamily residences are located about 280 feet southeast of the site along Santa Anita Avenue. Arcadia County Park is located immediately south of the site, across West Huntington Drive.

The Project site currently contains eleven total commercial buildings, including ten one-story buildings and one two-story building, and associated surface parking lots. All existing development on the site would be demolished for the Project. The Project will also remove 26 existing trees on the Project site, including six trees protected by the City.

**LEGAL STANDARD**

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 Mgmt. Dist.* (2010) 48 Cal.4th 310, 319-20.) "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 California Code of Regulations ["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. v. City of Los Angeles* (1974) 13 Cal.3d 68, 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. Res. Agency* (2002) 103 Cal.App.4th 98, 109.)

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*, *supra*, 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 Univ. of Cal.* (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 903, 927.) 4

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*, supra, 124 Cal.App.4th at 927.) An MND instead of an EIR is proper only if 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." (*Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322, 331 [quoting PRC §§ 21064.5, 21080(c)(2)].) In that context, "may" means a reasonable possibility of a significant effect on the environment. (PRC §§ 21082.2(a), 21100, 21151(a); *Pocket Protectors*, *supra*, 124 Cal.App.4th at 927; *League for Protection of Oakland's etc. Historic Res. v. City of Oakland* (1997) 52 Cal.App.4th 896, 904-05.)

An EIR must be prepared rather than an MND "whenever it can be fairly argued on the basis of substantial evidence that the project may have a significant environmental impact." (*No Oil, Inc. v City of Los Angeles* (1974) 13 Cal.3d 68, 75.) Under this "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*, *supra*, 124 Cal.App.4th at 931; *Stanislaus Audubon Society v. County of Stanislaus* (1995) 33 Cal.App.4th 144, 150-51; *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*, supra, 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: 4 cont

> 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 & Zischke, *Practice Under CEQA*, § 6.29, pp. 273-74.) 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*, supra, 124 Cal.App.4th at 928.)

## DISCUSSION

### I. There is a fair argument that the Project may have significant adverse impacts on biological resources.

Expert wildlife biologist, Dr. Shawn Smallwood, Ph.D., has reviewed the Project's MND, its biological technical report, and other relevant documents regarding the Project's biological impacts. As discussed below, Dr. Smallwood found that the Project will adversely affect biological resources because (1) the MND failed to account for the diversity of species present on the Project site, including several special-status species; (2) the MND inadequately analyzed the Project's adverse impacts on wildlife; and (3) the MND's proposed mitigation measures are insufficient to reduce the Project's biological impacts. 5

#### A. The MND failed to account for the diversity of species present on the Project site, including several special-status species.

Dr. Smallwood's associate, biologist Noriko Smallwood, M.S., conducted a Project site visit on December 6, 2024, for 2.8 hours. (Ex. A at 1.) During her visit, Ms. Smallwood detected

25 species of vertebrate wildlife at or adjacent to the Project site, including six species with special status: the Allen's hummingbird, the California gull, and the Nuttall's woodpecker, which are all listed as Birds of Conservation Concern by the U.S. Fish & Wildlife Service; and the Cooper's hawk, red-tailed hawk, and peregrine falcon, which are all Birds of Prey under the California Fish & Game Code. (*Id.* at 2, 8.)

Using a nonlinear regression model, Dr. Smallwood predicted that about 50 total species of vertebrate wildlife were available to be detected at the site during Ms. Smallwood's December 6, 2024 visit, twice the number of species she actually detected. (*Id.* at 9.) Although Ms. Smallwood's site visit only lasted 2.8 hours, Dr. Smallwood also calculated that continued and more extensive surveys would reveal an even greater diversity of wildlife at the site, up to 118 species of vertebrate wildlife, including 28 special-status species. (*Id.* at 10-11.)

To achieve the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the biological analysis should identify which wildlife species are known to occur at the proposed project site, which special-status species are likely to occur, and the limitations of the survey efforts directed to the site. Analysts need this information to characterize the environmental setting as a basis for predicting potential project impacts to biological resources. (Ex. A at 12.)

5 cont

CEQA requires government agencies to describe the "environmental setting" of the Project. (CEQA Guidelines § 15063(d)(2); *Mejia v. City of Los Angeles* (2005) 130 Cal.App.4th 322.) The "environmental setting" is defined as "the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." (Guidelines § 15360; *see* Guidelines § 21060.5; *Lighthouse Field Beach Rescue v. City of Santa Cruz* (2005) 131 Cal.App.4th 1170, 1192.)

Here, the MND did not provide the results of any field surveys conducted to detect birds or other wildlife on the Project site. (Ex. A at 12.) Regarding the lack of bird surveys in particular, Dr. Smallwood stated that the "lack of surveys leaves the City of Arcadia blind to any potential impacts to birds, because without a survey, there is no sound basis for characterizing the existing environmental setting." (*Id.*) Proceeding with the project without completing avian surveys could also result in high bird mortality rates from window collisions and costs to the building's owner if the windows require bird-safe glass. He further notes that the MND fails to report the importance of the site's trees to birds, which is important because the site's trees effectively create open space and vertical habitat for birds. (*Id.*)

Additionally, the MND does not provide the results of any desktop review of available literature and databases to identify occurrence records of special-status species or assess the occurrence rates of avian species in the Project area. (*Id.* at 12.) Dr. Smallwood stated that desktop review is important to inform field surveys and supplement interpretation of their findings. (*Id.* at 13.) Based on his review of available databases, such as eBird and iNaturalist, Dr. Smallwood estimates that 77 special-status bird species are known to occur close enough to

the Project site to warrant analysis of their occurrence potential. (*Id.* at 13-14.)

Thus, by failing to accurately characterize the biological species using the Project site, including the fact that the site supports at least six special-status species, the MND inadequately describes the Project's "environmental setting" and thereby insufficiently analyzes the Project's biological impacts. (*Id.* at 11.) Dr. Smallwood therefore concludes that "there is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the wildlife community on the project site." (*Id.* at 18.)

**B. There is substantial evidence that the Project will have significant impacts on biological resources that the MND fails to analyze and mitigate.**

Dr. Smallwood concluded that the MND inadequately addressed the Project's various significant impacts on biological resources, including: (1) interference with wildlife movement; (2) bird-window collision mortality; (3) traffic mortality; and (4) cumulative impacts.

1. Interference with Wildlife Movement

The MND includes no analysis of whether the Project would interfere with local wildlife movement. (*Id.*) Dr. Smallwood found that the Project would clearly interfere with wildlife movement in the area because the Project would insert a midrise building into the airspace that has long been used by birds for migration, dispersal, home range patrol, and foraging. (*Id.*) Dr. Smallwood thus concluded that "a fair argument can be made for the need to prepare an EIR to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated." (*Id.*) 5 cont

2. Bird-Window Collisions

According to Dr. Shawn Smallwood, the Project will have a significant impact on birds as a result of window collisions. The City has not analyzed or mitigated these potential impacts on special-status bird species. Analyzing the potential impact on wildlife from window collisions is especially important because "[w]indow collisions are often characterized as either the second or third largest source of human-caused bird mortality." (*Id.*)

The Project would construct a five-story building, which would expose local birds to many windows composing the building's facades, but the MND does not report the full extent of exterior glass windows on the proposed building. (*Id.* at 21.) However, Dr. Smallwood predicts 2,966 square meters of exterior glass on the project building. (*Id.*) Based on this amount of exterior glass, Dr. Smallwood estimates that the Project will cause 217 annual bird deaths from window collisions. (*Id.*) Dr. Smallwood's database review and Ms. Smallwood's site visit indicate that there are at least 77 special-status bird species with the potential to use the airspace around the Project site. (*Id.* at 17.) Most of the predicted bird-window collision deaths would be of birds protected under the federal Migratory Bird Treaty Act and the California Migratory Bird Protection Act, "thus causing significant unmitigated impacts." (*Id.* at 21.) Given the estimated

level of bird-window collision mortality and the MND's lack of proposed mitigation, Dr. Smallwood concluded that "the proposed project would result in potentially significant adverse biological impacts." (*Id.*) The City thus must prepare an EIR to analyze and mitigate the Project's potential impacts from bird-window collisions.

3. Traffic Impacts

Dr. Smallwood found that the MND does not analyze the Project's potential impacts to wildlife from road collision mortality as a result of increased traffic generated by the Project. (*Id.*) As Dr. Smallwood explains, vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level. (*Id.*) Dr. Smallwood provides several studies demonstrating significant animal deaths due to collisions in the thousands per 100 kilometers of road per year. (*Id.* at 23.) The MND fails to analyze whether increased traffic generated by the Project would result in significant impacts to wildlife.

The MND estimates 1,302,015 annual vehicle miles traveled ("VMTs") for employees. (*Id.*) Based on this estimate, Dr. Smallwood calculated that the Project would cause approximately 554 vertebrate wildlife fatalities per year due to collisions with project-generated traffic. (*Id.*) He therefore concluded that "the project-generated traffic would cause substantial, significant impacts to wildlife," a potential impact that the MND does not analyze. (*Id.* at 24.) Dr. Smallwood's comments thus constitute substantial evidence supporting a fair argument that the Project's traffic will have a significant impact on special-status species of wildlife. An EIR is required to analyze and mitigate this impact. 5 cont

4. Cumulative Impacts

CEQA documents, such as the MND, must discuss cumulative impacts and mitigate significant cumulative impacts. (14 CCR § 15130(a).) This requirement flows from CEQA Section 21083, which requires a finding that a project may have a significant effect on the environment if:

> The possible effects of a project are individually limited but cumulatively considerable. . . . 'Cumulatively considerable' means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

A legally adequate cumulative impacts analysis views a particular project over time and in conjunction with other related past, present, and reasonably foreseeable probable future projects whose impacts might compound or interrelate with those of the project at hand.

While acknowledging new Project-related biological impacts, the MND fails to analyze the Project's potentially significant cumulative biological impacts. Instead, the MND dismisses,

without evidence, the potential for cumulative impacts stemming from the Project by claiming that compliance with applicable land use and environmental regulations would ensure that "environmental effects associated with the Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts." (MND at 3-114.) The problem with this analysis as it applies to biological resources is that the MND cites no specific requirements that would substantially lessen cumulative impacts to wildlife in the area.

The question that CEQA requires the City to address, and that the MND fails to address, is whether the Project's impacts will be significant when combined with other past, current, and probable future projects. By failing to provide this basic information, the MND's cumulative biological impact analysis is not supported by substantial evidence.

Dr. Smallwood found that the "[MND's] analysis of potential project contributions to cumulative impacts is flawed," stating that the MND "provides no explanation of how implementing particular requirements of the City's General Plan would minimize, avoid or offset the project's contributions to cumulative impacts on wildlife." (Ex. A at 24.) Dr. Smallwood calculated that the Project's incremental effects would include 217 annual bird fatalities from window collisions, as well as 166 to 554 annual vertebrate wildlife fatalities due to collisions with project- generated traffic. (*Id.* at 25.) Likewise, the Project would fragment the aerial habitat of volant wildlife by inserting a glass-covered, midrise building into airspace historically used by volant wildlife. (*Id.*) 5 cont

**C. The MND's proposed mitigation measures are insufficient to reduce the Project's adverse biological impacts.**

The MND offers mitigation measures to reduce the Project's adverse impacts on biological resources. One proposed mitigation measure, Mitigation Measure RR BIO-3, is the delayed development of landscape plans. (*Id.* at 26.) However, this constitutes deferred mitigation, which CEQA prohibits.

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.)

While specific details of mitigation measure may be deferred, an agency is required to (1) commit itself to mitigation, (2) adopt specific performance standards the mitigation will achieve, and (3) identify the types of potential actions that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. *See Preserve Wild Santee v. City of Santee* (2012) 210 Cal.App.4th 260, 281; *San Joaquin Raptor Rescue Center v. County of Merced* (2007) 149 Cal.App.4th 645, 671.

Moreover, "mitigation measure[s] [that do] no more than require a report be prepared and followed" do not provide adequate information for informed decisionmaking under CEQA. (*Endangered Habitats League, Inc. v. County of Orange* (2005) 131 Cal.App.4th 777, 794; Guidelines § 15126.4(a)(1)(B).) By deferring the development of specific mitigation measures, the City has effectively precluded public input into the development of those measures. CEQA prohibits this approach. As explained by the court in *Communities for a Better Env't v. Richmond* (2010) 184 Cal.App.4th 70, 92:

> [R]eliance on tentative plans for future mitigation after completion of the CEQA process significantly undermines CEQA's goals of full disclosure and informed decisionmaking; and[,] consequently, these mitigation plans have been overturned on judicial review as constituting improper deferral of environmental assessment.

5 cont

Mitigation Measure RR BIO-3 constitutes deferred mitigation because it entails formulating landscape plans at an unspecified future date. (Ex. A at 26-27.) The City has not committed itself to mitigation, adopted specific performance standards the mitigation will achieve, or identified the types of potential actions that can feasibly achieve the performance standards.

The City cannot rely on the development of mitigation measures in the future because there is no way to ensure that the mitigation will be adequate. For example, here, before Project approval, the public has no way to ensure that the landscape plans will benefit wildlife. (*Id.* at 26.) This deferred mitigation is invalid under CEQA, and the Project's impacts on biological resources remain significant. An EIR is required to develop clear, enforceable mitigation measures to address the Project's significant adverse biological impacts.

Additionally, the MND proposes other mitigation measures, such as preconstruction nesting bird surveys and procurement of necessary permits. (*Id.*) However, Dr. Smallwood concludes that these measures would not avoid the long-term significant biological impacts caused by permanent habitat destruction, loss of reproductive capacity at the Project site, and increased wildlife mortality from project-generated traffic and window collisions. (*Id.* at 25-26.) Dr. Smallwood's comments thus constitute substantial evidence that the Project's impacts on biological resources would remain significant, necessitating preparation of an EIR.

Dr. Smallwood instead offers numerous other mitigation measures that the City should implement to reduce the Project's significant adverse impacts on biological resources, should the Project proceed. Potential mitigation measures include use of bird-safe glass and window treatments, compensatory mitigation for road mortality, funding of wildlife rehabilitation facilities, and native plant landscaping. (*Id.* at 27-28.) 5 cont

## II. There is a fair argument that the Project may have significant adverse impacts on noise and vibration.

Noise expert Ani Toncheva from the acoustical consulting firm Wilson Ihrig has reviewed the Project's MND, its noise and vibration technical reports in Appendix G, and other relevant documents regarding the Project's noise and vibration impacts. As discussed below, Ms. Toncheva concluded that the Project will adversely affect noise and vibration levels because (1) the MND's noise analysis relies on an inadequate noise baseline; (2) the Project will result in potentially significant construction noise impacts; and (3) the MND's operational noise analysis is insufficient. Thus, her expert comments constitute substantial evidence of a fair argument that the Project will have significant impacts on noise and vibration.

### A. The MND's noise analysis relies on an inadequately established noise baseline.

Ms. Toncheva concluded that the manner in which the MND determined the existing noise baseline was flawed. For example, she found that the MND's ambient noise measurements were taken at the Project boundaries rather than at sensitive receptors, such as nearby residences located 280 feet from the site on South Santa Anita Avenue and 410 feet from the site on Santa Clara Street. (Ex. B at 3; MND at 3-71.) She also found that the short-term ambient noise level measurements captured neither the fluctuation of noise levels over the day nor the adjustment of noise with distance from the sources measured. (Ex. B at 3; MND at 3-79.) As the MND itself acknowledged, "the ambient would fluctuate over the course of each workday as well as based on distance and relative location from the site." (MND at 3-79.) Moreover, the noise measurements close to the Santa Clara residences were dominated by HVAC noise directly next to the Project site. (Ex. B at 3.) 6

Ms. Toncheva thus concluded that the Project must perform properly documented ambient measurements near sensitive receptors that capture the current baseline conditions during quiet periods of the day and night to determine the impact of construction and operational noise. (*Id.*) The City therefore must prepare an EIR to analyze these potential impacts.

### B. There is a fair argument that the Project will result in potentially significant construction noise impacts.

Ms. Toncheva also found that the MND failed to disclose and mitigate the Project's potentially significant noise impacts from construction. The MND claims that there are no sensitive receptors near the Project site, but it earlier identified residences as close as 280 feet

from the site on Santa Anita Avenue and does not predict construction noise impacts at these residences. (MND at 3-72, 3-78.) Ms. Toncheva estimates that the Project's construction noise levels would range from 60 to 69 decibels at the Santa Anita residences and 56 to 65 decibels at the Santa Clara residences. (Ex. B at 3.)

Furthermore, Ms. Toncheva found that the MND failed to explicitly establish any construction noise criteria. It referenced the noise limits of the City of Arcadia Noise Ordinance ("Ordinance") but omitted the Ordinance's adjustments to noise limits for impulsive sounds. (City of Arcadia Noise Ordinance § 5610.3(b); MND at 3-75; Ex. B at 4.) The Ordinance's daytime noise limit for residential land is 55 decibels. Thus, at the Santa Anita residences, the predicted noise levels would exceed the Ordinance limit by 5 to 9 decibels, excluding any extra noise impacts from impulsive noise sources, like jackhammers. (*Id.* at 4.)

The CEQA Guidelines cited in the MND state that noise impacts are significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels." (MND at 3-70.) However, the MND lacks a significance threshold for a "substantial increase" for Project noise. (Ex. B at 4.) The MND uses short-term ambient noise levels of 54 to 66 dBA for daytime hours, but as discussed above, these measurements were not taken sensitive receptors and were inadequate to accurately characterize local ambient noise levels (Ex. B at 4; MND at 3-71). Ms. Toncheva found that the predicted noise level for demolition at the Santa Clara residences is 65 decibels, 11 decibels over the ambient noise level at the western Project boundary. This 10-decibel increase is subjectively heard as an approximate doubling in loudness. (*Id.* at 4.) 6 cont

Additionally, the MND does not discuss any mitigation measures for the Project's potentially significant construction noise impacts. (*Id.* at 4.) Ms. Toncheva estimates that noise barriers at the perimeter of the site could reduce noise by 10 to 15 decibels, but notes that contractors can be reluctant to use barriers because they slow production. (*Id.* at 4-5.)

Overall, the City must prepare an EIR to properly evaluate the Project's construction noise impacts, including the noise increase over ambient levels at sensitive receptor locations. As Ms. Toncheva states, "if the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant." (*Id.* at 5.)

**C. The MND's operational noise analysis is incomplete.**

The MND claims, without evidence, that the Project will have no operational noise impact. However, Ms. Toncheva found that MND identified HVAC noise as a potential operational noise source but lacked any quantitative analysis to predict the expected levels of mechanical noise (*Id.* at 5; MND at 3-79.) Ms. Toncheva also found that the MND failed to address potential noise impacts from the Project's parking garage entrance or ventilation system. (Ex. B at 5.)

**III. There is a fair argument that the Project may have significant air quality impacts.**

Air quality experts Matt Hagemann, P.G., C.Hg., and Dr. Paul Rosenfeld, Ph.D., from the environmental consulting firm Soil/Water/Air Protection Enterprise ("SWAPE") have reviewed the Project's MND, its air quality and greenhouse gas technical reports in Appendix A, and other relevant documents regarding the Project's air quality impacts. As discussed below, SWAPE concluded that there is a fair argument that the Project will adversely affect air quality because (1) the MND relied on an inadequate air quality analysis; (2) the Project will have significant impacts related to air pollutant health risks that the MND failed to adequately address; (3) the MND inadequately evaluated the Project's greenhouse gas ("GHG") impacts; and (4) the MND does not include all feasible mitigation measures to address the Project's air quality impacts. SWAPE recommends that "[a]n Environmental Impact Report . . . should be prepared to adequately assess and mitigate the potential air quality, health risk, and GHG impacts that the project may have on the environment." (Ex. C at 1.)

**A. The MND relied on an inadequate air quality analysis.**

Land use development projects under CEQA typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model ("CalEEMod"). Using site-specific input details, the model calculates a project's construction and operational emissions, generating "output files." The output files describe what parameters were used in calculating the project's air pollutant emissions and show where default values were changed. (*Id.* at 1-2.) 7

Here, SWAPE found that the MND and its air quality technical reports in Appendix A failed to provide complete CalEEMod output files. Its files included land use inputs but omitted all other qualitative outputs regarding the Project's construction and operational emissions, and they also omitted details on changes to the model's default values. (*Id.* at 2; Appendix A at 38-39.) Without access to this data, SWAPE was unable to verify the potential significance and accuracy of the MND air quality modeling. (Ex. C at 2-3.) SWAPE concluded that "[a]n EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines." (*Id.* at 3.)

**B. There is a fair argument that the Project may have significant impacts related to air pollutant health risks that the MND failed to adequately address.**

The MND determined that the Project would result in a negligible health risk impact without performing a construction health risk analysis ("HRA"), even though CEQA requires all proposed projects to connect their air pollutant emissions to potential adverse impacts on human health. (*Id.*) The MND therefore violates CEQA because it does not connect the Project's construction-related emissions of diesel particulate matter ("DPM"), a known human carcinogen, to potential health risks to nearby sensitive receptors. (*Id.*) Moreover, the MND does not compare the Project's excess cancer risk to the CEQA significance threshold of the South Coast Air Quality Management District ("SCAQMD"). (*Id.*)

SWAPE's own CalEEMod calculations showed that the Project's construction activities will produce about 380 pounds of DPM over the 29-month construction period. (*Id.*) SWAPE then conducted an HRA to measure the health risks from these DPM emissions using AERSCREEN, a screening-level air quality dispersion model that measures the maximum potential concentrations of air contaminants affecting nearby sensitive receptors, such as infants. (*Id.*) SWAPE noted that if "AERSCREEN indicates a potential air quality hazard, a detailed modeling analysis is required before Project approval." (*Id.*)

From its HRA, SWAPE found that the excess cancer risk from the Project's DPM emissions at the nearest sensitive receptor would be 76.7 per million for infants over the 29-month construction period. (*Id.* at 6.) This far exceeds the SCAQMD's significance threshold of 10 per million. (*Id.* at 6-7.) SWAPE thus concluded that "this results in a potentially significant impact not previously addressed or identified in the IS/MND," and "an EIR should be prepared to include a comprehensive HRA that properly evaluates impacts from construction." (*Id.* at 7.)

**C. The MND failed to adequately assess the Project's impacts on greenhouse gas emissions.**

The MND estimates that the Project will produce net annual GHG emissions of 2,181 metric tons of carbon dioxide equivalents per year. (*Id.*) However, because the MND's CalEEMod output files did not provide the emission estimates or any relevant inputs aside from land uses, SWAPE was unable to verify the legitimacy of the GHG emission estimates the MND provides. (*Id.*) As a result, the Project's GHG emissions could be underestimated. (*Id.*) SWAPE concludes that "until an EIR is prepared to include complete CalEEMod output files we cannot ensure the Project's GHG emissions are accurately calculated and the IS/MND's GHG analysis should not be relied upon . . ." (*Id.*) 7 cont

**D. The MND does not include all feasible mitigation measures to address the Project's air quality impacts.**

Because the Project would result in significant health risks to individuals in the community around the Project site, "the IS/MND must include all feasible mitigation to address the Project's potential air quality and health risks." (Ex. C at 7; Guidelines § 15096(g)(2).) SWAPE offers various mitigation measures that the City could evaluate to reduce the DPM emissions from Project construction. Such measures include, among other things, minimization of unnecessary vehicular and machinery, utilization of clean fuel generators and existing power sources, use of alternative fuel and electric equipment, and required implementation of Tier 4 equipment or better for all engines above 50 horsepower. (Ex. C at 8-9.) These measures would effectively reduce Project-related DPM emissions by integrating lower-emitting design features into the Project, in turn minimizing emissions during construction. (*Id.* at 9.) SWAPE concludes that "an EIR should be prepared to include all feasible mitigation measures. . ." (*Id.*)

**IV. There is a fair argument that the Project may have significant adverse impacts on indoor air quality.**

Certified industrial hygienist, Francis Offermann, P.E., C.I.H., has reviewed the Project, the Director's Determination, and other documents regarding the Project's indoor air emissions. These documents provide no analysis of the Project's indoor air quality impacts. Mr. Offermann concludes that the Project will expose its future residents to significant health impacts related to indoor air quality, particularly emissions of the cancer-causing chemical formaldehyde. Mr. Offermann is a leading expert on indoor air quality and has published extensively on the topic.

Mr. Offermann explains that many composite wood products used in building materials commonly found in residences contain formaldehyde-based glues which release formaldehyde gas over a very long period of time. 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, office, and retail building construction for flooring, cabinetry, baseboards, window shades, interior doors, and window and door trims." (Ex. D at 2-3.)

Formaldehyde is a known human carcinogen, classified by the State as a Toxic Air Contaminant. The SCAQMD has established a CEQA significance threshold for airborne cancer risk of 10 per million. Mr. Offermann found that future Project occupants may be exposed to a cancer risk from formaldehyde emissions of about 120 per million for residents, and 17.7 per million for commercial employees, even assuming that all materials comply with the California Air Resources Board's ("CARB") formaldehyde airborne toxics control measure. (*Id.* at 4-5.) This exceeds the SCAQMD's CEQA significance threshold for airborne cancer risk. (*Id.* at 2.) 7 cont

Mr. Offermann concludes that the Project will have significant environmental impacts that must be analyzed in an EIR or MND and mitigation measures must be imposed to reduce the raised cancer risk. (*Id.* at 12-13.) Mr. Offermann prescribes a methodology for estimating the Project's formaldehyde emissions for a more project-specific health risk assessment. (*Id.* at 6-10.) He also identifies feasible several mitigation measures to decrease the significant health risks, like installing air ventilation systems and requiring the use of composite wood materials only for all interior finish systems that are made with CARB-approved no-added formaldehyde ("NAF") resins or ultra-low emitting formaldehyde ("ULEF") resins. (*Id.* at 12-14.)

When a project exceeds a duly adopted CEQA significance threshold, as here, this alone establishes substantial evidence that the project will have a significant adverse environmental impact. 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 Air District'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, 110-11 ["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 has shown the importance an air district significance threshold has 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 [estimated emissions in excess of air district's significance thresholds "constitute substantial evidence supporting a fair argument for a significant adverse impact"].) Since expert evidence shows the Project will exceed the SCAQMD's CEQA significance threshold, there is substantial evidence that an "unstudied, potentially significant environmental effect[]" exists. (*See Friends of Coll. of San Mateo Gardens v. San Mateo Cty. Cmty. Coll. Dist.* (2016) 1 Cal.5th 937, 958.)

The City's failure to address the Project's formaldehyde emissions is contrary to the California Supreme Court's decision in *California Building Industry Ass'n v. Bay Area Air Quality Mgmt. Dist.* (2015) 62 Cal.4th 369, 386 ("*CBIA*"). The Court held in *CBIA* that CEQA does not generally require lead agencies to analyze the impacts of adjacent environmental conditions on a project. (*Id.* at 800-01.) However, to the extent that a project may exacerbate existing environmental conditions at or near a project site, those effects would still have to be considered pursuant to CEQA. (*Id.* at 801 ["CEQA calls upon an agency to evaluate existing conditions in order to assess whether a project could exacerbate hazards that are already present"].) In so holding, the Court expressly held that CEQA's statutory language requires lead agencies to disclose and analyze "impacts on a project's users or residents that arise from the project's effects on the environment." (*Id.* at 800.)

7 cont

The carcinogenic formaldehyde emissions Mr. Offermann has identified are not an existing environmental condition. Those emissions will be from the Project. Residential tenants will be the Project's users. Currently, there is presumably little to no formaldehyde emissions at the site. Once built, the Project will start emitting formaldehyde at levels posing significant direct and cumulative health risks to the Project's users. The California Supreme Court in *CBIA* expressly found that this air emission and health impact from the Project on the environment and a "project's users and residents" must be addressed under CEQA.

The California Supreme Court's reasoning is well-grounded in CEQA's statutory language. CEQA expressly includes a project's effects on human beings as an effect on the environment that must be addressed in an environmental review. "Section 21083(b)(3)'s express language, for example, requires a finding of a 'significant effect on the environment' (§ 21083(b)) whenever the 'environmental effects of a project will cause substantial adverse effects *on human beings*, either directly or indirectly.'" (*CBIA*, 62 Cal.4th at 800 [emphasis in original].) Likewise, "the Legislature has made clear—in declarations accompanying CEQA's enactment—that public health and safety are of great importance in the statutory scheme." (*Id.*, citing e.g., §§ 21000, subds. (b), (c), (d), (g), 21001, subds. (b), (d).) It goes without saying that the Project's future residents and commercial employees are human beings, and their health and safety must be subjected to CEQA's safeguards.

The City has a duty to investigate issues relating to a project's potential environmental impacts. (*See County Sanitation Dist. No. 2 v. County of Kern*, (2005) 127 Cal.App.4th 1544, 1597–98. ["[U]nder CEQA, the lead agency bears a burden to investigate potential

environmental impacts."].) The Project will have significant effects on indoor air quality and health risks by emitting formaldehyde that will expose future residents and commercial employees to cancer risks exceeding SCAQMD's significance threshold for cancer risk of 10 per million. In light of this impact and the City's lack of any evidence to the contrary, the City must prepare an EIR before approving the Project to analyze and mitigate these impacts. 7 cont

**CONCLUSION**

As discussed above, there is a fair argument that the Project may have significant adverse impacts on biological resources, noise, air quality, and indoor air quality. An EIR is therefore required to analyze and mitigate the Project's potentially significant effects. Thus, SAFER respectfully requests that the City not rely on the MND and instead prepare and circulate an EIR before further consideration of the Project. 8

Sincerely,

Hayley Uno
LOZEAU DRURY LLP

## Response to Comment Letter 2

**Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility ("SAFER")**
**December 19, 2024**

**Response 2.1:** This comment states the letter is submitted by Lozeau Drury LLP on behalf of Supporters Alliance for Environmental Responsibility ("SAFER") and provides a brief summary of the Project and is acknowledged. The comment is noted for the record and will be forwarded to the decision-makers.

**Response 2.2:** This comment states there is a fair argument the Project may result in significant impacts related to biological resources, noise, air quality, and indoor air quality. The commenter requests that an Environmental Impact Report (EIR) be prepared to analyze and mitigate these impacts under the California Environmental Quality Act (CEQA).

The commenter is referred to the entirety of the IS/MND and its appendices, which provides a full analysis of the Project including a detailed description of the Project's elements and an evaluation of both construction and operation activity on- and off-site, as applicable. Section 3.0, Environmental Checklist Form, of the IS/MND evaluates impacts associated with 20 environmental resources and includes analysis of mandatory findings of significance, consistent with Appendix G of the State CEQA Guidelines (2024). The IS/MND also identifies multiple mitigation measures related to Cultural Resources, Hazards and Hazardous Materials, Noise and Vibration, Transportation, Tribal Cultural Resources, and Utilities and Service Systems, which are required to reduce potential impacts to less than significant levels. The Project's IS/MND was prepared consistent with CEQA (*California Public Resources Code*, Section 21000 et. seq.) and the State CEQA Guidelines (*California Code of Regulations*, Title 14, Section 15000 et. seq.) The IS/MND adequately addresses the potential environmental impacts associated with Project implementation. Specifically, in accordance with Section 15063(a)(3) of the State CEQA Guidelines, the environmental analysis and all conclusions presented in the IS/MND relied upon facts, expert opinion supported by facts, technical studies, and other substantial evidence to support the determination that, with implementation of identified mitigation measures, the Project would not have a significant impact on the environment.

An EIR is not required for the Project because (1) all potentially significant impacts would be mitigated to a less than significant level and (2) the commenter does not provide any substantial evidence supporting the numerous and varied assertions regarding the adequacy and accuracy of the IS/MND analysis presented in the remainder of the comment letter and attached exhibits. Section 15384 of the State CEQA Guidelines states, in part, that substantial evidence "means enough relevant information and reasonable inferences from this information that a fair argument can be made to support a conclusion, even though other conclusions might also be reached".

The commenter's assertions are based on evidence that is inaccurate and/or irrelevant, which results in unreasonable inferences from the information utilized. As such, the commenter has not provided substantial evidence for the record and as such does meet the fair argument standard pursuant to CEQA and the CEQA Guidelines to legally assert that the Project would result in significant adverse environmental impacts.

The comment stating that SAFER's review of the IS/MND was assisted by Shawn Smallwood, Phd.; Wilson Ihrig; Soil/Water/Air Protection Enterprises (SWAPE); and Francis Offermann, PE, CIH (of Indoor Environmental Engineering [IEE]) is acknowledged.

No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

**Response 2.3:** This comment provides a summary of the Project and is acknowledged. The comment is noted for the record and will be forwarded to the decision-makers for review. No further response is required.

**Response 2.4:** This comment provides a discussion of CEQA case law decisions related to legal standard for negative declarations and is acknowledged. The comment is noted for the record and will be forwarded to the decision-makers. No further response is required.

**Response 2.5:** This comment states that generally the IS/MND's methodology for and analysis of impacts to biological resources is insufficient and not supported by substantial evidence. The comment states the IS/MND failed to accurately characterize the wildlife community on the Project site, including the presence of "at least six special-status species". A predicted number of vertebrate species and special status species present on site as well as annual bird deaths from window collisions and vertebrate wildlife fatalities from vehicle collisions are purported; however, there are no methodologies provided for these calculations, so the validity of these claims is not verifiable. It is noted that the calculation of predicted vehicle collisions is based on the IS/MND estimating over 1.3 million annual employee VMTs; however, this is categorically inaccurate, not least because this Project would be predominantly residential. It is also noted that the commentary of Dr. Smallwood is limited to and focused on vertebrate wildlife and does not address the many other issues relevant to the topic of biological resources.

The comment asserts the Project would result in significant impacts to biological resources due to interference with aerial (i.e., not ground level) wildlife movement, bird-window collision mortality, traffic mortality, and cumulative impacts. The analysis of mortality of vertebrate wildlife due to bird-window and traffic collisions is not specified nor required by the State CEQA Guidelines or the California Fish and Game Code to be considered the Biological Resources section of Appendix G of the CEQA Guidelines. Similarly, wildlife movement through airspace is irrelevant to the analysis of biological resources pursuant to the State CEQA Guidelines or the California Fish and Game Code.

The comment states the IS/MND's mitigation measures are insufficient to reduce significant biological resources impacts, specifically citing "Mitigation Measure RR BIO-3" and characterizing this as the deferred development of landscape plans. In no location in the IS/MND are regulatory requirements or RRs written as or referred to as "Mitigation Measure RR" nor in any way could it be implied these are mitigation measures. As stated repeatedly in the IS/MND, there would be no significant impacts to biological resources and no mitigation measures are required. The abbreviation "RR" stands for regulatory requirements, which is both defined on page 1-1 of the IS/MND and is the text of the sub-header immediately preceding the list of applicable RRs in every topical analysis section of the IS/MND. As stated on page 1-1, "RRs are based on local, State, and/or federal regulations or laws that are **required independent of CEQA review** [emphasis added], yet also serve to offset or prevent certain impacts". Because the referenced requirement of the Project is not a mitigation measure, the remainder of the comment regarding the sufficiency of said requirement is immaterial, and further response is not necessary.

These opinions of biological resources impacts are interesting in that development of this same project on a greenfield site or even an urban location with half the density of Arcadia would have vastly greater potential for significant biological resources impacts under CEQA, the State CEQA Guidelines, the California Fish and Game Code, and possibly other regulations. An urban infill redevelopment project on a site that is completely developed, almost devoid of pervious surfaces,

with only sparse and ornamental vegetation, and adjoining two of the main thoroughfares through the City of Arcadia is a setting that inherently serves to minimize biological resources impacts.

Section 3.4, Biological Resources, of the IS/MND includes a full analysis of the Project's potential impacts to biological resources, including wildlife species and wildlife movement, and concludes there would be less than significant impacts and no mitigation was required (see pages 3-28 through 3-31 of the IS/MND). Section 3.21, Mandatory Findings of Significance, of the IS/MND addresses cumulative impacts under Threshold 3.21(b) and concludes there would be less than significant impacts and no mitigation was required (see page 3-114 of the IS/MND). The IS/MND thoroughly reviewed and discussed the potential biological resources impacts from construction and operation of the Project based on established best practices for such analyses. This includes, but is not limited to, accepted definitions of special-status species and wildlife corridors in the context of CEQA assessment; use of the checklist questions provided in Appendix G of the State CEQA Guidelines; and consideration of the purpose and intent of environmental review pursuant to CEQA. As part of an academic exercise, an expansive array of definitions, methodologies, and impacts can be asserted as fact and evidence without the functional and legal parameters provided by the CEQA statute and CEQA Guidelines, and relevant case law, which are necessary to facilitate a consistent, equitable, reasonable, and meaningful analysis of any of the 20 environmental topics addressed pursuant to CEQA.

No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

**Response 2.6:** This comment states there is a fair argument that the Project may result in significant adverse noise and vibration impacts. It is noted that, apart from this statement, no supplementary comments regarding the vibration analysis in the IS/MND are provided. The comment states the IS/MND relies on an inadequately established noise baseline; that construction noise impacts will be significant; and that the operational noise analysis is incomplete.

The comment states "she [Ms. Toncheva] found that the MND's ambient noise measurements were taken at the Project boundaries rather than at sensitive receptors…"; and "Moreover, the noise measurements close to the Santa Clara residences were dominated by HVAC noise directly next to the Project site". This is correct. As discussed on page 3-71 of the IS/MND, 20-minute measurements were taken along each of the Project site boundaries (north, south, east, west). Ambient noise levels are primarily influenced by vehicle traffic on the eastern and southern Project site boundaries, the Heating Ventilation and Air Conditioning (HVAC) unit at the Mercedes Benz dealership on the western site boundary, and pressure washer use and the HVAC unit at the dealership on the northern site boundary. Given that Santa Clara Street is generally to the west of the Project site, albeit hundreds of feet away, and is equally proximate to the dealership building, it makes sense the ambient noise environment is also dominated by the HVAC unit, though this was not stated in Table 20 of the IS/MND; Table 20 explicitly states the location is "Western Project Boundary". Regardless, this is not germane to the determination of on-site ambient noise levels.

CEQA requires a disclosure of potential project-related impacts on the environment due to the change in existing conditions at the site of a proposed action. Therefore, the Project site itself is the appropriate location to measure baseline noise levels and is the industry standard practice. Off-site noise levels are then calculated based on the distance from noise source to off-site receptor, which is the industry standard practice. Short-term, on-site measurements were selected because they provide the magnitude of noise under existing conditions experienced at the Project site and this methodology is the industry standard practice for most projects. Long-term measurements (24-hour) would be useful for projects that have substantial effects on a 24-

hour basis or to assess how existing ambient noise levels would affect the Project site. Since CEQA does not require analyses of potential impacts from the environment onto a project, 24-hour noise measurements were not necessary for this Project to prepare a legally adequate analysis of noise pursuant to CEQA and the State CEQA Guidelines.

Regarding statements regarding ambient measurements not capturing noise level fluctuations over the day, adjustment of noise with distance from the source, and that measurements must be near sensitive receptors to capture baseline levels during quiet periods of day and night, it is a fact that ambient noise levels vary depending on the time of day, location of the measurement, and day of the year. It is neither feasible nor necessary to capture noise levels over extended periods to adequately analyze noise impacts pursuant to CEQA.

Regarding sensitive receptor proximity, it is a statement of fact that "no sensitive receptors occur near the Project construction site…" (page 3-78 of the IS/MND). The nearest noise-sensitive receptors–which in this case are residences–are located at least 280 feet to the southeast and 410 feet to the northwest. Therefore, since the noise-sensitive receptors are hundreds of feet away, they would not be considered located "near", even without considering the presence of intervening structures and roadways with related traffic activity typical of a dense urban environment that act to attenuate and generate noise, respectively. As stated on page 3-78, "The degree to which noise-sensitive receptors are affected by construction activities depends heavily on their proximity".

The estimated construction noise levels at the nearest residential locations (280 feet and 410 feet) purported by the commenter are fundamentally inaccurate and inapplicable for several reasons. First, while the commenter's methodology to calculate these noise levels is appropriately based on the inverse square law[1]–same as the IS/MND– the calculations are not based on the source noise level on the Project site. These calculations use the noise level calculated for receptors at the edge of Arcadia County Park at a distance of 95 feet per Table 25 in the IS/MND. This is a non-linear noise propagation that does not follow the inverse square law arithmetically. Further, in Table 25, the maximum noise level of 98 dBA $L_{eq}$ (equivalent noise level in A-weight decibels) at the Elks Lodge at 10 feet from the noise source attenuates to 78 dBA $L_{eq}$ at 95 feet, or a 20 dBA $L_{eq}$ reduction. In this context, construction noise levels of 69 dBA $L_{eq}$ at 280 feet and 65 dBA $L_{eq}$ at 410 feet are clearly illogical.

The commenter also neglects to mention their calculations are derived from the estimated maximum construction noise levels. Both maximum and average noise levels are presented in Table 25 and discussed in the IS/MND analysis. In reality, the construction noise levels will vary between these ranges that in themselves are worst-case levels. Most notably because noise attenuation under the inverse square law is based on free field conditions, a free field is a region where the acoustic waves can propagate free from obstructions that would otherwise interfere with the sound path. The Project site environment is not a free field in any direction, even more so in the areas between the site and the nearest noise-sensitive receptors. Also, these noise levels are the worst-case scenario in that they represent the outdoor conditions at the given distance. As such, the experienced noise levels would be lower than estimated at any location and even lower within any structures, including commercial structures and homes.

The commenter states the MND fails to establish construction noise criteria. The comments correctly state that the IS/MND references the "noise limits of the City of Arcadia Noise Ordinance" and then asserts the "adjustment to noise limits for impulsive sounds…§5610.3(b)" was omitted. The commenter asserts their predicted noise levels at the Santa Anita residences would exceed

[1] The inverse square law controls the propagation of noise waves in a free field wherein the doubling of distance from a noise source reduces the resulting noise level by six decibels.

the “Ordinance limit”. It is assumed this refers to Section 4610.3 “Noise Limits” of the Arcadia Municipal Code (AMC).

The City, as lead agency, determines which significance thresholds are used in CEQA analyses. The City has adopted ordinances or standards within its municipal code and uses these as the basis for noise impact analyses, where applicable. Sections 4261 through 4265 of the AMC relate to construction activity and Section 4610 through 4630.2 of the AMC relate to operation and maintenance of land uses. All applicable sections of the AMC pertaining to noise are presented in the IS/MND. Section 4310.3(b) is not presented because it is not applicable; operation of the proposed land uses would not involve generation of impulsive sounds as defined in Section 4610.1(f) of the AMC. Similarly, exceedance of the noise limits specified in Section 4310 due to construction-generated noise levels is not applicable. The commenter states the IS/MND lacks a significance threshold for generation of substantial temporary or permanent increase in ambient noise levels. However, on page 3-79 of the IS/MND the applicable standards for assessing construction noise are clearly stated. For reasons discussed above, the commenter’s predicted construction noise levels, and by extension conflating these levels to a finding regarding a substantial noise level increase – are wholly inaccurate and illogical. As there are no significant construction noise impacts, no mitigation is required.

It is noted most municipalities in California do not have numeric construction noise level limits nor a definition of “substantial” ambient noise level increase and those that do recognize that construction activity will generate higher noise levels than would be acceptable from operation of permanent land uses. Just as operation of a lawn mower, leaf blower, or a circular saw would generate noise levels above the ambient noise level, the Project’s construction activities would likewise increase noise levels above the ambient. The City is aware that construction tools and activities generate noise. As such, the City is focused on limiting noise from these activities to the least noise sensitive portions of the day. For the purpose of providing a construction noise analysis per CEQA, the comparison of construction noise against ambient noise levels is not useful because it will almost always be higher than the ambient. This approach would lead to all projects large and small that involve construction vehicles or power tools in developed areas to have to prepare an EIR. As such, comparison of project construction noise levels solely to ambient noise levels does not provide a useful analysis of potential noise nuisance associated with construction activities.

The commenter states the IS/MND “claims, without evidence, that the Project will have no operational noise impact, and goes on to assert the HVAC system was inadequately addressed and the proposed parking garage’s entrance and ventilation system must be addressed as potential noise sources. On the contrary, page 3-79 of the IS/MND states the Project would have a less than significant impact related to noise generated by on-site sources. Under CEQA, no impact and a less than significant impact are distinct findings. Regarding on-site stationary source noise, the analysis clearly provides actionable performance standards in Sections 4310.3(c) and 4630.2 of the AMC. The IS/MND properly used the City’s codified noise limit as the basis for the stationary source impact finding. As such, the conclusion that on-site stationary noise sources, including those not expressly discussed such as parking garage-related sounds, would be less than significant is based on substantial evidence and this analysis is therefore complete.

Section 3.13, Noise, of the IS/MND includes a full analysis of the Project’s potential impacts to noise and vibration during construction and operation both on- and off-sit, as applicable and concludes there would be less than significant impacts with implementation of mitigation MM NOI-1, related to vibration. No significant impacts related to noise are identified and no mitigation is required (see pages 3-70 through 3-85 of the IS/MND). The IS/MND thoroughly and logically reviewed and discussed the potential noise impacts from construction and operation of the Project based on established best practices for such analyses in the context of CEQA assessment. No

changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

**Response 2.7:** This comment states there is a fair argument that the Project may result in significant adverse air quality and greenhouse gas (GHG) emissions impacts. The comment states the IS/MND relies on inadequate air quality and GHG emissions analyses, the Project may result in significant air pollutant health risks not adequately addressed in the IS/MND, and the IS/MND does not include all feasible air quality mitigation measures.

Though not disclosed in commenter's remarks, the close of the comments from SWAPE, provided in Exhibit C to commenter's letter, provides perhaps the most relevant observation regarding the comments provided on the IS/MND's air quality and GHG emissions analyses [emphasis added]:

> "**Disclaimer**
>
> SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties."

It is noted this disclaimer is consistently provided in SWAPE's comment letters. The commenter is correct in that CalEEMod provides default model inputs that are used across the industry and that it could be changed if more accurate or project-specific information is available. The default model inputs were developed based on a set of information that may or may not be representative of any given project. As such, the SCAQMD allows users to modify these computer model inputs if there is better available data that is more representative of any given project.

Accordingly, the air quality and GHG emissions modeling prepared for the Project were based on detailed, Project-specific information derived through a specialized data needs form and extensive coordination with the Applicant. CalEEMod inputs were changed where appropriate and warranted, as is typical to ensure an accurate result and is industry standard practice.

Commenter states that "SWAPE found that the MND and its air quality technical reports in Appendix A [of the IS/MND] failed to provide complete CalEEMod output files. Its files included land use inputs but omitted all other qualitative [sic] outputs regarding the Project's construction and operational emissions, and they also omitted details on changes to the model's default values.

Upon review of the Appendix A files, pursuant to this comment, Psomas discovered that there were some sections of the .PDF output by CalEEMod that did not populate with the modeled data used in the IS/MND for the proposed conditions; however, all data was populated in the output files for the existing conditions. Other than a software glitch, Psomas cannot define why these values did not populate in the output file and it had never been observed prior to or since this

event. Specifically, the following sections of the CalEEMod .PDF output for the proposed conditions were not populated:

- Section 2-Emissions Summary
- Section 3-Construction Emissions Details
- Section 4-Operations Emissions Details
- Section 5-Activity Data
- Section 8-User Changes to Default Data

Nevertheless, all relevant inputs and all quantitative outputs were provided in the body of the IS/MND. Specifically, the quantitative "outputs regarding the Project's construction and operational emissions" (e.g., Sections 2 through 4) were provided in Table 8, Estimated Maximum Daily Regional Construction Emissions, on page 3-23 of the IS/MND; Table 9, Existing Daily Operational Emissions, on page 3-24; Table 10, Peak Daily Net Operational Emissions, on page 3-25; Table 13, Energy Use During Construction, on page 3-38; Table 14, Energy Use During Operations, on page 3-38; Table 15, Estimated Annual Greenhouse Gas Emissions From Construction, on page 3-49; Table 16, Estimated Annual Greenhouse Gas Emissions From Existing Use, on page 3-50; Table 17, Estimated Annual Greenhouse Gas Emissions From Project Operation, on page 3-50; and Table 18, Estimated Total Annual Greenhouse Gas Emissions, on page 3-51. Project-specific inputs, including gross and net values where applicable, are provided throughout Section 2.0, Environmental Setting and Project Description, and in the text of Section 3.3, Air Quality; Section 3.6, Energy; Section 3.8, Greenhouse Gas Emissions; Section 3.10, Hydrology and Water Quality; and Section 3.19, Utilities and Service Systems, among others.

Commenter states "without access to this data, SWAPE was unable to verify the potential significance and accuracy of the MND air quality modeling". "SWAPE concluded that "[a]n EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines". The implication that, absent the commenter's verification, the IS/MND's air quality and GHG emissions analyses are necessarily inaccurate is without merit implicitly as well as unsubstantiated, as discussed further below. The sole reason an EIR is required under CEQA is when a project will have a significant, adverse environmental impact that cannot be feasibly mitigated to below a level of significance. Ergo, disclosure of the "complete CalEEMod output files" is irrelevant to the determination of appropriate CEQA documentation. Additionally, provision of the CalEEMod outputs is not required under CEQA or the State CEQA Guidelines–it is assumed this is what is meant by "CEQA's formal guidelines"–it is simply the industry standard practice.

As noted, Appendix A, Air Quality and Greenhouse Gas Emissions Calculations, of the IS/MND dated November 2024 contained the output files for (1) the existing land uses and operations on the site, and (2) the proposed Project's construction and operational air quality and GHG emissions. The output file for the proposed conditions was downloaded from CalEEMod on August 4, 2023. The corresponding .JSON[2] output file that was created in August 2023; and used to quantify the emissions presented in the IS/MND; was uploaded into CalEEMod on January 6, 2025, to generate the resulting .PDF output files. This .PDF has been included as Appendix B of this Response to Comments Memorandum.

It is noted that the Project's emissions were originally quantified with CalEEMod Version 2022.1.1.13 and the current software is CalEEMod Version 2022.1.1.29; as such, several updates to CalEEMod have been made since preparation of the air quality and GHG emissions analysis.

[2] CalEEMod files are output in both .PDF and .JSON (JavaScript Object Notation) formats; the .JSON file is what is used during preparation of technical analyses of air quality and GHG emissions, as well as energy.

Therefore, the resulting output values include a small number of changes to the values originally presented in the IS/MND; however, the differences are nominal in magnitude and do not represent a new or more significant impact related to air quality or GHG emissions than disclosed in the IS/MND. Additionally, the changes in values are solely the result of periodic updates to the software and are not related to the accuracy of the analysis or veracity of the resulting conclusions in the IS/MND. Presented beginning on the next page are side-by-side comparisons of the values presented in several tables presented in the air quality and GHG emissions sections of the IS/MND and the values generated in the current CalEEMod run presented in Appendix B. Green numerals represent decreased values and red numerals represent increased values.

As shown in the comparison of IS/MND Table 8, the mass (regional) construction emissions of volatile organic compounds (VOCs), nitrogen oxides (NOx), and carbon monoxide (CO) are slightly lower, with values ranging from one to five pounds per days (lbs/day) less emissions. All other values are identical. Consistent with the conclusions in the IS/MND, all maximum daily construction emissions would be well below the South Coast Air Quality Management District (SCAQMD) significance thresholds for all criteria air pollutants.

As shown in the comparison of IS/MND Table 10, the peak daily net operational emissions are identical. Consistent with the conclusions in the IS/MND, all net daily operational emissions would be well below the SCAQMD significance thresholds for all criteria air pollutants.

As shown in the comparisons of IS/MND Tables 15, 17, and 18, the construction GHG emissions are slightly higher for construction year 2024 and slightly lower for years 2025 and 2026. On balance, the total construction GHG emissions are 36 metric tons of carbon dioxide equivalent per year ($MTCO_2e$/yr) higher. When amortized, consistent with SCAQMD recommendations, the annual construction GHG emissions are 2 $MTCO_2e$/yr higher. The total and net operational GHG emissions are identical. Therefore, as shown in the comparison of Table 18, the net total annual GHG emissions (i.e., amortized annual construction emissions plus net annual operational emissions) are 2 $MTCO_2e$/yr, or approximately 0.1 percent, higher than presented in the IS/MND. Consistent with the conclusions in the IS/MND, this value would remain below the draft SCAQMD Tier 3 screening threshold (e.g., 3,000 MTCO2e/yr for all land use types).

Similar to the remarks provided above on the air quality analysis, regarding the GHG analysis the commenter states that because the “CalEEMod output files did not provide the emission estimates or any relevant inputs aside from land uses”, commenter is “unable to verify the legitimacy of the GHG emissions estimates” and, as a result, the GHG emissions estimates “could be under estimated”. Commenter states that they cannot ensure the Project’s GHG emissions are accurately calculated and as such the IS/MND’s analysis should not be relied upon. However, as discussed, all assertions made by SWAPE regarding the adjustments made to the default CalEEMod inputs are unsupported. Accordingly, the commenter’s assertion that the IS/MND’s GHG emissions analysis and conclusions cannot be relied upon without their full review is also incorrect and unsupported. As established above, the IS/MND thoroughly reviewed and discussed the potential for GHG emissions from the Project’s construction and operation based on established best practices for such analyses.

## IS/MND TABLE 8
## ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS
## (CALEEMOD VERSION 2022.1.1.13)

| Year[a] | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_x$ | CO | SOx | PM10 | PM2.5 |
| 2024 | 3 | 27 | 23 | <1 | 5 | 2 |
| 2025 | 2 | 13 | 22 | <1 | 3 | 1 |
| 2026 | 23 | 20 | 35 | <1 | 3 | 1 |
| ***Maximum*** | 23 | 27 | 36 | <1 | 5 | 2 |
| ***SCAQMD Thresholds (Table 7)*** | ***75*** | ***100*** | ***550*** | ***150*** | ***150*** | ***55*** |
| **Exceeds SCAQMD Thresholds?** | **No** | **No** | **No** | **No** | **No** | **No** |

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.
[a] When this analysis was conducted, construction of the Project was anticipated to begin in 2024. As vehicle emissions generally improve over time, this analysis remains applicable.
Source: SCAQMD 2019 (thresholds); see Appendix A for CalEEMod model outputs.

## ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS
## (CALEEMOD VERSION 2022.1.1.29)

| Year[a] | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_x$ | CO | SOx | PM10 | PM2.5 |
| 2024 | 2 | 22 | 23 | <1 | 5 | 2 |
| 2025 | 2 | 13 | 22 | <1 | 2 | 1 |
| 2026 | 22 | 19 | 33 | <1 | 3 | 1 |
| ***Maximum*** | 22 | 22 | 33 | <1 | 5 | 2 |
| ***SCAQMD Thresholds (Table 7)*** | ***75*** | ***100*** | ***550*** | ***150*** | ***150*** | ***55*** |
| **Exceeds SCAQMD Thresholds?** | **No** | **No** | **No** | **No** | **No** | **No** |

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.
[a] When this analysis was conducted, construction of the Project was anticipated to begin in 2024. As vehicle emissions generally improve over time, this analysis remains applicable.
Source: SCAQMD 2019 (thresholds); see Appendix A for CalEEMod model outputs.

## IS/MND TABLE 10
## PEAK DAILY NET OPERATIONAL EMISSIONS
## (CALEEMOD VERSION 2022.1.1.13)

| Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | NOx | CO | SOx | PM10 | PM2.5 |
| Mobile sources | 5 | 4 | 43 | <1 | 9 | 2 |
| Area sources | 4 | <1 | <1 | <1 | <1 | <1 |
| Energy sources | <1 | 1 | 1 | <1 | <1 | <1 |
| **Total Operational Emissions*** | **9** | **5** | **44** | **<1** | **10** | **3** |
| **Less: Existing Emissions (Table 9)** | **3** | **1** | **16** | **<1** | **1** | **<1** |
| **Net Increase in Emissions** | **6** | **4** | **28** | **<1** | **9** | **3** |
| ***SCAQMD Significance Thresholds (Table 7)*** | ***55*** | ***55*** | ***550*** | ***150*** | ***150*** | ***55*** |
| **Significant Impact?** | **No** | **No** | **No** | **No** | **No** | **No** |

lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

* Some totals do not add due to rounding.

Source: CalEEMod model data sheets are included in Appendix A.

## PEAK DAILY NET OPERATIONAL EMISSIONS
## (CALEEMOD VERSION 2022.1.1.29)

| Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | NOx | CO | SOx | PM10 | PM2.5 |
| Mobile sources | 5 | 4 | 43 | <1 | 9 | 2 |
| Area sources | 4 | <1 | <1 | <1 | <1 | <1 |
| Energy sources | <1 | 1 | 1 | <1 | <1 | <1 |
| **Total Operational Emissions*** | **9** | **5** | **44** | **<1** | **10** | **3** |
| **Less: Existing Emissions (Table 9)** | **3** | **1** | **16** | **<1** | **1** | **<1** |
| **Net Increase in Emissions** | **6** | **4** | **28** | **<1** | **9** | **3** |
| ***SCAQMD Significance Thresholds (Table 7)*** | ***55*** | ***55*** | ***550*** | ***150*** | ***150*** | ***55*** |
| **Significant Impact?** | **No** | **No** | **No** | **No** | **No** | **No** |

## IS/MND TABLE 15
## ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM CONSTRUCTION (CALEEMOD VERSION 2022.1.1.13)

| Year | Emissions ($MTCO_2e$) |
|---|---|
| 2024 | 631 |
| 2025 | 642 |
| 2026 | 301 |
| **Total** | **1,574** |
| **Annual GHG Emissions*** | **52** |

$MTCO_2e$: metric tons of carbon dioxide equivalent

* Combined total amortized over 30 years

Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

## ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM CONSTRUCTION (CALEEMOD VERSION 2022.1.1.29)

| Year | Emissions ($MTCO_2e$) |
|---|---|
| 2024 | 705 |
| 2025 | 619 |
| 2026 | 286 |
| **Total** | **1,610** |
| **Annual GHG Emissions*** | **54** |

$MTCO_2e$: metric tons of carbon dioxide equivalent

* Combined total amortized over 30 years

Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

## IS/MND TABLE 17
## ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION (CALEEMOD VERSION 2022.1.1.13)

| Source | Emissions ($MTCO_2e$/yr.) |
|---|---|
| Mobile | 1,519 |
| Energy | 528 |
| Water | 51 |
| Waste | 63 |
| Refrigerants | 2 |
| Stationary | 18 |
| **Total** | **2,181** |

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year

Notes:

- Totals may not add due to rounding
- Detailed calculations in Appendix A.

## ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION (CALEEMOD VERSION 2022.1.1.29)

| Source | Emissions ($MTCO_2e$/yr.) |
|---|---|
| Mobile | 1,519 |
| Energy | 528 |
| Water | 51 |
| Waste | 63 |
| Refrigerants | 2 |
| Stationary | 18 |
| **Total** | **2,181** |

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year

Notes:

- Totals may not add due to rounding
- Detailed calculations in Appendix A.

## IS/MND TABLE 18
## ESTIMATED TOTAL ANNUAL GREENHOUSE GAS EMISSIONS
## (CALEEMOD VERSION 2022.1.1.13)

| Source | Emissions $MTCO_2e/yr$ |
|---|---|
| Construction (amortized) (from Table 15) | 52 |
| Operations (from Table 17) | 2,181 |
| Net Reduction: Existing Emissions (from Table 16) | -504 |
| ***Total*** | ***1,729*** |
| $MTCO_2e/yr$: metric tons of carbon dioxide equivalent per year. | |

## ESTIMATED TOTAL ANNUAL GREENHOUSE GAS EMISSIONS
## (CALEEMOD VERSION 2022.1.1.29)

| Source | Emissions $MTCO_2e/yr$ |
|---|---|
| Construction (amortized) (from Table 15) | 54 |
| Operations (from Table 17) | 2,181 |
| Net Reduction: Existing Emissions (from Table 16) | -504 |
| ***Total*** | ***1,731*** |
| $MTCO_2e/yr$: metric tons of carbon dioxide equivalent per year. | |

Commenter states the Project violates CEQA by not connecting the construction-related emissions of diesel particulate matter (DPM) to potential health risks to nearby sensitive receptors through preparation of a health risk "analysis" [sic] (HRA). The comment continues with description of commenter's preparation of an HRA using their own CalEEMod results, which as discussed are incorrect and unsupported. Please refer to the analysis in Section 3.3, Air Quality, of the IS/MND, under Threshold 3.3(c) (page 3-27) that states that there would be relatively few pieces of off-road, heavy-duty diesel equipment in operation, and the total construction period would be relatively short when compared to a 40-year exposure period. This fact, combined with the highly dispersive properties of DPM, the relatively large distance between the Project site and the nearest sensitive land uses, and additional reductions in particulate emissions from newer construction equipment as required by federal and State regulations, construction emissions of TACs would not expose sensitive receptors to substantial emissions of TACs. Impacts were determined to be less than significant, and no mitigation is required.

In summary, there is no evidence to support any of commenter's assertions regarding the IS/MND's air quality and GHG emissions analyses as the evidence provided is unsubstantiated or inaccurate. Section 3.3, Air Quality, and Section 3.8, Greenhouse Gas Emissions, of the IS/MND include a full analysis of the Project's potential impacts to air quality and GHG emissions, respectively, and concluded there would be less than significant impacts and no mitigation was required (see pages 3-9 through 3-28 and pages 3-46 through 3-52 of the IS/MND). No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

**Response 2.8:** This comment states there is a fair argument that the Project may result in significant adverse indoor air quality impacts, specifically cancer risk related to formaldehyde emissions from building materials.

There is no evidence to support the assertion that operation of the Project would expose people to a significant health risk related to indoor air quality from formaldehyde in building materials. Even if the assertions regarding the health risk of future residents and visitors to the Project had merit, this does not represent an impact of the Project on the environment nor an exacerbation of an existing impact and as such is not relevant to the CEQA process. Accordingly, the Project's indoor air quality is not a legitimate environmental impact that is appropriate to address in the IS/MND nor does the Project exacerbate an existing impact. Therefore, these assertions are irrelevant to the CEQA process; and commenter's assertions this represents a new significant environmental impact and must be addressed in an EIR, are unsupported by the requirements of CEQA and the State CEQA Guidelines as well as case law (*Baird v. County of Contra Costa*, 32 Cal.App.4th 1464; *California Building Industry Association v Bay Area Air Quality Management District* [S213478, December 17, 2015]). No changes to the IS/MND are necessary; however, the comment is noted for the administrative record and will be forwarded to the decision-makers.

**Response 2.9:** The remaining portions of the comment letter are noted for the record and will be forwarded to the decision-makers. Exhibits A through D of this comment letter can be found in Appendix A to this Response to Comments Memorandum.

# APPENDIX A

# EXHIBITS A THROUGH D OF COMMENT LETTER 2

# EXHIBIT A

Shawn Smallwood, PhD
3108 Finch Street
Davis, CA 95616

Attn. Edwin Arreola, Senior Planner
City of Arcadia
Development Services Department
240 West Huntington Drive
Arcadia, California 91066

12 December 2024

RE: Arcadia Town Center

Dear Mr. Arreola,

I write to comment on potential impacts to biological resources from the proposed Arcadia Town Center project, which I understand would add a five-story, 440,938 square-foot mixed-use building on 2.27 acres located on the corner of Huntington Dr. and N Santa Anita Ave. in Arcadia, CA. I comment on the analyses of impacts to biological resources in the Initial Study/Mitigated Negative Declaration (IS/MND) (City of Arcadia 2024).

My qualifications for preparing expert comments are the following. I hold a Ph.D. degree in Ecology from University of California at Davis, where I also worked as a post-graduate researcher in the Department of Agronomy and Range Sciences. My research has been on animal density and distribution, habitat selection, wildlife interactions with the anthrosphere, and conservation of rare and endangered species. I authored many papers on these and other topics. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and Raptor Research Foundation, and I've lectured part-time at California State University, Sacramento. I was Associate Editor of wildlife biology's premier scientific journal, The Journal of Wildlife Management, as well as of Biological Conservation, and I was on the Editorial Board of Environmental Management. I have performed wildlife surveys in California for thirty-seven years. My CV is attached.

## SITE VISIT

On my behalf, Noriko Smallwood, a wildlife biologist with a Master's Degree from California State University Los Angeles, visited the site of the proposed project for 2.8 hours from 06:47 to 09:35 hours on 6 December 2024. She walked the site's perimeter, stopping to scan for wildlife with use of binoculars. Noriko recorded all species of vertebrate wildlife she detected, including those whose members flew over the site or were seen nearby, off the site. Animals of uncertain species identity were either omitted or, if possible, recorded to the Genus or higher taxonomic level.

Conditions were sunny with 3 MPH northeast wind and temperatures of 52-63° F. The site contains unoccupied office and commercial buildings and a parking lot, with multiple ornamental trees and shrubs (Photos 1-3).

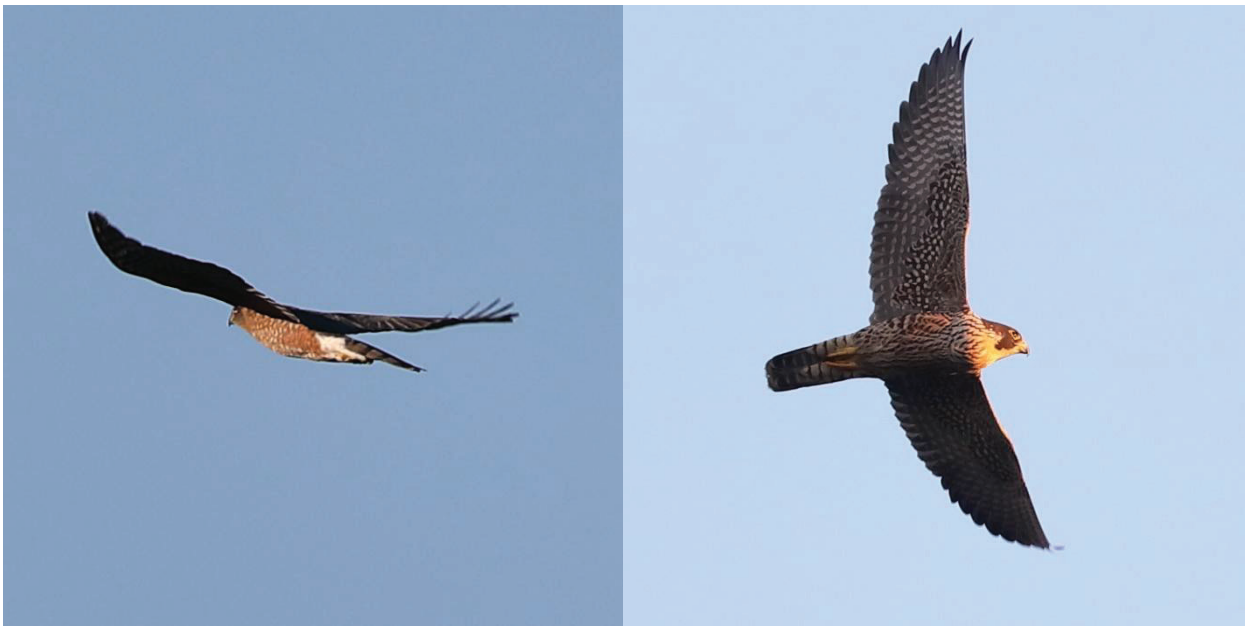


***Photos 1 and 2.*** *Views of the project site, 6 December 2024. Photos by Noriko Smallwood.*

Noriko saw Cooper's hawk and peregrine falcon (Photos 3 and 4), Anna's hummingbird (Photos 5 and 12), house finch and red-crowned parrot (Photos 6 and 7), American crow and black phoebe (Photos 8 and 9), acorn woodpecker (Photo 10), Allen's hummingbird (Photo 11), western bluebird and yellow-rumped warbler (Photos 13 and 14), northern rough-winged swallow and California gull (Photos 15 and 16), mourning dove and band-tailed pigeon (Photos 17 and 18), northern mockingbird (Photos 19 and 20), eastern fox squirrel (Photo 21), among the other species listed in Table 1. Noriko detected 25 species of vertebrate wildlife at or adjacent to the project site, including six species with special status (Table 1).

Noriko Smallwood certifies that the foregoing and following survey results are true and accurately reported.

Noriko Smallwood



***Photos 3 and 4.*** *Cooper's hawk (left), and peregrine falcon (right) flying over the project site, 6 December 2024. Photos by Noriko Smallwood.*

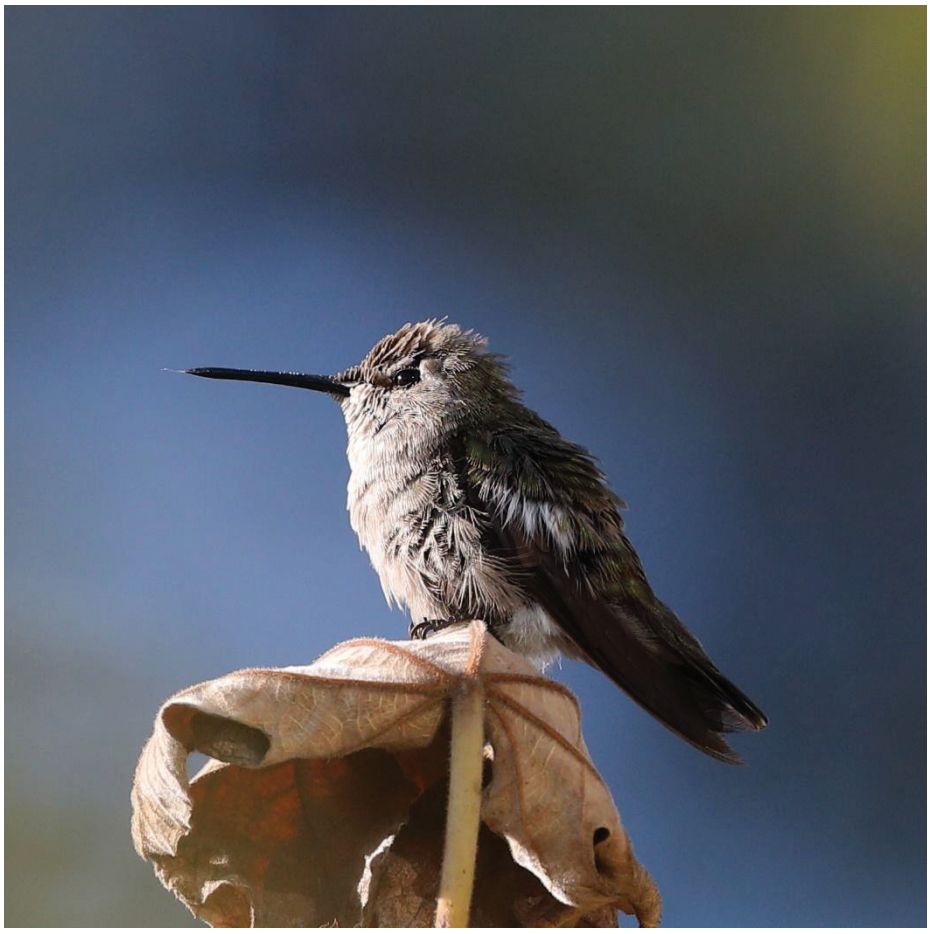


***Photo 5.*** *Anna's hummingbird on the project site, 6 December 2024. Photo by Noriko Smallwood.*



***Photos 6 and 7.*** *House finch (left) and red-crowned parrot (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*



***Photos 8 and 9.*** *American crow with a piece of bread (left), and black phoebe (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*



***Photo 10.*** *Acorn woodpeckers just off of the project site, 6 December 2024. Photos by Noriko Smallwood.*



***Photos 11 and 12.*** *Allen's hummingbird (left), and Anna's hummingbird (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*



***Photos 13 and 14.*** *Western bluebird just off of the project site (left), and yellow-rumped warbler on the project site (right), 6 December 2024. Photos by Noriko Smallwood.*



***Photos 15 and 16.*** *Northern rough-winged swallow (left), and California gull (right) on the project site, 6 December 2024. Photos by Noriko Smallwood.*



***Photos 17 and 18.*** *Mourning dove (left) and band-tailed pigeon (right) flying over the project site, 6 December 2024. Photos by Noriko Smallwood.*



***Photos 19 and 20.*** *Northern mockingbird on the project site, 6 December 2024. Photos by Noriko Smallwood.*



***Photo 21.*** *Eastern fox squirrel just off the project site, 6 December 2024. Photo by Noriko Smallwood.*

***Table 1.*** *Species of wildlife Noriko observed during 2.8 hours of survey on 6 December 2024.*

| **Common name** | ***Species name*** | **Status[1]** | **Notes** |
|---|---|---|---|
| Rock pigeon | *Columba livia* | Non-native | Flew over |
| Band-tailed pigeon | *Patagioenas fasciata* | | Flew over |
| Mourning dove | *Zenaida macroura* | | Flew over |
| Anna's hummingbird | *Calypte anna* | | Territorial; chased NRWS and ALHU |
| Allen's hummingbird | *Selasphorus sasin* | BCC | Perched and flew over |
| California gull | *Larus californicus* | BCC, WL | 3 flew over |
| Cooper's hawk | *Accipiter cooperii* | WL, BOP | Chased BTPI on site |
| Red-tailed hawk | *Buteo jamaicensis* | BOP | Just off site |
| Acorn woodpecker | *Melanerpes formicivorus* | | Collected acorns |
| Nuttall's woodpecker | *Picoides nuttallii* | BCC | Just off site |
| Peregrine falcon | *Falco peregrinus* | BOP | Flew over, perched nearby |
| Red-crowned parrot | *Amazona viridigenalis* | | Many |
| Black phoebe | *Sayornis nigricans* | | Perched, foraged |
| American crow | *Corvus brachyrhynchos* | | Many |
| Common raven | *Corvus corax* | | Flew over |
| Northern rough-winged swallow | *Stelgidopteryx serripennis* | | Foraged, perched on site |

| Common name | *Species name* | Status[1] | Notes |
|---|---|---|---|
| Bushtit | *Psaltriparus minimus* | | Foraged on site |
| Ruby-crowned kinglet | *Regulus calendula* | | Just off site |
| Northern mockingbird | *Mimus polyglottos* | | Perched |
| European starling | *Sturnus vulgaris* | Non-native | Flock flew over |
| Western bluebird | *Sialia mexicana* | | Perched |
| House finch | *Haemorphous mexicanus* | | Perched, socialized |
| Yellow-rumped warbler | *Setophaga coronata* | | Foraged |
| Desert cottontail | *Sylvilagus audubonii* | | Scat |
| Eastern fox squirrel | *Sciurus niger* | Non-native | Just off site |

[1] Listed as BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (California Fish and Game Code 3503.5).

The species of wildlife Noriko detected at the project site comprised only a sampling of the species that were present during her survey. To demonstrate this, I fit a nonlinear regression model to Noriko's cumulative number of vertebrate species detected with time into her survey to predict the number of species that she would have detected with a longer survey or perhaps with additional biologists available to assist her. The model is a logistic growth model which reaches an asymptote that corresponds with the maximum number of vertebrate wildlife species that could have been detected during the survey. In this case, the model fit to her survey predicts 50 species of vertebrate wildlife were available to be detected during that morning, or twice the number of species she actually detected (Figure 1).

Unknown are the identities of those species Noriko missed, but the pattern in her data indicates relatively high use of the project site compared to 38 other south-coast sites she and I have surveyed in California. Noriko's rate of detections of species at the project site tracked the 95% confidence interval estimated from other surveys in California's south coast region (Figure 1). Importantly, however, the species Noriko did and did not detect on 6 December 2024 composed only a fraction of the species that would occur at the project site over the period of a year or longer. This is because many species are seasonal in their occurrence.

At least a year's worth of surveys would be needed to more accurately report the number of vertebrate species that occur at the project site, but I only have Noriko's one survey. However, by use of an analytical bridge, a modeling effort applied to a large, robust data set from a research site can predict the number of vertebrate wildlife species that likely make use of the site over the longer term. As part of my research, I completed a much larger survey effort across 167 km$^2$ of annual grasslands of the Altamont Pass Wind Resource Area, where from 2015 through 2019 I performed 721 1-hour visual-scan surveys, or 721 hours of surveys, at 46 stations. I used binoculars and otherwise the methods were the same as the methods I and other consulting biologists use for surveys at proposed project sites. At each of the 46 survey stations, I tallied new species detected with each sequential survey at that station, and then related the cumulative species detected to the hours (number of surveys, as each survey lasted 1 hour) used to

accumulate my counts of species detected. I used combined quadratic and simplex methods of estimation in Statistica to estimate least-squares, best-fit nonlinear models of the number of cumulative species detected regressed on hours of survey (number of surveys) at the station: $\hat{R} = \frac{1}{1/a+b\times(Hours)^c}$, where $\hat{R}$ represented cumulative species richness detected. The coefficients of determination, $r^2$, of the models ranged 0.88 to 1.00, with a mean of 0.97 (95% CI: 0.96, 0.98); or in other words, the models were excellent fits to the data.

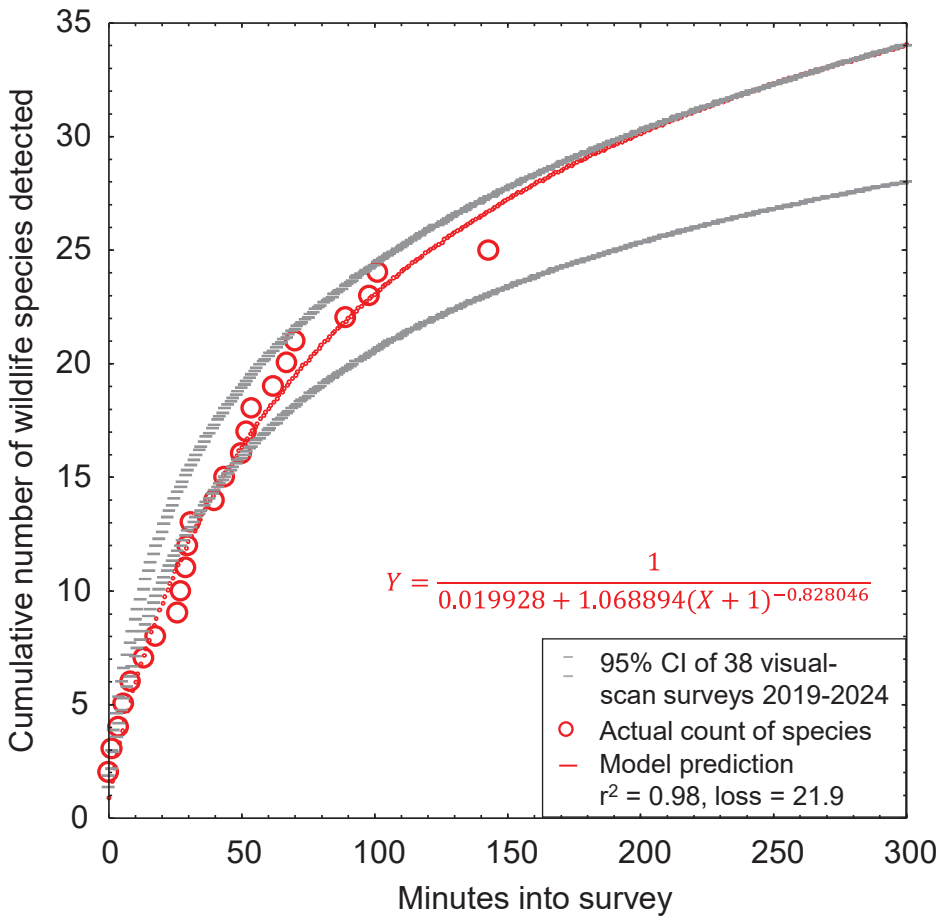



***Figure 1.*** *Actual and predicted relationships between the numbers of vertebrate wildlife species detected and the elapsed survey time based on Noriko's visual-scan surveys on 31 August and 1 September 2024.*

I projected the predictions of each model to thousands of hours to find predicted asymptotes of wildlife species richness. The mean model-predicted asymptote of species richness was 57 after 11,857 hours of visual-scan surveys among the 46 stations of my research site. I also averaged model predictions of species richness at each incremental increase of number of surveys, i.e., number of hours (Figure 2). On average I would have detected 12.1 species over my first 2.8 hours of surveys at my research site in the Altamont Pass (2.8 hours to match the 2.8 hours Noriko surveyed at the project site), which composed 21.2% of the predicted total number of species I would detect with a much larger survey effort at the research site. Given the example illustrated in Figure 2, the 25 species Noriko detected after her 2.8 hours of survey at the project site likely represented 21.2% of the species to be detected after many more visual-scan surveys over another year or longer. With many more repeat surveys through the year, Noriko

would likely detect $^{25}/_{0.212} = 118$ species of vertebrate wildlife at the site. Assuming Noriko's ratio of special-status to non-special-status species was to hold through the detections of all 118 predicted species, then continued surveys would eventually detect 28 special-status species of vertebrate wildlife.

Because my prediction of 118 species of vertebrate wildlife, including 28 special-status species of vertebrate wildlife, is derived from daytime visual-scan surveys, and would detect few nocturnal mammals such as bats, the true number of species composing the wildlife community of the site must be larger. Noriko's reconnaissance survey should serve only as a starting point toward characterization of the site's wildlife community, but it certainly cannot alone inform of the inventory of species that use the site. More surveys are needed to inventory the project site for wildlife. Nevertheless, the large number of species I predict at the project site is indicative of a relatively species-rich wildlife community that warrants a serious survey effort.

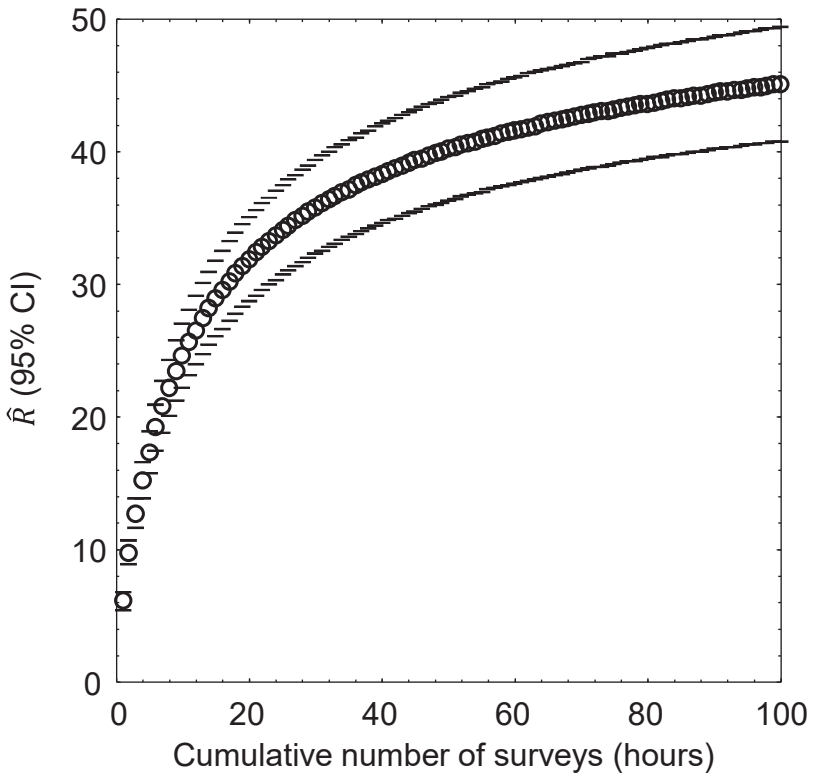



***Figure 2.*** *Mean (95% CI) predicted wildlife species richness, $\hat{R}$, as a nonlinear function of hour-long survey increments across 46 visual-scan survey stations across the Altamont Pass Wind Resource Area, Alameda and Contra Costa Counties, 2015–2019. Note that the location of the study is largely irrelevant to the utility of the graph to the interpretation of survey outcomes at the project site. It is the pattern in the data that is relevant, because the pattern is typical of the pattern seen elsewhere.*

## EXISTING ENVIRNMENTAL SETTING

The IS/MND fails to complete the first step in analysis of potential project impacts to biological resources, which is to accurately characterize the existing environmental setting, including the biological species that use the site. This first analytical step should also characterize the wildlife community that uses that portion of the aerosphere that would be appropriated by the project's building. This appropriated airspace is habitat that would be lost to many species of birds, where avian habitat is defined by a species' use of its environment (Hall et al. 1997), typically based on measurement (Smallwood

2002). The gaseous atmosphere, or aerosphere, is habitat to many species. It is a principal medium of life to volant animals such as birds (Davy et al. 2017, Diehl et al. 2017). The aerosphere is where birds and bats and other volant animals with wings migrate, disperse, forage, perform courtship and where some of them mate. Birds are some of the many types of animals that evolved wings as a morphological adaptation to thrive by moving through the medium of the aerosphere. The aerosphere is habitat not just to volant wildlife that fly through it, but to any and every animal that breaths air. Indeed, an entire discipline of ecology has emerged to study this essential aspect of habitat – the discipline of aeroecology (Kunz et al. 2008). The aerosphere is part of the existing environmental setting, and it needs to be characterized as such in CEQA review. The IS/MND makes no mention of the aerosphere, let alone which species of birds might use it.

To achieve the CEQA's primary objective to disclose potential environmental impacts of a proposed project, the analysis should identify which biological species are known to occur at the proposed project site, which special-status species are likely to occur, and the limitations of the survey effort directed to the site. Analysts need this information to characterize the environmental setting as a basis for opining on, or predicting, potential project impacts to biological resources. However, the IS/MND provides neither the results of a field survey to detect species of wildlife nor of a desktop review to identify occurrence records of special-status species in the project area.

**Environmental Setting informed by Field Surveys**

No surveys for birds were completed at the project site. Surveys are needed to characterize bird flights during both day and night, and the bird flights need to be further attributed by species, heights above ground, flight directions, and specific flight behaviors. The lack of surveys leaves the City of Arcadia blind to any potential project impacts to birds, because without a survey there is no sound basis for characterizing the existing environmental setting. Going forward with the project without completing appropriate avian surveys would be indefensible, and doing so could result in high costs to birds and to the building's owner if windows require retrofits or window glass needs to be marked for visibility post-construction (see below, under Bird-Window Collisions).

The IS/MND reports that the site supports 26 trees, but only three of which are protected by City Code. However, the IS/MND fails to report the importance of the site's trees to birds. The trees on site serve to expand the vertical structural available to birds on the adjoining County Park and golf course, the combination of which composes a considerable open space within an expansive urbanized landscape. The trees on the project site effectively add open space to birds.

Of Noriko Smallwood's 130 observations of birds in flight during her survey, 38 were headed to or from trees on the project site. House finches, yellow-rumped warblers and red-crowned parrots flew to and from the palm trees located in the middle of the site. An Allen's hummingbird and an Anna's hummingbird flew back and forth to other trees in the middle of the site. All of these and more observations should have been made by wildlife biologists sent to the project site by the City of Arcadia.

Noriko saw 17 species flying through the airspace of the project site, and all these flying birds were within the height domain of the proposed building. Of the flying birds, 44% were within 30 feet of the ground, and 93% were within 60 feet of the ground. Three of the birds circled over the site (including the peregrine falcon), while 38 were headed west, 30 east, 35 north, and 21 south. Unknown, however, are the numbers of birds, their heights above ground, behaviors, and their bearings in other seasons or at night. These details matter because they can affect collision rates with the building's windows, and whether the building can be designed to minimize collisions.

**Environmental Setting informed by Desktop Review**

The purpose of literature and database reviews and of consulting with local experts is to inform the field survey, and to augment interpretation of its outcome. Analysts need this information to identify which species are known to have occurred at or near the project site, and to identify which other special-status species could conceivably occur at the site due to geographic range overlap and migration flight paths.

The IS/MND includes no desktop review to assess avian species' occurrence likelihoods in or near the airspace that would be appropriated by the proposed project. The lack of a desktop review for avian flight paths and for special-status species likely to occur at the project site leaves the City of Arcadia uninformed of and unprepared for potential project impacts to birds. It also fails to publicly disclose potential impacts to birds.

In my assessment based on database review, 77 special-status species of birds are known to occur near enough to the project site to warrant analysis of occurrence potential (Table 2). Members of these 77 species can fly within the aerosphere of the project site and would be vulnerable to collision with the building or with loss of energy caused by the need to circumnavigate the building. Of these 77 special-status species, 6 (8%) have been documented on or just next to the project site, 45 (58%) have been documented within 1.5 miles of the site (Very close), 11 (14%) within 1.5 and 4 miles (Nearby), and another 14 (18%) within 4 to 30 miles (In region). Most (80.5%) of the species in Table 2 have been reportedly seen within 4 miles of the project site. It is reasonable to conclude, therefore, that the site's airspace carries considerable potential for supporting the travels of many special-status species of birds based on proximity of recorded occurrences.

***Table 2.*** *Occurrence likelihoods of special-status bird species at or near the proposed project site, according to eBird/iNaturalist records (https://eBird.org, https://www.inaturalist.org) and on-site survey findings, where 'Very close' indicates within 1.5 miles of the site, "nearby" indicates within 1.5 and 4 miles, and "in region" indicates within 4 and 30 miles, and 'in range' means the species' geographic range overlaps the site. Entries in bold font identify species detected by Noriko.*

| **Common name** | ***Species name*** | **Status[1]** | **Data base records, Site visits** |
|---|---|---|---|
| Monarch | *Danaus plexippus* | FC | Very close |
| Crotch's bumble bee | *Bombus crotchii* | CCE | Very close |
| Western pond turtle | *Emys marmorata* | SSC | In region |
| Blainville's horned lizard | *Phrynosoma blainvillii* | SSC | In region |
| Coastal whiptail | *Aspidoscelis tigris stejnegeri* | SSC | Nearby |
| San Diegan legless lizard | *Anniella stebbinsi* | SSC | Very close |
| California glossy snake | *Arizona elegans occidentalis* | SSC | In region |
| Coast patch-nosed snake | *Salvadora hexalepis virgultea* | SSC | In region |
| Fulvous whistling-duck | *Dendrocygna bicolor* | SSC1 | In region |
| Western grebe | *Aechmophorus occidentalis* | BCC | Very close |
| Clark's grebe | *Aechmophorus clarkii* | BCC | Very close |
| Western yellow-billed cuckoo | *Coccyzus americanus occidentalis* | FT, CE | In region |
| Black swift | *Cypseloides niger* | SSC3, BCC | Nearby |
| Vaux's swift | *Chaetura vauxi* | SSC2 | Very close |
| Calliope hummingbird | *Selasphorus calliope* | BCC | Very close |
| Rufous hummingbird | *Selasphorus rufus* | BCC | Very close |
| Allen's hummingbird | *Selasphorus sasin* | BCC | **On site** |
| Laughing gull | *Leucophaeus atricilla* | WL | In region |
| Franklin's gull | *Leucophaeus pipixcan* | BCC | In region |
| Heermann's gull | *Larus heermanni* | BCC | In region |
| Western gull | *Larus occidentalis* | BCC | Very close |
| California gull | *Larus californicus* | BCC, WL | **On site** |
| Double-crested cormorant | *Phalacrocorax auritus* | WL | Very close |
| American white pelican | *Pelacanus erythrorhynchos* | SSC1 | Very close |
| California brown pelican | *Pelecanus occidentalis californicus* | CFP | Nearby |
| Least bittern | *Ixobrychus exilis* | SSC2 | In region |
| White-faced ibis | *Plegadis chihi* | WL | Very close |
| Turkey vulture | *Cathartes aura* | BOP | Very close |
| Osprey | *Pandion haliaetus* | WL, BOP | Very close |
| White-tailed kite | *Elanus luecurus* | CFP, BOP | Very close |
| Golden eagle | *Aquila chrysaetos* | BGEPA, CFP, BOP, WL | Very close |
| Northern harrier | *Circus cyaneus* | BCC, SSC3, BOP | Very close |
| Sharp-shinned hawk | *Accipiter striatus* | WL, BOP | Very close |
| Cooper's hawk | *Accipiter cooperii* | WL, BOP | **On site** |
| Bald eagle | *Haliaeetus leucocephalus* | CE, BGEPA, BOP | Very close |

| Common name | *Species name* | Status[1] | Data base records, Site visits |
|---|---|---|---|
| Red-shouldered hawk | *Buteo lineatus* | BOP | Very close |
| Swainson's hawk | *Buteo swainsoni* | CT, BOP | Very close |
| Red-tailed hawk | *Buteo jamaicensis* | BOP | **Just offsite** |
| Ferruginous hawk | *Buteo regalis* | WL, BOP | Very close |
| Zone-tailed hawk | *Buteo albonotatus* | BOP | Very close |
| Harris' hawk | *Parabuteo unicinctus* | WL, BOP | In region |
| Western screech-owl | *Megascops kennicotti* | BOP | Very close |
| Great horned owl | *Bubo virginianus* | BOP | Very close |
| Burrowing owl | *Athene cunicularia* | BCC, SSC2, BOP, CCE | Nearby |
| Long-eared owl | *Asio otus* | BCC, SSC3, BOP | In region |
| Short-eared owl | *Asia flammeus* | BCC, SSC3, BOP | In region |
| Northern saw-whet owl | *Aegolius acadicus* | BOP | Nearby |
| Northern pygmy-owl | *Glaucidium gnoma* | BOP | Nearby |
| Lewis's woodpecker | *Melanerpes lewis* | BCC | Very close |
| Nuttall's woodpecker | *Picoides nuttallii* | BCC | **Just offsite** |
| American kestrel | *Falco sparverius* | BOP | Very close |
| Merlin | *Falco columbarius* | WL, BOP | Very close |
| Peregrine falcon | *Falco peregrinus* | BOP | **On site** |
| Prairie falcon | *Falco mexicanus* | WL, BOP | Very close |
| Olive-sided flycatcher | *Contopus cooperi* | BCC, SSC2 | Very close |
| Willow flycatcher | *Empidonax trailii* | CE | Very close |
| Southwestern willow flycatcher | *Empidonax traillii extimus* | FE, CE | In region |
| Vermilion flycatcher | *Pyrocephalus rubinus* | SSC2 | Very close |
| Least Bell's vireo | *Vireo bellii pusillus* | FE, CE | Nearby |
| Loggerhead shrike | *Lanius ludovicianus* | SSC2 | Very close |
| Oak titmouse | *Baeolophus inornatus* | BCC | Very close |
| California horned lark | *Eremophila alpestris actia* | WL | Very close |
| Bank swallow | *Riparia riparia* | CT | Nearby |
| Purple martin | *Progne subis* | SSC2 | Nearby |
| Wrentit | *Chamaea fasciata* | BCC | Very close |
| California gnatcatcher | *Polioptila c. californica* | FT, SSC2 | In region |
| California thrasher | *Toxostoma redivivum* | BCC | Very close |
| Cassin's finch | *Haemorhous cassinii* | BCC | Very close |
| Lawrence's goldfinch | *Spinus lawrencei* | BCC | Very close |
| Grasshopper sparrow | *Ammodramus savannarum* | SSC2 | Nearby |
| Black-chinned sparrow | *Spizella atrogularis* | BCC | Nearby |
| Gray-headed junco | *Junco hyemalis caniceps* | WL | Very close |
| Bell's sparrow | *Amphispiza b. belli* | WL | In region |
| Oregon vesper sparrow | *Pooecetes gramineus affinis* | SSC2 | In range |
| Southern California rufous-crowned sparrow | *Aimophila ruficeps canescens* | WL | Very close |

| Common name | *Species name* | Status[1] | Data base records, Site visits |
|---|---|---|---|
| Yellow-breasted chat | *Icteria virens* | SSC3 | Very close |
| Yellow-headed blackbird | *X. xanthocephalus* | SSC3 | Very close |
| Bullock's oriole | *Icterus bullockii* | BCC | Very close |
| Tricolored blackbird | *Agelaius tricolor* | CT, BCC, SSC1 | Very close |
| Lucy's warbler | *Leiothlypis luciae* | SSC3 | Nearby |
| Virginia's warbler | *Leiothlypis virginiae* | WL, BCC | Very close |
| Prothonotary warbler | *Protonotaria citrea* | BCC | In region |
| Prairie warbler | *Setophaga discolor* | BCC | In region |
| Yellow warbler | *Setophaga petechia* | SSC2 | Very close |
| Summer tanager | *Piranga rubra* | SSC1 | Very close |
| Little brown bat | *Myotis lucifugus* | WBWG:M | In region |
| Yuma myotis | *Myotis yumanensis* | WBWG:LM | In region |
| Long-eared myotis | *Myotis evotis* | WBWG:M | In region |
| Fringed myotis | *Myotis thysanodes* | WBWG:H | In range |
| Long-legged myotis | *Myotis volans* | WBWG:H | In range |
| Small-footed myotis | *Myotis ciliolabrum* | WBWG:M | In range |
| Canyon bat | *Parastrellus hesperus* | WBWG:M | Nearby |
| Silver-haired bat | *Lasionycteris noctivagans* | WBWG:M | In region |
| Hoary bat | *Lasiurus cinereus* | WBWG:M | In region |
| Western red bat | *Lasiurus blossevillii* | SSC, WBWG:H | In region |
| Western yellow bat | *Lasiurus xanthinus* | SSC, WBWG:H | In range |
| Spotted bat | *Euderma maculatum* | SSC, WBWG:H | In range |
| Townsend's big-eared bat | *Corynorhinus townsendii* | SSC, WBWG:H | In range |
| Pallid bat | *Antrozous pallidus* | SSC, WBWG:H | In range |
| Western mastiff bat | *Eumops perotis* | SSC, WBWG:H | In region |
| Los Angeles pocket mouse | *Perognathus longimembris brevinasus* | SSC | In range |
| Southern grasshopper mouse | *Onychomys torridus ramona* | SSC | In range |

[1] Listed as FT or FE = federal threatened or endangered, FC = federal candidate for listing, BCC = U.S. Fish and Wildlife Service Bird of Conservation Concern, CT or CE = California threatened or endangered, CCT or CCE = Candidate California threatened or endangered, CFP = California Fully Protected (California Fish and Game Code 3511), SSC = California Species of Special Concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), SSC1, SSC2 and SSC3 = California Bird Species of Special Concern priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), WL = Taxa to Watch List (Shuford and Gardali 2008), and BOP = Birds of Prey (CFG Code 3503.5), and WBWG = Western Bat Working Group with priority rankings, of low (L), moderate (M), and high (H).

Because the project would consist of a mid-rise building with many windows, avian use of the local aerosphere should be of principal concern. Of the available records of tracked birds, 2,585 birds of 117 species have been recorded flying into the Los Angeles Metropolitan area from 18 countries of the Americas, from as far away as Argentina,

Bahamas, and Canada (https://explorer.audubon.org/explore/locations/MYSwLgngvAMg9gZwAQEEB2BzApgGywgbgCcsMQ400BhFA4OAVzTCOgFUBlWnAQzCgDMAFgB0ABgCsAiQHYCOClACoARhUAOEQCYhE3UA/connections?locationAddress=Los+Angeles%2C+California&y=2403411.3245877805&x=2517121.9601057805&zoom=7&legend=expand&layersPanel=expand). According to BirdCast, which detects flying birds via radar, nearly 794,000 birds were in flight over Los Angeles County during the night of 28 April 2024. I am unable to locate the major pathways of these flights, but Terrill et al. (2021) found up to 13,500 birds per morning[1] flying low through Bear Divide. Headed to and from Bear Divide, these birds would have been similarly channeled by terrain in and around the Los Angeles Metropolitan Area.

More than 11 million birds flew across Los Angeles County through the 2024 spring migration by the time of this writing (https://dashboard.birdcast.info/region/US-CA-037). Bird flights across Los Angeles averaged 107,539 flights per night in spring 2024. Most of these flights ranged in height from 100 feet to 10,000 feet above ground. I am unaware of the distribution of flight heights of birds crossing the City of Arcadia, but at a nearby study site (Coachella Valley), McCrary et al. (1982) detected 12.9% of nocturnally migrating birds below 100 m altitude, which corresponds with the heights of the proposed building of either option. Assuming this percentage also applies to birds flying across the aerosphere overlying the Los Angeles Metropolitan Area including Arcadia, then migratory flights documented by BirdCast would average 13,873 birds per night to be flying in the dark and within the height domain of the proposed building. That 13,500 birds per night were documented flying through the Bear Divide during peak migration likely attests to considerable uncertainty in the BirdCast data. Such uncertainty should be treated in a manner that is consistent with the precautionary principle in risk assessment. The BirdCast data might be missing many of the migratory birds that fly low due to ground clutter.[2] Ground clutter in the Los Angeles Metropolitan Area comes in the forms of buildings and trees. In summary, the basis exists for concern that a large number of birds might routinely fly through the aerosphere that would be appropriated by the proposed building. Potential collision impacts from this project are addressed below, under the heading Bird-Window Collisions.

Hundreds of thousands of birds migrate along the Pacific Flyway, which includes the Los Angeles Metropolitan Area. At least 77 special-status species of bird are known to the project area (Table 2). According to the scientific literature, many of the special-status species in Table 2 have been documented as window collision fatalities and are therefore susceptible to new structural glass installations (Supplemental Material to Basilio et al. 2020; Smallwood unpublished review). Many more species of migratory birds, protected by the federal Migratory Bird Treaty Act and by California's Migratory Bird Protection Act, have also been documented as window collision victims (Basilio et al. 2020).

Surveys by qualified behavioral ecologists are needed to characterize bird flight activity in the project area. A desktop review is also needed to identify the special-status species

[1] Morning flights are regarded as continuation of nocturnal flights into daylight hours.
[2] Ground clutter generates solid radar echoes that hide the echoes of individual birds.

of birds most at risk of encountering the building while flying through the area. The analysis should provide guidance to the orientation and design of the building. Also, it should provide guidance to mitigation measures.

Based on Noriko Smallwood's brief survey of the site for vertebrate wildlife, and based on my cursory desktop review for the potential of special-status species of wildlife to occur at the site, there is at least a fair argument to be made for the need to prepare an EIR to accurately characterize the wildlife community of the project site.

## BIOLOGICAL IMPACTS ASSESSMENT

Accurate characterization of the existing environmental setting is an essential foundation for analysis of potential project impacts, but the IS/MND provides no foundation for an impacts analysis. An impacts analysis should consider whether and how the proposed project would affect members of each potentially occurring special-status species and of each species of bird likely to attempt to fly through the airspace of the project. In the following, I analyze impacts likely to result from the project but which are not addressed in the IS/MND.

### INTERFERENCE WITH WILDLIFE MOVEMENT

One of CEQA's principal concerns regarding potential project impacts is whether a proposed project would interfere with wildlife movement in the region. Unfortunately, the IS/MND includes no analysis of whether the project would interfere with wildlife movement in the region. The project would insert a midrise building into the airspace that has been used by birds on migration, dispersal, home range patrol and foraging over millions of years. This building would obviously interfere with wildlife movement in the region. Noriko Smallwood observed and photographed birds flying through the airspace of the project site. A fair argument can be made for the need to prepare an EIR to appropriately analyze the project's potential impacts to volant wildlife and how those impacts to movement can be mitigated.

### BIRD-WINDOW COLLISIONS

The project would add a 5-story mixed-use building, which would expose the birds of Arcadia to many windows composing the building's facades. Window collisions are often characterized as either the second or third largest source or human-caused bird mortality. The numbers behind these characterizations are often attributed to Klem's (1990) and Dunn's (1993) estimates of about 100 million to 1 billion bird fatalities in the USA, or more recently by Loss et al.'s (2014) estimate of 365-988 million bird fatalities in the USA or Calvert et al.'s (2013) and Machtans et al.'s (2013) estimates of 22.4 million and 25 million bird fatalities in Canada, respectively. The proposed project would impose windows in the airspace normally used by birds.

Glass-façades of buildings intercept and kill many birds, but these façades are differentially hazardous to birds based on spatial extent, contiguity, orientation, and other factors. At Washington State University, Johnson and Hudson (1976) found 266

bird fatalities of 41 species within 73 months of monitoring of a three-story glass walkway (no fatality adjustments attempted). Prior to marking the windows to warn birds of the collision hazard, the collision rate was 84.7 per year. At that rate, and not attempting to adjust the fatality estimate for the proportion of fatalities not found, 4,574 birds were likely killed over the 54 years since the start of their study, and that's at a relatively small building façade. Accounting for the proportion of fatalities not found, the number of birds killed by this walkway over the last 54 years would have been about 14,270. And this is just for one 3-story, glass-sided walkway between two college campus buildings.

Klem's (1990) estimate was based on speculation that 1 to 10 birds are killed per building per year, and this speculated range was extended to the number of buildings estimated by the US Census Bureau in 1986. Klem's speculation was supported by fatality monitoring at only two houses, one in Illinois and the other in New York. Also, the basis of his fatality rate extension has changed greatly since 1986. Whereas his estimate served the need to alert the public of the possible magnitude of the bird-window collision issue, it was highly uncertain at the time and undoubtedly outdated more than three decades hence. Indeed, by 2010 Klem (2010) characterized the upper end of his estimated range – 1 billion bird fatalities – as conservative. Furthermore, the estimate lumped species together as if all birds are the same and the loss of all birds to windows has the same level of impact.

By the time Loss et al. (2014) performed their effort to estimate annual USA bird-window fatalities, many more fatality monitoring studies had been reported or were underway. Loss et al. (2014) incorporated many more fatality rates based on scientific monitoring, and they were more careful about which fatality rates to include. However, they included estimates based on fatality monitoring by homeowners, which in one study were found to detect only 38% of the available window fatalities (Bracey et al. 2016). Loss et al. (2014) excluded all fatality records lacking a dead bird in hand, such as injured birds or feather or blood spots on windows. Loss et al.'s (2014) fatality metric was the number of fatalities per building (where in this context a building can include a house, low-rise, or high-rise structure), but they assumed that this metric was based on window collisions. Because most of the bird-window collision studies were limited to migration seasons, Loss et al. (2014) developed an admittedly assumption-laden correction factor for making annual estimates. Also, only 2 of the studies included adjustments for carcass persistence and searcher detection error, and it was unclear how and to what degree fatality rates were adjusted for these factors. Although Loss et al. (2014) attempted to account for some biases as well as for large sources of uncertainty mostly resulting from an opportunistic rather than systematic sampling data source, their estimated annual fatality rate across the USA was highly uncertain and vulnerable to multiple biases, most of which would have resulted in fatality estimates biased low.

In my review of bird-window collision monitoring, I found that the search radius around homes and buildings was very narrow, usually 2 meters. Based on my experience with bird collisions in other contexts, I would expect that a large portion of bird-window collision victims would end up farther than 2 m from the windows, especially when the windows are higher up on tall buildings. In my experience, searcher detection rates tend

to be low for small birds deposited on ground with vegetation cover or woodchips or other types of organic matter. Also, vertebrate scavengers entrain on anthropogenic sources of mortality and quickly remove many of the carcasses, thereby preventing the fatality searcher from detecting these fatalities. Adjusting fatality rates for these factors – search radius bias, searcher detection error, and carcass persistence rates – would greatly increase nationwide estimates of bird-window collision fatalities.

Buildings can intercept many nocturnal migrants (Van Doren et al. 2021) as well as birds flying in daylight. As mentioned above, Johnson and Hudson (1976) found 266 bird fatalities of 41 species within 73 months of monitoring of a four-story glass walkway at Washington State University (no adjustments attempted for undetected fatalities). Somerlot (2003) found 21 bird fatalities among 13 buildings on a university campus within only 61 days. Monitoring twice per week, Hager at al. (2008) found 215 bird fatalities of 48 species, or 55 birds/building/year, and at another site they found 142 bird fatalities of 37 species for 24 birds/building/year. Gelb and Delacretaz (2009) recorded 5,400 bird fatalities under buildings in New York City, based on a decade of monitoring only during migration periods, and some of the high-rises were associated with hundreds of fatalities each. Klem et al. (2009) monitored 73 building façades in New York City during 114 days of two migratory periods, tallying 549 collision victims, nearly 5 birds per day. Borden et al. (2010) surveyed a 1.8 km route 3 times per week during 12-month period and found 271 bird fatalities of 50 species. Parkins et al. (2015) found 35 bird fatalities of 16 species within only 45 days of monitoring under 4 building façades. From 24 days of survey over a 48-day span, Porter and Huang (2015) found 47 fatalities under 8 buildings on a university campus. Sabo et al. (2016) found 27 bird fatalities over 61 days of searches under 31 windows. In San Francisco, Kahle et al. (2016) found 355 collision victims within 1,762 days under a 5-story building. Ocampo-Peñuela et al. (2016) searched the perimeters of 6 buildings on a university campus, finding 86 fatalities after 63 days of surveys. One of these buildings produced 61 of the 86 fatalities, and another building with collision-deterrent glass caused only 2 of the fatalities, thereby indicating a wide range in impacts likely influenced by various factors. There is ample evidence available to support my prediction that the proposed project would result in many collision fatalities of birds.

### *Project Impact Prediction*

By the time of these comments, I had reviewed and processed results of bird collision monitoring at 213 buildings and façades for which bird collisions per $m^2$ of glass per year could be calculated and averaged (Johnson and Hudson 1976, O'Connell 2001, Somerlot 2003, Hager et al. 2008, Borden et al. 2010, Hager et al. 2013, Porter and Huang 2015, Parkins et al. 2015, Kahle et al. 2016, Ocampo-Peñuela et al. 2016, Sabo et al. 2016, Barton et al. 2017, Gomez-Moreno et al. 2018, Schneider et al. 2018, Loss et al. 2019, Brown et al. 2020, City of Portland Bureau of Environmental Services and Portland Audubon 2020, Riding et al. 2020). These study results averaged 0.073 bird deaths per $m^2$ of glass per year (95% CI: 0.042-0.102). This average and its 95% confidence interval provide a robust basis for predicting fatality rates at a proposed new project.

The IS/MND does not disclose the extent of glass windows on the proposed new building. I therefore measured the extents of windows depicted in the IS/MND's schematics of the building, though in doing so I omitted measurement of the glass railings. I adjusted my measured extent of exterior glass for the exterior glass that was either not visible or only obliquely visible on façades of interior spaces such as around the courtyard and within projections of the building My adjustment was 50%, which was conservative. With this adjustment, I estimate the project would include 2,966 $m^2$ of exterior glass windows. Applying the mean fatality rate (above) to my estimates of glass in either project, I predict annual bird deaths of 217 (95% CI: 129–305).

The vast majority of bird-window collision deaths would be of birds protected under the federal Migratory Bird Treaty Act and California's Migratory Bird Protection Act, thus causing significant unmitigated impacts. Given the predicted level of bird-window collision mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts.

At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the potential impacts of bird-window collisions that might be caused by the project.

**TRAFFIC IMPACTS TO WILDLIFE**

The IS/MND neglects to address one of the project's most obvious, substantial impacts to wildlife, and that is wildlife mortality and injuries caused by project-generated traffic. Project-generated traffic would endanger wildlife that must, for various reasons, cross roads used by the project's traffic (Photos 22—25), including along roads far from the project footprint but which would nevertheless by traversed by automobiles head to or from the project's building. Vehicle collisions have accounted for the deaths of many thousands of amphibian, reptile, mammal, bird, and arthropod fauna, and the impacts have often been found to be significant at the population level (Forman et al. 2003). Across North America traffic impacts have taken devastating tolls on wildlife (Forman et al. 2003). In Canada, 3,562 birds were estimated killed per 100 km of road per year (Bishop and Brogan 2013), and the US estimate of avian mortality on roads is 2,200 to 8,405 deaths per 100 km per year, or 89 million to 340 million total per year (Loss et al. 2014). Local impacts can be more intense than nationally.

***Photo 22.*** *A white-tailed antelope squirrel runs across the road just in the Coachella Valley, 26 May 2022. Such road crossings are usually successful, but too often prove fatal to the animal.*

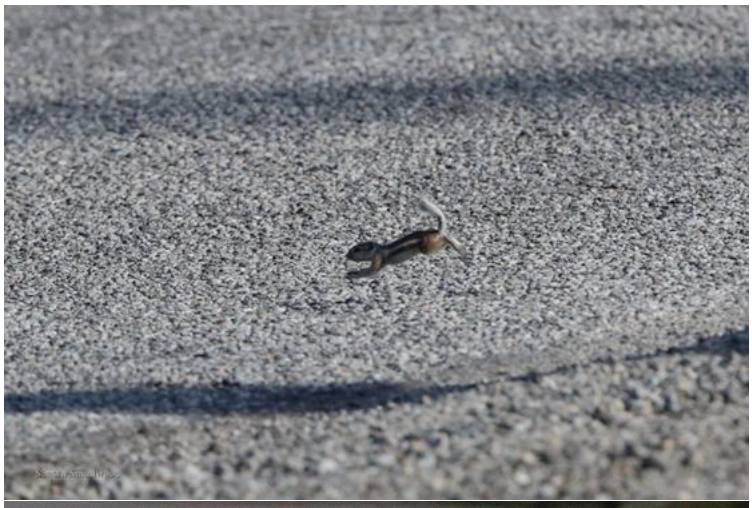


***Photo 23.*** *A coyote uses the crosswalk to cross a road on 2 February 2023. Not all drivers stop, nor do all animals use the crosswalk. Too often, animals are injured or killed when they attempt to cross roads.*







***Photos 24 and 25.*** *Raccoon killed on Road 31 just east of Highway 505 in Solano County (left; photo taken on 10 November 2018), and mourning dove killed by vehicle on a California road (right; photo by Noriko Smallwood, 21 June 2020.)*

The nearest study of traffic-caused wildlife mortality was performed along a 2.5-mile stretch of Vasco Road in Contra Costa County, California. Fatality searches in this study

found 1,275 carcasses of 49 species of mammals, birds, amphibians and reptiles over 15 months of searches (Mendelsohn et al. 2009). This fatality number needs to be adjusted for the proportion of fatalities that were not found due to scavenger removal and searcher error. This adjustment is typically made by placing carcasses for searchers to find (or not find) during their routine periodic fatality searches. This step was not taken at Vasco Road (Mendelsohn et al. 2009), but it was taken as part of another study next to Vasco Road (Brown et al. 2016). Brown et al.'s (2016) adjustment factors for carcass persistence resembled those of Santos et al. (2011). Also applying searcher detection rates from Brown et al. (2016), the adjusted total number of fatalities was estimated at 9,462 animals killed by traffic on the road. This fatality number projected over 1.25 years and 2.5 miles of road translates to 3,028 wild animals per mile per year. In terms comparable to the national estimates, the estimates from the Mendelsohn et al. (2009) study would translate to 188,191 animals killed per 100 km of road per year, or 22 times that of Loss et al.'s (2014) upper bound estimate and 53 times the Canadian estimate. An analysis is needed of whether increased traffic generated by the project site would similarly result in local impacts on wildlife.

For wildlife vulnerable to front-end collisions and crushing under tires, road mortality can be predicted from the study of Mendelsohn et al. (2009) as a basis, although it would be helpful to have the availability of more studies like that of Mendelsohn et al. (2009) at additional locations. My analysis of the Mendelsohn et al. (2009) data resulted in an estimated 3,028 animals killed per mile along a county road in Contra Costa County. The estimated numbers of fatalities were 1.75% birds, 26.4% mammals (many mice and pocket mice, but also ground squirrels, desert cottontails, striped skunks, American badgers, raccoons, and others), 67.4% amphibians (large numbers of California tiger salamanders and California red-legged frogs, but also Sierran treefrogs, western toads, arboreal salamanders, slender salamanders and others), and 4.4% reptiles (many western fence lizards, but also skinks, alligator lizards, and snakes of various species). VMT is useful for predicting wildlife mortality because I was able to quantify miles traveled along the studied reach of Vasco Road during the time period of the Mendelsohn et al. (2009) study, hence enabling a rate of fatalities per VMT that can be projected to other sites, assuming similar collision fatality rates.

**Predicting project-generated traffic impacts to wildlife**

The IS/MND predicts 1,302,015 annual VMT. During the Mendelsohn et al. (2009) study, 19,500 cars traveled Vasco Road daily, so the vehicle miles that contributed to my estimate of non-volant fatalities was 19,500 cars and trucks × 2.5 miles × 365 days/year × 1.25 years = 22,242,187.5 vehicle miles per 9,462 wildlife fatalities, or 2,351 vehicle miles per fatality. This rate divided into the predicted annual VMT would predict 554 vertebrate wildlife fatalities per year due to project-generated traffic. However, compared to the study area of Mendelsohn et al. (2009), fewer animals would be killed in the urbanized part of Arcadia that surrounds the project site, so an adjustment is warranted. Assuming that the number of wild animals encountered by project-generated traffic would be only 30% of the number of animals encountered by traffic in the Mendelsohn et al. (2009) study, the annual death toll to wildlife resulting from project-generated traffic would be 166. Even this assumed lower mortality would qualify as a

significant impact, and based on my review of the available documents, it would not be mitigated.

Based on my analysis, the project-generated traffic would cause substantial, significant impacts to wildlife. The IS/MND does not address this potential impact, let alone propose to mitigate it. Mitigation measures to improve wildlife safety along roads are available and are feasible, and they need exploration for their suitability with the proposed project. Given the predicted level of project-generated traffic-caused mortality, and the lack of any proposed mitigation, it is my opinion that the proposed project would result in potentially significant adverse biological impacts.

At least a fair argument can be made for the need to prepare an EIR to appropriately analyze the impact of wildlife-automobile collisions resulting from project-generated traffic.

## CUMULATIVE IMPACTS

The IS'MND's analysis of potential project contributions to cumulative impacts is flawed. According to the IS/MND (p. 3-114), "All reasonably foreseeable future development in the City would be subject to the same land use and environmental regulations that have been described throughout this document. … all development projects are guided by the policies identified in the City's General Plan and by the regulations established in the Development Code and AMC. Therefore, compliance with applicable land use and environmental regulations and implementation of the mitigation program would ensure that environmental effects associated with the proposed Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts." However, according to the CEQA Guidelines §15064(h)(3), "a project's incremental contribution to a cumulative impact can be found not cumulatively considerable if the project would comply with an approved plan or mitigation program that provides specific requirements that would avoid or substantially lessen the cumulative problem within the geographic area of the project." The IS/MND cites no specific requirements that would substantially lessen cumulative impacts to wildlife in the area. The CEQA Guidelines §15064(h)(3) futher state, "When relying on a plan, regulation or program, the lead agency should explain how implementing the particular requirements in the plan, regulation or program ensure that the project's incremental contribution to the cumulative effect is not cumulatively considerable." The IS/MND provides no explanation of how implementing particular requirements of the City's General Plan would minimize, avoid or offset the project's contributions to cumulative impacts to wildlife.

To measure the impacts of habitat loss and cumulative impacts to wildlife caused by development projects that had to comply with existing policies and regulations, Noriko Smallwood and I measured the impacts of habitat loss to wildlife caused by mitigated development projects. We revisited 80 sites of proposed projects that we had originally surveyed in support of comments on CEQA review documents (Smallwood and Smallwood 2023). We revisited the sites to repeat the survey methods at the same time

of year, the same start time in the day, and the same methods and survey duration in order to measure the effects of mitigated development on wildlife. We structured the experiment in a before-after, control-impact experimental design, as some of the sites had been developed since our initial survey and some had remained undeveloped. We found that mitigated development resulted in a 66% loss of species on site, and 48% loss of species in the project area. Counts of vertebrate animals declined 90%. "Development impacts measured by the mean number of species detected per survey were greatest for amphibians (-100%), followed by mammals (-86%), grassland birds (-75%), raptors (-53%), special-status species (-49%), all birds as a group (-48%), non-native birds (-44%), and synanthropic birds (-28%). Our results indicated that urban development substantially reduced vertebrate species richness and numerical abundance, even after richness and abundance had likely already been depleted by the cumulative effects of loss, fragmentation, and degradation of habitat in the urbanizing environment," and despite all the mitigation measures per existing policies and regulations. We also specifically tested for the effects of projects to wildlife in neighboring habitats, and found significant decreases in species richness and overall abundance in those areas as well.

The project would insert a glass-covered midrise building into the airspace that has been used by volant wildlife for millions of years to travel across the Los Angeles Basin. The project would further fragment aerial habitat of volant wildlife, and this would contribute cumulatively to other similar impacts caused by other midrise and high-rise buildings in the area. The project would also cause a predicted 217 (95% CI: 129–305) bird-window collision fatalities. Additionally, the project would generate a predicted annual VMT of 1,302,015, which would contribute 166 to 554 wildlife-automobile collision fatalities to the cumulative annual mortality already underway in Arcadia and the Los Angeles Metropolitan Area. A cumulative impacts analysis needs to be completed.

## MITIGATION MEASURES

The IS/MND summarizes three measures to mitigate potential project impacts to wildlife, but these measures are incomplete and inadequate. Below my comments on these measures are my recommendations for mitigation that should be considered in an EIR.

**RR BIO-1**: *If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. … If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned.*

Whereas a preconstruction nesting bird survey should be completed, it needs to be understood that a preconstruction survey unlikely to achieve much of any conservation

benefit to birds, and the IS/MND – like all other CEQA review documents I have read – cites no evidence of efficacy. Preconstruction, take-avoidance surveys consist of two steps, both of which are very difficult. First, the biologist(s) performing the survey must identify birds that are breeding. Second, the biologist(s) must locate the breeding birds' nests. The first step is typically completed by observing bird behaviors such as food deliveries and nest territory defense. These types of observations typically require many surveys on many dates spread throughout the breeding season, whereas preconstruction surveys take place only once and not necessarily at the optimal time for detecting nesting by birds. The biologists conducting the preconstruction survey would be very lucky to find any of the bird nests that are available to be found at the time of the survey.

One reason why preconstruction surveys achieve very little is because species of bird vary in their nest phenology within what is generally understand as the avian breeding season. Whereas, as examples (and not suggesting these particular species occur at the project site), killdeer begin nesting in mid-March, western meadowlarks begin in late April, burrowing owls usually begin in May, and American goldfinches do not nest until July-August. Whenever the preconstruction survey is conducted, the biologists conducting the survey would be searching only for the nests of the birds that happen to be breeding at the time, and would miss the nests begun between the survey and the start of construction. On the project site, this task would be further complicated by the size of the site, by its terrain, and by its diversity of vegetation communities.

Another reason why preconstruction surveys achieve very little is because the nests they might salvage are only the nests of the year. Preconstruction surveys can do nothing to mitigate the loss of productive capacity that ensues construction. All subsequent years of productivity would be destroyed by the project regardless of the success of a preconstruction survey.

Lastly, the mitigation language allows a single individual to make a subjective decision, outside the public's view, to determine the buffer area for any given species. This measure lacks objective criteria, and it is therefore unenforceable.

**RR BIO-2:** *…the Project Applicant/Property Owner shall obtain permits from the Arcadia Public Works Services Department for the removal and planting of Protected trees and street trees in the public right-of-way associated with the Project. …*

The obtaining of a necessary permit is not a legitimate mitigation measure, as it does not necessarily avoid, minimize, rectify, reduce, or compensate for impacts.

**RR BIO-3:** *The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan.*

This measure defers its own formulation to an unspecified later date that arrives after the public has had the opportunity to participate with the environmental review of the

project. It fails to suggest that any of the landscaping would be intended to benefit wildlife.

**RECOMMENDED MEASURES**

**Guidelines on Building Design to Minimize Bird-Window Collisions:** If the project goes forward, it should at a minimum adhere to available Bird-Safe Guidelines, such as those prepared by American Bird Conservancy and New York and San Francisco. The American Bird Conservancy (ABC) produced an excellent set of guidelines recommending actions to: (1) Minimize use of glass; (2) Placing glass behind some type of screening (grilles, shutters, exterior shades); (3) Using glass with inherent properties to reduce collisions, such as patterns, window films, decals or tape; and (4) Turning off lights during migration seasons (Sheppard and Phillips 2015). The City of San Francisco (San Francisco Planning Department 2011) also has a set of building design guidelines, based on the excellent guidelines produced by the New York City Audubon Society (Orff et al. 2007). The ABC document and both the New York and San Francisco documents provide excellent alerting of potential bird-collision hazards as well as many visual examples. The San Francisco Planning Department's (2011) building design guidelines are more comprehensive than those of New York City, but they could have gone further. For example, the San Francisco guidelines probably should have also covered scientific monitoring of impacts as well as compensatory mitigation for impacts that could not be avoided, minimized or reduced.

New research results inform of the efficacy of marking windows. Whereas Klem (1990) found no deterrent effect from decals on windows, Johnson and Hudson (1976) reported a fatality reduction of about 69% after placing decals on windows. In an experiment of opportunity, Ocampo-Peñuela et al. (2016) found only 2 of 86 fatalities at one of 6 buildings – the only building with windows treated with a bird deterrent film. At the building with fritted glass, bird collisions were 82% lower than at other buildings with untreated windows. Kahle et al. (2016) added external window shades to some windowed façades to reduce fatalities 82% and 95%. Brown et al. (2020) reported an 84% lower collision probability among fritted glass windows and windows treated with ORNILUX R UV. City of Portland Bureau of Environmental Services and Portland Audubon (2020) reduced bird collision fatalities 94% by affixing marked Solyx window film to existing glass panels of Portland's Columbia Building. Many external and internal glass markers have been tested experimentally, some showing no effect and some showing strong deterrent effects (Klem 1989, 1990, 2009, 2011; Klem and Saenger 2013; Rössler et al. 2015).

Van Doren et al. (2021) found that nocturnal migrants contributed most of the collision fatalities in their study, and the largest predictors of fatalities were peak migration and lit windows. Van Doren et al. (2021) predicted that a light-out mitigation measure could reduce bird-window collision mortality by 60%.

Monitoring and the use of compensatory mitigation should be incorporated at any new building project because the measures recommended in the available guidelines remain of uncertain efficacy, and even if these measures are effective, they will not reduce

collision fatalities to zero. The only way to assess mitigation efficacy and to quantify post-construction fatalities is to monitor the project for fatalities.

The City of Arcadia should also follow the examples of other major cities and formulate its own mitigation guidelines for analysis of potential impacts and for mitigating those impacts.

**Road Mortality:** Compensatory mitigation is needed for the increased wildlife mortality that would be caused by bird-window collisions and the project-generated road traffic in the region. I suggest that this mitigation can be directed toward funding research to identify fatality patterns and effective impact reduction measures such as reduced speed limits and wildlife under-crossings or overcrossings of particularly dangerous road segments. Compensatory mitigation can also be provided in the form of donations to wildlife rehabilitation facilities (see below).

**Fund Wildlife Rehabilitation Facilities:** Compensatory mitigation ought to include funding contributions to wildlife rehabilitation facilities to cover the costs of injured animals that will be delivered to these facilities for care. Many animals would likely be injured by collisions with the building's windows and with automobiles traveling to and from the building.

**Landscaping:** If the project goes forward, California native plant landscaping (i.e., grassland and locally appropriate scrub plants) should be considered to be used as opposed to landscaping with lawn and exotic shrubs and trees. Native plants offer more structure, cover, food resources, and nesting substrate for wildlife than landscaping with lawn and ornamental trees. Native plant landscaping has been shown to increase the abundance of arthropods which act as importance sources of food for wildlife and are crucial for pollination and plant reproduction (Narango et al. 2017, Adams et al. 2020, Smallwood and Wood 2022.). Further, many endangered and threated insects require native host plants for reproduction and migration, e.g., monarch butterfly. Around the world, landscaping with native plants over exotic plants increases the abundance and diversity of birds, and is particularly valuable to native birds (Lerman and Warren 2011, Burghardt et al. 2008, Berthon et al. 2021, Smallwood and Wood 2022). Landscaping with native plants is a way to maintain or to bring back some of the natural habitat and lessen the footprint of urbanization by acting as interconnected patches of habitat for wildlife (Goddard et al. 2009, Tallamy 2020). Lastly, not only does native plant landscaping benefit wildlife, it requires less water and maintenance than traditional landscaping with lawn and hedges.

Thank you for your consideration,



Shawn Smallwood, Ph.D.

## LITERATURE CITED


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# EXHIBIT B

WILSON IHRIG
ACOUSTICS, NOISE & VIBRATION

CALIFORNIA
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WI #24-002.xx

December 18, 2024

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**SUBJECT: Arcadia Town Center Project**
**City of Arcadia, CA**
**Review and Comment on Noise Study**

Dear Ms. Uno,

Per your request, Wilson Ihrig has reviewed the information and noise impact analysis in the following documents:

*Arcadia Town Center Project*
*Initial Study / Mitigated Negative Declaration, November 2024 (IS / MND)*
*Appendix G Noise Calculations (Appendix G)*

The Proposed Arcadia Town Center Project (Project) would result in the construction of a mixed-use development consisting of a five-story building with subterranean and ground level parking. The project is surrounded by residential uses to the northwest and southeast, a park to the south, and commercial uses.

This letter reports our comments on the Noise Analysis in Section 3.13 of the Initial Study / Mitigated Negative Declaration and the Noise Calculations included in Appendix G. Wilson Ihrig, Acoustical Consultants, has practiced exclusively in the field of acoustics since 1966. During our 57 years of operation, we have prepared hundreds of noise studies for Environmental Impact Reports and Statements. We have one of the largest technical laboratories in the acoustical consulting industry. We also utilize industry-standard acoustical programs such as Roadway Construction Noise Model (RCNM), SoundPLAN, and CADNA. In short, we are well qualified to prepare environmental noise studies and review studies prepared by others.

## Adverse Effects of Noise[1]

Although the health effects of noise are not taken as seriously in the United States as they are in other countries, they are real and, in many parts of the country, pervasive.

**Noise-Induced Hearing Loss.** If a person is repeatedly exposed to loud noises, he or she may experience noise-induced hearing impairment or loss. In the United States, both the Occupational Health and Safety Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH) promote standards and regulations to protect the hearing of people exposed to high levels of industrial noise.

**Speech Interference.** Another common problem associated with noise is speech interference. In addition to the obvious issues that may arise from misunderstandings, speech interference also leads to problems with concentration fatigue, irritation, decreased working capacity, and automatic stress reactions. For complete speech intelligibility, the sound level of the speech should be 15 to 18 dBA higher than the background noise. Typical indoor speech levels are 45 to 50 dBA at 1 meter, so any noise above 30 dBA begins to interfere with speech intelligibility. The common reaction to higher background noise levels is to raise one's voice. If this is required persistently for long periods of time, stress reactions and irritation will likely result.

**Sleep Disturbance.** Noise can disturb sleep by making it more difficult to fall asleep, by waking someone after they are asleep, or by altering their sleep stage, e.g., reducing the amount of rapid eye movement (REM) sleep. Noise exposure for people who are sleeping has also been linked to increased blood pressure, increased heart rate, increase in body movements, and other physiological effects. Not surprisingly, people whose sleep is disturbed by noise often experience secondary effects such as increased fatigue, depressed mood, and decreased work performance.

**Cardiovascular and Physiological Effects.** Human's bodily reactions to noise are rooted in the "fight or flight" response that evolved when many noises signaled imminent danger. These include increased blood pressure, elevated heart rate, and vasoconstriction. Prolonged exposure to acute noises can result in permanent effects such as hypertension and heart disease.

**Impaired Cognitive Performance.** Studies have established that noise exposure impairs people's abilities to perform complex tasks (tasks that require attention to detail or analytical processes) and it makes reading, paying attention, solving problems, and memorizing more difficult. This is why there are standards for classroom background noise levels and why offices and libraries are designed to provide quiet work environments.

[1] More information on these and other adverse effects of noise may be found in *Guidelines for Community Noise*, eds B Berglund, T Lindvall, and D Schwela, World Health Organization, Geneva, Switzerland, 1999. (https://www.who.int/docstore/peh/noise/Comnoise-1.pdf)

## Baseline Noise is Not Properly Established

The manner in which the IS/MND has determined the existing noise environment is unsupported. The IS/MDN does not show ambient measurement locations. Table 20 [pg. 3-71] indicates the measurements were taken at the project boundary, rather than at sensitive receivers, such as nearby residences on Santa Clara (410 ft from site) and residences on Santa Anita S. (280ft from site). The ambient levels presented in Table 20 are based on short-term 20-minute measurements. As acknowledged in the IS/MDN, "the ambient would fluctuate over the course of each workday as well as based on distance and relative location from the site" [pg. 3-79]. The measurements used account for neither fluctuation over the course of the day nor adjustment with distance from the sources captured. Further, as stated in Table 20, the measurement closer to Santa Clara residences was dominated by HVAC noise directly adjacent to the Project site.

**The Project must conduct properly documented ambient measurements near sensitive receptors that capture the current baseline conditions during quiet period of the day and night to determine the impact of construction and operational noise.**




***Figure 1 Project Site and Noise Sensitive Receivers***

## Potentially Significant Construction Noise Impacts

The IS/MND fails to disclose and mitigate the Project's potentially significant construction noise impacts. The report claims that "no sensitive receptors occur near the project" [3-78], even though earlier it identifies residences as close as 280 feet from the site [pg. 3-72]. No construction noise predictions are shown at these residences. Using the activity reference levels presented in the IS/MND Table 25 [pg. 3-78] and Appendix G, construction noise would range from 60 dBA to 69 dBA at these Santa Anita residences and 56 dBA to 65 dBA at further residences on Santa Clara Street, as shown in Table 1 below.

***Table 1 Estimated Construction Noise Levels***

| Construction Phase | Noise Levels (Leq, dBA) | | | |
|---|---|---|---|---|
| | **95 feet – Arcadia County Park[1]** | **10 feet – Elk Lodge[1]** | **280 feet – Santa Anita Residences [2]** | **410 feet – Santa Clara Residences [2]** |
| **Ground Cleaning / Demolition** | 78 | 98 | 69 | 65 |
| **Excavation** | 73 | 93 | 64 | 60 |
| **Foundation Construction** | 72 | 92 | 63 | 59 |
| **Building Construction** | 69 | 89 | 60 | 56 |
| **Paving and Site Cleanup** | 69 | 89 | 60 | 56 |

1. From Table 25 in IS/MND
2. Calculated based on distance using 20*log(distance / 95 feet)

The IS/MND does not explicitly establish construction noise criteria. It references the City of Arcadia Noise Ordinance limits [pg. 3-75], but omits Section 5610.3 (b), which includes corrections to noise limits for impulsive sounds.[2] The City daytime limit for residential land uses, according to Table 25 in the IS/MND is 55 dBA. The predicted noise levels at the Santa Anita residences would exceed this City limit by 5 to 9 dB, not including any penalty for impulsive sources (such as jackhammers).

Table 25 does show predictions for the Elk Lodge located directly adjacent to the Project site but does not discuss how it is categorizing the property or what criteria is being applied. The predictions shown in the IS/MND exceed commercial land use limits in Noise Ordinance,

The City of Arcadia Interior/Exterior Noise Standards presented in Table 22 of the IS/MND include CNEL exterior limits for passive recreation areas. Table 25 shows Leq levels at Arcadia Conty Park but does not provide CNEL predictions to compare to this criterion. Community Noise Equivalent Level (CNEL) is a weighted average of noise level over time and can be calculated using a properly measured ambient and anticipated construction hours.

California Environmental Quality Act Guidelines cited in the IS/MND state that impacts to noise would be significant if the proposed project would result in "generation of a substantial temporary or permanent increase in ambient noise levels" [p. 3-70]. The IS/MND lacks a significance threshold for "substantial increase" for Project noise. Short-term ambient levels used by the IS/MND are 54 to 66 dBA for daytime hours [pg. 3-71]. As discussed above, the measurements used were not at sensitive receivers and too short to characterize local sources. As shown in Table 1, the predicted level for demolition at Santa Clara Residences is 65 dBA, 11 dBA above the ambient measured at the western Project boundary. A 10-dB increase is subjectively heard as an approximate doubling in loudness.

The IS/MND does not discuss construction mitigation measures for any of these potentially significant noise impacts. Noise barriers at the parameter of the site could provide 10 to 15 dB of

[2] https://library.municode.com/ca/arcadia/codes/code_of_ordinances?nodeId=ARTIVPUWEMOPO_CH6NORE_PT1GEPR_4610.3NOLI

reduction, depending on site geometry and barrier construction, however, contractors are often reluctant to employ barriers because they slow production**.**

**The Project must properly evaluate construction noise impacts, including the noise increase over ambient levels at sensitive receptor locations. If the increase is significant the Project must properly evaluate mitigation measures to reduce the impacts to less than significant.**

## Operational Analysis Incomplete

The IS/MND claims with no evidence that there is no operational noise impact. The report identifies HVAC noise as a potential operational noise source [pg. 3-79] but does not provide any quantitative analysis of predicted levels from mechanical noise. Further, the report does not address noise from the parking garage entrance or ventilation system.

## Conclusion

The Project may result in potentially significant construction noise impacts. The IS/MND relies on an inadequate baseline, based on short-term measurement not located at sensitive receivers. Finally, the IS/MDN fails to consider ambient-based significance criteria for noise impacts.

Please feel free to contact me with any questions on this information.



Very truly yours,
Ani Toncheva, Senior Consultant, WILSON IHRIG

# EXHIBIT C

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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December 18, 2024

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**Subject: Comments on the Arcadia Town Center Mixed Use Project (SCH No. 2024110749)**

Dear Ms. Uno,

We have reviewed the November 2024 Initial Study/Mitigation Negative Declaration ("IS/MND") for the Arcadia Town Center Mixed Use Project ("Project") located in the City of Arcadia ("City"). The Project proposes to construct 440,938-square-feet ("SF") of residential space, including 181 dwelling units and 378 parking spaces on the 2.27-acre site.

Our review concludes that the IS/MND fails to adequately evaluate the Project's air quality, health risk, and greenhouse gas ("GHG") impacts. Emissions and health risk impacts associated with construction and operation of the proposed Project may be underestimated and inadequately addressed. An Environmental Impact Report ("EIR") should be prepared to adequately assess and mitigate the potential air quality, health risk, and GHG impacts that the project may have on the environment.

# Air Quality

## Failure to Provide Complete CalEEMod Output Files

Land use development projects under the California Environmental Quality Act ("CEQA") typically evaluate air quality impacts and calculate potential criteria air pollutant emissions using the California Emissions Estimator Model ("CalEEMod").[1] CalEEMod uses default values tailored to site-specific details such as land use type, meteorological data, lot size, project type, and typical equipment associated with that type. If project-specific details are available, users can modify these defaults, but CEQA requires substantial evidence to justify such changes. Once the inputs are finalized, the model calculates the

[1] "CalEEMod User's Guide." California Air Pollution Control Officers Association (CAPCOA), May 2021, *available at:* https://www.aqmd.gov/caleemod/user's-guide.

project's construction and operational emissions and generates "output files." These output files disclose to the reader what parameters are used in calculating the Project's air pollutant emissions and demonstrate where default values are changed. Justifications are provided for the values selected.

Review of the Project's CalEEMod output files in Appendix A of the IS/MND reveals that the "Arcadia Town Center v2" includes land use inputs but omits all other qualitative outputs regarding the Project's construction-related and operational emission (pp. 38, 39).

1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 181 | Dwelling Unit | 2.27 | 173,760 | 2,000 | — | 536 | — |
| Enclosed Parking with Elevator | 378 | Space | 0.00 | 151,200 | 0.00 | — | — | — |
| Strip Mall | 4.00 | 1000sqft | 0.00 | 4,000 | 800 | — | — | — |
| City Park | 1.00 | Acre | 0.00 | 0.00 | 21,825 | 21,825 | — | Private/Public Open Space |
| High Turnover (Sit Down Restaurant) | 5.00 | 1000sqft | 0.00 | 5,000 | 1,000 | — | — | — |
| General Office Building | 5.00 | 1000sqft | 0.00 | 5,000 | 1,000 | — | — | — |

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

| Year |
|---|
| Daily - Summer (Max) |
| Daily - Winter (Max) |
| Average Daily |
| Annual |

*Note: Only sections 1.2, 1.3, 2.1, and 2.2 are included for reader clarity.*

Without access to specific emissions values, we are unable to verify the potential significance or accuracy of the Project's model. Furthermore, the "Arcadia Town Center v2" model does not include the "User Changes to Default" table. (Appendix A, pp. 54)

Arcadia Town Center v2 Detailed Report, 8/4/2023

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Without access to the "User Changes to Default Data" table, we are unable to verify whether changes were made to the model's default values. CEQA requires public disclosure of environmental impacts to

ensure transparency with regards to potential environmental impacts of land use developments.[2] An EIR should be prepared to disclose the Project's complete CalEEMod output files and adhere to CEQA's formal guidelines.

## Diesel Particulate Matter Emissions Inadequately Evaluated

The IS/MND determines that the Project would result in a negligible health risk impact without conducting a construction health risk analysis ("HRA"). CEQA requires all proposed projects to connect their emissions with potential adverse impacts on human health caused by those emissions.[3] As the IS/MND does not establish a connection between the Project's construction-related diesel particulate matter ("DPM") emissions and potential health risks to nearby sensitive receptors, the Project violates CEQA's requirement. Additionally, the IS/MND does not compare the Project's excess cancer risk to the South Coast Air Quality Management District's ("SCAQMD") threshold of 10 in one million.[4]

An assessment of the health risk posed to nearby existing receptors due to Project construction should be conducted to comply with the most relevant guidance.

## Screening-Level Analysis Demonstrates Potentially Significant Health Risk Impact

We conducted an HRA using AERSCREEN, a screening-level air quality dispersion model that estimates maximum potential concentrations of air contaminants affecting nearby sensitive receptors.[5] If AERSCREEN indicates a potential air quality hazard, a detailed modeling analysis is required before Project approval. [6]

To conduct a preliminary, screening-level construction HRA, it is necessary to have an estimate of the Project's annual particulate matter 10 ("$PM_{10}$") exhaust emissions.[7] However, as detailed in the section of this letter titled *Failure to Provide Complete CalEEMod Output Files,* the Project's CalEEMod files exclude the projected values for construction-related emissions. In the absence of this requisite information, we created a model using the Project-specific details provided in the IS/MND and related documents to estimate $PM_{10}$ emissions.

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[2] "Environmental Review Guidelines." San Diego County Air Pollution Control District, September 2024*, available at*: https://www.sdapcd.org/content/dam/sdapcd/documents/grants/planning/ceqa/DRAFT-SDAPCD-CEQA-Guidelines.pdf#:~:text=It%20is%20intended%20to%20require%20public%20disclosure,under%20what%20circumstances%20to%20approve%20such%20projects.&text=In%20accordance%20with%20Section%2015063%20of%20the,have%20a%20significant%20effect%20on%20the%20environment.

[3] "Sierra Club v. County of Fresno." Supreme Court of California, December 2018, a*vailable at:* https://ceqaportal.org/decisions/1907/Sierra%20Club%20v.%20County%20of%20Fresno.pdf.

[4] "South Coast AQMD Air Quality Significance Thresholds." SCAQMD, March 2023, *available at*: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf?sfvrsn=25.

[5] "Air Quality Dispersion Modeling - Screening Models," U.S. EPA, *available at:* https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models.

[6] "Guidelines for Exposure Assessment." U.S. Environmental Protection Agency, 1992, *available at:* https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=15263.

[7] "Inhalable Particulate Matter and Health (PM2.5 and PM10)." CARB, *available at:* https://ww2.arb.ca.gov/resources/inhalable-particulate-matter-and-health.

Our analysis included 173,760-SF of "Apartments Mid Rise," 151,200-SF of "Enclosed Parking with Elevator," 4,000-SF of "Strip Mall," 1-acre of "City Park," 5,000-SF of "User Defined Commercial," and 5,000-SF of "General Office Building," consistent with the Project's original model. Additionally, as the Project's construction duration was not properly justified or disclosed, we developed a proportionately altered construction schedule to match the total construction duration of 29 months (IS/MND, p. 2-11).[8] All other values were left as default.[9]

Following Office of Environmental Health Hazard Assessment's ("OEHHA") recommendations, we began residential exposure at the third trimester of life. Our CalEEMod emissions indicate that construction will produce approximately 380 pounds of diesel particulate matter ("DPM") over the 730-day period.[10] The AERSCREEN model simulates maximum concentrations from emission sources using an average emission rate. We calculated this average DPM emission rate to account for variations in equipment usage and truck trips during construction using the following equation:

$$\text{Emission Rate } \left(\frac{\text{grams}}{\text{second}}\right) = \frac{380 \text{ lbs}}{730 \text{ days}} \times \frac{453.6 \text{ grams}}{\text{lbs}} \times \frac{1 \text{ day}}{24 \text{ hours}} \times \frac{1 \text{ hour}}{3{,}600 \text{ seconds}} = \mathbf{0.00144\ g/s}$$

We estimated a construction emission rate of 0.00144 grams per second ("g/s"). Construction was simulated as a 2.27-acre rectangular area source in AERSCREEN, with approximate dimensions of 136- by 68-meters. A release height of 3 meters was selected to represent the height of stacks of 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 population of the city of Arcadia was obtained from U.S. 2023 Census data.[11]

The AERSCREEN model generates maximum reasonable estimates of single-hour DPM concentrations from the Project Site. U.S. Environmental Protection Agency ("U.S. EPA") guidance suggests that in screening procedures, the annualized average concentration of an air pollutant to be estimated by multiplying the single-hour concentration by 10%.[12] According to the AERSCREEN output files the maximally exposed individual receptor would be located 75 meters from the Project site. However, the IS/MD states that the nearest sensitive receptors are residences located approximately 280 feet, or 85 meters, from the Project site (p. 3-10). The single-hour concentration estimated by AERSCREEN for Project construction is 2.670 µg/m$^3$ DPM at around 100 meters downwind.[13] Multiplying this single-hour

[8] See Attachment A for the proportionately altered construction phases' calculations.
[9] See Attachment B for SWAPE's CalEEMod output files.
[10] See Attachment C for health risk calculations.
[11] "Arcadia" U.S. Census Bureau, 2023, *available at:* https://datacommons.org/place/geoId/0602462?q=arcadia.
[12] "Screening Procedures for Estimating the Air Quality Impact of Stationary Sources Revised." U.S. EPA, October 1992, *available at:* https://www.epa.gov/sites/default/files/2020-09/documents/epa-454r-92-019_ocr.pdf.
[13] *Note:* AERSCREEN output files come in increments of 25 meters, so our emissions calculations are slightly underestimated.

concentration by 10%, we get an annualized average concentration of 0.2670 µg/m$^3$ for Project construction at the nearest sensitive receptor.[14]

The excess cancer risk to the nearest sensitive receptor was calculated using applicable HRA methodologies as prescribed by OEHHA, in accordance with SCAQMD recommendation. [15] Guidance from OEHHA and California Air Resources Board ("CARB") suggests utilizing a standard point estimate approach, with high-point estimate breathing rates and age sensitivity factors ("ASF") to accurately assess risk, especially for susceptible populations like children. The residential exposure parameters considered in our screening-level HRA include daily breathing rates, exposure duration, ASFs, fraction of time at home, and exposure frequency for different age groups (see table below).

**Exposure Assumptions for Residential Individual Cancer Risk**

| Age Group | Breathing Rate (L/kg-day)[16] | Age Sensitivity Factor[17] | Exposure Duration (years) | Fraction of Time at Home[18] | Exposure Frequency (days/year)[19] | Exposure Time (hours/day) |
|---|---|---|---|---|---|---|
| 3rd Trimester | 361 | 10 | 0.25 | 1 | 350 | 24 |
| Infant (0 – 2) | 1090 | 10 | 2 | 1 | 350 | 24 |
| Child (2 – 16) | 572 | 3 | 14 | 1 | 350 | 24 |
| Adult (16 – 30) | 261 | 1 | 14 | 0.73 | 350 | 24 |

The procedure requires the incorporation of several discrete variates to effectively quantify dose per age group for the inhalation pathway. Contaminate dose is then multiplied by the cancer potency factor in units of inverse dose expressed in milligrams per kilogram per day (mg/kg/day$^{-1}$) to derive the cancer risk estimate. The following dose algorithm was used to assess exposure assumptions:

[14] See Attachment D for AERSCREEN output files.
[15] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "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.
[16] "Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics 'Hot Spots' Information and Assessment Act." SCAQMD, October 2020, available at: http://www.aqmd.gov/docs/default-source/planning/risk-assessment/ab-2588-supplemental-guidelines.pdf?sfvrsn=19, p. 19; see also "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.
[17] "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, p. 8-5 Table 8.3.
[18] "Risk Assessment Procedures." SCAQMD, August 2017, available at: http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1401/riskassessmentprocedures_2017_080717.pdf, p. 7.
[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, p. 5-24.

$$\text{Dose}_{\text{AIR,per age group}} = \text{C}_{\text{air}} \times \text{EF} \times \left[\frac{\text{BR}}{\text{BW}}\right] \times \text{A} \times \text{CF}$$

where:

$\text{Dose}_{\text{AIR}}$ = dose by inhalation (mg/kg/day), per age group
$\text{C}_{\text{air}}$ = concentration of contaminant in air (µg/m3)
EF = exposure frequency (number of days/365 days)
BR/BW = daily breathing rate normalized to body weight (L/kg/day)
A = inhalation absorption factor (default = 1)
CF = conversion factor (1x10-6, µg to mg, L to m3)

We used the following equation to calculate the overall cancer risk per appropriate age group:

$$\text{Cancer Risk}_{\text{AIR}} = \text{Dose}_{\text{AIR}} \times \text{CPF} \times \text{ASF} \times \text{FAH} \times \frac{\text{ED}}{\text{AT}}$$

where:

$\text{Dose}_{\text{AIR}}$ = dose by inhalation (mg/kg/day), per age group
CPF = cancer potency factor, chemical-specific $(\text{mg/kg/day})^{-1}$
ASF = age sensitivity factor, per age group
FAH = fraction of time at home, per age group (for residential receptors only)
ED = exposure duration (years)
AT = averaging time period over which exposure duration is averaged (always 70 years)

Consistent with the 730-day construction schedule, the annualized average concentration for construction was used for the entire third trimester of pregnancy (0.25 years) and the first 1.75 years of the infantile stage of life (0 – 2 years). The results of our calculations are shown in the table below.

**The Maximally Exposed Individual at an Existing Residential Receptor During Project Construction**

| **Age Group** | **Duration** (years) | **Concentration** (ug/m3) | **Cancer Risk** |
|---|---|---|---|
| 3rd Trimester | 0.25 | 0.2670 | 3.63E-06 |
| Infant (0 - 2) | 1.75 | 0.2670 | 7.67E-05 |
| **Construction** | **2** | | **8.04E-05** |

The excess cancer risks for the 3rd trimester of pregnancy and infant stage of life at the nearest sensitive receptor, over the course of Project construction are approximately 3.63 and 76.7 in one million, respectively. The excess cancer risk over just the course of the Project construction is approximately

80.4 in one million, which exceeds the SCAQMD threshold of 10 in one million. This results in a potentially significant impact not previously addressed or identified in the IS/MND.

Our analysis represents a conservative screening-level HRA, which prioritizes public health. It is used to show the potential correlation between Project emissions and adverse health risks. The U.S. EPA recommends the use of a screening-level analysis as the first phase of a tiered approach to conducting exposure assumptions, as outlined in their Exposure Assessment Guidelines.[20] Screening-level analyses require further evaluation with more developed modeling. Our initial HRA demonstrates that Project construction could lead to significant health risks. An EIR should be prepared to include a comprehensive HRA that properly evaluates impacts from construction.

# Greenhouse Gas

## Failure to Adequately Evaluate Greenhouse Gas Impacts

The IS/MND estimates that the Project will produce a net annual GHG emissions of 2,181-metric-tons of carbon dioxide equivalents per year ("MT $CO_2e$/year") (p. 3-50, Table 17).

**TABLE 17**
**ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS FROM PROJECT OPERATION**

| Source | Emissions ($MTCO_2e$/yr.) |
|---|---|
| Mobile | 1,519 |
| Energy | 528 |
| Water | 51 |
| Waste | 63 |
| Refrigerants | 2 |
| Stationary | 18 |
| **Total** | **2,181** |

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

The IS/MND indicates that the GHG emission values are included in Appendix A. However, as previously addressed, the IS/MND's CalEEMod output files do not provide the emissions estimates or include any relevant inputs beyond the land uses. We are therefore unable to verify the legitimacy of the estimates presented in the table above and, as such, the Project's GHG emissions could be underestimated. Until an EIR is prepared to include complete CalEEMod output files we cannot ensure the Project's GHG emissions are accurately calculated and the IS/MND's GHG analysis should not be relied upon for Project significance.

# Mitigation

## Feasible Mitigation Measures Available to Reduce Emissions

As the Project would result in a potentially significant health risk impact to individuals in the community surrounding the Project site, the IS/MND must include all feasible mitigation to address the Project's potential air quality and health risks. According to CEQA Guidelines § 15096(g)(2):

[20] "Guidelines for Exposure Assessment." U.S. Environmental Protection Agency, 1992, *available at:* https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=15263.

"When an updated EIR has been prepared for a project, the Responsible Agency shall not approve the project as proposed if the agency finds any feasible alternative or feasible mitigation measures within its powers that would substantially lessen or avoid any significant effect the project would have on the environment."

The IS/MND should evaluate the following mitigation measures to reduce the DPM emissions associated with Project construction (see list below).

The Southern California Association of Governments' 2020 Regional Transportation Plan/Sustainable Communities Strategy Program Environmental Impact Report provides the following mitigation measures:[21]

- Minimize unnecessary vehicular and machinery activities.
- Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project.
- Ensure all construction equipment is properly tuned and maintained.
- Minimizing idling time to 5 minutes or beyond regulatory requirements —saves fuel and reduces emissions.
- Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- Develop a traffic plan to minimize community impacts due to traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. Project sponsors should consider developing a goal for the minimization of community impacts.
- Require projects to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). If construction equipment cannot meet to Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should make available for inspection and

[21] "4.0 Mitigation Measures." Connect SoCal Program Environmental Impact Report Addendum #1, September 2020, available at: https://scag.ca.gov/sites/main/files/file-attachments/fpeir_connectsocal_addendum_4_mitigationmeasures.pdf?1606004420, p. 4.0-2 – 4.0-10; 4.0-19 – 4.0-23; See also: "Certified Final Connect SoCal Program Environmental Impact Report." SCAG, May 2020, *available at:* https://scag.ca.gov/peir.

remain on-site for a period of at least two years from completion of construction, unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Project sponsors should also consider including ZE/ZNE technologies where appropriate and feasible.

The CalEEMod User's Guide confirms that the methods for mitigating DPM emissions include the use of "alternative fuel, electric equipment, diesel particulate filters (DPF), oxidation catalysts, newer tier engines, and dust suppression."[22]

The proposed mitigation measures would effectively reduce Project-related DPM emissions by integrating lower-emitting design features into the Project, thereby minimizing emissions during construction. An EIR should be prepared to include all feasible mitigation measures and updated air quality, health risk, and GHG analyses. This will ensure that necessary mitigation measures are implemented to reduce emissions to the greatest extent possible.

## Disclaimer

SWAPE has received limited documentation regarding this project. Additional information may become available in the future; thus, we retain the right to revise or amend this report when additional information becomes available. Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable environmental consultants practicing in this or similar localities at the time of service. No other warranty, expressed or implied, is made as to the scope of work, work methodologies and protocols, site conditions, analytical testing results, and findings presented. This report reflects efforts which were limited to information that was reasonably accessible at the time of the work, and may contain informational gaps, inconsistencies, or otherwise be incomplete due to the unavailability or uncertainty of information obtained or provided by third parties.

Sincerely,



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



Paul E. Rosenfeld, Ph.D.

[22] "Calculation Details for CalEEMod." CAPCOA, May 2021, *available at:* http://www.aqmd.gov/docs/default-source/caleemod/user-guide-2021/appendix-a2020-4-0.pdf?sfvrsn=6, Appendix A, p. 60.

**Attachment A: Construction Calculations**
**Attachment B: CalEEMod Output Files**
**Attachment C: Health Risk Calculations**
**Attachment D: AERSCREEN Output Files**
**Attachment E: Matt Hagemann CV**
**Attachment F: Paul Rosenfeld CV**

| Construction Schedule Calculations | | | | | |
|---|---|---|---|---|---|
| Phase | Default Phase Length | Construction Duration | % | Construction Duration | Revised Phase Length |
| Demolition | 20 | 381 | 0.0525 | 891 | 47 |
| Site Preparation | 3 | 381 | 0.0079 | 891 | 7 |
| Grading | 6 | 381 | 0.0157 | 891 | 14 |
| Construction | 220 | 381 | 0.5774 | 891 | 514 |
| Paving | 10 | 381 | 0.0262 | 891 | 23 |
| Architectural Coating | 10 | 381 | 0.0262 | 891 | 23 |

| | Total Default Construction Duration | Revised Construction Duration |
|---|---|---|
| Start Date | 1/1/2026 | 1/1/2026 |
| End Date | 1/17/2027 | 6/10/2028 |
| Total Days | 381 | 891 |

# Arcadia Town Center Detailed Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | Arcadia Town Center |
| Construction Start Date | 1/1/2026 |
| Operational Year | 2028 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 0.50 |
| Precipitation (days) | 24.4 |
| Location | 34.140403578150526, -118.03194606892856 |
| County | Los Angeles-South Coast |
| City | Arcadia |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 4922 |
| EDFZ | 7 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southern California Gas |
| App Version | 2022.1.1.29 |

## 1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 181 | Dwelling Unit | 2.27 | 173,760 | 2,000 | — | 536 | — |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Enclosed Parking with Elevator | 378 | Space | 0.00 | 151,200 | 0.00 | — | — | — |
| City Park | 1.00 | Acre | 0.00 | 0.00 | 21,825 | 21,825 | — | — |
| User Defined Recreational | 5.00 | User Defined Unit | 0.00 | 5,000 | 1,000 | 1,000 | — | — |
| Strip Mall | 4.00 | 1000sqft | 0.09 | 4,000 | 800 | — | — | — |
| General Office Building | 5.00 | 1000sqft | 0.11 | 5,000 | 1,000 | — | — | — |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

# 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 3.71 | 1.95 | 45.7 | 27.6 | 0.21 | 0.93 | 14.7 | 15.6 | 0.89 | 5.49 | 6.38 | — | 29,843 | 29,843 | 1.62 | 4.38 | 61.6 | 31,250 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 3.67 | 1.95 | 47.0 | 27.6 | 0.21 | 0.93 | 14.7 | 15.6 | 0.89 | 5.49 | 6.38 | — | 29,847 | 29,847 | 1.62 | 4.38 | 1.60 | 31,194 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.62 | 1.33 | 10.4 | 16.5 | 0.03 | 0.31 | 2.16 | 2.47 | 0.28 | 0.59 | 0.87 | — | 4,825 | 4,825 | 0.22 | 0.34 | 4.01 | 4,936 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.30 | 0.24 | 1.89 | 3.01 | 0.01 | 0.06 | 0.40 | 0.45 | 0.05 | 0.11 | 0.16 | — | 799 | 799 | 0.04 | 0.06 | 0.66 | 817 |

## 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2026 | 3.71 | 1.95 | 45.7 | 27.6 | 0.21 | 0.93 | 14.7 | 15.6 | 0.89 | 5.49 | 6.38 | — | 29,843 | 29,843 | 1.62 | 4.38 | 61.6 | 31,250 |
| 2027 | 2.25 | 1.88 | 11.9 | 24.4 | 0.03 | 0.33 | 3.00 | 3.33 | 0.31 | 0.72 | 1.03 | — | 6,262 | 6,262 | 0.26 | 0.31 | 11.9 | 6,373 |
| 2028 | 0.79 | 0.66 | 5.58 | 9.02 | 0.01 | 0.20 | 0.52 | 0.54 | 0.19 | 0.12 | 0.23 | — | 1,440 | 1,440 | 0.05 | 0.02 | 1.48 | 1,447 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2026 | 3.67 | 1.95 | 47.0 | 27.6 | 0.21 | 0.93 | 14.7 | 15.6 | 0.89 | 5.49 | 6.38 | — | 29,847 | 29,847 | 1.62 | 4.38 | 1.60 | 31,194 |
| 2027 | 2.24 | 1.86 | 12.1 | 22.6 | 0.03 | 0.33 | 3.00 | 3.33 | 0.31 | 0.72 | 1.03 | — | 6,126 | 6,126 | 0.18 | 0.31 | 0.31 | 6,223 |
| 2028 | 2.15 | 1.78 | 11.5 | 21.9 | 0.03 | 0.30 | 3.00 | 3.29 | 0.27 | 0.72 | 0.99 | — | 6,049 | 6,049 | 0.17 | 0.31 | 0.28 | 6,145 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2026 | 1.62 | 1.30 | 10.4 | 15.9 | 0.03 | 0.31 | 2.16 | 2.47 | 0.28 | 0.59 | 0.87 | — | 4,825 | 4,825 | 0.22 | 0.34 | 4.01 | 4,936 |
| 2027 | 1.60 | 1.33 | 8.68 | 16.5 | 0.02 | 0.24 | 2.11 | 2.34 | 0.22 | 0.51 | 0.72 | — | 4,402 | 4,402 | 0.13 | 0.22 | 3.68 | 4,474 |
| 2028 | 0.42 | 0.35 | 2.31 | 4.43 | 0.01 | 0.06 | 0.53 | 0.59 | 0.06 | 0.13 | 0.18 | — | 1,130 | 1,130 | 0.03 | 0.05 | 0.83 | 1,148 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2026 | 0.30 | 0.24 | 1.89 | 2.90 | 0.01 | 0.06 | 0.40 | 0.45 | 0.05 | 0.11 | 0.16 | — | 799 | 799 | 0.04 | 0.06 | 0.66 | 817 |
| 2027 | 0.29 | 0.24 | 1.58 | 3.01 | < 0.005 | 0.04 | 0.38 | 0.43 | 0.04 | 0.09 | 0.13 | — | 729 | 729 | 0.02 | 0.04 | 0.61 | 741 |
| 2028 | 0.08 | 0.06 | 0.42 | 0.81 | < 0.005 | 0.01 | 0.10 | 0.11 | 0.01 | 0.02 | 0.03 | — | 187 | 187 | 0.01 | 0.01 | 0.14 | 190 |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 62.8 | 57.1 | 7.13 | 142 | 0.32 | 13.0 | 7.62 | 20.7 | 12.8 | 1.94 | 14.7 | 1,788 | 14,202 | 15,990 | 14.9 | 0.43 | 23.9 | 16,513 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 60.5 | 55.0 | 7.22 | 122 | 0.31 | 13.0 | 7.62 | 20.6 | 12.8 | 1.94 | 14.7 | 1,788 | 13,807 | 15,595 | 14.9 | 0.44 | 1.87 | 16,101 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 13.0 | 12.1 | 3.67 | 46.8 | 0.09 | 0.99 | 7.03 | 8.01 | 0.96 | 1.79 | 2.75 | 208 | 10,417 | 10,626 | 10.1 | 0.37 | 10.4 | 10,999 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 2.36 | 2.21 | 0.67 | 8.54 | 0.02 | 0.18 | 1.28 | 1.46 | 0.18 | 0.33 | 0.50 | 34.5 | 1,725 | 1,759 | 1.68 | 0.06 | 1.73 | 1,821 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 4.07 | 3.69 | 2.66 | 31.9 | 0.08 | 0.05 | 7.62 | 7.67 | 0.04 | 1.94 | 1.98 | — | 8,161 | 8,161 | 0.37 | 0.31 | 22.6 | 8,286 |
| Area | 58.7 | 53.4 | 3.91 | 110 | 0.24 | 12.9 | — | 12.9 | 12.7 | — | 12.7 | 1,695 | 3,296 | 4,992 | 5.06 | 0.06 | — | 5,137 |
| Energy | 0.06 | 0.03 | 0.55 | 0.25 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 2,660 | 2,660 | 0.18 | 0.02 | — | 2,670 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 15.2 | 84.7 | 99.9 | 1.56 | 0.04 | — | 150 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 77.0 | 0.00 | 77.0 | 7.69 | 0.00 | — | 269 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.28 | 1.28 |
| Total | 62.8 | 57.1 | 7.13 | 142 | 0.32 | 13.0 | 7.62 | 20.7 | 12.8 | 1.94 | 14.7 | 1,788 | 14,202 | 15,990 | 14.9 | 0.43 | 23.9 | 16,513 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mobile | 4.03 | 3.65 | 2.91 | 29.4 | 0.08 | 0.05 | 7.62 | 7.67 | 0.04 | 1.94 | 1.98 | — | 7,823 | 7,823 | 0.39 | 0.33 | 0.59 | 7,931 |
| Area | 56.5 | 51.3 | 3.76 | 92.0 | 0.23 | 12.9 | — | 12.9 | 12.7 | — | 12.7 | 1,695 | 3,239 | 4,935 | 5.05 | 0.06 | — | 5,080 |
| Energy | 0.06 | 0.03 | 0.55 | 0.25 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 2,660 | 2,660 | 0.18 | 0.02 | — | 2,670 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 15.2 | 84.7 | 99.9 | 1.56 | 0.04 | — | 150 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 77.0 | 0.00 | 77.0 | 7.69 | 0.00 | — | 269 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.28 | 1.28 |
| Total | 60.5 | 55.0 | 7.22 | 122 | 0.31 | 13.0 | 7.62 | 20.6 | 12.8 | 1.94 | 14.7 | 1,788 | 13,807 | 15,595 | 14.9 | 0.44 | 1.87 | 16,101 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 3.75 | 3.39 | 2.75 | 28.2 | 0.07 | 0.04 | 7.03 | 7.07 | 0.04 | 1.79 | 1.83 | — | 7,411 | 7,411 | 0.36 | 0.31 | 9.14 | 7,522 |
| Area | 9.14 | 8.69 | 0.37 | 18.3 | 0.02 | 0.90 | — | 0.90 | 0.88 | — | 0.88 | 116 | 261 | 377 | 0.35 | < 0.005 | — | 387 |
| Energy | 0.06 | 0.03 | 0.55 | 0.25 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 2,660 | 2,660 | 0.18 | 0.02 | — | 2,670 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 15.2 | 84.7 | 99.9 | 1.56 | 0.04 | — | 150 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 77.0 | 0.00 | 77.0 | 7.69 | 0.00 | — | 269 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.28 | 1.28 |
| Total | 13.0 | 12.1 | 3.67 | 46.8 | 0.09 | 0.99 | 7.03 | 8.01 | 0.96 | 1.79 | 2.75 | 208 | 10,417 | 10,626 | 10.1 | 0.37 | 10.4 | 10,999 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.68 | 0.62 | 0.50 | 5.16 | 0.01 | 0.01 | 1.28 | 1.29 | 0.01 | 0.33 | 0.33 | — | 1,227 | 1,227 | 0.06 | 0.05 | 1.51 | 1,245 |
| Area | 1.67 | 1.59 | 0.07 | 3.33 | < 0.005 | 0.16 | — | 0.16 | 0.16 | — | 0.16 | 19.2 | 43.2 | 62.4 | 0.06 | < 0.005 | — | 64.1 |
| Energy | 0.01 | 0.01 | 0.10 | 0.05 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 440 | 440 | 0.03 | < 0.005 | — | 442 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 2.52 | 14.0 | 16.5 | 0.26 | 0.01 | — | 24.9 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 12.7 | 0.00 | 12.7 | 1.27 | 0.00 | — | 44.6 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.21 | 0.21 |
| Total | 2.36 | 2.21 | 0.67 | 8.54 | 0.02 | 0.18 | 1.28 | 1.46 | 0.18 | 0.33 | 0.50 | 34.5 | 1,725 | 1,759 | 1.68 | 0.06 | 1.73 | 1,821 |

# 3. Construction Emissions Details

## 3.1. Demolition (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.66 | 1.39 | 12.9 | 14.6 | 0.02 | 0.51 | — | 0.51 | 0.47 | — | 0.47 | — | 2,494 | 2,494 | 0.10 | 0.02 | — | 2,503 |
| Demolition | — | — | — | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.21 | 0.18 | 1.67 | 1.88 | < 0.005 | 0.07 | — | 0.07 | 0.06 | — | 0.06 | — | 321 | 321 | 0.01 | < 0.005 | — | 322 |
| Demolition | — | — | — | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.04 | 0.03 | 0.30 | 0.34 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 53.2 | 53.2 | < 0.005 | < 0.005 | — | 53.4 |
| Demolition | — | — | — | — | — | — | 0.00 | 0.00 | — | 0.00 | 0.00 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.05 | 0.05 | 0.05 | 0.69 | 0.00 | 0.00 | 0.16 | 0.16 | 0.00 | 0.04 | 0.04 | — | 161 | 161 | 0.01 | 0.01 | 0.01 | 163 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.09 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 21.0 | 21.0 | < 0.005 | < 0.005 | 0.03 | 21.3 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.47 | 3.47 | < 0.005 | < 0.005 | 0.01 | 3.52 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |

## 3.3. Site Preparation (2026) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipm | 1.34 | 1.13 | 9.84 | 10.8 | 0.03 | 0.42 | — | 0.42 | 0.39 | — | 0.39 | — | 2,716 | 2,716 | 0.11 | 0.02 | — | 2,725 |
| Dust From Material Movement | — | — | — | — | — | — | 1.59 | 1.59 | — | 0.17 | 0.17 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.02 | 0.19 | 0.21 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 52.1 | 52.1 | < 0.005 | < 0.005 | — | 52.3 |
| Dust From Material Movement | — | — | — | — | — | — | 0.03 | 0.03 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.62 | 8.62 | < 0.005 | < 0.005 | — | 8.65 |
| Dust From Material Movement | — | — | — | — | — | — | 0.01 | 0.01 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.03 | 0.41 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.02 | 0.02 | — | 96.3 | 96.3 | < 0.005 | < 0.005 | 0.01 | 97.5 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.87 | 1.87 | < 0.005 | < 0.005 | < 0.005 | 1.90 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.31 | 0.31 | < 0.005 | < 0.005 | < 0.005 | 0.31 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |

## 3.5. Grading (2026) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.70 | 1.42 | 12.9 | 14.0 | 0.02 | 0.58 | — | 0.58 | 0.53 | — | 0.53 | — | 2,455 | 2,455 | 0.10 | 0.02 | — | 2,463 |
| Dust From Material Movement | — | — | — | — | — | — | 7.10 | 7.10 | — | 3.43 | 3.43 | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.70 | 1.42 | 12.9 | 14.0 | 0.02 | 0.58 | — | 0.58 | 0.53 | — | 0.53 | — | 2,455 | 2,455 | 0.10 | 0.02 | — | 2,463 |
| Dust From Material Movement | — | — | — | — | — | — | 7.10 | 7.10 | — | 3.43 | 3.43 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.07 | 0.05 | 0.49 | 0.54 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 94.2 | 94.2 | < 0.005 | < 0.005 | — | 94.5 |
| Dust From Material Movement | — | — | — | — | — | — | 0.27 | 0.27 | — | 0.13 | 0.13 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.09 | 0.10 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 15.6 | 15.6 | < 0.005 | < 0.005 | — | 15.6 |
| Dust From Material Movement | — | — | — | — | — | — | 0.05 | 0.05 | — | 0.02 | 0.02 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.04 | 0.65 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.03 | 0.03 | — | 135 | 135 | 0.01 | < 0.005 | 0.46 | 137 |
| Vendor | 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 | 0.00 |
| Hauling | 1.97 | 0.43 | 32.8 | 12.9 | 0.19 | 0.35 | 7.43 | 7.78 | 0.35 | 2.03 | 2.39 | — | 27,252 | 27,252 | 1.51 | 4.35 | 61.1 | 28,649 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.04 | 0.55 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.03 | 0.03 | — | 128 | 128 | 0.01 | < 0.005 | 0.01 | 130 |
| Vendor | 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 | 0.00 |
| Hauling | 1.93 | 0.41 | 34.1 | 13.0 | 0.19 | 0.35 | 7.43 | 7.78 | 0.35 | 2.03 | 2.39 | — | 27,264 | 27,264 | 1.51 | 4.35 | 1.59 | 28,601 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 5.00 | 5.00 | < 0.005 | < 0.005 | 0.01 | 5.07 |
| Vendor | 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 | 0.00 |
| Hauling | 0.07 | 0.02 | 1.32 | 0.50 | 0.01 | 0.01 | 0.28 | 0.30 | 0.01 | 0.08 | 0.09 | — | 1,045 | 1,045 | 0.06 | 0.17 | 1.01 | 1,098 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.83 | 0.83 | < 0.005 | < 0.005 | < 0.005 | 0.84 |
| Vendor | 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 | 0.00 |
| Hauling | 0.01 | < 0.005 | 0.24 | 0.09 | < 0.005 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01 | 0.02 | — | 173 | 173 | 0.01 | 0.03 | 0.17 | 182 |

## 3.7. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road | 1.41 | 1.18 | 10.1 | 11.8 | 0.02 | 0.36 | — | 0.36 | 0.33 | — | 0.33 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,208 |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.41 | 1.18 | 10.1 | 11.8 | 0.02 | 0.36 | — | 0.36 | 0.33 | — | 0.33 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,208 |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.74 | 0.62 | 5.32 | 6.19 | 0.01 | 0.19 | — | 0.19 | 0.17 | — | 0.17 | — | 1,159 | 1,159 | 0.05 | 0.01 | — | 1,163 |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.14 | 0.11 | 0.97 | 1.13 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 192 | 192 | 0.01 | < 0.005 | — | 192 |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.83 | 0.73 | 0.77 | 12.8 | 0.00 | 0.00 | 2.60 | 2.60 | 0.00 | 0.61 | 0.61 | — | 2,694 | 2,694 | 0.11 | 0.09 | 9.11 | 2,734 |
| Vendor | 0.10 | 0.04 | 1.60 | 0.77 | 0.01 | 0.02 | 0.40 | 0.42 | 0.01 | 0.11 | 0.12 | — | 1,447 | 1,447 | 0.06 | 0.21 | 3.91 | 1,514 |
| Hauling | 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 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.83 | 0.73 | 0.87 | 11.0 | 0.00 | 0.00 | 2.60 | 2.60 | 0.00 | 0.61 | 0.61 | — | 2,553 | 2,553 | 0.12 | 0.09 | 0.24 | 2,585 |
| Vendor | 0.10 | 0.04 | 1.67 | 0.79 | 0.01 | 0.02 | 0.40 | 0.42 | 0.01 | 0.11 | 0.12 | — | 1,448 | 1,448 | 0.06 | 0.21 | 0.10 | 1,511 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.43 | 0.38 | 0.50 | 6.04 | 0.00 | 0.00 | 1.35 | 1.35 | 0.00 | 0.32 | 0.32 | — | 1,364 | 1,364 | 0.06 | 0.05 | 2.08 | 1,382 |
| Vendor | 0.05 | 0.02 | 0.88 | 0.41 | 0.01 | 0.01 | 0.21 | 0.22 | 0.01 | 0.06 | 0.06 | — | 762 | 762 | 0.03 | 0.11 | 0.89 | 796 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.08 | 0.07 | 0.09 | 1.10 | 0.00 | 0.00 | 0.25 | 0.25 | 0.00 | 0.06 | 0.06 | — | 226 | 226 | 0.01 | 0.01 | 0.34 | 229 |
| Vendor | 0.01 | < 0.005 | 0.16 | 0.08 | < 0.005 | < 0.005 | 0.04 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 126 | 126 | 0.01 | 0.02 | 0.15 | 132 |
| Hauling | 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 | 0.00 |

## 3.9. Building Construction (2027) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.35 | 1.13 | 9.70 | 11.7 | 0.02 | 0.32 | — | 0.32 | 0.30 | — | 0.30 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,208 |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Roa Equipment | 1.35 | 1.13 | 9.70 | 11.7 | 0.02 | 0.32 | — | 0.32 | 0.30 | — | 0.30 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,208 |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Roa d Equipm ent | 0.97 | 0.81 | 6.93 | 8.36 | 0.02 | 0.23 | — | 0.23 | 0.21 | — | 0.21 | — | 1,572 | 1,572 | 0.06 | 0.01 | — | 1,577 |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Roa d Equipm ent | 0.18 | 0.15 | 1.26 | 1.53 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 260 | 260 | 0.01 | < 0.005 | — | 261 |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.80 | 0.71 | 0.69 | 11.9 | 0.00 | 0.00 | 2.60 | 2.60 | 0.00 | 0.61 | 0.61 | — | 2,642 | 2,642 | 0.11 | 0.09 | 8.23 | 2,681 |
| Vendor | 0.09 | 0.04 | 1.53 | 0.73 | 0.01 | 0.01 | 0.40 | 0.41 | 0.01 | 0.11 | 0.12 | — | 1,419 | 1,419 | 0.06 | 0.20 | 3.70 | 1,483 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.79 | 0.69 | 0.86 | 10.1 | 0.00 | 0.00 | 2.60 | 2.60 | 0.00 | 0.61 | 0.61 | — | 2,505 | 2,505 | 0.04 | 0.09 | 0.21 | 2,534 |
| Vendor | 0.09 | 0.04 | 1.59 | 0.74 | 0.01 | 0.01 | 0.40 | 0.41 | 0.01 | 0.11 | 0.12 | — | 1,420 | 1,420 | 0.06 | 0.20 | 0.10 | 1,480 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.57 | 0.49 | 0.61 | 7.59 | 0.00 | 0.00 | 1.83 | 1.83 | 0.00 | 0.43 | 0.43 | — | 1,815 | 1,815 | 0.03 | 0.07 | 2.53 | 1,839 |
| Vendor | 0.07 | 0.03 | 1.14 | 0.53 | 0.01 | 0.01 | 0.28 | 0.29 | 0.01 | 0.08 | 0.08 | — | 1,014 | 1,014 | 0.04 | 0.14 | 1.14 | 1,058 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.10 | 0.09 | 0.11 | 1.39 | 0.00 | 0.00 | 0.33 | 0.33 | 0.00 | 0.08 | 0.08 | — | 301 | 301 | < 0.005 | 0.01 | 0.42 | 304 |
| Vendor | 0.01 | 0.01 | 0.21 | 0.10 | < 0.005 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01 | 0.02 | — | 168 | 168 | 0.01 | 0.02 | 0.19 | 175 |
| Hauling | 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 | 0.00 |

## 3.11. Building Construction (2028) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.29 | 1.08 | 9.23 | 11.7 | 0.02 | 0.28 | — | 0.28 | 0.26 | — | 0.26 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,209 |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.21 | 0.18 | 1.52 | 1.92 | < 0.005 | 0.05 | — | 0.05 | 0.04 | — | 0.04 | — | 362 | 362 | 0.01 | < 0.005 | — | 363 |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Roa Equipment | 0.04 | 0.03 | 0.28 | 0.35 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 59.9 | 59.9 | < 0.005 | < 0.005 | — | 60.1 |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.77 | 0.67 | 0.77 | 9.53 | 0.00 | 0.00 | 2.60 | 2.60 | 0.00 | 0.61 | 0.61 | — | 2,460 | 2,460 | 0.03 | 0.09 | 0.19 | 2,489 |
| Vendor | 0.09 | 0.03 | 1.52 | 0.71 | 0.01 | 0.01 | 0.40 | 0.41 | 0.01 | 0.11 | 0.12 | — | 1,387 | 1,387 | 0.05 | 0.20 | 0.09 | 1,447 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.13 | 0.11 | 0.13 | 1.64 | 0.00 | 0.00 | 0.42 | 0.42 | 0.00 | 0.10 | 0.10 | — | 410 | 410 | 0.01 | 0.02 | 0.53 | 416 |
| Vendor | 0.02 | 0.01 | 0.25 | 0.12 | < 0.005 | < 0.005 | 0.06 | 0.07 | < 0.005 | 0.02 | 0.02 | — | 228 | 228 | 0.01 | 0.03 | 0.25 | 238 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.02 | 0.02 | 0.02 | 0.30 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.02 | 0.02 | — | 67.9 | 67.9 | < 0.005 | < 0.005 | 0.09 | 68.8 |
| Vendor | < 0.005 | < 0.005 | 0.05 | 0.02 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 37.7 | 37.7 | < 0.005 | 0.01 | 0.04 | 39.4 |
| Hauling | 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 | 0.00 |

## 3.13. Paving (2028) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Roa Equipment | 0.73 | 0.61 | 5.53 | 8.18 | 0.01 | 0.20 | — | 0.20 | 0.19 | — | 0.19 | — | 1,244 | 1,244 | 0.05 | 0.01 | — | 1,248 |
| Paving | 0.00 | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Roa d Equipm ent | 0.73 | 0.61 | 5.53 | 8.18 | 0.01 | 0.20 | — | 0.20 | 0.19 | — | 0.19 | — | 1,244 | 1,244 | 0.05 | 0.01 | — | 1,248 |
| Paving | 0.00 | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Roa d Equipm ent | 0.05 | 0.04 | 0.35 | 0.52 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 78.4 | 78.4 | < 0.005 | < 0.005 | — | 78.6 |
| Paving | 0.00 | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Roa d Equipm ent | 0.01 | 0.01 | 0.06 | 0.09 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 13.0 | 13.0 | < 0.005 | < 0.005 | — | 13.0 |
| Paving | 0.00 | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.05 | 0.85 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | — | 196 | 196 | < 0.005 | 0.01 | 0.56 | 198 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.06 | 0.72 | 0.00 | 0.00 | 0.20 | 0.20 | 0.00 | 0.05 | 0.05 | — | 186 | 186 | < 0.005 | 0.01 | 0.01 | 188 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 11.9 | 11.9 | < 0.005 | < 0.005 | 0.02 | 12.0 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 1.97 | 1.97 | < 0.005 | < 0.005 | < 0.005 | 1.99 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |

## 3.15. Architectural Coating (2028) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipm | 0.13 | 0.11 | 0.81 | 1.12 | < 0.005 | 0.02 | — | 0.02 | 0.01 | — | 0.01 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.01 | 0.01 | 0.05 | 0.07 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 8.41 | 8.41 | < 0.005 | < 0.005 | — | 8.44 |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 1.39 | 1.39 | < 0.005 | < 0.005 | — | 1.40 |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.15 | 0.14 | 0.14 | 2.24 | 0.00 | 0.00 | 0.52 | 0.52 | 0.00 | 0.12 | 0.12 | — | 519 | 519 | 0.01 | 0.02 | 1.48 | 526 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.01 | 0.01 | 0.01 | 0.13 | 0.00 | 0.00 | 0.03 | 0.03 | 0.00 | 0.01 | 0.01 | — | 31.5 | 31.5 | < 0.005 | < 0.005 | 0.04 | 31.9 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 5.21 | 5.21 | < 0.005 | < 0.005 | 0.01 | 5.28 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |

# 4. Operations Emissions Details

## 4.1. Mobile Emissions by Land Use

### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 3.30 | 2.99 | 2.15 | 25.8 | 0.06 | 0.04 | 6.14 | 6.18 | 0.04 | 1.56 | 1.60 | — | 6,574 | 6,574 | 0.30 | 0.25 | 18.2 | 6,675 |
| Enclosed Parking with Elevator | 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 | 0.00 |
| City Park | 0.01 | 0.01 | < 0.005 | 0.06 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 15.2 | 15.2 | < 0.005 | < 0.005 | 0.04 | 15.5 |
| User Defined Recreational | 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 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Strip Mall | 0.60 | 0.54 | 0.40 | 4.80 | 0.01 | 0.01 | 1.15 | 1.16 | 0.01 | 0.29 | 0.30 | — | 1,233 | 1,233 | 0.06 | 0.05 | 3.42 | 1,252 |
| General Office Building | 0.16 | 0.15 | 0.11 | 1.32 | < 0.005 | < 0.005 | 0.32 | 0.32 | < 0.005 | 0.08 | 0.08 | — | 339 | 339 | 0.02 | 0.01 | 0.94 | 344 |
| Total | 4.07 | 3.69 | 2.66 | 31.9 | 0.08 | 0.05 | 7.62 | 7.67 | 0.04 | 1.94 | 1.98 | — | 8,161 | 8,161 | 0.37 | 0.31 | 22.6 | 8,286 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 3.27 | 2.96 | 2.35 | 23.7 | 0.06 | 0.04 | 6.14 | 6.18 | 0.04 | 1.56 | 1.60 | — | 6,302 | 6,302 | 0.31 | 0.27 | 0.47 | 6,389 |
| Enclosed Parking with Elevator | 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 | 0.00 |
| City Park | 0.01 | 0.01 | 0.01 | 0.05 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 14.6 | 14.6 | < 0.005 | < 0.005 | < 0.005 | 14.8 |
| User Defined Recreational | 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 | 0.00 |
| Strip Mall | 0.59 | 0.54 | 0.44 | 4.41 | 0.01 | 0.01 | 1.15 | 1.16 | 0.01 | 0.29 | 0.30 | — | 1,182 | 1,182 | 0.06 | 0.05 | 0.09 | 1,198 |
| General Office Building | 0.16 | 0.15 | 0.12 | 1.21 | < 0.005 | < 0.005 | 0.32 | 0.32 | < 0.005 | 0.08 | 0.08 | — | 325 | 325 | 0.02 | 0.01 | 0.02 | 329 |
| Total | 4.03 | 3.65 | 2.91 | 29.4 | 0.08 | 0.05 | 7.62 | 7.67 | 0.04 | 1.94 | 1.98 | — | 7,823 | 7,823 | 0.39 | 0.33 | 0.59 | 7,931 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.56 | 0.51 | 0.41 | 4.22 | 0.01 | 0.01 | 1.05 | 1.06 | 0.01 | 0.27 | 0.27 | — | 1,003 | 1,003 | 0.05 | 0.04 | 1.24 | 1,018 |
| Enclosed Parking with Elevator | 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 | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| City Park | < 0.005 | < 0.005 | < 0.005 | 0.01 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.28 | 1.28 | < 0.005 | < 0.005 | < 0.005 | 1.30 |
| User Defined Recreational | 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 | 0.00 |
| Strip Mall | 0.10 | 0.09 | 0.07 | 0.76 | < 0.005 | < 0.005 | 0.19 | 0.19 | < 0.005 | 0.05 | 0.05 | — | 181 | 181 | 0.01 | 0.01 | 0.22 | 184 |
| General Office Building | 0.02 | 0.02 | 0.02 | 0.17 | < 0.005 | < 0.005 | 0.04 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 41.2 | 41.2 | < 0.005 | < 0.005 | 0.05 | 41.8 |
| Total | 0.68 | 0.62 | 0.50 | 5.16 | 0.01 | 0.01 | 1.28 | 1.29 | 0.01 | 0.33 | 0.33 | — | 1,227 | 1,227 | 0.06 | 0.05 | 1.51 | 1,245 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 967 | 967 | 0.06 | 0.01 | — | 971 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | — | 813 | 813 | 0.05 | 0.01 | — | 817 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| User Defined Recreational | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | 57.3 | 57.3 | < 0.005 | < 0.005 | — | 57.5 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 130 | 130 | 0.01 | < 0.005 | — | 130 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 1,968 | 1,968 | 0.12 | 0.01 | — | 1,975 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 967 | 967 | 0.06 | 0.01 | — | 971 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | — | 813 | 813 | 0.05 | 0.01 | — | 817 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| User Defined Recreational | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | 57.3 | 57.3 | < 0.005 | < 0.005 | — | 57.5 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 130 | 130 | 0.01 | < 0.005 | — | 130 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 1,968 | 1,968 | 0.12 | 0.01 | — | 1,975 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 160 | 160 | 0.01 | < 0.005 | — | 161 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | — | 135 | 135 | 0.01 | < 0.005 | — | 135 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| User Defined Recreational | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | 9.48 | 9.48 | < 0.005 | < 0.005 | — | 9.52 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 21.5 | 21.5 | < 0.005 | < 0.005 | — | 21.6 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 326 | 326 | 0.02 | < 0.005 | — | 327 |

### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.06 | 0.03 | 0.51 | 0.22 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 644 | 644 | 0.06 | < 0.005 | — | 646 |
| Enclosed Parking with Elevator | 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 |
| City Park | 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 |
| User Defined Recreational | 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 |
| Strip Mall | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 7.67 | 7.67 | < 0.005 | < 0.005 | — | 7.70 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 40.6 | 40.6 | < 0.005 | < 0.005 | — | 40.7 |
| Total | 0.06 | 0.03 | 0.55 | 0.25 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 693 | 693 | 0.06 | < 0.005 | — | 694 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.06 | 0.03 | 0.51 | 0.22 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 644 | 644 | 0.06 | < 0.005 | — | 646 |
| Enclosed Parking with Elevator | 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 |
| City Park | 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 |
| User Defined Recreational | 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 |
| Strip Mall | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 7.67 | 7.67 | < 0.005 | < 0.005 | — | 7.70 |
| General Office Building | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 40.6 | 40.6 | < 0.005 | < 0.005 | — | 40.7 |
| Total | 0.06 | 0.03 | 0.55 | 0.25 | < 0.005 | 0.04 | — | 0.04 | 0.04 | — | 0.04 | — | 693 | 693 | 0.06 | < 0.005 | — | 694 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.01 | 0.01 | 0.09 | 0.04 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 107 | 107 | 0.01 | < 0.005 | — | 107 |
| Enclosed Parking with Elevator | 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 |
| City Park | 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 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Recreational | 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 |
| Strip Mall | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 1.27 | 1.27 | < 0.005 | < 0.005 | — | 1.27 |
| General Office Building | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 6.72 | 6.72 | < 0.005 | < 0.005 | — | 6.74 |
| Total | 0.01 | 0.01 | 0.10 | 0.05 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 115 | 115 | 0.01 | < 0.005 | — | 115 |

## 4.3. Area Emissions by Source

### 4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 52.4 | 47.3 | 3.76 | 92.0 | 0.23 | 12.9 | — | 12.9 | 12.7 | — | 12.7 | 1,695 | 3,239 | 4,935 | 5.05 | 0.06 | — | 5,080 |
| Consumer Products | 4.03 | 4.03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 2.22 | 2.08 | 0.16 | 17.5 | < 0.005 | 0.02 | — | 0.02 | 0.01 | — | 0.01 | — | 57.0 | 57.0 | < 0.005 | < 0.005 | — | 57.2 |
| Total | 58.7 | 53.4 | 3.91 | 110 | 0.24 | 12.9 | — | 12.9 | 12.7 | — | 12.7 | 1,695 | 3,296 | 4,992 | 5.06 | 0.06 | — | 5,137 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 52.4 | 47.3 | 3.76 | 92.0 | 0.23 | 12.9 | — | 12.9 | 12.7 | — | 12.7 | 1,695 | 3,239 | 4,935 | 5.05 | 0.06 | — | 5,080 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Consumer Products | 4.03 | 4.03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 56.5 | 51.3 | 3.76 | 92.0 | 0.23 | 12.9 | — | 12.9 | 12.7 | — | 12.7 | 1,695 | 3,239 | 4,935 | 5.05 | 0.06 | — | 5,080 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hearths | 0.66 | 0.59 | 0.05 | 1.15 | < 0.005 | 0.16 | — | 0.16 | 0.16 | — | 0.16 | 19.2 | 36.7 | 56.0 | 0.06 | < 0.005 | — | 57.6 |
| Consumer Products | 0.74 | 0.74 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Landscape Equipment | 0.28 | 0.26 | 0.02 | 2.18 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 6.46 | 6.46 | < 0.005 | < 0.005 | — | 6.49 |
| Total | 1.67 | 1.59 | 0.07 | 3.33 | < 0.005 | 0.16 | — | 0.16 | 0.16 | — | 0.16 | 19.2 | 43.2 | 62.4 | 0.06 | < 0.005 | — | 64.1 |

## 4.4. Water Emissions by Land Use

### 4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 12.9 | 67.2 | 80.1 | 1.33 | 0.03 | — | 123 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 5.26 | 5.26 | < 0.005 | < 0.005 | — | 5.28 |
| User Defined Recreational | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.24 | 0.24 | < 0.005 | < 0.005 | — | 0.24 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.57 | 3.03 | 3.59 | 0.06 | < 0.005 | — | 5.47 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 1.70 | 8.93 | 10.6 | 0.18 | < 0.005 | — | 16.3 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 15.2 | 84.7 | 99.9 | 1.56 | 0.04 | — | 150 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 12.9 | 67.2 | 80.1 | 1.33 | 0.03 | — | 123 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 5.26 | 5.26 | < 0.005 | < 0.005 | — | 5.28 |
| User Defined Recreational | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.24 | 0.24 | < 0.005 | < 0.005 | — | 0.24 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.57 | 3.03 | 3.59 | 0.06 | < 0.005 | — | 5.47 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 1.70 | 8.93 | 10.6 | 0.18 | < 0.005 | — | 16.3 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 15.2 | 84.7 | 99.9 | 1.56 | 0.04 | — | 150 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 2.14 | 11.1 | 13.3 | 0.22 | 0.01 | — | 20.3 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Enclose Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.87 | 0.87 | < 0.005 | < 0.005 | — | 0.87 |
| User Defined Recreational | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.04 | 0.04 | < 0.005 | < 0.005 | — | 0.04 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.09 | 0.50 | 0.60 | 0.01 | < 0.005 | — | 0.91 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 0.28 | 1.48 | 1.76 | 0.03 | < 0.005 | — | 2.69 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 2.52 | 14.0 | 16.5 | 0.26 | 0.01 | — | 24.9 |

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 72.2 | 0.00 | 72.2 | 7.21 | 0.00 | — | 252 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.05 | 0.00 | 0.05 | < 0.005 | 0.00 | — | 0.16 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| User Defined Recreational | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 2.26 | 0.00 | 2.26 | 0.23 | 0.00 | — | 7.92 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 2.51 | 0.00 | 2.51 | 0.25 | 0.00 | — | 8.77 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 77.0 | 0.00 | 77.0 | 7.69 | 0.00 | — | 269 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 72.2 | 0.00 | 72.2 | 7.21 | 0.00 | — | 252 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.05 | 0.00 | 0.05 | < 0.005 | 0.00 | — | 0.16 |
| User Defined Recreational | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 2.26 | 0.00 | 2.26 | 0.23 | 0.00 | — | 7.92 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 2.51 | 0.00 | 2.51 | 0.25 | 0.00 | — | 8.77 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 77.0 | 0.00 | 77.0 | 7.69 | 0.00 | — | 269 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 11.9 | 0.00 | 11.9 | 1.19 | 0.00 | — | 41.8 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.01 | 0.00 | 0.01 | < 0.005 | 0.00 | — | 0.03 |
| User Defined Recreational | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.37 | 0.00 | 0.37 | 0.04 | 0.00 | — | 1.31 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 0.41 | 0.00 | 0.41 | 0.04 | 0.00 | — | 1.45 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 12.7 | 0.00 | 12.7 | 1.27 | 0.00 | — | 44.6 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.24 | 1.24 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.02 | 0.02 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.01 | 0.01 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.28 | 1.28 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.24 | 1.24 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.02 | 0.02 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.01 | 0.01 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.28 | 1.28 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.21 | 0.21 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.21 | 0.21 |

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10. Soil Carbon Accumulation By Vegetation Type

### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|---|---|---|---|---|---|---|
| Demolition | Demolition | 1/1/2026 | 3/6/2026 | 5.00 | 47.0 | — |

| | | | | | | |
|---|---|---|---|---|---|---|
| Site Preparation | Site Preparation | 3/7/2026 | 3/17/2026 | 5.00 | 7.00 | — |
| Grading | Grading | 3/18/2026 | 4/6/2026 | 5.00 | 14.0 | — |
| Building Construction | Building Construction | 4/7/2026 | 3/24/2028 | 5.00 | 514 | — |
| Paving | Paving | 3/27/2028 | 4/26/2028 | 5.00 | 23.0 | — |
| Architectural Coating | Architectural Coating | 4/27/2028 | 5/29/2028 | 5.00 | 23.0 | — |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | Diesel | Average | 1.00 | 8.00 | 33.0 | 0.73 |
| Demolition | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Demolition | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |
| Site Preparation | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Site Preparation | Scrapers | Diesel | Average | 1.00 | 8.00 | 423 | 0.48 |
| Site Preparation | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 7.00 | 84.0 | 0.37 |
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Grading | Tractors/Loaders/Backhoes | Diesel | Average | 2.00 | 7.00 | 84.0 | 0.37 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Building Construction | Forklifts | Diesel | Average | 2.00 | 7.00 | 82.0 | 0.20 |
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 6.00 | 84.0 | 0.37 |
| Building Construction | Welders | Diesel | Average | 3.00 | 8.00 | 46.0 | 0.45 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Paving | Cement and Mortar Mixers | Diesel | Average | 1.00 | 8.00 | 10.0 | 0.56 |
| Paving | Pavers | Diesel | Average | 1.00 | 8.00 | 81.0 | 0.42 |
| Paving | Paving Equipment | Diesel | Average | 1.00 | 8.00 | 89.0 | 0.36 |
| Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Paving | Tractors/Loaders/Backhoes | Diesel | Average | 1.00 | 8.00 | 84.0 | 0.37 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Demolition | — | — | — | — |
| Demolition | Worker | 12.5 | 18.5 | LDA,LDT1,LDT2 |
| Demolition | Vendor | — | 10.2 | HHDT,MHDT |
| Demolition | Hauling | 0.00 | 20.0 | HHDT |
| Demolition | Onsite truck | — | — | HHDT |
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 7.50 | 18.5 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 10.2 | HHDT,MHDT |
| Site Preparation | Hauling | 0.00 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 10.0 | 18.5 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 10.2 | HHDT,MHDT |
| Grading | Hauling | 401 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |

| | | | | |
|---|---|---|---|---|
| Building Construction | Worker | 199 | 18.5 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 46.4 | 10.2 | HHDT,MHDT |
| Building Construction | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Paving | — | — | — | — |
| Paving | Worker | 15.0 | 18.5 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 10.2 | HHDT,MHDT |
| Paving | Hauling | 0.00 | 20.0 | HHDT |
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 39.8 | 18.5 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 10.2 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|---|

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (cy) | Material Exported (cy) | Acres Graded (acres) | Material Demolished (Ton of Debris) | Acres Paved (acres) |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Demolition | 0.00 | 0.00 | 0.00 | 0.00 | — |
| Site Preparation | — | — | 10.5 | 0.00 | — |
| Grading | — | 44,870 | 6.00 | 0.00 | — |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### 5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| Apartments Mid Rise | — | 0% |
| Enclosed Parking with Elevator | 0.00 | 100% |
| City Park | 0.00 | 0% |
| User Defined Recreational | 0.00 | 0% |
| Strip Mall | 0.00 | 0% |
| General Office Building | 0.00 | 0% |

## 5.8. Construction Electricity Consumption and Emissions Factors

### kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2026 | 0.00 | 532 | 0.03 | < 0.005 |
| 2027 | 0.00 | 532 | 0.03 | < 0.005 |
| 2028 | 0.00 | 532 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 985 | 889 | 740 | 341,650 | 8,659 | 7,815 | 6,510 | 3,004,398 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| City Park | 0.78 | 1.96 | 2.19 | 420 | 7.15 | 18.0 | 20.1 | 3,848 |
| User Defined Recreational | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 177 | 168 | 81.7 | 59,249 | 1,625 | 1,542 | 749 | 543,218 |
| General Office Building | 48.7 | 11.1 | 3.50 | 13,455 | 447 | 101 | 32.1 | 123,365 |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

| Hearth Type | Unmitigated (number) |
|---|---|
| Apartments Mid Rise | — |
| Wood Fireplaces | 9 |
| Gas Fireplaces | 154 |
| Propane Fireplaces | 0 |
| Electric Fireplaces | 0 |
| No Fireplaces | 18 |
| Conventional Wood Stoves | 0 |
| Catalytic Wood Stoves | 9 |
| Non-Catalytic Wood Stoves | 9 |
| Pellet Wood Stoves | 0 |

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|
| — | — | — | — | — |

### 5.10.3. Landscape Equipment

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 250 |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Apartments Mid Rise | 663,516 | 532 | 0.0330 | 0.0040 | 2,010,339 |
| Enclosed Parking with Elevator | 558,144 | 532 | 0.0330 | 0.0040 | 0.00 |
| City Park | 0.00 | 532 | 0.0330 | 0.0040 | 0.00 |
| User Defined Recreational | 0.00 | 532 | 0.0330 | 0.0040 | 0.00 |
| Strip Mall | 39,285 | 532 | 0.0330 | 0.0040 | 23,948 |
| General Office Building | 89,101 | 532 | 0.0330 | 0.0040 | 126,732 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Apartments Mid Rise | 6,746,558 | 34,282 |
| Enclosed Parking with Elevator | 0.00 | 0.00 |
| City Park | 0.00 | 680,192 |

| | | |
|---|---|---|
| User Defined Recreational | 0.00 | 31,166 |
| Strip Mall | 296,290 | 11,220 |
| General Office Building | 888,669 | 14,025 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Apartments Mid Rise | 134 | — |
| Enclosed Parking with Elevator | 0.00 | — |
| City Park | 0.09 | — |
| User Defined Recreational | 0.00 | — |
| Strip Mall | 4.20 | — |
| General Office Building | 4.65 | — |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | Average room A/C & Other residential A/C and heat pumps | R-410A | 2,088 | < 0.005 | 2.50 | 2.50 | 10.0 |
| Apartments Mid Rise | Household refrigerators and/or freezers | R-134a | 1,430 | 0.12 | 0.60 | 0.00 | 1.00 |
| City Park | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |
| City Park | Stand-alone retail refrigerators and freezers | R-134a | 1,430 | 0.04 | 1.00 | 0.00 | 1.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Strip Mall | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |
| Strip Mall | Stand-alone retail refrigerators and freezers | R-134a | 1,430 | 0.04 | 1.00 | 0.00 | 1.00 |
| Strip Mall | Walk-in refrigerators and freezers | R-404A | 3,922 | < 0.005 | 7.50 | 7.50 | 20.0 |
| General Office Building | Household refrigerators and/or freezers | R-134a | 1,430 | 0.02 | 0.60 | 0.00 | 1.00 |
| General Office Building | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|---|---|---|---|---|---|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|---|---|

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 6. Climate Risk Detailed Report

## 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

| Climate Hazard | Result for Project Location | Unit |
|---|---|---|
| Temperature and Extreme Heat | 25.9 | annual days of extreme heat |
| Extreme Precipitation | 9.15 | annual days with precipitation above 20 mm |
| Sea Level Rise | — | meters of inundation depth |
| Wildfire | 16.9 | annual hectares burned |

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

## 6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | 3 | 0 | 0 | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 0 | 0 | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 0 | 0 | 0 | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

## 6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | 3 | 1 | 1 | 3 |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 1 | 1 | 2 |

| | | | | |
|---|---|---|---|---|
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 1 | 1 | 1 | 2 |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

## 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 84.6 |
| AQ-PM | 70.7 |
| AQ-DPM | 57.7 |
| Drinking Water | 73.7 |
| Lead Risk Housing | 54.4 |
| Pesticides | 0.00 |
| Toxic Releases | 70.1 |
| Traffic | 80.3 |
| Effect Indicators | — |
| CleanUp Sites | 74.9 |
| Groundwater | 0.00 |

| | |
|---|---|
| Haz Waste Facilities/Generators | 59.8 |
| Impaired Water Bodies | 0.00 |
| Solid Waste | 70.4 |
| Sensitive Population | — |
| Asthma | 6.04 |
| Cardio-vascular | 7.47 |
| Low Birth Weights | 7.29 |
| Socioeconomic Factor Indicators | — |
| Education | 42.7 |
| Housing | 10.2 |
| Linguistic | 80.2 |
| Poverty | 27.9 |
| Unemployment | 45.8 |

## 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Economic | — |
| Above Poverty | 84.3320929 |
| Employed | 68.92082638 |
| Median HI | 57.88528166 |
| Education | — |
| Bachelor's or higher | 80.67496471 |
| High school enrollment | 100 |
| Preschool enrollment | 84.88387014 |
| Transportation | — |
| Auto Access | 70.20402926 |
| Active commuting | 5.915565251 |

| | |
|---|---|
| Social | — |
| 2-parent households | 35.26241499 |
| Voting | 21.00603105 |
| Neighborhood | — |
| Alcohol availability | 87.47593995 |
| Park access | 34.12036443 |
| Retail density | 39.49698447 |
| Supermarket access | 46.73424868 |
| Tree canopy | 66.75221352 |
| Housing | — |
| Homeownership | 46.75991274 |
| Housing habitability | 43.07712049 |
| Low-inc homeowner severe housing cost burden | 33.1707943 |
| Low-inc renter severe housing cost burden | 70.48633389 |
| Uncrowded housing | 63.4800462 |
| Health Outcomes | — |
| Insured adults | 52.11086873 |
| Arthritis | 0.0 |
| Asthma ER Admissions | 94.2 |
| High Blood Pressure | 0.0 |
| Cancer (excluding skin) | 0.0 |
| Asthma | 0.0 |
| Coronary Heart Disease | 0.0 |
| Chronic Obstructive Pulmonary Disease | 0.0 |
| Diagnosed Diabetes | 0.0 |
| Life Expectancy at Birth | 97.0 |
| Cognitively Disabled | 87.2 |
| Physically  Disabled | 80.2 |

| | |
|---|---|
| Heart Attack ER Admissions | 84.0 |
| Mental Health Not Good | 0.0 |
| Chronic Kidney Disease | 0.0 |
| Obesity | 0.0 |
| Pedestrian Injuries | 97.1 |
| Physical Health Not Good | 0.0 |
| Stroke | 0.0 |
| Health Risk Behaviors | — |
| Binge Drinking | 0.0 |
| Current Smoker | 0.0 |
| No Leisure Time for Physical Activity | 0.0 |
| Climate Change Exposures | — |
| Wildfire Risk | 0.0 |
| SLR Inundation Area | 0.0 |
| Children | 84.9 |
| Elderly | 16.5 |
| English Speaking | 18.2 |
| Foreign-born | 95.7 |
| Outdoor Workers | 60.7 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 34.1 |
| Traffic Density | 80.4 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 23.2 |
| Other Decision Support | — |
| 2016 Voting | 20.4 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 30.0 |
| Healthy Places Index Score for Project Location (b) | 65.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | No |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

| Screen | Justification |
|---|---|
| Land Use | Consistent with IS/MND's model. |
| Construction: Construction Phases | Consistent with information provided by the IS/MND. |

## Construction

| 2026 | |
|---|---|
| Annual Emissions (tons/year) | 0.06 |
| Daily Emissions (lbs/day) | 0.328767123 |
| Construction Duration (days) | 365 |
| Total DPM (lbs) | 120 |
| Total DPM (g) | 54432 |
| Start Date | 1/1/2026 |
| End Date | 1/1/2027 |
| Construction Days | 365 |

| 2027 | |
|---|---|
| Annual Emissions (tons/year) | 0.04 |
| Daily Emissions (lbs/day) | 0.219178082 |
| Construction Duration (days) | 365 |
| Total DPM (lbs) | 80 |
| Total DPM (g) | 36288 |
| Start Date | 1/1/2027 |
| End Date | 1/1/2028 |
| Construction Days | 365 |

| 2028 | |
|---|---|
| Annual Emissions (tons/year) | 0.01 |
| Daily Emissions (lbs/day) | 0.054794521 |
| Construction Duration (days) | 180 |
| Total DPM (lbs) | 9.863013699 |
| Total DPM (g) | 4473.863014 |
| Start Date | 1/1/2028 |
| End Date | 6/29/2028 |
| Construction Days | 180 |

| Total | |
|---|---|
| Total DPM (lbs) | 380 |
| Total DPM (g) | 90729.86301 |
| Emission Rate (g/s) | 0.001438513 |
| Release Height (meters) | 3 |
| Total Acreage | 2.27 |
| Max Horizontal (meters) | 135.55 |
| Min Horizontal (meters) | 67.77 |
| Initial Vertical Dimension (meters) | 1.5 |
| Setting | Arcadia |
| Population | 54,157 |
| Start Date | 1/1/2026 |
| End Date | 1/1/2028 |
| Total Construction Days | 730 |
| Total Years of Construction | 2.00 |
| Total Years of Operation | 28.00 |

| The Maximally Exposed Individual at an Existing Residential Receptor During Project Construction | | | |
|---|---|---|---|
| **Age Group** | **Duration** (years) | **Concentration** (ug/m3) | **Cancer Risk** |
| 3rd Trimester | 0.25 | 0.2670 | 3.63E-06 |
| Infant (0 - 2) | 1.75 | 0.2670 | 7.67E-05 |
| **Construction** | **2** | | **8.04E-05** |

AERSCREEN 21112 / AERMOD 21112 12/16/24
14:10:10

TITLE: ArcadiaTownCenter, Construction

---

**********  AREA PARAMETERS  **********

---

| | | | | |
|---|---|---|---|---|
| SOURCE EMISSION RATE: | 0.144E-02 | g/s | 0.114E-01 | lb/hr |
| AREA EMISSION RATE: | 0.157E-06 | g/(s-m2) | 0.124E-05 | lb/(hr-m2) |
| AREA HEIGHT: | 3.00 | meters | 9.84 | feet |
| AREA SOURCE LONG SIDE: | 135.55 | meters | 444.72 | feet |
| AREA SOURCE SHORT SIDE: | 67.77 | meters | 222.34 | feet |
| INITIAL VERTICAL DIMENSION: | 1.50 | meters | 4.92 | feet |
| RURAL OR URBAN: | URBAN | | | |
| POPULATION: | 54157 | | | |
| INITIAL PROBE DISTANCE = | 5000. | meters | 16404. | feet |

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**********  BUILDING DOWNWASH PARAMETERS  **********

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BUILDING DOWNWASH NOT USED FOR NON-POINT SOURCES

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**********  FLOW SECTOR ANALYSIS  **********

25 meter receptor spacing: 1. meters - 5000. meters

---

MAXIMUM IMPACT RECEPTOR

| Zo SECTOR | SURFACE ROUGHNESS | 1-HR CONC (ug/m3) | RADIAL (deg) | DIST (m) | TEMPORAL PERIOD |
|---|---|---|---|---|---|
| 1* | 1.000 | 4.341 | 20 | 75.0 | WIN |

* = worst case diagonal

---

********** MAKEMET METEOROLOGY PARAMETERS **********

MIN/MAX TEMPERATURE: 250.0 / 310.0 (K)

MINIMUM WIND SPEED: 0.5 m/s

ANEMOMETER HEIGHT: 10.000 meters

SURFACE CHARACTERISTICS INPUT: AERMET SEASONAL TABLES

DOMINANT SURFACE PROFILE: Urban
DOMINANT CLIMATE TYPE: Average Moisture
DOMINANT SEASON: Winter

ALBEDO: 0.35
BOWEN RATIO: 1.50
ROUGHNESS LENGTH: 1.000 (meters)

SURFACE FRICTION VELOCITY (U*) NOT ADUSTED

METEOROLOGY CONDITIONS USED TO PREDICT OVERALL MAXIMUM IMPACT

| YR | MO | DY | JDY | HR |
|---|---|---|---|---|
| 10 | 01 | 10 | 10 | 01 |

| H0 | U* | W* | DT/DZ | ZICNV | ZIMCH | M-O LEN | Z0 | BOWEN | ALBEDO | REF WS |
|---|---|---|---|---|---|---|---|---|---|---|
| -1.30 | 0.043 | -9.000 | 0.020 | -999. | 21. | 6.0 | 1.000 | 1.50 | 0.35 | 0.50 |

| HT | REF TA | HT |
|---|---|---|
| 10.0 | 310.0 | 2.0 |

********** AERSCREEN AUTOMATED DISTANCES **********
OVERALL MAXIMUM CONCENTRATIONS BY DISTANCE

| DIST (m) | MAXIMUM 1-HR CONC (ug/m3) | DIST (m) | MAXIMUM 1-HR CONC (ug/m3) |
|---|---|---|---|
| 1.00 | 3.331 | 2525.00 | 0.3360E-01 |

| | | | |
|---|---|---|---|
| 25.00 | 3.828 | 2550.00 | 0.3315E-01 |
| 50.00 | 4.210 | 2575.00 | 0.3271E-01 |
| 75.00 | 4.341 | 2600.00 | 0.3228E-01 |
| 100.00 | 2.670 | 2625.00 | 0.3186E-01 |
| 125.00 | 1.980 | 2650.00 | 0.3145E-01 |
| 150.00 | 1.551 | 2675.00 | 0.3104E-01 |
| 175.00 | 1.260 | 2700.00 | 0.3065E-01 |
| 200.00 | 1.053 | 2725.00 | 0.3027E-01 |
| 225.00 | 0.8974 | 2750.00 | 0.2989E-01 |
| 250.00 | 0.7785 | 2775.00 | 0.2952E-01 |
| 275.00 | 0.6845 | 2800.00 | 0.2916E-01 |
| 300.00 | 0.6082 | 2825.00 | 0.2881E-01 |
| 325.00 | 0.5458 | 2850.00 | 0.2846E-01 |
| 350.00 | 0.4940 | 2875.00 | 0.2813E-01 |
| 375.00 | 0.4496 | 2900.00 | 0.2779E-01 |
| 400.00 | 0.4119 | 2925.00 | 0.2747E-01 |
| 425.00 | 0.3795 | 2950.00 | 0.2715E-01 |
| 450.00 | 0.3511 | 2975.00 | 0.2684E-01 |
| 475.00 | 0.3263 | 3000.00 | 0.2653E-01 |
| 500.00 | 0.3044 | 3025.00 | 0.2623E-01 |
| 525.00 | 0.2849 | 3050.00 | 0.2594E-01 |
| 550.00 | 0.2674 | 3075.00 | 0.2565E-01 |
| 575.00 | 0.2518 | 3100.00 | 0.2537E-01 |
| 600.00 | 0.2376 | 3125.00 | 0.2509E-01 |
| 625.00 | 0.2247 | 3150.00 | 0.2482E-01 |
| 650.00 | 0.2130 | 3175.00 | 0.2455E-01 |
| 675.00 | 0.2023 | 3200.00 | 0.2429E-01 |
| 700.00 | 0.1926 | 3225.00 | 0.2403E-01 |
| 725.00 | 0.1836 | 3250.00 | 0.2378E-01 |
| 750.00 | 0.1753 | 3275.00 | 0.2353E-01 |
| 775.00 | 0.1677 | 3300.00 | 0.2329E-01 |
| 800.00 | 0.1606 | 3325.00 | 0.2305E-01 |
| 825.00 | 0.1540 | 3350.00 | 0.2282E-01 |
| 850.00 | 0.1479 | 3375.00 | 0.2258E-01 |
| 875.00 | 0.1422 | 3400.00 | 0.2236E-01 |
| 900.00 | 0.1368 | 3425.00 | 0.2213E-01 |
| 925.00 | 0.1318 | 3450.00 | 0.2192E-01 |
| 950.00 | 0.1270 | 3475.00 | 0.2170E-01 |
| 975.00 | 0.1226 | 3500.00 | 0.2149E-01 |
| 1000.00 | 0.1185 | 3525.00 | 0.2128E-01 |
| 1025.00 | 0.1145 | 3550.00 | 0.2107E-01 |
| 1050.00 | 0.1108 | 3575.00 | 0.2087E-01 |
| 1075.00 | 0.1073 | 3600.00 | 0.2068E-01 |
| 1100.00 | 0.1040 | 3625.00 | 0.2048E-01 |
| 1125.00 | 0.1009 | 3650.00 | 0.2029E-01 |
| 1150.00 | 0.9792E-01 | 3675.00 | 0.2010E-01 |
| 1175.00 | 0.9510E-01 | 3700.00 | 0.1991E-01 |
| 1200.00 | 0.9242E-01 | 3725.00 | 0.1973E-01 |
| 1225.00 | 0.8986E-01 | 3750.00 | 0.1955E-01 |
| 1250.00 | 0.8742E-01 | 3775.00 | 0.1938E-01 |

| | | | |
|---|---|---|---|
| 1275.00 | 0.8570E-01 | 3800.00 | 0.1920E-01 |
| 1300.00 | 0.8344E-01 | 3825.00 | 0.1903E-01 |
| 1325.00 | 0.8129E-01 | 3850.00 | 0.1886E-01 |
| 1350.00 | 0.7923E-01 | 3875.00 | 0.1869E-01 |
| 1375.00 | 0.7726E-01 | 3900.00 | 0.1853E-01 |
| 1400.00 | 0.7538E-01 | 3925.00 | 0.1837E-01 |
| 1425.00 | 0.7357E-01 | 3950.00 | 0.1821E-01 |
| 1450.00 | 0.7184E-01 | 3975.00 | 0.1805E-01 |
| 1475.00 | 0.7017E-01 | 4000.00 | 0.1790E-01 |
| 1500.00 | 0.6857E-01 | 4025.00 | 0.1775E-01 |
| 1525.00 | 0.6704E-01 | 4050.00 | 0.1760E-01 |
| 1550.00 | 0.6556E-01 | 4075.00 | 0.1745E-01 |
| 1575.00 | 0.6414E-01 | 4100.00 | 0.1731E-01 |
| 1600.00 | 0.6277E-01 | 4125.00 | 0.1716E-01 |
| 1625.00 | 0.6145E-01 | 4150.00 | 0.1702E-01 |
| 1650.00 | 0.6017E-01 | 4175.00 | 0.1688E-01 |
| 1675.00 | 0.5895E-01 | 4200.00 | 0.1674E-01 |
| 1700.00 | 0.5776E-01 | 4225.00 | 0.1661E-01 |
| 1725.00 | 0.5662E-01 | 4250.00 | 0.1648E-01 |
| 1750.00 | 0.5551E-01 | 4275.00 | 0.1634E-01 |
| 1775.00 | 0.5444E-01 | 4300.00 | 0.1621E-01 |
| 1800.00 | 0.5341E-01 | 4325.00 | 0.1609E-01 |
| 1824.99 | 0.5241E-01 | 4350.00 | 0.1596E-01 |
| 1850.00 | 0.5144E-01 | 4375.00 | 0.1584E-01 |
| 1875.00 | 0.5050E-01 | 4400.00 | 0.1571E-01 |
| 1900.00 | 0.4960E-01 | 4425.00 | 0.1559E-01 |
| 1924.99 | 0.4871E-01 | 4450.00 | 0.1547E-01 |
| 1950.00 | 0.4786E-01 | 4475.00 | 0.1535E-01 |
| 1975.00 | 0.4703E-01 | 4500.00 | 0.1524E-01 |
| 2000.00 | 0.4623E-01 | 4525.00 | 0.1512E-01 |
| 2025.00 | 0.4545E-01 | 4550.00 | 0.1501E-01 |
| 2050.00 | 0.4469E-01 | 4575.00 | 0.1490E-01 |
| 2075.00 | 0.4396E-01 | 4600.00 | 0.1479E-01 |
| 2100.00 | 0.4324E-01 | 4625.00 | 0.1468E-01 |
| 2125.00 | 0.4255E-01 | 4650.00 | 0.1457E-01 |
| 2150.00 | 0.4187E-01 | 4675.00 | 0.1446E-01 |
| 2175.00 | 0.4121E-01 | 4700.00 | 0.1436E-01 |
| 2200.00 | 0.4057E-01 | 4725.00 | 0.1425E-01 |
| 2225.00 | 0.3995E-01 | 4750.00 | 0.1415E-01 |
| 2250.00 | 0.3934E-01 | 4775.00 | 0.1405E-01 |
| 2275.00 | 0.3875E-01 | 4800.00 | 0.1395E-01 |
| 2300.00 | 0.3818E-01 | 4825.00 | 0.1385E-01 |
| 2325.00 | 0.3761E-01 | 4850.00 | 0.1375E-01 |
| 2350.00 | 0.3707E-01 | 4875.00 | 0.1366E-01 |
| 2375.00 | 0.3653E-01 | 4900.00 | 0.1356E-01 |
| 2400.00 | 0.3601E-01 | 4925.00 | 0.1347E-01 |
| 2425.00 | 0.3551E-01 | 4950.00 | 0.1337E-01 |
| 2450.00 | 0.3501E-01 | 4975.00 | 0.1328E-01 |
| 2475.00 | 0.3453E-01 | 5000.00 | 0.1319E-01 |
| 2500.00 | 0.3406E-01 | | |

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********** AERSCREEN MAXIMUM IMPACT SUMMARY **********

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3-hour, 8-hour, and 24-hour scaled
concentrations are equal to the 1-hour concentration as referenced in
SCREENING PROCEDURES FOR ESTIMATING THE AIR QUALITY
IMPACT OF STATIONARY SOURCES, REVISED (Section 4.5.4)
Report number EPA-454/R-92-019
http://www.epa.gov/scram001/guidance_permit.htm
under Screening Guidance

| CALCULATION PROCEDURE | MAXIMUM 1-HOUR CONC (ug/m3) | SCALED 3-HOUR CONC (ug/m3) | SCALED 8-HOUR CONC (ug/m3) | SCALED 24-HOUR CONC (ug/m3) | SCALED ANNUAL CONC (ug/m3) |
|---|---|---|---|---|---|
| FLAT TERRAIN | 4.436 | 4.436 | 4.436 | 4.436 | N/A |
| DISTANCE FROM SOURCE | 72.00 meters | | | | |
| IMPACT AT THE AMBIENT BOUNDARY | 3.331 | 3.331 | 3.331 | 3.331 | N/A |
| DISTANCE FROM SOURCE | 1.00 meters | | | | |

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

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(949) 887-9013
mhagemann@swape.com

## Matthew F. Hagemann, P.G., C.Hg., QSD, QSP

**Geologic and Hydrogeologic Characterization**
**Investigation and Remediation Strategies**
**Litigation Support and Testifying Expert**
**Industrial Stormwater Compliance**
**CEQA Review**

**Education:**

M.S. Degree, Geology, California State University Los Angeles, Los Angeles, CA, 1984.
B.A. Degree, Geology, Humboldt State University, Arcata, CA, 1982.

**Professional Certifications:**

California Professional Geologist
California Certified Hydrogeologist
Qualified SWPPP Developer and Practitioner

**Professional Experience:**

Matt has 30 years of experience in environmental policy, contaminant assessment and remediation, stormwater compliance, and CEQA review. He spent nine years with the U.S. EPA in the RCRA and Superfund programs and served as EPA's Senior Science Policy Advisor in the Western Regional Office where he identified emerging threats to groundwater from perchlorate and MTBE. While with EPA, Matt also served as a Senior Hydrogeologist in the oversight of the assessment of seven major military facilities undergoing base closure. He led numerous enforcement actions under provisions of the Resource Conservation and Recovery Act (RCRA) and directed efforts to improve hydrogeologic characterization and water quality monitoring. For the past 15 years, as a founding partner with SWAPE, Matt has developed extensive client relationships and has managed complex projects that include consultation as an expert witness and a regulatory specialist, and a manager of projects ranging from industrial stormwater compliance to CEQA review of impacts from hazardous waste, air quality and greenhouse gas emissions.

Positions Matt has held include:

- Founding Partner, Soil/Water/Air Protection Enterprise (SWAPE) (2003 – present);
- Geology Instructor, Golden West College, 2010 – 2104, 2017;
- Senior Environmental Analyst, Komex H2O Science, Inc. (2000 -- 2003);

- Executive Director, Orange Coast Watch (2001 – 2004);
- Senior Science Policy Advisor and Hydrogeologist, U.S. Environmental Protection Agency (1989–1998);
- Hydrogeologist, National Park Service, Water Resources Division (1998 – 2000);
- Adjunct Faculty Member, San Francisco State University, Department of Geosciences (1993 – 1998);
- Instructor, College of Marin, Department of Science (1990 – 1995);
- Geologist, U.S. Forest Service (1986 – 1998); and
- Geologist, Dames & Moore (1984 – 1986).

**Senior Regulatory and Litigation Support Analyst:**

With SWAPE, Matt's responsibilities have included:

- Lead analyst and testifying expert in the review of over 300 environmental impact reports and negative declarations since 2003 under CEQA that identify significant issues with regard to hazardous waste, water resources, water quality, air quality, greenhouse gas emissions, and geologic hazards. Make recommendations for additional mitigation measures to lead agencies at the local and county level to include additional characterization of health risks and implementation of protective measures to reduce worker exposure to hazards from toxins and Valley Fever.
- Stormwater analysis, sampling and best management practice evaluation at more than 100 industrial facilities.
- Expert witness on numerous cases including, for example, perfluorooctanoic acid (PFOA) contamination of groundwater, MTBE litigation, air toxins at hazards at a school, CERCLA compliance in assessment and remediation, and industrial stormwater contamination.
- Technical assistance and litigation support for vapor intrusion concerns.
- Lead analyst and testifying expert in the review of environmental issues in license applications for large solar power plants before the California Energy Commission.
- Manager of a project to evaluate numerous formerly used military sites in the western U.S.
- Manager of a comprehensive evaluation of potential sources of perchlorate contamination in Southern California drinking water wells.
- Manager and designated expert for litigation support under provisions of Proposition 65 in the review of releases of gasoline to sources drinking water at major refineries and hundreds of gas stations throughout California.

With Komex H2O Science Inc., Matt's duties included the following:

- Senior author of a report on the extent of perchlorate contamination that was used in testimony by the former U.S. EPA Administrator and General Counsel.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of MTBE use, research, and regulation.
- Senior researcher in the development of a comprehensive, electronically interactive chronology of perchlorate use, research, and regulation.
- Senior researcher in a study that estimates nationwide costs for MTBE remediation and drinking water treatment, results of which were published in newspapers nationwide and in testimony against provisions of an energy bill that would limit liability for oil companies.
- Research to support litigation to restore drinking water supplies that have been contaminated by MTBE in California and New York.

- Expert witness testimony in a case of oil production-related contamination in Mississippi.
- Lead author for a multi-volume remedial investigation report for an operating school in Los Angeles that met strict regulatory requirements and rigorous deadlines.
- Development of strategic approaches for cleanup of contaminated sites in consultation with clients and regulators.

**Executive Director:**

As Executive Director with Orange Coast Watch, Matt led efforts to restore water quality at Orange County beaches from multiple sources of contamination including urban runoff and the discharge of wastewater. In reporting to a Board of Directors that included representatives from leading Orange County universities and businesses, Matt prepared issue papers in the areas of treatment and disinfection of wastewater and control of the discharge of grease to sewer systems. Matt actively participated in the development of countywide water quality permits for the control of urban runoff and permits for the discharge of wastewater. Matt worked with other nonprofits to protect and restore water quality, including Surfrider, Natural Resources Defense Council and Orange County CoastKeeper as well as with business institutions including the Orange County Business Council.

**Hydrogeology:**

As a Senior Hydrogeologist with the U.S. Environmental Protection Agency, Matt led investigations to characterize and cleanup closing military bases, including Mare Island Naval Shipyard, Hunters Point Naval Shipyard, Treasure Island Naval Station, Alameda Naval Station, Moffett Field, Mather Army Airfield, and Sacramento Army Depot. Specific activities were as follows:

- Led efforts to model groundwater flow and contaminant transport, ensured adequacy of monitoring networks, and assessed cleanup alternatives for contaminated sediment, soil, and groundwater.
- Initiated a regional program for evaluation of groundwater sampling practices and laboratory analysis at military bases.
- Identified emerging issues, wrote technical guidance, and assisted in policy and regulation development through work on four national U.S. EPA workgroups, including the Superfund Groundwater Technical Forum and the Federal Facilities Forum.

At the request of the State of Hawaii, Matt developed a methodology to determine the vulnerability of groundwater to contamination on the islands of Maui and Oahu. He used analytical models and a GIS to show zones of vulnerability, and the results were adopted and published by the State of Hawaii and County of Maui.

As a hydrogeologist with the EPA Groundwater Protection Section, Matt worked with provisions of the Safe Drinking Water Act and NEPA to prevent drinking water contamination. Specific activities included the following:

- Received an EPA Bronze Medal for his contribution to the development of national guidance for the protection of drinking water.
- Managed the Sole Source Aquifer Program and protected the drinking water of two communities through designation under the Safe Drinking Water Act. He prepared geologic reports, conducted

public hearings, and responded to public comments from residents who were very concerned about the impact of designation.

- Reviewed a number of Environmental Impact Statements for planned major developments, including large hazardous and solid waste disposal facilities, mine reclamation, and water transfer.

Matt served as a hydrogeologist with the RCRA Hazardous Waste program. Duties were as follows:

- Supervised the hydrogeologic investigation of hazardous waste sites to determine compliance with Subtitle C requirements.
- Reviewed and wrote "part B" permits for the disposal of hazardous waste.
- Conducted RCRA Corrective Action investigations of waste sites and led inspections that formed the basis for significant enforcement actions that were developed in close coordination with U.S. EPA legal counsel.
- Wrote contract specifications and supervised contractor's investigations of waste sites.

With the National Park Service, Matt directed service-wide investigations of contaminant sources to prevent degradation of water quality, including the following tasks:

- Applied pertinent laws and regulations including CERCLA, RCRA, NEPA, NRDA, and the Clean Water Act to control military, mining, and landfill contaminants.
- Conducted watershed-scale investigations of contaminants at parks, including Yellowstone and Olympic National Park.
- Identified high-levels of perchlorate in soil adjacent to a national park in New Mexico and advised park superintendent on appropriate response actions under CERCLA.
- Served as a Park Service representative on the Interagency Perchlorate Steering Committee, a national workgroup.
- Developed a program to conduct environmental compliance audits of all National Parks while serving on a national workgroup.
- Co-authored two papers on the potential for water contamination from the operation of personal watercraft and snowmobiles, these papers serving as the basis for the development of nation-wide policy on the use of these vehicles in National Parks.
- Contributed to the Federal Multi-Agency Source Water Agreement under the Clean Water Action Plan.

**Policy:**

Served senior management as the Senior Science Policy Advisor with the U.S. Environmental Protection Agency, Region 9.

Activities included the following:

- Advised the Regional Administrator and senior management on emerging issues such as the potential for the gasoline additive MTBE and ammonium perchlorate to contaminate drinking water supplies.
- Shaped EPA's national response to these threats by serving on workgroups and by contributing to guidance, including the Office of Research and Development publication, Oxygenates in Water: Critical Information and Research Needs.
- Improved the technical training of EPA's scientific and engineering staff.
- Earned an EPA Bronze Medal for representing the region's 300 scientists and engineers in negotiations with the Administrator and senior management to better integrate scientific

principles into the policy-making process.
- Established national protocol for the peer review of scientific documents.

**Geology:**

With the U.S. Forest Service, Matt led investigations to determine hillslope stability of areas proposed for timber harvest in the central Oregon Coast Range. Specific activities were as follows:

- Mapped geology in the field, and used aerial photographic interpretation and mathematical models to determine slope stability.
- Coordinated his research with community members who were concerned with natural resource protection.
- Characterized the geology of an aquifer that serves as the sole source of drinking water for the city of Medford, Oregon.

As a consultant with Dames and Moore, Matt led geologic investigations of two contaminated sites (later listed on the Superfund NPL) in the Portland, Oregon, area and a large hazardous waste site in eastern Oregon. Duties included the following:

- Supervised year-long effort for soil and groundwater sampling.
- Conducted aquifer tests.
- Investigated active faults beneath sites proposed for hazardous waste disposal.

**Teaching:**

From 1990 to 1998, Matt taught at least one course per semester at the community college and university levels:

- At San Francisco State University, held an adjunct faculty position and taught courses in environmental geology, oceanography (lab and lecture), hydrogeology, and groundwater contamination.
- Served as a committee member for graduate and undergraduate students.
- Taught courses in environmental geology and oceanography at the College of Marin.

Matt is currently a part time geology instructor at Golden West College in Huntington Beach, California where he taught from 2010 to 2014 and in 2017.

**Invited Testimony, Reports, Papers and Presentations:**

**Hagemann, M.F**., 2008. Disclosure of Hazardous Waste Issues under CEQA. Presentation to the Public Environmental Law Conference, Eugene, Oregon.

**Hagemann, M.F**., 2008. Disclosure of Hazardous Waste Issues under CEQA. Invited presentation to U.S. EPA Region 9, San Francisco, California.

**Hagemann, M.F.,** 2005. Use of Electronic Databases in Environmental Regulation, Policy Making and Public Participation. Brownfields 2005, Denver, Coloradao.

**Hagemann, M.F.,** 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Nevada and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Las Vegas, NV (served on conference organizing committee).

**Hagemann, M.F.**, 2004. Invited testimony to a California Senate committee hearing on air toxins at schools in Southern California, Los Angeles.

Brown, A., Farrow, J., Gray, A. and **Hagemann, M.**, 2004. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to the Ground Water and Environmental Law Conference, National Groundwater Association.

**Hagemann, M.F.,** 2004. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in Arizona and the Southwestern U.S. Presentation to a meeting of the American Groundwater Trust, Phoenix, AZ (served on conference organizing committee).

**Hagemann, M.F.,** 2003. Perchlorate Contamination of the Colorado River and Impacts to Drinking Water in the Southwestern U.S. Invited presentation to a special committee meeting of the National Academy of Sciences, Irvine, CA.

**Hagemann, M.F**., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a tribal EPA meeting, Pechanga, CA.

**Hagemann, M.F**., 2003. Perchlorate Contamination of the Colorado River. Invited presentation to a meeting of tribal repesentatives, Parker, AZ.

**Hagemann, M.F**., 2003. Impact of Perchlorate on the Colorado River and Associated Drinking Water Supplies. Invited presentation to the Inter-Tribal Meeting, Torres Martinez Tribe.

**Hagemann, M.F**., 2003. The Emergence of Perchlorate as a Widespread Drinking Water Contaminant. Invited presentation to the U.S. EPA Region 9.

**Hagemann, M.F**., 2003. A Deductive Approach to the Assessment of Perchlorate Contamination. Invited presentation to the California Assembly Natural Resources Committee.

**Hagemann, M.F**., 2003. Perchlorate: A Cold War Legacy in Drinking Water. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F**., 2002. From Tank to Tap: A Chronology of MTBE in Groundwater. Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F**., 2002. A Chronology of MTBE in Groundwater and an Estimate of Costs to Address Impacts to Groundwater. Presentation to the annual meeting of the Society of Environmental Journalists.

**Hagemann, M.F**., 2002. An Estimate of the Cost to Address MTBE Contamination in Groundwater (and Who Will Pay). Presentation to a meeting of the National Groundwater Association.

**Hagemann, M.F**., 2002. An Estimate of Costs to Address MTBE Releases from Underground Storage Tanks and the Resulting Impact to Drinking Water Wells. Presentation to a meeting of the U.S. EPA and State Underground Storage Tank Program managers.

**Hagemann, M.F**., 2001. From Tank to Tap: A Chronology of MTBE in Groundwater. Unpublished report.

**Hagemann, M.F**., 2001. Estimated Cleanup Cost for MTBE in Groundwater Used as Drinking Water. Unpublished report.

**Hagemann, M.F**., 2001. Estimated Costs to Address MTBE Releases from Leaking Underground Storage Tanks. Unpublished report.

**Hagemann, M.F**., and VanMouwerik, M., 1999. Potential Water Quality Concerns Related to Snowmobile Usage. Water Resources Division, National Park Service, Technical Report.

VanMouwerik, M. and **Hagemann, M.F**. 1999, Water Quality Concerns Related to Personal Watercraft Usage. Water Resources Division, National Park Service, Technical Report.

**Hagemann, M.F**., 1999, Is Dilution the Solution to Pollution in National Parks? The George Wright Society Biannual Meeting, Asheville, North Carolina.

**Hagemann, M.F**., 1997, The Potential for MTBE to Contaminate Groundwater. U.S. EPA Superfund Groundwater Technical Forum Annual Meeting, Las Vegas, Nevada.

**Hagemann, M.F**., and Gill, M., 1996, Impediments to Intrinsic Remediation, Moffett Field Naval Air Station, Conference on Intrinsic Remediation of Chlorinated Hydrocarbons, Salt Lake City.

**Hagemann, M.F**., Fukunaga, G.L., 1996, The Vulnerability of Groundwater to Anthropogenic Contaminants on the Island of Maui, Hawaii. Hawaii Water Works Association Annual Meeting, Maui, October 1996.

**Hagemann, M. F**., Fukanaga, G. L., 1996, Ranking Groundwater Vulnerability in Central Oahu, Hawaii. Proceedings, Geographic Information Systems in Environmental Resources Management, Air and Waste Management Association Publication VIP-61.

**Hagemann, M.F**., 1994. Groundwater Characterization and Cleanup at Closing Military Bases in California. Proceedings, California Groundwater Resources Association Meeting.

**Hagemann, M.**F. and Sabol, M.A., 1993. Role of the U.S. EPA in the High Plains States Groundwater Recharge Demonstration Program. Proceedings, Sixth Biennial Symposium on the Artificial Recharge of Groundwater.

**Hagemann, M.F**., 1993. U.S. EPA Policy on the Technical Impracticability of the Cleanup of DNAPL-contaminated Groundwater. California Groundwater Resources Association Meeting.

**Hagemann, M.F**., 1992. Dense Nonaqueous Phase Liquid Contamination of Groundwater: An Ounce of Prevention... Proceedings, Association of Engineering Geologists Annual Meeting, v. 35.

**Other Experience:**

Selected as subject matter expert for the California Professional Geologist licensing examinations, 2009-2011.

SWAPE Technical Consultation, Data Analysis and Litigation Support for the Environment

**SOIL WATER AIR PROTECTION ENTERPRISE**
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Santa Monica, California 90405
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Office: (310) 452-5555
Fax: (310) 452-5550
**Email:** prosenfeld@swape.com

# *Paul Rosenfeld, Ph.D.*

**Chemical Fate and Transport & Air Dispersion Modeling**

*Principal Environmental Chemist*

**Risk Assessment & Remediation Specialist**

## Education

Ph.D. Soil Chemistry, University of Washington, 1999. Dissertation on volatile organic compound filtration.

M.S. Environmental Science, U.C. Berkeley, 1995. Thesis on organic waste economics.

B.A. Environmental Studies, U.C. Santa Barbara, 1991. Focus on wastewater treatment.

## Professional Experience

Dr. Rosenfeld has over 25 years of experience conducting environmental investigations and risk assessments for evaluating impacts to human health, property, and ecological receptors. His expertise focuses on the fate and transport of environmental contaminants, human health risk, exposure assessment, and ecological restoration. Dr. Rosenfeld has evaluated and modeled emissions from oil spills, landfills, boilers and incinerators, process stacks, storage tanks, confined animal feeding operations, industrial, military and agricultural sources, unconventional oil drilling operations, and locomotive and construction engines. His project experience ranges from monitoring and modeling of pollution sources to evaluating impacts of pollution on workers at industrial facilities and residents in surrounding communities. Dr. Rosenfeld has also successfully modeled exposure to contaminants distributed by water systems and via vapor intrusion.

Dr. Rosenfeld has investigated and designed remediation programs and risk assessments for contaminated sites containing lead, heavy metals, mold, bacteria, particulate matter, petroleum hydrocarbons, chlorinated solvents, pesticides, radioactive waste, dioxins and furans, semi- and volatile organic compounds, PCBs, PAHs, creosote, perchlorate, asbestos, per- and poly-fluoroalkyl substances (PFOA/PFOS), unusual polymers, fuel oxygenates (MTBE), among other pollutants. Dr. Rosenfeld also has experience evaluating greenhouse gas emissions from various projects and is an expert on the assessment of odors from industrial and agricultural sites, as well as the evaluation of odor nuisance impacts and technologies for abatement of odorous emissions. As a principal scientist at SWAPE, Dr. Rosenfeld directs air dispersion modeling and exposure assessments. He has served as an expert witness and testified about pollution sources causing nuisance and/or personal injury at sites and has testified as an expert witness on numerous cases involving exposure to soil, water and air contaminants from industrial, railroad, agricultural, and military sources.

## Professional History:

Soil Water Air Protection Enterprise (SWAPE); 2003 to present; Principal and Founding Partner
UCLA School of Public Health; 2007 to 2011; Lecturer (Assistant Researcher)
UCLA School of Public Health; 2003 to 2006; Adjunct Professor
UCLA Environmental Science and Engineering Program; 2002-2004; Doctoral Intern Coordinator
UCLA Institute of the Environment, 2001-2002; Research Associate
Komex $H_2O$ Science, 2001 to 2003; Senior Remediation Scientist
National Groundwater Association, 2002-2004; Lecturer
San Diego State University, 1999-2001; Adjunct Professor
Anteon Corp., San Diego, 2000-2001; Remediation Project Manager
Ogden (now Amec), San Diego, 2000-2000; Remediation Project Manager
Bechtel, San Diego, California, 1999 – 2000; Risk Assessor
King County, Seattle, 1996 – 1999; Scientist
James River Corp., Washington, 1995-96; Scientist
Big Creek Lumber, Davenport, California, 1995; Scientist
Plumas Corp., California and USFS, Tahoe 1993-1995; Scientist
Peace Corps and World Wildlife Fund, St. Kitts, West Indies, 1991-1993; Scientist

## Publications:

**Rosenfeld P. E.,** Spaeth K., Hallman R., Bressler R., Smith, G., (2022) Cancer Risk and Diesel Exhaust Exposure Among Railroad Workers. *Water Air Soil Pollution.* **233,** 171.

Remy, L.L., Clay T., Byers, V., **Rosenfeld P. E.** (2019) Hospital, Health, and Community Burden After Oil Refinery Fires, Richmond, California 2007 and 2012. *Environmental Health.* 18:48

Simons, R.A., Seo, Y. **Rosenfeld, P**., (2015) Modeling the Effect of Refinery Emission On Residential Property Value. Journal of Real Estate Research. 27(3):321-342

Chen, J. A, Zapata A. R., Sutherland A. J., Molmen, D.R., Chow, B. S., Wu, L. E., **Rosenfeld, P. E.,** Hesse, R. C., (2012) Sulfur Dioxide and Volatile Organic Compound Exposure To A Community In Texas City Texas Evaluated Using Aermod and Empirical Data. *American Journal of Environmental Science*, 8(6), 622-632.

**Rosenfeld, P.E**. & Feng, L. (2011). *The Risks of Hazardous Waste.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2011). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Agrochemical Industry*, Amsterdam: Elsevier Publishing.

Gonzalez, J., Feng, L., Sutherland, A., Waller, C., Sok, H., Hesse, R., **Rosenfeld, P.** (2010). PCBs and Dioxins/Furans in Attic Dust Collected Near Former PCB Production and Secondary Copper Facilities in Sauget, IL. *Procedia Environmental Sciences*. 113–125.

Feng, L., Wu, C., Tam, L., Sutherland, A.J., Clark, J.J., **Rosenfeld, P.E.** (2010). Dioxin and Furan Blood Lipid and Attic Dust Concentrations in Populations Living Near Four Wood Treatment Facilities in the United States. *Journal of Environmental Health*. 73(6), 34-46.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2010). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Wood and Paper Industries.* Amsterdam: Elsevier Publishing.

Cheremisinoff, N.P., & **Rosenfeld, P.E.** (2009). *Handbook of Pollution Prevention and Cleaner Production: Best Practices in the Petroleum Industry*. Amsterdam: Elsevier Publishing.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. *WIT Transactions on Ecology and the Environment, Air Pollution,* 123 (17), 319-327.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). A Statistical Analysis Of Attic Dust And Blood Lipid Concentrations Of Tetrachloro-p-Dibenzodioxin (TCDD) Toxicity Equivalency Quotients (TEQ) In Two Populations Near Wood Treatment Facilities. *Organohalogen Compounds*, 70, 002252-002255.

Tam L. K.., Wu C. D., Clark J. J. and **Rosenfeld, P.E.** (2008). Methods For Collect Samples For Assessing Dioxins And Other Environmental Contaminants In Attic Dust: A Review. *Organohalogen Compounds*, 70, 000527-000530.

Hensley, A.R. A. Scott, J. J. J. Clark, **Rosenfeld, P.E.** (2007). Attic Dust and Human Blood Samples Collected near a Former Wood Treatment Facility. *Environmental Research*. 105, 194-197.

**Rosenfeld, P.E.,** J. J. J. Clark, A. R. Hensley, M. Suffet. (2007). The Use of an Odor Wheel Classification for Evaluation of Human Health Risk Criteria for Compost Facilities. *Water Science & Technology* 55(5), 345-357.

**Rosenfeld, P. E.,** M. Suffet. (2007). The Anatomy Of Odour Wheels For Odours Of Drinking Water, Wastewater, Compost And The Urban Environment. *Water Science & Technology* 55(5), 335-344.

Sullivan, P. J. Clark, J.J.J., Agardy, F. J., **Rosenfeld, P.E.** (2007). *Toxic Legacy, Synthetic Toxins in the Food, Water, and Air in American Cities.* Boston Massachusetts: Elsevier Publishing

**Rosenfeld, P.E.,** and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash. *Water Science and Technology*. 49(9),171-178.

**Rosenfeld P. E.,** J.J. Clark, I.H. (Mel) Suffet (2004). The Value of An Odor-Quality-Wheel Classification Scheme For The Urban Environment. *Water Environment Federation's Technical Exhibition and Conference (WEFTEC) 2004.* New Orleans, October 2-6, 2004.

**Rosenfeld, P.E.,** and Suffet, I.H. (2004). Understanding Odorants Associated With Compost, Biomass Facilities, and the Land Application of Biosolids. *Water Science and Technology*. 49(9), 193-199.

**Rosenfeld, P.E.,** and Suffet I.H. (2004). Control of Compost Odor Using High Carbon Wood Ash, *Water Science and Technology*, 49( 9), 171-178.

**Rosenfeld, P. E**., Grey, M. A., Sellew, P. (2004). Measurement of Biosolids Odor and Odorant Emissions from Windrows, Static Pile and Biofilter. *Water Environment Research*. 76(4), 310-315.

**Rosenfeld, P.E.,** Grey, M and Suffet, M. (2002). Compost Demonstration Project, Sacramento California Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Integrated Waste Management Board Public Affairs Office*, Publications Clearinghouse (MS–6), Sacramento, CA Publication #442-02-008.

**Rosenfeld, P.E**., and C.L. Henry. (2001). Characterization of odor emissions from three different biosolids. *Water Soil and Air Pollution*. 127(1-4), 173-191.

**Rosenfeld, P.E.,** and Henry C. L., (2000). Wood ash control of odor emissions from biosolids application. *Journal of Environmental Quality.* 29, 1662-1668.

**Rosenfeld, P.E.,** C.L. Henry and D. Bennett. (2001). Wastewater dewatering polymer affect on biosolids odor emissions and microbial activity. *Water Environment Research*. 73(4), 363-367.

**Rosenfeld, P.E.,** and C.L. Henry. (2001). Activated Carbon and Wood Ash Sorption of Wastewater, Compost, and Biosolids Odorants. *Water Environment Research*, 73, 388-393.

**Rosenfeld, P.E.,** and Henry C. L., (2001). High carbon wood ash effect on biosolids microbial activity and odor. *Water Environment Research*. 131(1-4), 247-262.

Chollack, T. and **P. Rosenfeld. (**1998). Compost Amendment Handbook For Landscaping. Prepared for and distributed by the City of Redmond, Washington State.

**Rosenfeld, P. E.** (1992). The Mount Liamuiga Crater Trail. *Heritage Magazine of St. Kitts*, 3(2).

**Rosenfeld, P. E.** (1993). High School Biogas Project to Prevent Deforestation On St. Kitts. *Biomass Users Network*, 7(1).

**Rosenfeld, P. E. (**1998). Characterization, Quantification, and Control of Odor Emissions From Biosolids Application To Forest Soil. Doctoral Thesis. University of Washington College of Forest Resources.

**Rosenfeld, P. E.** (1994). Potential Utilization of Small Diameter Trees on Sierra County Public Land. Masters thesis reprinted by the Sierra County Economic Council. Sierra County, California.

**Rosenfeld, P. E. (**1991). How to Build a Small Rural Anaerobic Digester & Uses Of Biogas In The First And Third World. Bachelors Thesis. University of California.

## Presentations:

**Rosenfeld, P.E**., "The science for Perfluorinated Chemicals (PFAS): What makes remediation so hard?" Law Seminars International, (May 9-10, 2018) 800 Fifth Avenue, Suite 101 Seattle, WA.

**Rosenfeld, P.E.,** Sutherland, A; Hesse, R.; Zapata, A. (October 3-6, 2013). Air dispersion modeling of volatile organic emissions from multiple natural gas wells in Decatur, TX. *44th Western Regional Meeting, American Chemical Society.* Lecture conducted from Santa Clara, CA.

Sok, H.L.; Waller, C.C.; Feng, L.; Gonzalez, J.; Sutherland, A.J.; Wisdom-Stack, T.; Sahai, R.K.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Atrazine: A Persistent Pesticide in Urban Drinking Water. *Urban Environmental Pollution*. Lecture conducted from Boston, MA.

Feng, L.; Gonzalez, J.; Sok, H.L.; Sutherland, A.J.; Waller, C.C.; Wisdom-Stack, T.; Sahai, R.K.; La, M.; Hesse, R.C.; **Rosenfeld, P.E.** (June 20-23, 2010). Bringing Environmental Justice to East St. Louis, Illinois. *Urban Environmental Pollution.* Lecture conducted from Boston, MA.

**Rosenfeld, P.E**. (April 19-23, 2009). Perfluoroctanoic Acid (PFOA) and Perfluoroactane Sulfonate (PFOS) Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*, Lecture conducted from Tuscon, AZ.

**Rosenfeld, P.E.** (April 19-23, 2009). Cost to Filter Atrazine Contamination from Drinking Water in the United States" Contamination in Drinking Water From the Use of Aqueous Film Forming Foams (AFFF) at Airports in the United States. *2009 Ground Water Summit and 2009 Ground Water Protection Council Spring Meeting*. Lecture conducted from Tuscon, AZ.

Wu, C., Tam, L., Clark, J., **Rosenfeld, P**. (20-22 July, 2009). Dioxin and furan blood lipid concentrations in populations living near four wood treatment facilities in the United States. Brebbia, C.A. and Popov, V., eds., *Air Pollution XVII: Proceedings of the Seventeenth International Conference on Modeling, Monitoring and Management of Air Pollution*. Lecture conducted from Tallinn, Estonia.

**Rosenfeld, P. E.** (October 15-18, 2007). Moss Point Community Exposure To Contaminants From A Releasing Facility. *The 23rd Annual International Conferences on Soils Sediment and Water.* Platform lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld, P. E.** (October 15-18, 2007). The Repeated Trespass of Tritium-Contaminated Water Into A Surrounding Community Form Repeated Waste Spills From A Nuclear Power Plant. *The 23rd Annual International Conferences on Soils Sediment and Water*. Platform lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld, P. E.** (October 15-18, 2007). Somerville Community Exposure To Contaminants From Wood Treatment Facility Emissions. The *23rd Annual International Conferences on Soils Sediment and Water*. Lecture conducted from University of Massachusetts, Amherst MA.

**Rosenfeld P. E.** (March 2007). Production, Chemical Properties, Toxicology, & Treatment Case Studies of 1,2,3-Trichloropropane (TCP). *The Association for Environmental Health and Sciences (AEHS) Annual Meeting*. Lecture conducted from San Diego, CA.

**Rosenfeld P. E.** (March 2007). Blood and Attic Sampling for Dioxin/Furan, PAH, and Metal Exposure in Florala, Alabama. *The AEHS Annual Meeting.* Lecture conducted from San Diego, CA.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (August 21 – 25, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *The 26th International Symposium on Halogenated Persistent Organic Pollutants – DIOXIN2006*. Lecture conducted from Radisson SAS Scandinavia Hotel in Oslo Norway.

Hensley A.R., Scott, A., **Rosenfeld P.E.,** Clark, J.J.J. (November 4-8, 2006). Dioxin Containing Attic Dust And Human Blood Samples Collected Near A Former Wood Treatment Facility. *APHA 134 Annual Meeting & Exposition.* Lecture conducted from Boston Massachusetts.

**Paul Rosenfeld Ph.D**. (October 24-25, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. Mealey's C8/PFOA. *Science, Risk & Litigation Conference.* Lecture conducted from The Rittenhouse Hotel, Philadelphia, PA.

**Paul Rosenfeld Ph.D**. (September 19, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, *Toxicology and Remediation PEMA Emerging Contaminant Conference*. Lecture conducted from Hilton Hotel, Irvine California.

**Paul Rosenfeld Ph.D**. (September 19, 2005). Fate, Transport, Toxicity, And Persistence of 1,2,3-TCP. *PEMA Emerging Contaminant Conference.* Lecture conducted from Hilton Hotel in Irvine, California.

**Paul Rosenfeld Ph.D**. (September 26-27, 2005). Fate, Transport and Persistence of PDBEs. *Mealey's Groundwater Conference.* Lecture conducted from Ritz Carlton Hotel, Marina Del Ray, California.

**Paul Rosenfeld Ph.D**. (June 7-8, 2005). Fate, Transport and Persistence of PFOA and Related Chemicals. *International Society of Environmental Forensics: Focus On Emerging Contaminants*. Lecture conducted from Sheraton Oceanfront Hotel, Virginia Beach, Virginia.

**Paul Rosenfeld Ph.D**. (July 21-22, 2005). Fate Transport, Persistence and Toxicology of PFOA and Related Perfluorochemicals. *2005 National Groundwater Association Ground Water And Environmental Law Conference*. Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld Ph.D**. (July 21-22, 2005). Brominated Flame Retardants in Groundwater: Pathways to Human Ingestion, Toxicology and Remediation. *2005 National Groundwater Association Ground Water and Environmental Law Conference.* Lecture conducted from Wyndham Baltimore Inner Harbor, Baltimore Maryland.

**Paul Rosenfeld, Ph.D.** and James Clark Ph.D. and Rob Hesse R.G. (May 5-6, 2004). Tert-butyl Alcohol Liability and Toxicology, A National Problem and Unquantified Liability. *National Groundwater Association. Environmental Law Conference*. Lecture conducted from Congress Plaza Hotel, Chicago Illinois.

**Paul Rosenfeld, Ph.D.** (March 2004). Perchlorate Toxicology. *Meeting of the American Groundwater Trust*. Lecture conducted from Phoenix Arizona.

Hagemann, M.F., **Paul Rosenfeld, Ph.D.** and Rob Hesse (2004). Perchlorate Contamination of the Colorado River. *Meeting of tribal representatives*. Lecture conducted from Parker, AZ.

**Paul Rosenfeld, Ph.D.** (April 7, 2004). A National Damage Assessment Model For PCE and Dry Cleaners. *Drycleaner Symposium. California Ground Water Association*. Lecture conducted from Radison Hotel, Sacramento, California.

**Rosenfeld, P. E**., Grey, M., (June 2003) Two stage biofilter for biosolids composting odor control. *Seventh International In Situ And On Site Bioremediation Symposium Battelle Conference* Orlando, FL.

**Paul Rosenfeld, Ph.D.** and James Clark Ph.D. (February 20-21, 2003) Understanding Historical Use, Chemical Properties, Toxicity and Regulatory Guidance of 1,4 Dioxane. *National Groundwater Association. Southwest Focus Conference. Water Supply and Emerging Contaminants*.. Lecture conducted from Hyatt Regency Phoenix Arizona.

**Paul Rosenfeld, Ph.D.** (February 6-7, 2003). Underground Storage Tank Litigation and Remediation. *California CUPA Forum*. Lecture conducted from Marriott Hotel, Anaheim California.

**Paul Rosenfeld, Ph.D**. (October 23, 2002) Underground Storage Tank Litigation and Remediation. *EPA Underground Storage Tank Roundtable*. Lecture conducted from Sacramento California.

**Rosenfeld, P.E**. and Suffet, M. (October 7- 10, 2002). Understanding Odor from Compost, *Wastewater and Industrial Processes. Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

**Rosenfeld, P.E**. and Suffet, M. (October 7- 10, 2002). Using High Carbon Wood Ash to Control Compost Odor. *Sixth Annual Symposium On Off Flavors in the Aquatic Environment. International Water Association*. Lecture conducted from Barcelona Spain.

**Rosenfeld, P.E.** and Grey, M. A. (September 22-24, 2002). Biocycle Composting For Coastal Sage Restoration. *Northwest Biosolids Management Association*. Lecture conducted from Vancouver Washington..

**Rosenfeld, P.E**. and Grey, M. A. (November 11-14, 2002). Using High-Carbon Wood Ash to Control Odor at a Green Materials Composting Facility. *Soil Science Society Annual Conferenc*e. Lecture conducted from Indianapolis, Maryland.

**Rosenfeld. P.E.** (September 16, 2000). Two stage biofilter for biosolids composting odor control. *Water Environment Federation.* Lecture conducted from Anaheim California.

**Rosenfeld. P.E. (**October 16, 2000). Wood ash and biofilter control of compost odor. *Biofest.* Lecture conducted from Ocean Shores, California.

**Rosenfeld, P.E. (**2000). Bioremediation Using Organic Soil Amendments. *California Resource Recovery Association*. Lecture conducted from Sacramento California.

**Rosenfeld, P.E**., C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. *Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings*. Lecture conducted from Bellevue Washington.

**Rosenfeld, P.E.**, and C.L. Henry. (1999). An evaluation of ash incorporation with biosolids for odor reduction. *Soil Science Society of America*. Lecture conducted from Salt Lake City Utah.

**Rosenfeld, P.E.**, C.L. Henry, R. Harrison. (1998). Comparison of Microbial Activity and Odor Emissions from Three Different Biosolids Applied to Forest Soil. *Brown and Caldwell.* Lecture conducted from Seattle Washington.

**Rosenfeld, P.E.**, C.L. Henry. (1998). Characterization, Quantification, and Control of Odor Emissions from Biosolids Application To Forest Soil. *Biofest.* Lecture conducted from Lake Chelan, Washington.

**Rosenfeld, P.E,** C.L. Henry, R. Harrison. (1998). Oat and Grass Seed Germination and Nitrogen and Sulfur Emissions Following Biosolids Incorporation With High-Carbon Wood-Ash. Water Environment Federation 12th Annual Residuals and Biosolids Management Conference Proceedings. Lecture conducted from Bellevue Washington.

**Rosenfeld, P.E.**, C.L. Henry, R. B. Harrison, and R. Dills. (1997). Comparison of Odor Emissions From Three Different Biosolids Applied to Forest Soil. *Soil Science Society of America*. Lecture conducted from Anaheim California.

## Teaching Experience:

UCLA Department of Environmental Health (Summer 2003 through 20010) Taught Environmental Health Science 100 to students, including undergrad, medical doctors, public health professionals and nurses. Course focused on the health effects of environmental contaminants.

National Ground Water Association, Successful Remediation Technologies. Custom Course in Sante Fe, New Mexico. May 21, 2002. Focused on fate and transport of fuel contaminants associated with underground storage tanks.

National Ground Water Association; Successful Remediation Technologies Course in Chicago Illinois. April 1, 2002. Focused on fate and transport of contaminants associated with Superfund and RCRA sites.

California Integrated Waste Management Board, April and May, 2001. Alternative Landfill Caps Seminar in San Diego, Ventura, and San Francisco. Focused on both prescriptive and innovative landfill cover design.

UCLA Department of Environmental Engineering, February 5, 2002. Seminar on Successful Remediation Technologies focusing on Groundwater Remediation.

University Of Washington, Soil Science Program, Teaching Assistant for several courses including: Soil Chemistry, Organic Soil Amendments, and Soil Stability.

U.C. Berkeley, Environmental Science Program Teaching Assistant for Environmental Science 10.

## Academic Grants Awarded:

California Integrated Waste Management Board. $41,000 grant awarded to UCLA Institute of the Environment. Goal: To investigate effect of high carbon wood ash on volatile organic emissions from compost. 2001.

Synagro Technologies, Corona California: $10,000 grant awarded to San Diego State University.
Goal: investigate effect of biosolids for restoration and remediation of degraded coastal sage soils. 2000.

King County, Department of Research and Technology, Washington State. $100,000 grant awarded to University of Washington: Goal: To investigate odor emissions from biosolids application and the effect of polymers and ash on VOC emissions. 1998.

Northwest Biosolids Management Association, Washington State. $20,000 grant awarded to investigate effect of polymers and ash on VOC emissions from biosolids. 1997.

James River Corporation, Oregon: $10,000 grant was awarded to investigate the success of genetically engineered Poplar trees with resistance to round-up. 1996.

United State Forest Service, Tahoe National Forest: $15,000 grant was awarded to investigating fire ecology of the Tahoe National Forest. 1995.

Kellogg Foundation, Washington D.C. $500 grant was awarded to construct a large anaerobic digester on St. Kitts in West Indies. 1993

## Deposition and/or Trial Testimony:

In the Superior Court of the State of California, County of San Bernardino
Billy Wildrick, Plaintiff vs. BNSF Railway Company
Case No. CIVDS1711810
Rosenfeld Deposition 10-17-2022

In the State Court of Bibb County, State of Georgia
Richard Hutcherson, Plaintiff vs Norfolk Southern Railway Company
Case No. 10-SCCV-092007
Rosenfeld Deposition 10-6-2022

In the Civil District Court of the Parish of Orleans, State of Louisiana
Millard Clark, Plaintiff vs. Dixie Carriers, Inc. et al.
Case No. 2020-03891
Rosenfeld Deposition 9-15-2022

In The Circuit Court of Livingston County, State of Missouri, Circuit Civil Division
Shirley Ralls, Plaintiff vs. Canadian Pacific Railway and Soo Line Railroad
Case No. 18-LV-CC0020
Rosenfeld Deposition 9-7-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jonny C. Daniels, Plaintiff vs. CSX Transportation Inc.
Case No. 20-CA-5502
Rosenfeld Deposition 9-1-2022

In The Circuit Court of St. Louis County, State of Missouri
Kieth Luke et. al. Plaintiff vs. Monsanto Company et. al.
Case No. 19SL-CC03191
Rosenfeld Deposition 8-25-2022

In The Circuit Court of the 13th Judicial Circuit Court, Hillsborough County, Florida Civil Division
Jeffery S. Lamotte, Plaintiff vs. CSX Transportation Inc.
Case No. NO. 20-CA-0049
Rosenfeld Deposition 8-22-2022

In State of Minnesota District Court, County of St. Louis Sixth Judicial District
Greg Bean, Plaintiff vs. Soo Line Railroad Company
Case No. 69-DU-CV-21-760
Rosenfeld Deposition 8-17-2022

In United States District Court Western District of Washington at Tacoma, Washington
John D. Fitzgerald Plaintiff vs. BNSF
Case No. 3:21-cv-05288-RJB
Rosenfeld Deposition 8-11-2022

In Circuit Court of the Sixth Judicial Circuit, Macon Illinois
Rocky Bennyhoff Plaintiff vs. Norfolk Southern
Case No. 20-L-56
Rosenfeld Deposition 8-3-2022

In Court of Common Pleas, Hamilton County Ohio
Joe Briggins Plaintiff vs. CSX
Case No. A2004464
Rosenfeld Deposition 6-17-2022

In the Superior Court of the State of California, County of Kern
George LaFazia vs. BNSF Railway Company.
Case No. BCV-19-103087
Rosenfeld Deposition 5-17-2022

In the Circuit Court of Cook County Illinois
Bobby Earles vs. Penn Central et. al.
Case No. 2020-L-000550
Rosenfeld Deposition 4-16-2022

In United States District Court Easter District of Florida
Albert Hartman Plaintiff vs. Illinois Central
Case No. 2:20-cv-1633
Rosenfeld Deposition 4-4-2022

In the Circuit Court of the 4th Judicial Circuit, in and For Duval County, Florida
Barbara Steele vs. CSX Transportation
Case No.16-219-Ca-008796
Rosenfeld Deposition 3-15-2022

In United States District Court Easter District of New York
Romano et al. vs. Northrup Grumman Corporation
Case No. 16-cv-5760
Rosenfeld Deposition 3-10-2022

In the Circuit Court of Cook County Illinois
Linda Benjamin vs. Illinois Central
Case No. No. 2019 L 007599
Rosenfeld Deposition 1-26-2022

In the Circuit Court of Cook County Illinois
Donald Smith vs. Illinois Central
Case No. No. 2019 L 003426
Rosenfeld Deposition 1-24-2022

In the Circuit Court of Cook County Illinois
Jan Holeman vs. BNSF
Case No. 2019 L 000675
Rosenfeld Deposition 1-18-2022

In the State Court of Bibb County State of Georgia
Dwayne B. Garrett vs. Norfolk Southern
Case No. 20-SCCV-091232
Rosenfeld Deposition 11-10-2021

In the Circuit Court of Cook County Illinois
Joseph Ruepke vs. BNSF
Case No. 2019 L 007730
Rosenfeld Deposition 11-5-2021

In the United States District Court For the District of Nebraska
Steven Gillett vs. BNSF
Case No. 4:20-cv-03120
Rosenfeld Deposition 10-28-2021

In the Montana Thirteenth District Court of Yellowstone County
James Eadus vs. Soo Line Railroad and BNSF
Case No. DV 19-1056
Rosenfeld Deposition 10-21-2021

In the Circuit Court Of The Twentieth Judicial Circuit, St Clair County, Illinois
Martha Custer et al.cvs. Cerro Flow Products, Inc.
Case No. 0i9-L-2295
Rosenfeld Deposition 5-14-2021
Trial October 8-4-2021

In the Circuit Court of Cook County Illinois
Joseph Rafferty vs. Consolidated Rail Corporation and National Railroad Passenger Corporation d/b/a AMTRAK,
Case No. 18-L-6845
Rosenfeld Deposition 6-28-2021

In the United States District Court For the Northern District of Illinois
Theresa Romcoe vs. Northeast Illinois Regional Commuter Railroad Corporation d/b/a METRA Rail
Case No. 17-cv-8517
Rosenfeld Deposition 5-25-2021

In the Superior Court of the State of Arizona In and For the Cunty of Maricopa
Mary Tryon et al. vs. The City of Pheonix v. Cox Cactus Farm, L.L.C., Utah Shelter Systems, Inc.
Case No. CV20127-094749
Rosenfeld Deposition 5-7-2021

In the United States District Court for the Eastern District of Texas Beaumont Division
Robinson, Jeremy et al vs. CNA Insurance Company et al.
Case No. 1:17-cv-000508
Rosenfeld Deposition 3-25-2021

In the Superior Court of the State of California, County of San Bernardino
Gary Garner, Personal Representative for the Estate of Melvin Garner vs. BNSF Railway Company.
Case No. 1720288
Rosenfeld Deposition 2-23-2021

In the Superior Court of the State of California, County of Los Angeles, Spring Street Courthouse
Benny M Rodriguez vs. Union Pacific Railroad, A Corporation, et al.
Case No. 18STCV01162
Rosenfeld Deposition 12-23-2020

In the Circuit Court of Jackson County, Missouri
Karen Cornwell, Plaintiff, vs. Marathon Petroleum, LP, Defendant.
Case No. 1716-CV10006
Rosenfeld Deposition 8-30-2019

In the United States District Court For The District of New Jersey
Duarte et al, Plaintiffs, vs. United States Metals Refining Company et. al. Defendant.
Case No. 2:17-cv-01624-ES-SCM
Rosenfeld Deposition 6-7-2019

In the United States District Court of Southern District of Texas Galveston Division
M/T Carla Maersk vs. Conti 168., Schiffahrts-GMBH & Co. Bulker KG MS "Conti Perdido" Defendant.
Case No. 3:15-CV-00106 consolidated with 3:15-CV-00237
Rosenfeld Deposition 5-9-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
Carole-Taddeo-Bates et al., vs. Ifran Khan et al., Defendants
Case No. BC615636
Rosenfeld Deposition 1-26-2019

In The Superior Court of the State of California In And For The County Of Los Angeles – Santa Monica
The San Gabriel Valley Council of Governments et al. vs El Adobe Apts. Inc. et al., Defendants
Case No. BC646857
Rosenfeld Deposition 10-6-2018; Trial 3-7-19

In United States District Court For The District of Colorado
Bells et al. Plaintiffs vs. The 3M Company et al., Defendants
Case No. 1:16-cv-02531-RBJ
Rosenfeld Deposition 3-15-2018 and 4-3-2018

In The District Court Of Regan County, Texas, 112th Judicial District
Phillip Bales et al., Plaintiff vs. Dow Agrosciences, LLC, et al., Defendants
Cause No. 1923
Rosenfeld Deposition 11-17-2017

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Simons et al., Plaintifs vs. Chevron Corporation, et al., Defendants
Cause No. C12-01481
Rosenfeld Deposition 11-20-2017

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Martha Custer et al., Plaintiff vs. Cerro Flow Products, Inc., Defendants
Case No.: No. 0i9-L-2295
Rosenfeld Deposition 8-23-2017

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Guy Manuel vs. The BP Exploration et al., Defendants
Case No. 1:19-cv-00315-RHW
Rosenfeld Deposition 4-22-2020

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Warrn Gilbert and Penny Gilber, Plaintiff vs. BMW of North America LLC
Case No. LC102019 (c/w BC582154)
Rosenfeld Deposition 8-16-2017, Trail 8-28-2018

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Brenda J. Cooper, et al., Plaintiffs, vs. Meritor Inc., et al., Defendants
Case No. 4:16-cv-52-DMB-JVM
Rosenfeld Deposition July 2017

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Michael Davis and Julie Davis et al., Plaintiff vs. Cedar Grove Composting Inc., Defendants
Case No. 13-2-03987-5
Rosenfeld Deposition, February 2017
Trial March 2017

In The Superior Court of the State of California, County of Alameda
Charles Spain., Plaintiff vs. Thermo Fisher Scientific, et al., Defendants
Case No. RG14711115
Rosenfeld Deposition September 2015

In The Iowa District Court In And For Poweshiek County
Russell D. Winburn, et al., Plaintiffs vs. Doug Hoksbergen, et al., Defendants
Case No. LALA002187
Rosenfeld Deposition August 2015

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Civil Action No. 14-C-30000
Rosenfeld Deposition June 2015

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Laurie Freeman et. al. Plaintiffs vs. Grain Processing Corporation, Defendant
Case No. 4980
Rosenfeld Deposition May 2015

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Walter Hinton, et. al. Plaintiff, vs. City of Fort Lauderdale, Florida, a Municipality, Defendant.
Case No. CACE07030358 (26)
Rosenfeld Deposition December 2014

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Lisa Parr et al, Plaintiff, vs. Aruba et al, Defendant.
Case No. cc-11-01650-E
Rosenfeld Deposition: March and September 2013
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In the Court of Common Pleas of Tuscarawas County Ohio
John Michael Abicht, et al., Plaintiffs, vs. Republic Services, Inc., et al., Defendants
Case No. 2008 CT 10 0741 (Cons. w/ 2009 CV 10 0987)
Rosenfeld Deposition October 2012

In the United States District Court for the Middle District of Alabama, Northern Division
James K. Benefield, et al., Plaintiffs, vs. International Paper Company, Defendant.
Civil Action No. 2:09-cv-232-WHA-TFM
Rosenfeld Deposition July 2010, June 2011

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Jaeanette Moss Anthony, et al., Plaintiffs, vs. Drummond Company Inc., et al., Defendants
Civil Action No. CV 2008-2076
Rosenfeld Deposition September 2010

In the United States District Court, Western District Lafayette Division
Ackle et al., Plaintiffs, vs. Citgo Petroleum Corporation, et al., Defendants.
Case No. 2:07CV1052
Rosenfeld Deposition July 2009

# EXHIBIT D

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From: Francis J. Offermann PE CIH

Subject: Indoor Air Quality: Arcadia Town Center Project – Arcadia, CA.
(IEE File Reference: P-4950)

Pages: 19

## 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. Indoor air quality also is a serious concern for workers in hotels, offices and other business establishments.

The concentrations of many air pollutants often are elevated in homes and other buildings 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, 2017a), 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 µg/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 µg/m$^3$. The median indoor formaldehyde concentration was 36 µg/m$^3$, and ranged from 4.8 to 136 µg/m$^3$, which corresponds to a median exceedance of the 2 µg/m$^3$ NSRL concentration of 18 and a range of 2.3 to 68.

Therefore, the cancer risk of a resident living in a California home with the median indoor formaldehyde concentration of 36 µg/m$^3$, is 180 per million as a result of formaldehyde alone. The CEQA significance threshold for airborne cancer risk is 10 per million, as established by the San Diego County Air Pollution Control District (SDAPCD, 2021).

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, 2017b). 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

particleboard. These materials are commonly used in 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 below cancer and non-cancer exposure guidelines.

A follow up study to the California New Home Study (CNHS) was conducted in 2016-2018 (Singer et. al., 2019), and found that the median indoor formaldehyde in new homes built after 2009 with CARB Phase 2 Formaldehyde ATCM materials had lower indoor formaldehyde concentrations, with a median indoor concentrations of 22.4 $\mu g/m^3$ (18.2 ppb) as compared to a median of 36 $\mu g/m^3$ found in the 2007 CNHS. Unlike in the CNHS study where formaldehyde concentrations were measured with pumped DNPH samplers, the formaldehyde concentrations in the HENGH study were measured with passive samplers, which were estimated to under-measure the true indoor formaldehyde concentrations by approximately 7.5%. Applying this correction to the HENGH indoor formaldehyde concentrations results in a median indoor concentration of 24.1 $\mu g/m^3$, which is 33% lower than the 36 $\mu g/m^3$ found in the 2007 CNHS.

Thus, while new homes built after the 2009 CARB formaldehyde ATCM have a 33% lower median indoor formaldehyde concentration and cancer risk, the median lifetime cancer risk is still 120 per million for homes built with CARB compliant composite wood products. This median lifetime cancer risk is more than 12 times the OEHHA 10 in a million cancer risk threshold (OEHHA, 2017a).

With respect to the Arcadia Town Center project, Arcadia, CA, the buildings consist of residential and commercial spaces.

The residential occupants will potentially have continuous exposure (e.g. 24 hours per day, 52 weeks per year). These exposures are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in residential construction.

Because these residences will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and be ventilated with the minimum code required amount of outdoor air, the indoor residential formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the residential occupants inhale 20 $m^3$ of air per day, the average 70-year lifetime formaldehyde daily dose is 482 $\mu g$/day for continuous exposure in the residences. This exposure represents a cancer risk of 120 per million, which is more than 12 times the CEQA cancer risk of 10 per million. For occupants that do not have continuous exposure, the cancer risk will be proportionally less but still substantially over the CEQA cancer risk of 10 per million (e.g. for 12/hour/day occupancy, more than 6 times the CEQA cancer risk of 10 per million).

The employees of the commercial spaces are expected to experience significant indoor exposures (e.g., 40 hours per week, 50 weeks per year). These exposures for employees are anticipated to result in significant cancer risks resulting from exposures to formaldehyde released by the building materials and furnishing commonly found in offices, warehouses, residences and hotels.

Because the commercial spaces will be constructed with CARB Phase 2 Formaldehyde ATCM materials, and ventilated with the minimum code required amount of outdoor air, the indoor formaldehyde concentrations are likely similar to those concentrations observed in residences built with CARB Phase 2 Formaldehyde ATCM materials, which is a median of 24.1 $\mu g/m^3$ (Singer et. al., 2020)

Assuming that the employees of commercial spaces work 8 hours per day and inhale 20 $m^3$ of air per day, the formaldehyde dose per work-day at the offices is 161 µg/day.

Assuming that these employees work 5 days per week and 50 weeks per year for 45 years (start at age 20 and retire at age 65) the average 70-year lifetime formaldehyde daily dose is 70.9 µg/day.

This is 1.77 times the NSRL (OEHHA, 2017a) of 40 µg/day and represents a cancer risk of 17.7 per million, which exceeds the CEQA cancer risk of 10 per million. 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.

In addition, we note that the average outdoor air concentration of formaldehyde in California is 3 ppb, or 3.7 µg/$m^3$, (California Air Resources Board, 2004), and thus represents an average pre-existing background airborne cancer risk of 1.85 per million. Thus, the indoor air formaldehyde exposures describe above exacerbate this pre-existing risk resulting from outdoor air formaldehyde exposures.

Additionally, the SCAQMD's Multiple Air Toxics Exposure Study ("MATES V") identifies an existing cancer risk at the Project site of 537 per million due to the site's elevated ambient air contaminant concentrations, which are due to the area's high levels of vehicle traffic. These impacts would further exacerbate the pre-existing cancer risk to the building occupants, which result from exposure to formaldehyde in both indoor and outdoor air.

Appendix A, Indoor Formaldehyde Concentrations and the CARB Formaldehyde ATCM, provides analyses that show utilization of CARB Phase 2 Formaldehyde ATCM materials will not ensure acceptable cancer risks with respect to formaldehyde emissions from composite wood products.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

The following describes a method that should be used, prior to construction in the environmental review under CEQA, for determining whether the indoor concentrations resulting from the formaldehyde emissions of specific building materials/furnishings selected exceed cancer and non-cancer guidelines. Such a design analyses can be used to identify those materials/furnishings prior to the completion of the City's CEQA review and project approval, that have formaldehyde emission rates that contribute to indoor concentrations that exceed cancer and non-cancer guidelines, so that alternative lower emitting materials/furnishings may be selected and/or higher minimum outdoor air ventilation rates can be increased to achieve acceptable indoor concentrations and incorporated as mitigation measures for this project.

Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment

This formaldehyde emissions assessment should be used in the environmental review under CEQA to assess the indoor formaldehyde concentrations from the proposed loading of building materials/furnishings, the area-specific formaldehyde emission rate data for building materials/furnishings, and the design minimum outdoor air ventilation rates. This assessment allows the applicant (and the City) to determine, before the conclusion of the environmental review process and the building materials/furnishings are specified, purchased, and installed, if the total chemical emissions will exceed cancer and non-cancer guidelines, and if so, allow for changes in the selection of specific material/furnishings and/or the design minimum outdoor air ventilations rates such that cancer and non-cancer guidelines are not exceeded.

1.) Define Indoor Air Quality Zones. Divide the building into separate indoor air quality zones, (IAQ Zones). IAQ Zones are defined as areas of well-mixed air. Thus, each ventilation system with recirculating air is considered a single zone, and each room or group of rooms where air is not recirculated (e.g. 100% outdoor air) is considered a separate zone. For IAQ Zones with the same construction material/furnishings and design minimum outdoor air ventilation rates. (e.g. hotel rooms, apartments, condominiums, etc.) the formaldehyde emission rates need only be assessed for a single IAQ Zone of that type.

2.) Calculate Material/Furnishing Loading. For each IAQ Zone, determine the building material and furnishing loadings (e.g., $m^2$ of material/$m^2$ floor area, units of furnishings/$m^2$ floor area) from an inventory of all potential indoor formaldehyde sources, including flooring, ceiling tiles, furnishings, finishes, insulation, sealants, adhesives, and any products constructed with composite wood products containing urea-formaldehyde resins (e.g., plywood, medium density fiberboard, particleboard).

3.) Calculate the Formaldehyde Emission Rate. For each building material, calculate the formaldehyde emission rate (µg/h) from the product of the area-specific formaldehyde emission rate (µg/$m^2$-h) and the area ($m^2$) of material in the IAQ Zone, and from each furnishing (e.g. chairs, desks, etc.) from the unit-specific formaldehyde emission rate (µg/unit-h) and the number of units in the IAQ Zone.

NOTE: As a result of the high-performance building rating systems and building codes (California Building Standards Commission, 2014; USGBC, 2014), most manufacturers of building materials furnishings sold in the United States conduct chemical emission rate tests using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), or other equivalent chemical emission rate testing methods. Most manufacturers of building furnishings sold in the United States conduct chemical emission rate tests using ANSI/BIFMA M7.1 Standard Test Method for Determining VOC Emissions (BIFMA, 2018), or other equivalent chemical emission rate testing methods.

CDPH, BIFMA, and other chemical emission rate testing programs, typically certify that a material or furnishing does not create indoor chemical concentrations in excess of the maximum concentrations permitted by their certification. For instance, the CDPH emission rate testing requires that the measured emission rates when input into an office, school, or residential model do not exceed one-half of the OEHHA Chronic Exposure Guidelines (OEHHA, 2017b) for the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017). These certifications themselves do not provide the actual area-specific formaldehyde emission rate (i.e., $\mu g/m^2$-h) of the product, but rather provide data that the formaldehyde emission rates do not exceed the maximum rate allowed for the certification. Thus, for example, the data for a certification of a specific type of flooring may be used to calculate that the area-specific emission rate of formaldehyde is less than 31 $\mu g/m^2$-h, but not the actual measured specific emission rate, which may be 3, 18, or 30 $\mu g/m^2$-h. These area-specific emission rates determined from the product certifications of CDPH, BIFA, and other certification programs can be used as an initial estimate of the formaldehyde emission rate.

If the actual area-specific emission rates of a building material or furnishing is needed (i.e. the initial emission rates estimates from the product certifications are higher than desired), then that data can be acquired by requesting from the manufacturer the complete chemical emission rate test report. For instance if the complete CDPH emission test report is requested for a CDHP certified product, that report will provide the actual area-specific emission rates for not only the 35 specific VOCs, including formaldehyde, listed in Table 4-1 of the CDPH test method (CDPH, 2017), but also all of the cancer and reproductive/developmental chemicals listed in the California Proposition 65 Safe Harbor Levels (OEHHA, 2017a), all of the toxic air contaminants (TACs) in the California Air Resources Board Toxic Air Contamination List (CARB, 2011), and the 10 chemicals with the greatest emission rates.

Alternatively, a sample of the building material or furnishing can be submitted to a chemical emission rate testing laboratory, such as Berkeley Analytical Laboratory (https://berkeleyanalytical.com), to measure the formaldehyde emission rate.

4.) Calculate the Total Formaldehyde Emission Rate. For each IAQ Zone, calculate the total formaldehyde emission rate (i.e. µg/h) from the individual formaldehyde emission rates from each of the building material/furnishings as determined in Step 3.

5.) Calculate the Indoor Formaldehyde Concentration. For each IAQ Zone, calculate the indoor formaldehyde concentration (µg/$m^3$) from Equation 1 by dividing the total formaldehyde emission rates (i.e. µg/h) as determined in Step 4, by the design minimum outdoor air ventilation rate ($m^3$/h) for the IAQ Zone.

$$C_{in} = \frac{E_{total}}{Q_{oa}} \quad \text{(Equation 1)}$$

where:

$C_{in}$ = indoor formaldehyde concentration (µg/$m^3$)

$E_{total}$ = total formaldehyde emission rate (µg/h) into the IAQ Zone.

$Q_{oa}$ = design minimum outdoor air ventilation rate to the IAQ Zone ($m^3$/h)

The above Equation 1 is based upon mass balance theory, and is referenced in Section 3.10.2 "Calculation of Estimated Building Concentrations" of the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017).

6.) Calculate the Indoor Exposure Cancer and Non-Cancer Health Risks. For each IAQ Zone, calculate the cancer and non-cancer health risks from the indoor formaldehyde concentrations determined in Step 5 and as described in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines; Guidance Manual for Preparation of Health Risk Assessments (OEHHA, 2015).

7.) Mitigate Indoor Formaldehyde Exposures of exceeding the CEQA Cancer and/or Non-Cancer Health Risks. In each IAQ Zone, provide mitigation for any formaldehyde exposure risk as determined in Step 6, that exceeds the CEQA cancer risk of 10 per million or the CEQA non-cancer Hazard Quotient of 1.0.

Provide the source and/or ventilation mitigation required in all IAQ Zones to reduce the

health risks of the chemical exposures below the CEQA cancer and non-cancer health risks.

Source mitigation for formaldehyde may include:

1.) reducing the amount materials and/or furnishings that emit formaldehyde
2.) substituting a different material with a lower area-specific emission rate of formaldehyde

Ventilation mitigation for formaldehyde emitted from building materials and/or furnishings may include:

1.) increasing the design minimum outdoor air ventilation rate to the IAQ Zone.

NOTE: Mitigating the formaldehyde emissions through use of less material/furnishings, or use of lower emitting materials/furnishings, is the preferred mitigation option, as mitigation with increased outdoor air ventilation increases initial and operating costs associated with the heating/cooling systems.

Further, we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers," (CDPH, 2017), and use the procedure described earlier above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

**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 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 air changes per hour (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 Arcadia Town Center project, Arcadia, CA is close to roads with moderate to high traffic (e.g., South Santa Anita Avenue, West Huntington Drive, East Huntington Drive, etc.). Thus, the Project is located in a sound impacted area.

According to the Initial Study/Mitigative Negative Declaration – Arcadia Town Center Project, Arcadia, CA there have been only four short-term (20 minute) measurements of the ambient noise levels on April 12, 2023, which ranged from 59.4 to 66.3 dBA Leq, and modeling of the future traffic noise levels which ranged from 59.4 to 73.5 dBA CNEL.

In order to design the building for this Project such that interior noise levels are acceptable, an acoustic study with actual on-site measurements of the existing ambient noise levels and modeled future ambient noise levels needs to be conducted. The acoustic study of the existing ambient noise levels should be conducted over a minimum of a one-week period and report the dBA CNEL or Ldn. This study will allow for the selection of a building envelope and windows with a sufficient STC such that the indoor noise levels are acceptable. A mechanical supply of outdoor air ventilation to allow for a habitable interior environment with closed windows and doors will also be required. Such a ventilation system would allow windows and doors to be kept closed at the occupant's discretion to control exterior noise within building interiors.

**$PM_{2.5}$ Outdoor Concentrations Impact**. An additional impact of the nearby motor vehicle traffic associated with this project, are the outdoor concentrations of $PM_{2.5}$. The Arcadia Town Center Project, Arcadia, CA is located in the South Coast Air Basin, which is a State and Federal non-attainment area for $PM_{2.5}$.

Additionally, the SCAQMD's MATES V study cites an existing cancer risk of 537 per million at the Project site due to the site's high concentration of ambient air contaminants resulting from the area's high levels of motor vehicle traffic.

An air quality analyses should be conducted to determine the concentrations of $PM_{2.5}$ in the outdoor and indoor air that people inhale each day. This air quality analyses needs to consider the cumulative impacts of the project related emissions, existing and projected future emissions from local $PM_{2.5}$ sources (e.g. stationary sources, motor vehicles, and airport traffic) upon the outdoor air concentrations at the Project site. If the outdoor concentrations are determined to exceed the California and National annual average $PM_{2.5}$ exceedence concentration of 12 $\mu g/m^3$, or the National 24-hour average exceedence concentration of 35 $\mu g/m^3$, then the buildings need to have a mechanical supply of outdoor air that has air filtration with sufficient removal efficiency, such that the indoor concentrations of outdoor $PM_{2.5}$ particles is less than the California and National $PM_{2.5}$ annual and 24-hour standards.

It is my experience that based on the projected high traffic noise levels, the annual average concentration of $PM_{2.5}$ will exceed the California and National $PM_{2.5}$ annual and 24-hour standards and warrant installation of high efficiency air filters (i.e. at least MERV 13, or possibly MERV 14 or 15 depending on the results of the Project ambient $PM_{2.5}$ concentrations) in all mechanically supplied outdoor air ventilation systems.

**Indoor Air Quality Impact Mitigation Measures**

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

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 (CARB, 2009). CARB Phase 2 certified composite wood products, or ultra-low emitting formaldehyde (ULEF) resins, do not insure indoor formaldehyde concentrations that are below the CEQA cancer risk of 10 per million. Only composite wood products manufactured with CARB approved no-added formaldehyde (NAF) resins, such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

Alternatively, conduct the previously described Pre-Construction Building Material/Furnishing Chemical Emissions Assessment, to determine that the combination of formaldehyde emissions from building materials and furnishings do not create indoor formaldehyde concentrations that exceed the CEQA cancer and non-cancer health risks.

It is important to note that we are not asking that the builder "speculate" on what and how much composite materials be used, but rather at the design stage to select composite wood materials based on the formaldehyde emission rates that manufacturers routinely conduct using the California Department of Health "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers", (CDPH, 2017), and use the procedure described above (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Outdoor Air Ventilation Mitigation. Provide each habitable room with a continuous 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 airflow 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 or maintenance personnel, 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 sufficient $PM_{2.5}$ removal efficiency (e.g. MERV 13 or higher) to filter the outdoor air entering the mechanical outdoor air supply systems, such that the indoor concentrations of outdoor $PM_{2.5}$ particles are less than the California and National $PM_{2.5}$ annual and 24-hour standards. Install the air filters in the system such that they are accessible for replacement by the occupants or maintenance personnel. 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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APPENDIX A

INDOOR FORMALDEHYDE CONCENTRATIONS
AND THE
CARB FORMALDEHYDE ATCM

With respect to formaldehyde emissions from composite wood products, the CARB ATCM regulations of formaldehyde emissions from composite wood products, do not assure healthful indoor air quality. The following is the stated purpose of the CARB ATCM regulation - *The purpose of this airborne toxic control measure is to "reduce formaldehyde emissions from composite wood products, and finished goods that contain composite wood products, that are sold, offered for sale, supplied, used, or manufactured for sale in California".* In other words, the CARB ATCM regulations do not "assure healthful indoor air quality", but rather "reduce formaldehyde emissions from composite wood products".

Just how much protection do the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products? Definitely some, but certainly the regulations do not "*assure healthful indoor air quality"* when CARB Phase 2 products are utilized. As shown in the Chan 2019 study of new California homes, the median indoor formaldehyde concentration was of 22.4 $\mu g/m^3$ (18.2 ppb), which corresponds to a cancer risk of 112 per million for occupants with continuous exposure, which is more than 11 times the CEQA cancer risk of 10 per million.

Another way of looking at how much protection the CARB ATCM regulations provide building occupants from the formaldehyde emissions generated by composite wood products is to calculate the maximum number of square feet of composite wood product that can be in a residence without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy.

For this calculation I utilized the floor area (2,272 $ft^2$), the ceiling height (8.5 ft), and the number of bedrooms (4) as defined in Appendix B (New Single-Family Residence Scenario) of the Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions for Indoor Sources Using Environmental Chambers, Version 1.1, 2017, California Department of Public Health,

Richmond, CA. https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

For the outdoor air ventilation rate I used the 2019 Title 24 code required mechanical ventilation rate (ASHRAE 62.2) of 106 cfm (180 $m^3/h$) calculated for this model residence. For the composite wood formaldehyde emission rates I used the CARB ATCM Phase 2 rates.

The calculated maximum number of square feet of composite wood product that can be in a residence, without exceeding the CEQA cancer risk of 10 per million for occupants with continuous occupancy are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 15 $ft^2$ (0.7% of the floor area), or
Particle Board – 30 $ft^2$ (1.3% of the floor area), or
Hardwood Plywood – 54 $ft^2$ (2.4% of the floor area), or
Thin MDF – 46 $ft^2$ (2.0 % of the floor area).

For offices and hotels the calculated maximum amount of composite wood product (% of floor area) that can be used without exceeding the CEQA cancer risk of 10 per million for occupants, assuming 8 hours/day occupancy, and the California Mechanical Code minimum outdoor air ventilation rates are as follows for the different types of regulated composite wood products.

Medium Density Fiberboard (MDF) – 3.6 % (offices) and 4.6% (hotel rooms), or
Particle Board – 7.2 % (offices) and 9.4% (hotel rooms), or
Hardwood Plywood – 13 % (offices) and 17% (hotel rooms), or
Thin MDF – 11 % (offices) and 14 % (hotel rooms)

Clearly the CARB ATCM does not regulate the formaldehyde emissions from composite wood products such that the potentially large areas of these products, such as for flooring, baseboards, interior doors, window and door trims, and kitchen and bathroom cabinetry, could be used without causing indoor formaldehyde concentrations that result in CEQA

cancer risks that substantially exceed 10 per million for occupants with continuous occupancy.

Even composite wood products manufactured with CARB certified ultra low emitting formaldehyde (ULEF) resins do not insure that the indoor air will have concentrations of formaldehyde the meet the OEHHA cancer risks that substantially exceed 10 per million. The permissible emission rates for ULEF composite wood products are only 11-15% lower than the CARB Phase 2 emission rates. Only use of composite wood products made with no-added formaldehyde resins (NAF), such as resins made from soy, polyvinyl acetate, or methylene diisocyanate can insure that the OEHHA cancer risk of 10 per million is met.

If CARB Phase 2 compliant or ULEF composite wood products are utilized in construction, then the resulting indoor formaldehyde concentrations should be determined in the design phase using the specific amounts of each type of composite wood product, the specific formaldehyde emission rates, and the volume and outdoor air ventilation rates of the indoor spaces, and all feasible mitigation measures employed to reduce this impact (e.g. use less formaldehyde containing composite wood products and/or incorporate mechanical systems capable of higher outdoor air ventilation rates). See the procedure described earlier (i.e. Pre-Construction Building Material/Furnishing Formaldehyde Emissions Assessment) to insure that the materials selected achieve acceptable cancer risks from material off gassing of formaldehyde.

Alternatively, and perhaps a simpler approach, is to use only composite wood products (e.g. hardwood plywood, medium density fiberboard, particleboard) for all interior finish systems that are made with CARB approved no-added formaldehyde (NAF) resins.

# APPENDIX B

# CALEEMOD DATA

# Arcadia Town Center Detailed Report

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# 1. Basic Project Information

## 1.1. Basic Project Information

| Data Field | Value |
|---|---|
| Project Name | Arcadia Town Center |
| Construction Start Date | 1/1/2024 |
| Operational Year | 2026 |
| Lead Agency | — |
| Land Use Scale | Project/site |
| Analysis Level for Defaults | County |
| Windspeed (m/s) | 0.50 |
| Precipitation (days) | 24.4 |
| Location | 34.140403578150526, -118.03194606892856 |
| County | Los Angeles-South Coast |
| City | Arcadia |
| Air District | South Coast AQMD |
| Air Basin | South Coast |
| TAZ | 4922 |
| EDFZ | 7 |
| Electric Utility | Southern California Edison |
| Gas Utility | Southern California Gas |
| App Version | 2022.1.1.29 |

## 1.2. Land Use Types

| Land Use Subtype | Size | Unit | Lot Acreage | Building Area (sq ft) | Landscape Area (sq ft) | Special Landscape Area (sq ft) | Population | Description |
|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 181 | Dwelling Unit | 2.27 | 173,760 | 2,000 | — | 536 | — |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Enclosed Parking with Elevator | 378 | Space | 0.00 | 151,200 | 0.00 | — | — | — |
| Strip Mall | 4.00 | 1000sqft | 0.00 | 4,000 | 800 | — | — | — |
| City Park | 1.00 | Acre | 0.00 | 0.00 | 21,825 | 21,825 | — | Private/Public Open Space |
| High Turnover (Sit Down Restaurant) | 5.00 | 1000sqft | 0.00 | 5,000 | 1,000 | — | — | — |
| General Office Building | 5.00 | 1000sqft | 0.00 | 5,000 | 1,000 | — | — | — |

### 1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

# 2. Emissions Summary

### 2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 22.4 | 21.9 | 21.7 | 33.5 | 0.05 | 0.80 | 4.08 | 4.88 | 0.74 | 1.69 | 2.43 | — | 7,203 | 7,203 | 0.35 | 0.77 | 11.1 | 7,452 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 22.4 | 21.9 | 22.0 | 32.0 | 0.05 | 0.80 | 4.08 | 4.88 | 0.74 | 1.69 | 2.43 | — | 7,200 | 7,200 | 0.35 | 0.77 | 0.29 | 7,438 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 4.13 | 4.00 | 11.9 | 15.4 | 0.03 | 0.43 | 1.94 | 2.37 | 0.39 | 0.63 | 1.02 | — | 4,161 | 4,161 | 0.20 | 0.30 | 3.20 | 4,260 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 0.75 | 0.73 | 2.17 | 2.81 | 0.01 | 0.08 | 0.35 | 0.43 | 0.07 | 0.11 | 0.19 | — | 689 | 689 | 0.03 | 0.05 | 0.53 | 705 |

## 2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Year | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily - Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 2.57 | 2.17 | 21.7 | 23.4 | 0.05 | 0.80 | 4.08 | 4.88 | 0.74 | 1.69 | 2.43 | — | 7,203 | 7,203 | 0.35 | 0.77 | 11.1 | 7,452 |
| 2025 | 2.43 | 2.05 | 12.6 | 22.5 | 0.03 | 0.42 | 2.07 | 2.49 | 0.38 | 0.50 | 0.88 | — | 5,218 | 5,218 | 0.23 | 0.25 | 9.93 | 5,307 |
| 2026 | 22.4 | 21.9 | 18.9 | 33.5 | 0.04 | 0.65 | 2.56 | 3.21 | 0.59 | 0.61 | 1.20 | — | 7,047 | 7,047 | 0.30 | 0.28 | 10.9 | 7,147 |
| Daily - Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 2.56 | 2.16 | 22.0 | 22.0 | 0.05 | 0.80 | 4.08 | 4.88 | 0.74 | 1.69 | 2.43 | — | 7,200 | 7,200 | 0.35 | 0.77 | 0.29 | 7,438 |
| 2025 | 2.42 | 2.04 | 12.7 | 21.2 | 0.03 | 0.42 | 2.07 | 2.49 | 0.38 | 0.50 | 0.88 | — | 5,121 | 5,121 | 0.24 | 0.25 | 0.26 | 5,202 |
| 2026 | 22.4 | 21.9 | 19.0 | 32.0 | 0.04 | 0.65 | 2.56 | 3.21 | 0.59 | 0.61 | 1.20 | — | 6,926 | 6,926 | 0.31 | 0.28 | 0.28 | 7,016 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 1.76 | 1.43 | 11.9 | 14.7 | 0.03 | 0.43 | 1.94 | 2.37 | 0.39 | 0.63 | 1.02 | — | 4,161 | 4,161 | 0.20 | 0.30 | 3.20 | 4,260 |
| 2025 | 1.72 | 1.46 | 9.14 | 15.4 | 0.02 | 0.30 | 1.46 | 1.76 | 0.27 | 0.35 | 0.62 | — | 3,677 | 3,677 | 0.17 | 0.18 | 3.07 | 3,736 |
| 2026 | 4.13 | 4.00 | 4.35 | 7.47 | 0.01 | 0.14 | 0.66 | 0.80 | 0.13 | 0.16 | 0.29 | — | 1,703 | 1,703 | 0.08 | 0.07 | 1.25 | 1,728 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 2024 | 0.32 | 0.26 | 2.17 | 2.69 | 0.01 | 0.08 | 0.35 | 0.43 | 0.07 | 0.11 | 0.19 | — | 689 | 689 | 0.03 | 0.05 | 0.53 | 705 |
| 2025 | 0.31 | 0.27 | 1.67 | 2.81 | < 0.005 | 0.05 | 0.27 | 0.32 | 0.05 | 0.06 | 0.11 | — | 609 | 609 | 0.03 | 0.03 | 0.51 | 619 |
| 2026 | 0.75 | 0.73 | 0.79 | 1.36 | < 0.005 | 0.03 | 0.12 | 0.15 | 0.02 | 0.03 | 0.05 | — | 282 | 282 | 0.01 | 0.01 | 0.21 | 286 |

## 2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Un/Mit. | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 9.90 | 9.32 | 5.09 | 43.6 | 0.11 | 0.18 | 9.40 | 9.58 | 0.17 | 2.39 | 2.56 | 149 | 13,745 | 13,895 | 15.8 | 0.52 | 44.3 | 14,490 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 9.85 | 9.25 | 5.44 | 40.2 | 0.11 | 0.18 | 9.40 | 9.58 | 0.17 | 2.39 | 2.56 | 149 | 13,309 | 13,458 | 15.8 | 0.55 | 10.0 | 14,027 |
| Average Daily (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 9.49 | 8.93 | 5.65 | 37.5 | 0.10 | 0.20 | 8.27 | 8.47 | 0.20 | 2.10 | 2.30 | 149 | 12,460 | 12,609 | 15.8 | 0.50 | 22.7 | 13,176 |
| Annual (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Unmit. | 1.73 | 1.63 | 1.03 | 6.84 | 0.02 | 0.04 | 1.51 | 1.55 | 0.04 | 0.38 | 0.42 | 24.7 | 2,063 | 2,088 | 2.61 | 0.08 | 3.75 | 2,181 |

## 2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Sector | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 5.38 | 4.87 | 3.70 | 42.9 | 0.10 | 0.06 | 9.40 | 9.47 | 0.06 | 2.39 | 2.45 | — | 10,433 | 10,433 | 0.49 | 0.41 | 35.2 | 10,601 |
| Area | 4.36 | 4.36 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.16 | 0.08 | 1.39 | 0.75 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 3,178 | 3,178 | 0.29 | 0.02 | — | 3,191 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 40.0 | 135 | 175 | 4.12 | 0.10 | — | 307 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 109 | 0.00 | 109 | 10.9 | 0.00 | — | 382 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.10 | 9.10 |
| Stationary | 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 |
| Total | 9.90 | 9.32 | 5.09 | 43.6 | 0.11 | 0.18 | 9.40 | 9.58 | 0.17 | 2.39 | 2.56 | 149 | 13,745 | 13,895 | 15.8 | 0.52 | 44.3 | 14,490 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 5.32 | 4.81 | 4.06 | 39.4 | 0.10 | 0.06 | 9.40 | 9.47 | 0.06 | 2.39 | 2.45 | — | 9,997 | 9,997 | 0.51 | 0.43 | 0.91 | 10,138 |
| Area | 4.36 | 4.36 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.16 | 0.08 | 1.39 | 0.75 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 3,178 | 3,178 | 0.29 | 0.02 | — | 3,191 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 40.0 | 135 | 175 | 4.12 | 0.10 | — | 307 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 109 | 0.00 | 109 | 10.9 | 0.00 | — | 382 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.10 | 9.10 |
| Stationary | 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 |
| Total | 9.85 | 9.25 | 5.44 | 40.2 | 0.11 | 0.18 | 9.40 | 9.58 | 0.17 | 2.39 | 2.56 | 149 | 13,309 | 13,458 | 15.8 | 0.55 | 10.0 | 14,027 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 4.73 | 4.27 | 3.66 | 36.2 | 0.09 | 0.06 | 8.27 | 8.33 | 0.05 | 2.10 | 2.15 | — | 9,037 | 9,037 | 0.46 | 0.38 | 13.6 | 9,176 |
| Area | 4.36 | 4.36 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.16 | 0.08 | 1.39 | 0.75 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 3,178 | 3,178 | 0.29 | 0.02 | — | 3,191 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 40.0 | 135 | 175 | 4.12 | 0.10 | — | 307 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 109 | 0.00 | 109 | 10.9 | 0.00 | — | 382 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.10 | 9.10 |
| Stationary | 0.24 | 0.22 | 0.61 | 0.55 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 111 | 111 | < 0.005 | < 0.005 | — | 111 |
| Total | 9.49 | 8.93 | 5.65 | 37.5 | 0.10 | 0.20 | 8.27 | 8.47 | 0.20 | 2.10 | 2.30 | 149 | 12,460 | 12,609 | 15.8 | 0.50 | 22.7 | 13,176 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Mobile | 0.86 | 0.78 | 0.67 | 6.60 | 0.02 | 0.01 | 1.51 | 1.52 | 0.01 | 0.38 | 0.39 | — | 1,496 | 1,496 | 0.08 | 0.06 | 2.25 | 1,519 |
| Area | 0.80 | 0.80 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Energy | 0.03 | 0.01 | 0.25 | 0.14 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 526 | 526 | 0.05 | < 0.005 | — | 528 |
| Water | — | — | — | — | — | — | — | — | — | — | — | 6.63 | 22.3 | 29.0 | 0.68 | 0.02 | — | 50.9 |
| Waste | — | — | — | — | — | — | — | — | — | — | — | 18.1 | 0.00 | 18.1 | 1.80 | 0.00 | — | 63.2 |
| Refrig. | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.51 | 1.51 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Stationa | 0.04 | 0.04 | 0.11 | 0.10 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 18.4 | 18.4 | < 0.005 | < 0.005 | — | 18.4 |
| Total | 1.73 | 1.63 | 1.03 | 6.84 | 0.02 | 0.04 | 1.51 | 1.55 | 0.04 | 0.38 | 0.42 | 24.7 | 2,063 | 2,088 | 2.61 | 0.08 | 3.75 | 2,181 |

# 3. Construction Emissions Details

## 3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.92 | 1.61 | 15.6 | 16.0 | 0.02 | 0.67 | — | 0.67 | 0.62 | — | 0.62 | — | 2,494 | 2,494 | 0.10 | 0.02 | — | 2,502 |
| Demolition | — | — | — | — | — | — | 1.92 | 1.92 | — | 0.29 | 0.29 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.08 | 0.07 | 0.64 | 0.66 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 102 | 102 | < 0.005 | < 0.005 | — | 103 |
| Demolition | — | — | — | — | — | — | 0.08 | 0.08 | — | 0.01 | 0.01 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Roa Equipment | 0.01 | 0.01 | 0.12 | 0.12 | < 0.005 | 0.01 | — | 0.01 | < 0.005 | — | < 0.005 | — | 17.0 | 17.0 | < 0.005 | < 0.005 | — | 17.0 |
| Demoliti on | — | — | — | — | — | — | 0.01 | 0.01 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.05 | 0.58 | 0.00 | 0.00 | 0.11 | 0.11 | 0.00 | 0.03 | 0.03 | — | 115 | 115 | 0.01 | < 0.005 | 0.01 | 116 |
| Vendor | 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 | 0.00 |
| Hauling | 0.19 | 0.05 | 3.37 | 1.25 | 0.02 | 0.03 | 0.68 | 0.71 | 0.03 | 0.19 | 0.22 | — | 2,596 | 2,596 | 0.14 | 0.42 | 0.15 | 2,723 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.03 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 4.79 | 4.79 | < 0.005 | < 0.005 | 0.01 | 4.86 |
| Vendor | 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 | 0.00 |
| Hauling | 0.01 | < 0.005 | 0.14 | 0.05 | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | 0.01 | 0.01 | — | 107 | 107 | 0.01 | 0.02 | 0.11 | 112 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.79 | 0.79 | < 0.005 | < 0.005 | < 0.005 | 0.80 |
| Vendor | 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 | 0.00 |
| Hauling | < 0.005 | < 0.005 | 0.03 | 0.01 | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | < 0.005 | — | 17.7 | 17.7 | < 0.005 | < 0.005 | 0.02 | 18.5 |

## 3.3. Site Preparation (2024) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.56 | 1.31 | 12.7 | 11.4 | 0.03 | 0.55 | — | 0.55 | 0.51 | — | 0.51 | — | 2,716 | 2,716 | 0.11 | 0.02 | — | 2,725 |
| Dust From Material Movement | — | — | — | — | — | — | 0.62 | 0.62 | — | 0.07 | 0.07 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.02 | 0.17 | 0.16 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 37.2 | 37.2 | < 0.005 | < 0.005 | — | 37.3 |
| Dust From Material Movement | — | — | — | — | — | — | 0.01 | 0.01 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 6.16 | 6.16 | < 0.005 | < 0.005 | — | 6.18 |
| Dust From Material Movement | — | — | — | — | — | — | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.03 | 0.03 | 0.35 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.02 | 0.02 | — | 68.9 | 68.9 | < 0.005 | < 0.005 | 0.01 | 69.8 |
| Vendor | 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 | 0.00 |
| Hauling | 0.01 | < 0.005 | 0.16 | 0.06 | < 0.005 | < 0.005 | 0.03 | 0.03 | < 0.005 | 0.01 | 0.01 | — | 127 | 127 | 0.01 | 0.02 | 0.01 | 133 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.96 | 0.96 | < 0.005 | < 0.005 | < 0.005 | 0.97 |
| Vendor | 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 | 0.00 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 1.74 | 1.74 | < 0.005 | < 0.005 | < 0.005 | 1.83 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | < 0.005 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 0.16 | 0.16 | < 0.005 | < 0.005 | < 0.005 | 0.16 |
| Vendor | 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 | 0.00 |
| Hauling | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | 0.29 | 0.29 | < 0.005 | < 0.005 | < 0.005 | 0.30 |

## 3.5. Grading (2024) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipment | 1.96 | 1.65 | 15.9 | 15.4 | 0.02 | 0.74 | — | 0.74 | 0.68 | — | 0.68 | — | 2,454 | 2,454 | 0.10 | 0.02 | — | 2,462 |
| Dust From Material Movement | — | — | — | — | — | — | 2.76 | 2.76 | — | 1.34 | 1.34 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.96 | 1.65 | 15.9 | 15.4 | 0.02 | 0.74 | — | 0.74 | 0.68 | — | 0.68 | — | 2,454 | 2,454 | 0.10 | 0.02 | — | 2,462 |
| Dust From Material Movement | — | — | — | — | — | — | 2.76 | 2.76 | — | 1.34 | 1.34 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.46 | 0.38 | 3.70 | 3.59 | 0.01 | 0.17 | — | 0.17 | 0.16 | — | 0.16 | — | 571 | 571 | 0.02 | < 0.005 | — | 573 |
| Dust From Material Movement | — | — | — | — | — | — | 0.64 | 0.64 | — | 0.31 | 0.31 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipm | 0.08 | 0.07 | 0.68 | 0.66 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 94.6 | 94.6 | < 0.005 | < 0.005 | — | 94.9 |
| Dust From Material Movement | — | — | — | — | — | — | 0.12 | 0.12 | — | 0.06 | 0.06 | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.03 | 0.54 | 0.00 | 0.00 | 0.09 | 0.09 | 0.00 | 0.02 | 0.02 | — | 96.9 | 96.9 | < 0.005 | < 0.005 | 0.38 | 98.4 |
| Vendor | 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 | 0.00 |
| Hauling | 0.35 | 0.10 | 5.82 | 2.24 | 0.03 | 0.06 | 1.22 | 1.28 | 0.06 | 0.33 | 0.39 | — | 4,652 | 4,652 | 0.25 | 0.75 | 10.7 | 4,892 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.04 | 0.47 | 0.00 | 0.00 | 0.09 | 0.09 | 0.00 | 0.02 | 0.02 | — | 91.9 | 91.9 | < 0.005 | < 0.005 | 0.01 | 93.1 |
| Vendor | 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 | 0.00 |
| Hauling | 0.35 | 0.10 | 6.04 | 2.23 | 0.03 | 0.06 | 1.22 | 1.28 | 0.06 | 0.33 | 0.39 | — | 4,654 | 4,654 | 0.25 | 0.75 | 0.28 | 4,883 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.11 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 21.7 | 21.7 | < 0.005 | < 0.005 | 0.04 | 22.0 |
| Vendor | 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 | 0.00 |
| Hauling | 0.08 | 0.02 | 1.43 | 0.52 | 0.01 | 0.01 | 0.28 | 0.30 | 0.01 | 0.08 | 0.09 | — | 1,084 | 1,084 | 0.06 | 0.17 | 1.08 | 1,138 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.02 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 3.59 | 3.59 | < 0.005 | < 0.005 | 0.01 | 3.65 |
| Vendor | 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 | 0.00 |
| Hauling | 0.02 | < 0.005 | 0.26 | 0.09 | < 0.005 | < 0.005 | 0.05 | 0.05 | < 0.005 | 0.01 | 0.02 | — | 179 | 179 | 0.01 | 0.03 | 0.18 | 188 |

## 3.7. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.58 | 1.32 | 11.2 | 11.9 | 0.02 | 0.46 | — | 0.46 | 0.42 | — | 0.42 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,209 |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.58 | 1.32 | 11.2 | 11.9 | 0.02 | 0.46 | — | 0.46 | 0.42 | — | 0.42 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,209 |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.68 | 0.56 | 4.81 | 5.12 | 0.01 | 0.20 | — | 0.20 | 0.18 | — | 0.18 | — | 943 | 943 | 0.04 | 0.01 | — | 947 |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.12 | 0.10 | 0.88 | 0.93 | < 0.005 | 0.04 | — | 0.04 | 0.03 | — | 0.03 | — | 156 | 156 | 0.01 | < 0.005 | — | 157 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.89 | 0.81 | 0.69 | 10.7 | 0.00 | 0.00 | 1.77 | 1.77 | 0.00 | 0.42 | 0.42 | — | 1,926 | 1,926 | 0.09 | 0.07 | 7.55 | 1,956 |
| Vendor | 0.10 | 0.04 | 1.45 | 0.74 | 0.01 | 0.02 | 0.30 | 0.32 | 0.02 | 0.08 | 0.10 | — | 1,150 | 1,150 | 0.05 | 0.16 | 3.09 | 1,202 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.88 | 0.80 | 0.82 | 9.27 | 0.00 | 0.00 | 1.77 | 1.77 | 0.00 | 0.42 | 0.42 | — | 1,826 | 1,826 | 0.09 | 0.07 | 0.20 | 1,850 |
| Vendor | 0.10 | 0.04 | 1.50 | 0.76 | 0.01 | 0.02 | 0.30 | 0.32 | 0.02 | 0.08 | 0.10 | — | 1,151 | 1,151 | 0.05 | 0.16 | 0.08 | 1,199 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.37 | 0.34 | 0.35 | 4.16 | 0.00 | 0.00 | 0.75 | 0.75 | 0.00 | 0.18 | 0.18 | — | 794 | 794 | 0.04 | 0.03 | 1.40 | 806 |
| Vendor | 0.04 | 0.02 | 0.65 | 0.32 | < 0.005 | 0.01 | 0.13 | 0.13 | 0.01 | 0.04 | 0.04 | — | 493 | 493 | 0.02 | 0.07 | 0.57 | 514 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.07 | 0.06 | 0.06 | 0.76 | 0.00 | 0.00 | 0.14 | 0.14 | 0.00 | 0.03 | 0.03 | — | 131 | 131 | 0.01 | 0.01 | 0.23 | 133 |
| Vendor | 0.01 | < 0.005 | 0.12 | 0.06 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | 0.01 | 0.01 | — | 81.6 | 81.6 | < 0.005 | 0.01 | 0.09 | 85.2 |
| Hauling | 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 | 0.00 |

## 3.9. Building Construction (2025) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.49 | 1.24 | 10.6 | 11.9 | 0.02 | 0.40 | — | 0.40 | 0.37 | — | 0.37 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,209 |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.49 | 1.24 | 10.6 | 11.9 | 0.02 | 0.40 | — | 0.40 | 0.37 | — | 0.37 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,209 |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.06 | 0.88 | 7.57 | 8.47 | 0.02 | 0.29 | — | 0.29 | 0.27 | — | 0.27 | — | 1,572 | 1,572 | 0.06 | 0.01 | — | 1,578 |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.19 | 0.16 | 1.38 | 1.55 | < 0.005 | 0.05 | — | 0.05 | 0.05 | — | 0.05 | — | 260 | 260 | 0.01 | < 0.005 | — | 261 |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.85 | 0.78 | 0.63 | 9.92 | 0.00 | 0.00 | 1.77 | 1.77 | 0.00 | 0.42 | 0.42 | — | 1,886 | 1,886 | 0.09 | 0.07 | 6.87 | 1,916 |
| Vendor | 0.09 | 0.04 | 1.38 | 0.71 | 0.01 | 0.02 | 0.30 | 0.32 | 0.01 | 0.08 | 0.09 | — | 1,131 | 1,131 | 0.05 | 0.16 | 3.06 | 1,183 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.84 | 0.77 | 0.70 | 8.58 | 0.00 | 0.00 | 1.77 | 1.77 | 0.00 | 0.42 | 0.42 | — | 1,789 | 1,789 | 0.09 | 0.07 | 0.18 | 1,813 |
| Vendor | 0.09 | 0.04 | 1.44 | 0.72 | 0.01 | 0.02 | 0.30 | 0.32 | 0.01 | 0.08 | 0.09 | — | 1,132 | 1,132 | 0.05 | 0.16 | 0.08 | 1,180 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.60 | 0.54 | 0.53 | 6.40 | 0.00 | 0.00 | 1.25 | 1.25 | 0.00 | 0.29 | 0.29 | — | 1,296 | 1,296 | 0.07 | 0.05 | 2.12 | 1,315 |
| Vendor | 0.06 | 0.03 | 1.03 | 0.51 | 0.01 | 0.01 | 0.21 | 0.22 | 0.01 | 0.06 | 0.06 | — | 808 | 808 | 0.04 | 0.11 | 0.95 | 844 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.11 | 0.10 | 0.10 | 1.17 | 0.00 | 0.00 | 0.23 | 0.23 | 0.00 | 0.05 | 0.05 | — | 215 | 215 | 0.01 | 0.01 | 0.35 | 218 |
| Vendor | 0.01 | < 0.005 | 0.19 | 0.09 | < 0.005 | < 0.005 | 0.04 | 0.04 | < 0.005 | 0.01 | 0.01 | — | 134 | 134 | 0.01 | 0.02 | 0.16 | 140 |
| Hauling | 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 | 0.00 |

## 3.11. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.41 | 1.18 | 10.1 | 11.8 | 0.02 | 0.36 | — | 0.36 | 0.33 | — | 0.33 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,208 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 1.41 | 1.18 | 10.1 | 11.8 | 0.02 | 0.36 | — | 0.36 | 0.33 | — | 0.33 | — | 2,201 | 2,201 | 0.09 | 0.02 | — | 2,208 |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.40 | 0.34 | 2.89 | 3.36 | 0.01 | 0.10 | — | 0.10 | 0.09 | — | 0.09 | — | 629 | 629 | 0.03 | 0.01 | — | 631 |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.07 | 0.06 | 0.53 | 0.61 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 104 | 104 | < 0.005 | < 0.005 | — | 104 |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.75 | 0.68 | 0.57 | 9.21 | 0.00 | 0.00 | 1.77 | 1.77 | 0.00 | 0.42 | 0.42 | — | 1,848 | 1,848 | 0.09 | 0.07 | 6.22 | 1,877 |
| Vendor | 0.09 | 0.04 | 1.32 | 0.67 | 0.01 | 0.02 | 0.30 | 0.32 | 0.01 | 0.08 | 0.09 | — | 1,111 | 1,111 | 0.05 | 0.16 | 2.97 | 1,163 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Worker | 0.75 | 0.68 | 0.63 | 8.02 | 0.00 | 0.00 | 1.77 | 1.77 | 0.00 | 0.42 | 0.42 | — | 1,753 | 1,753 | 0.09 | 0.07 | 0.16 | 1,776 |
| Vendor | 0.09 | 0.04 | 1.38 | 0.69 | 0.01 | 0.02 | 0.30 | 0.32 | 0.01 | 0.08 | 0.09 | — | 1,112 | 1,112 | 0.05 | 0.16 | 0.08 | 1,161 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.21 | 0.19 | 0.20 | 2.39 | 0.00 | 0.00 | 0.50 | 0.50 | 0.00 | 0.12 | 0.12 | — | 508 | 508 | 0.03 | 0.02 | 0.77 | 515 |
| Vendor | 0.03 | 0.01 | 0.39 | 0.19 | < 0.005 | < 0.005 | 0.09 | 0.09 | < 0.005 | 0.02 | 0.03 | — | 318 | 318 | 0.01 | 0.05 | 0.37 | 332 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.04 | 0.04 | 0.04 | 0.44 | 0.00 | 0.00 | 0.09 | 0.09 | 0.00 | 0.02 | 0.02 | — | 84.1 | 84.1 | < 0.005 | < 0.005 | 0.13 | 85.3 |
| Vendor | < 0.005 | < 0.005 | 0.07 | 0.04 | < 0.005 | < 0.005 | 0.02 | 0.02 | < 0.005 | < 0.005 | < 0.005 | — | 52.6 | 52.6 | < 0.005 | 0.01 | 0.06 | 54.9 |
| Hauling | 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 | 0.00 |

## 3.13. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.79 | 0.67 | 5.88 | 8.19 | 0.01 | 0.25 | — | 0.25 | 0.23 | — | 0.23 | — | 1,244 | 1,244 | 0.05 | 0.01 | — | 1,248 |
| Paving | 0.00 | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Road Equipm | 0.79 | 0.67 | 5.88 | 8.19 | 0.01 | 0.25 | — | 0.25 | 0.23 | — | 0.23 | — | 1,244 | 1,244 | 0.05 | 0.01 | — | 1,248 |
| Paving | 0.00 | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.09 | 0.08 | 0.69 | 0.96 | < 0.005 | 0.03 | — | 0.03 | 0.03 | — | 0.03 | — | 147 | 147 | 0.01 | < 0.005 | — | 147 |
| Paving | 0.00 | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.02 | 0.01 | 0.13 | 0.18 | < 0.005 | 0.01 | — | 0.01 | < 0.005 | — | < 0.005 | — | 24.3 | 24.3 | < 0.005 | < 0.005 | — | 24.3 |
| Paving | 0.00 | 0.00 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.04 | 0.69 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.03 | 0.03 | — | 139 | 139 | 0.01 | 0.01 | 0.47 | 142 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.06 | 0.05 | 0.05 | 0.61 | 0.00 | 0.00 | 0.13 | 0.13 | 0.00 | 0.03 | 0.03 | — | 132 | 132 | 0.01 | 0.01 | 0.01 | 134 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.01 | 0.01 | 0.01 | 0.07 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | < 0.005 | < 0.005 | — | 15.8 | 15.8 | < 0.005 | < 0.005 | 0.02 | 16.0 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.01 | 0.00 | 0.00 | < 0.005 | < 0.005 | 0.00 | < 0.005 | < 0.005 | — | 2.62 | 2.62 | < 0.005 | < 0.005 | < 0.005 | 2.65 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |

## 3.15. Architectural Coating (2026) - Unmitigated

### Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Location | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Onsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.15 | 0.12 | 0.86 | 1.13 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | 19.0 | 19.0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Off-Roa Equipment | 0.15 | 0.12 | 0.86 | 1.13 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 134 | 134 | 0.01 | < 0.005 | — | 134 |
| Architectural Coatings | 19.0 | 19.0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | 0.03 | 0.02 | 0.15 | 0.20 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 23.4 | 23.4 | < 0.005 | < 0.005 | — | 23.5 |
| Architectural Coatings | 3.34 | 3.34 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Off-Road Equipment | < 0.005 | < 0.005 | 0.03 | 0.04 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 3.88 | 3.88 | < 0.005 | < 0.005 | — | 3.89 |
| Architectural Coatings | 0.61 | 0.61 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Onsite truck | 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 | 0.00 |
| Offsite | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.15 | 0.14 | 0.11 | 1.84 | 0.00 | 0.00 | 0.35 | 0.35 | 0.00 | 0.08 | 0.08 | — | 370 | 370 | 0.02 | 0.01 | 1.24 | 375 |
| Vendor | 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 | 0.00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hauling | 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 | 0.00 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.15 | 0.14 | 0.13 | 1.60 | 0.00 | 0.00 | 0.35 | 0.35 | 0.00 | 0.08 | 0.08 | — | 351 | 351 | 0.02 | 0.01 | 0.03 | 355 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Average Daily | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | 0.03 | 0.02 | 0.02 | 0.29 | 0.00 | 0.00 | 0.06 | 0.06 | 0.00 | 0.01 | 0.01 | — | 62.4 | 62.4 | < 0.005 | < 0.005 | 0.09 | 63.3 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Worker | < 0.005 | < 0.005 | < 0.005 | 0.05 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | < 0.005 | < 0.005 | — | 10.3 | 10.3 | < 0.005 | < 0.005 | 0.02 | 10.5 |
| Vendor | 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 | 0.00 |
| Hauling | 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 | 0.00 |

# 4. Operations Emissions Details

## 4.1. Mobile Emissions by Land Use

### 4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 2.68 | 2.43 | 1.83 | 21.1 | 0.05 | 0.03 | 4.62 | 4.65 | 0.03 | 1.17 | 1.20 | — | 5,125 | 5,125 | 0.24 | 0.20 | 17.3 | 5,208 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Enclose Parking with Elevator | 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 | 0.00 |
| Strip Mall | 0.55 | 0.50 | 0.38 | 4.46 | 0.01 | 0.01 | 0.98 | 0.99 | 0.01 | 0.25 | 0.26 | — | 1,089 | 1,089 | 0.05 | 0.04 | 3.68 | 1,106 |
| City Park | 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 | 0.00 |
| High Turnover (Sit Down Restaurant) | 1.89 | 1.71 | 1.31 | 15.2 | 0.04 | 0.02 | 3.36 | 3.38 | 0.02 | 0.85 | 0.87 | — | 3,721 | 3,721 | 0.17 | 0.14 | 12.6 | 3,781 |
| General Office Building | 0.25 | 0.23 | 0.18 | 2.04 | < 0.005 | < 0.005 | 0.45 | 0.45 | < 0.005 | 0.11 | 0.12 | — | 498 | 498 | 0.02 | 0.02 | 1.68 | 506 |
| Total | 5.38 | 4.87 | 3.70 | 42.9 | 0.10 | 0.06 | 9.40 | 9.47 | 0.06 | 2.39 | 2.45 | — | 10,433 | 10,433 | 0.49 | 0.41 | 35.2 | 10,601 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 2.65 | 2.40 | 2.00 | 19.4 | 0.05 | 0.03 | 4.62 | 4.65 | 0.03 | 1.17 | 1.20 | — | 4,911 | 4,911 | 0.25 | 0.21 | 0.45 | 4,980 |
| Enclosed Parking with Elevator | 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 | 0.00 |
| Strip Mall | 0.55 | 0.49 | 0.42 | 4.09 | 0.01 | 0.01 | 0.98 | 0.99 | 0.01 | 0.25 | 0.26 | — | 1,043 | 1,043 | 0.05 | 0.04 | 0.10 | 1,058 |
| City Park | 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 | 0.00 |
| High Turnover (Sit Down Restaurant) | 1.87 | 1.69 | 1.44 | 14.0 | 0.03 | 0.02 | 3.36 | 3.38 | 0.02 | 0.85 | 0.87 | — | 3,566 | 3,566 | 0.18 | 0.15 | 0.33 | 3,616 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | 0.25 | 0.23 | 0.19 | 1.87 | < 0.005 | < 0.005 | 0.45 | 0.45 | < 0.005 | 0.11 | 0.12 | — | 477 | 477 | 0.02 | 0.02 | 0.04 | 484 |
| Total | 5.32 | 4.81 | 4.06 | 39.4 | 0.10 | 0.06 | 9.40 | 9.47 | 0.06 | 2.39 | 2.45 | — | 9,997 | 9,997 | 0.51 | 0.43 | 0.91 | 10,138 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.46 | 0.41 | 0.35 | 3.46 | 0.01 | 0.01 | 0.79 | 0.79 | 0.01 | 0.20 | 0.21 | — | 782 | 782 | 0.04 | 0.03 | 1.17 | 794 |
| Enclosed Parking with Elevator | 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 | 0.00 |
| Strip Mall | 0.09 | 0.08 | 0.07 | 0.70 | < 0.005 | < 0.005 | 0.16 | 0.16 | < 0.005 | 0.04 | 0.04 | — | 160 | 160 | 0.01 | 0.01 | 0.24 | 162 |
| City Park | 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 | 0.00 |
| High Turnover (Sit Down Restaurant) | 0.28 | 0.25 | 0.22 | 2.17 | 0.01 | < 0.005 | 0.50 | 0.50 | < 0.005 | 0.13 | 0.13 | — | 494 | 494 | 0.02 | 0.02 | 0.74 | 502 |
| General Office Building | 0.03 | 0.03 | 0.03 | 0.27 | < 0.005 | < 0.005 | 0.06 | 0.06 | < 0.005 | 0.02 | 0.02 | — | 60.5 | 60.5 | < 0.005 | < 0.005 | 0.09 | 61.4 |
| Total | 0.86 | 0.78 | 0.67 | 6.60 | 0.02 | 0.01 | 1.51 | 1.52 | 0.01 | 0.38 | 0.39 | — | 1,496 | 1,496 | 0.08 | 0.06 | 2.25 | 1,519 |

## 4.2. Energy

### 4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 629 | 629 | 0.06 | 0.01 | — | 633 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | — | 529 | 529 | 0.05 | 0.01 | — | 532 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | 37.3 | 37.3 | < 0.005 | < 0.005 | — | 37.5 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | — | 164 | 164 | 0.02 | < 0.005 | — | 165 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 84.5 | 84.5 | 0.01 | < 0.005 | — | 85.0 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 1,445 | 1,445 | 0.14 | 0.02 | — | 1,453 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 629 | 629 | 0.06 | 0.01 | — | 633 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | — | 529 | 529 | 0.05 | 0.01 | — | 532 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | 37.3 | 37.3 | < 0.005 | < 0.005 | — | 37.5 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | — | 164 | 164 | 0.02 | < 0.005 | — | 165 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 84.5 | 84.5 | 0.01 | < 0.005 | — | 85.0 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 1,445 | 1,445 | 0.14 | 0.02 | — | 1,453 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | 104 | 104 | 0.01 | < 0.005 | — | 105 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | — | 87.6 | 87.6 | 0.01 | < 0.005 | — | 88.2 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | 6.17 | 6.17 | < 0.005 | < 0.005 | — | 6.21 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | — | 27.2 | 27.2 | < 0.005 | < 0.005 | — | 27.3 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | 14.0 | 14.0 | < 0.005 | < 0.005 | — | 14.1 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | 239 | 239 | 0.02 | < 0.005 | — | 241 |

### 4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.12 | 0.06 | 1.00 | 0.43 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 1,273 | 1,273 | 0.11 | < 0.005 | — | 1,277 |
| Enclosed Parking with Elevator | 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 |
| Strip Mall | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 15.2 | 15.2 | < 0.005 | < 0.005 | — | 15.2 |
| City Park | 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 |
| High Turnover (Sit Down Restaurant) | 0.03 | 0.02 | 0.31 | 0.26 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 365 | 365 | 0.03 | < 0.005 | — | 366 |
| General Office Building | 0.01 | < 0.005 | 0.07 | 0.06 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 80.3 | 80.3 | 0.01 | < 0.005 | — | 80.5 |
| Total | 0.16 | 0.08 | 1.39 | 0.75 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,733 | 1,733 | 0.15 | < 0.005 | — | 1,738 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.12 | 0.06 | 1.00 | 0.43 | 0.01 | 0.08 | — | 0.08 | 0.08 | — | 0.08 | — | 1,273 | 1,273 | 0.11 | < 0.005 | — | 1,277 |
| Enclosed Parking with Elevator | 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 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Strip Mall | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 15.2 | 15.2 | < 0.005 | < 0.005 | — | 15.2 |
| City Park | 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 |
| High Turnover (Sit Down Restaurant) | 0.03 | 0.02 | 0.31 | 0.26 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 365 | 365 | 0.03 | < 0.005 | — | 366 |
| General Office Building | 0.01 | < 0.005 | 0.07 | 0.06 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 80.3 | 80.3 | 0.01 | < 0.005 | — | 80.5 |
| Total | 0.16 | 0.08 | 1.39 | 0.75 | 0.01 | 0.11 | — | 0.11 | 0.11 | — | 0.11 | — | 1,733 | 1,733 | 0.15 | < 0.005 | — | 1,738 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | 0.02 | 0.01 | 0.18 | 0.08 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 211 | 211 | 0.02 | < 0.005 | — | 211 |
| Enclosed Parking with Elevator | 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 |
| Strip Mall | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 2.51 | 2.51 | < 0.005 | < 0.005 | — | 2.52 |
| City Park | 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 |
| High Turnover (Sit Down Restaurant) | 0.01 | < 0.005 | 0.06 | 0.05 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 60.4 | 60.4 | 0.01 | < 0.005 | — | 60.5 |
| General Office Building | < 0.005 | < 0.005 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | < 0.005 | < 0.005 | — | < 0.005 | — | 13.3 | 13.3 | < 0.005 | < 0.005 | — | 13.3 |
| Total | 0.03 | 0.01 | 0.25 | 0.14 | < 0.005 | 0.02 | — | 0.02 | 0.02 | — | 0.02 | — | 287 | 287 | 0.03 | < 0.005 | — | 288 |

## 4.3. Area Emissions by Source

### 4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Source | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 4.03 | 4.03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.33 | 0.33 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 4.36 | 4.36 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 4.03 | 4.03 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Architectural Coatings | 0.33 | 0.33 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 4.36 | 4.36 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Consumer Products | 0.74 | 0.74 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Architectural Coating | 0.06 | 0.06 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | 0.80 | 0.80 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.4. Water Emissions by Land Use

### 4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 28.6 | 96.3 | 125 | 2.94 | 0.07 | — | 219 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 1.25 | 4.23 | 5.48 | 0.13 | < 0.005 | — | 9.64 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.03 | 0.03 | < 0.005 | < 0.005 | — | 0.03 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | 6.43 | 21.7 | 28.1 | 0.66 | 0.02 | — | 49.4 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 3.76 | 12.7 | 16.4 | 0.39 | 0.01 | — | 28.9 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 40.0 | 135 | 175 | 4.12 | 0.10 | — | 307 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 28.6 | 96.3 | 125 | 2.94 | 0.07 | — | 219 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 1.25 | 4.23 | 5.48 | 0.13 | < 0.005 | — | 9.64 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.03 | 0.03 | < 0.005 | < 0.005 | — | 0.03 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | 6.43 | 21.7 | 28.1 | 0.66 | 0.02 | — | 49.4 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 3.76 | 12.7 | 16.4 | 0.39 | 0.01 | — | 28.9 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 40.0 | 135 | 175 | 4.12 | 0.10 | — | 307 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 4.73 | 15.9 | 20.7 | 0.49 | 0.01 | — | 36.3 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.21 | 0.70 | 0.91 | 0.02 | < 0.005 | — | 1.60 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.01 | 0.01 | < 0.005 | < 0.005 | — | 0.01 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | 1.06 | 3.59 | 4.65 | 0.11 | < 0.005 | — | 8.17 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 0.62 | 2.10 | 2.72 | 0.06 | < 0.005 | — | 4.79 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 6.63 | 22.3 | 29.0 | 0.68 | 0.02 | — | 50.9 |

## 4.5. Waste Emissions by Land Use

### 4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 72.2 | 0.00 | 72.2 | 7.21 | 0.00 | — | 252 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 2.26 | 0.00 | 2.26 | 0.23 | 0.00 | — | 7.92 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.05 | 0.00 | 0.05 | < 0.005 | 0.00 | — | 0.16 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | 32.1 | 0.00 | 32.1 | 3.20 | 0.00 | — | 112 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 2.51 | 0.00 | 2.51 | 0.25 | 0.00 | — | 8.77 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 109 | 0.00 | 109 | 10.9 | 0.00 | — | 382 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 72.2 | 0.00 | 72.2 | 7.21 | 0.00 | — | 252 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 2.26 | 0.00 | 2.26 | 0.23 | 0.00 | — | 7.92 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.05 | 0.00 | 0.05 | < 0.005 | 0.00 | — | 0.16 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | 32.1 | 0.00 | 32.1 | 3.20 | 0.00 | — | 112 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 2.51 | 0.00 | 2.51 | 0.25 | 0.00 | — | 8.77 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 109 | 0.00 | 109 | 10.9 | 0.00 | — | 382 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | 11.9 | 0.00 | 11.9 | 1.19 | 0.00 | — | 41.8 |
| Enclosed Parking with Elevator | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | — | 0.00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | 0.37 | 0.00 | 0.37 | 0.04 | 0.00 | — | 1.31 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | 0.01 | 0.00 | 0.01 | < 0.005 | 0.00 | — | 0.03 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | 5.31 | 0.00 | 5.31 | 0.53 | 0.00 | — | 18.6 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | 0.41 | 0.00 | 0.41 | 0.04 | 0.00 | — | 1.45 |
| Total | — | — | — | — | — | — | — | — | — | — | — | 18.1 | 0.00 | 18.1 | 1.80 | 0.00 | — | 63.2 |

## 4.6. Refrigerant Emissions by Land Use

### 4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.24 | 1.24 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.02 | 0.02 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7.82 | 7.82 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.01 | 0.01 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.10 | 9.10 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.24 | 1.24 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.02 | 0.02 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7.82 | 7.82 |
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.01 | 0.01 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.10 | 9.10 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Apartments Mid Rise | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.21 | 0.21 |
| Strip Mall | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| City Park | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.00 | 0.00 |
| High Turnover (Sit Down Restaurant) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.29 | 1.29 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| General Office Building | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | < 0.005 | < 0.005 |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.51 | 1.51 |

## 4.7. Offroad Emissions By Equipment Type

### 4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.8. Stationary Emissions By Equipment Type

### 4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Emerge Generator | 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 |
| Total | 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 |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Emergency Generator | 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 |
| Total | 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 |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Emergency Generator | 0.04 | 0.04 | 0.11 | 0.10 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 18.4 | 18.4 | < 0.005 | < 0.005 | — | 18.4 |
| Total | 0.04 | 0.04 | 0.11 | 0.10 | < 0.005 | 0.01 | — | 0.01 | 0.01 | — | 0.01 | — | 18.4 | 18.4 | < 0.005 | < 0.005 | — | 18.4 |

## 4.9. User Defined Emissions By Equipment Type

### 4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Equipment Type | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10. Soil Carbon Accumulation By Vegetation Type

### 4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Vegetation | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

### 4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Land Use | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

## 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

| Species | TOG | ROG | NOx | CO | SO2 | PM10E | PM10D | PM10T | PM2.5E | PM2.5D | PM2.5T | BCO2 | NBCO2 | CO2T | CH4 | N2O | R | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Daily, Summer (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Daily, Winter (Max) | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Annual | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Avoided | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Sequestered | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Removed | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Subtotal | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

# 5. Activity Data

## 5.1. Construction Schedule

| Phase Name | Phase Type | Start Date | End Date | Days Per Week | Work Days per Phase | Phase Description |
|---|---|---|---|---|---|---|
| Demolition | Demolition | 1/1/2024 | 1/19/2024 | 5.00 | 15.0 | — |
| Site Preparation | Site Preparation | 1/20/2024 | 1/26/2024 | 5.00 | 5.00 | — |
| Grading | Grading | 1/27/2024 | 5/26/2024 | 5.00 | 85.0 | — |
| Building Construction | Building Construction | 5/27/2024 | 5/26/2026 | 5.00 | 522 | — |
| Paving | Paving | 3/27/2026 | 5/26/2026 | 5.00 | 43.0 | — |
| Architectural Coating | Architectural Coating | 2/25/2026 | 5/25/2026 | 5.00 | 64.0 | — |

## 5.2. Off-Road Equipment

### 5.2.1. Unmitigated

| Phase Name | Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|---|
| Demolition | Concrete/Industrial Saws | Diesel | Average | 1.00 | 8.00 | 33.0 | 0.73 |
| Demolition | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Demolition | Tractors/Loaders/Backhoes | Diesel | Average | 3.00 | 8.00 | 84.0 | 0.37 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Site Preparation | Tractors/Loaders/Back | Diesel | Average | 1.00 | 7.00 | 84.0 | 0.37 |
| Site Preparation | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Site Preparation | Scrapers | Diesel | Average | 1.00 | 8.00 | 423 | 0.48 |
| Grading | Graders | Diesel | Average | 1.00 | 8.00 | 148 | 0.41 |
| Grading | Rubber Tired Dozers | Diesel | Average | 1.00 | 8.00 | 367 | 0.40 |
| Grading | Tractors/Loaders/Back hoes | Diesel | Average | 2.00 | 7.00 | 84.0 | 0.37 |
| Building Construction | Cranes | Diesel | Average | 1.00 | 8.00 | 367 | 0.29 |
| Building Construction | Forklifts | Diesel | Average | 2.00 | 7.00 | 82.0 | 0.20 |
| Building Construction | Generator Sets | Diesel | Average | 1.00 | 8.00 | 14.0 | 0.74 |
| Building Construction | Tractors/Loaders/Back hoes | Diesel | Average | 1.00 | 6.00 | 84.0 | 0.37 |
| Building Construction | Welders | Diesel | Average | 3.00 | 8.00 | 46.0 | 0.45 |
| Paving | Pavers | Diesel | Average | 1.00 | 8.00 | 81.0 | 0.42 |
| Paving | Paving Equipment | Diesel | Average | 1.00 | 8.00 | 89.0 | 0.36 |
| Paving | Rollers | Diesel | Average | 2.00 | 8.00 | 36.0 | 0.38 |
| Paving | Cement and Mortar Mixers | Diesel | Average | 1.00 | 8.00 | 10.0 | 0.56 |
| Paving | Tractors/Loaders/Back hoes | Diesel | Average | 1.00 | 8.00 | 84.0 | 0.37 |
| Architectural Coating | Air Compressors | Diesel | Average | 1.00 | 6.00 | 37.0 | 0.48 |

## 5.3. Construction Vehicles

### 5.3.1. Unmitigated

| Phase Name | Trip Type | One-Way Trips per Day | Miles per Trip | Vehicle Mix |
|---|---|---|---|---|
| Demolition | — | — | — | — |
| Demolition | Worker | 12.5 | 12.6 | LDA,LDT1,LDT2 |
| Demolition | Vendor | — | 7.75 | HHDT,MHDT |
| Demolition | Hauling | 36.8 | 20.0 | HHDT |

| | | | | |
|---|---|---|---|---|
| Demolition | Onsite truck | — | — | HHDT |
| Site Preparation | — | — | — | — |
| Site Preparation | Worker | 7.50 | 12.6 | LDA,LDT1,LDT2 |
| Site Preparation | Vendor | — | 7.75 | HHDT,MHDT |
| Site Preparation | Hauling | 1.80 | 20.0 | HHDT |
| Site Preparation | Onsite truck | — | — | HHDT |
| Grading | — | — | — | — |
| Grading | Worker | 10.0 | 12.6 | LDA,LDT1,LDT2 |
| Grading | Vendor | — | 7.75 | HHDT,MHDT |
| Grading | Hauling | 66.0 | 20.0 | HHDT |
| Grading | Onsite truck | — | — | HHDT |
| Building Construction | — | — | — | — |
| Building Construction | Worker | 199 | 12.6 | LDA,LDT1,LDT2 |
| Building Construction | Vendor | 46.4 | 7.75 | HHDT,MHDT |
| Building Construction | Hauling | 0.00 | 20.0 | HHDT |
| Building Construction | Onsite truck | — | — | HHDT |
| Paving | — | — | — | — |
| Paving | Worker | 15.0 | 12.6 | LDA,LDT1,LDT2 |
| Paving | Vendor | — | 7.75 | HHDT,MHDT |
| Paving | Hauling | 0.00 | 20.0 | HHDT |
| Paving | Onsite truck | — | — | HHDT |
| Architectural Coating | — | — | — | — |
| Architectural Coating | Worker | 39.8 | 12.6 | LDA,LDT1,LDT2 |
| Architectural Coating | Vendor | — | 7.75 | HHDT,MHDT |
| Architectural Coating | Hauling | 0.00 | 20.0 | HHDT |
| Architectural Coating | Onsite truck | — | — | HHDT |

## 5.4. Vehicles

### 5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

## 5.5. Architectural Coatings

| Phase Name | Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|---|
| Architectural Coating | 351,864 | 117,288 | 21,000 | 7,000 | — |

## 5.6. Dust Mitigation

### 5.6.1. Construction Earthmoving Activities

| Phase Name | Material Imported (Cubic Yards) | Material Exported (Cubic Yards) | Acres Graded (acres) | Material Demolished (Ton of Debris) | Acres Paved (acres) |
|---|---|---|---|---|---|
| Demolition | 0.00 | 0.00 | 0.00 | 2,205 | — |
| Site Preparation | — | 70.0 | 7.50 | 0.00 | — |
| Grading | — | 44,870 | 87.0 | 0.00 | — |
| Paving | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

### 5.6.2. Construction Earthmoving Control Strategies

| Control Strategies Applied | Frequency (per day) | PM10 Reduction | PM2.5 Reduction |
|---|---|---|---|
| Water Exposed Area | 2 | 61% | 61% |
| Water Demolished Area | 2 | 36% | 36% |

## 5.7. Construction Paving

| Land Use | Area Paved (acres) | % Asphalt |
|---|---|---|
| Apartments Mid Rise | — | 0% |
| Enclosed Parking with Elevator | 0.00 | 100% |
| Strip Mall | 0.00 | 0% |

| | | |
|---|---|---|
| City Park | 0.00 | 0% |
| High Turnover (Sit Down Restaurant) | 0.00 | 0% |
| General Office Building | 0.00 | 0% |

## 5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

| Year | kWh per Year | CO2 | CH4 | N2O |
|---|---|---|---|---|
| 2024 | 0.00 | 349 | 0.03 | < 0.005 |
| 2025 | 0.00 | 349 | 0.03 | < 0.005 |
| 2026 | 0.00 | 346 | 0.03 | < 0.005 |

## 5.9. Operational Mobile Sources

### 5.9.1. Unmitigated

| Land Use Type | Trips/Weekday | Trips/Saturday | Trips/Sunday | Trips/Year | VMT/Weekday | VMT/Saturday | VMT/Sunday | VMT/Year |
|---|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | 740 | 666 | 556 | 256,710 | 6,510 | 5,857 | 4,886 | 2,257,448 |
| Enclosed Parking with Elevator | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Strip Mall | 151 | 143 | 69.5 | 50,458 | 1,384 | 1,313 | 637 | 462,616 |
| City Park | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| High Turnover (Sit Down Restaurant) | 406 | 443 | 516 | 155,860 | 3,722 | 4,062 | 4,732 | 1,428,989 |
| General Office Building | 69.0 | 15.6 | 4.90 | 19,074 | 633 | 143 | 44.9 | 174,877 |

## 5.10. Operational Area Sources

### 5.10.1. Hearths

#### 5.10.1.1. Unmitigated

### 5.10.2. Architectural Coatings

| Residential Interior Area Coated (sq ft) | Residential Exterior Area Coated (sq ft) | Non-Residential Interior Area Coated (sq ft) | Non-Residential Exterior Area Coated (sq ft) | Parking Area Coated (sq ft) |
|---|---|---|---|---|
| 351864 | 117,288 | 21,000 | 7,000 | — |

### 5.10.3. Landscape Equipment

| Season | Unit | Value |
|---|---|---|
| Snow Days | day/yr | 0.00 |
| Summer Days | day/yr | 250 |

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

| Land Use | Electricity (kWh/yr) | CO2 | CH4 | N2O | Natural Gas (kBTU/yr) |
|---|---|---|---|---|---|
| Apartments Mid Rise | 663,516 | 346 | 0.0330 | 0.0040 | 3,972,303 |
| Enclosed Parking with Elevator | 558,144 | 346 | 0.0330 | 0.0040 | 0.00 |
| Strip Mall | 39,285 | 346 | 0.0330 | 0.0040 | 47,319 |
| City Park | 0.00 | 346 | 0.0330 | 0.0040 | 0.00 |
| High Turnover (Sit Down Restaurant) | 173,152 | 346 | 0.0330 | 0.0040 | 1,137,464 |
| General Office Building | 89,101 | 346 | 0.0330 | 0.0040 | 250,415 |

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

| Land Use | Indoor Water (gal/year) | Outdoor Water (gal/year) |
|---|---|---|
| Apartments Mid Rise | 14,912,530 | 3,922 |
| Enclosed Parking with Elevator | 0.00 | 0.00 |
| Strip Mall | 654,916 | 102 |
| City Park | 0.00 | 6,208 |
| High Turnover (Sit Down Restaurant) | 3,354,641 | 128 |
| General Office Building | 1,964,305 | 128 |

## 5.13. Operational Waste Generation

### 5.13.1. Unmitigated

| Land Use | Waste (ton/year) | Cogeneration (kWh/year) |
|---|---|---|
| Apartments Mid Rise | 134 | — |
| Enclosed Parking with Elevator | 0.00 | — |
| Strip Mall | 4.20 | — |
| City Park | 0.09 | — |
| High Turnover (Sit Down Restaurant) | 59.5 | — |
| General Office Building | 4.65 | — |

## 5.14. Operational Refrigeration and Air Conditioning Equipment

### 5.14.1. Unmitigated

| Land Use Type | Equipment Type | Refrigerant | GWP | Quantity (kg) | Operations Leak Rate | Service Leak Rate | Times Serviced |
|---|---|---|---|---|---|---|---|
| Apartments Mid Rise | Average room A/C & Other residential A/C and heat pumps | R-410A | 2,088 | < 0.005 | 2.50 | 2.50 | 10.0 |
| Apartments Mid Rise | Household refrigerators and/or freezers | R-134a | 1,430 | 0.12 | 0.60 | 0.00 | 1.00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Strip Mall | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |
| Strip Mall | Stand-alone retail refrigerators and freezers | R-134a | 1,430 | 0.04 | 1.00 | 0.00 | 1.00 |
| Strip Mall | Walk-in refrigerators and freezers | R-404A | 3,922 | < 0.005 | 7.50 | 7.50 | 20.0 |
| City Park | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |
| City Park | Stand-alone retail refrigerators and freezers | R-134a | 1,430 | 0.04 | 1.00 | 0.00 | 1.00 |
| High Turnover (Sit Down Restaurant) | Household refrigerators and/or freezers | R-134a | 1,430 | 0.00 | 0.60 | 0.00 | 1.00 |
| High Turnover (Sit Down Restaurant) | Other commercial A/C and heat pumps | R-410A | 2,088 | 1.80 | 4.00 | 4.00 | 18.0 |
| High Turnover (Sit Down Restaurant) | Walk-in refrigerators and freezers | R-404A | 3,922 | < 0.005 | 7.50 | 7.50 | 20.0 |
| General Office Building | Household refrigerators and/or freezers | R-134a | 1,430 | 0.02 | 0.60 | 0.00 | 1.00 |
| General Office Building | Other commercial A/C and heat pumps | R-410A | 2,088 | < 0.005 | 4.00 | 4.00 | 18.0 |

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

| Equipment Type | Fuel Type | Engine Tier | Number per Day | Hours Per Day | Horsepower | Load Factor |
|---|---|---|---|---|---|---|

## 5.16. Stationary Sources

### 5.16.1. Emergency Generators and Fire Pumps

| Equipment Type | Fuel Type | Number per Day | Hours per Day | Hours per Year | Horsepower | Load Factor |
|---|---|---|---|---|---|---|
| Emergency Generator | Diesel | 1.00 | 0.00 | 72.0 | 670 | 0.73 |

### 5.16.2. Process Boilers

| Equipment Type | Fuel Type | Number | Boiler Rating (MMBtu/hr) | Daily Heat Input (MMBtu/day) | Annual Heat Input (MMBtu/yr) |
|---|---|---|---|---|---|

## 5.17. User Defined

| Equipment Type | Fuel Type |
|---|---|
| — | — |

## 5.18. Vegetation

### 5.18.1. Land Use Change

#### 5.18.1.1. Unmitigated

| Vegetation Land Use Type | Vegetation Soil Type | Initial Acres | Final Acres |
|---|---|---|---|

### 5.18.1. Biomass Cover Type

#### 5.18.1.1. Unmitigated

| Biomass Cover Type | Initial Acres | Final Acres |
|---|---|---|

### 5.18.2. Sequestration

#### 5.18.2.1. Unmitigated

| Tree Type | Number | Electricity Saved (kWh/year) | Natural Gas Saved (btu/year) |
|---|---|---|---|

# 6. Climate Risk Detailed Report

## 6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

| Climate Hazard | Result for Project Location | Unit |
|---|---|---|
| Temperature and Extreme Heat | 25.9 | annual days of extreme heat |
| Extreme Precipitation | 9.15 | annual days with precipitation above 20 mm |
| Sea Level Rise | 0.00 | meters of inundation depth |
| Wildfire | 16.9 | annual hectares burned |

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

## 6.2. Initial Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | 3 | 0 | 0 | N/A |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 0 | 0 | N/A |
| Wildfire | 1 | 0 | 0 | N/A |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 0 | 0 | 0 | N/A |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

## 6.3. Adjusted Climate Risk Scores

| Climate Hazard | Exposure Score | Sensitivity Score | Adaptive Capacity Score | Vulnerability Score |
|---|---|---|---|---|
| Temperature and Extreme Heat | 3 | 1 | 1 | 3 |
| Extreme Precipitation | N/A | N/A | N/A | N/A |
| Sea Level Rise | 1 | 1 | 1 | 2 |
| Wildfire | 1 | 1 | 1 | 2 |
| Flooding | N/A | N/A | N/A | N/A |
| Drought | N/A | N/A | N/A | N/A |
| Snowpack Reduction | N/A | N/A | N/A | N/A |
| Air Quality Degradation | 1 | 1 | 1 | 2 |

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

## 6.4. Climate Risk Reduction Measures

# 7. Health and Equity Details

## 7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Exposure Indicators | — |
| AQ-Ozone | 84.6 |

| | |
|---|---|
| AQ-PM | 70.7 |
| AQ-DPM | 57.7 |
| Drinking Water | 73.7 |
| Lead Risk Housing | 54.4 |
| Pesticides | 0.00 |
| Toxic Releases | 70.1 |
| Traffic | 80.3 |
| Effect Indicators | — |
| CleanUp Sites | 74.9 |
| Groundwater | 0.00 |
| Haz Waste Facilities/Generators | 59.8 |
| Impaired Water Bodies | 0.00 |
| Solid Waste | 70.4 |
| Sensitive Population | — |
| Asthma | 6.04 |
| Cardio-vascular | 7.47 |
| Low Birth Weights | 7.29 |
| Socioeconomic Factor Indicators | — |
| Education | 42.7 |
| Housing | 10.2 |
| Linguistic | 80.2 |
| Poverty | 27.9 |
| Unemployment | 45.8 |

## 7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

| Indicator | Result for Project Census Tract |
|---|---|
| Economic | — |

| | |
|---|---|
| Above Poverty | 84.3320929 |
| Employed | 68.92082638 |
| Median HI | 57.88528166 |
| Education | — |
| Bachelor's or higher | 80.67496471 |
| High school enrollment | 100 |
| Preschool enrollment | 84.88387014 |
| Transportation | — |
| Auto Access | 70.20402926 |
| Active commuting | 5.915565251 |
| Social | — |
| 2-parent households | 35.26241499 |
| Voting | 21.00603105 |
| Neighborhood | — |
| Alcohol availability | 87.47593995 |
| Park access | 34.12036443 |
| Retail density | 39.49698447 |
| Supermarket access | 46.73424868 |
| Tree canopy | 66.75221352 |
| Housing | — |
| Homeownership | 46.75991274 |
| Housing habitability | 43.07712049 |
| Low-inc homeowner severe housing cost burden | 33.1707943 |
| Low-inc renter severe housing cost burden | 70.48633389 |
| Uncrowded housing | 63.4800462 |
| Health Outcomes | — |
| Insured adults | 52.11086873 |
| Arthritis | 0.0 |

| | |
|---|---|
| Asthma ER Admissions | 94.2 |
| High Blood Pressure | 0.0 |
| Cancer (excluding skin) | 0.0 |
| Asthma | 0.0 |
| Coronary Heart Disease | 0.0 |
| Chronic Obstructive Pulmonary Disease | 0.0 |
| Diagnosed Diabetes | 0.0 |
| Life Expectancy at Birth | 97.0 |
| Cognitively Disabled | 87.2 |
| Physically  Disabled | 80.2 |
| Heart Attack ER Admissions | 84.0 |
| Mental Health Not Good | 0.0 |
| Chronic Kidney Disease | 0.0 |
| Obesity | 0.0 |
| Pedestrian Injuries | 97.1 |
| Physical Health Not Good | 0.0 |
| Stroke | 0.0 |
| Health Risk Behaviors | — |
| Binge Drinking | 0.0 |
| Current Smoker | 0.0 |
| No Leisure Time for Physical Activity | 0.0 |
| Climate Change Exposures | — |
| Wildfire Risk | 0.0 |
| SLR Inundation Area | 0.0 |
| Children | 84.9 |
| Elderly | 16.5 |
| English Speaking | 18.2 |
| Foreign-born | 95.7 |

| | |
|---|---|
| Outdoor Workers | 60.7 |
| Climate Change Adaptive Capacity | — |
| Impervious Surface Cover | 34.1 |
| Traffic Density | 80.4 |
| Traffic Access | 23.0 |
| Other Indices | — |
| Hardship | 23.2 |
| Other Decision Support | — |
| 2016 Voting | 20.4 |

## 7.3. Overall Health & Equity Scores

| Metric | Result for Project Census Tract |
|---|---|
| CalEnviroScreen 4.0 Score for Project Location (a) | 30.0 |
| Healthy Places Index Score for Project Location (b) | 65.0 |
| Project Located in a Designated Disadvantaged Community (Senate Bill 535) | No |
| Project Located in a Low-Income Community (Assembly Bill 1550) | No |
| Project Located in a Community Air Protection Program Community (Assembly Bill 617) | No |

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

## 7.4. Health & Equity Measures

No Health & Equity Measures selected.

## 7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

## 7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

# 8. User Changes to Default Data

| Screen | Justification |
| --- | --- |
| Construction: Construction Phases | Project Description - Assumes Paving and Architectural Coating Occurs simultaneously within BC |
| Construction: Dust From Material Movement | Data Needs |
| Operations: Hearths | Data Needs States No Fireplaces |
| Land Use | Mixed use. |
| Operations: Vehicle Data | Trips for Private/Public Open Space land use are included in calculations for Residential land use. |
| Operations: Energy Use | Data provided by applicant |
| Operations: Water and Waste Water | Data provided by applicant |

# Mitigation Monitoring and Reporting Program

## Arcadia Town Center Project
## SCH No. 2024110749


Prepared for

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January 2025

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# SECTION 1.0 MITIGATION MONITORING AND REPORTING PROGRAM

## 1.1 INTRODUCTION

In accordance with the requirements of Section 21081.6 of the *California Public Resources Code,* and as part of its adoption of Initial Study and Mitigated Negative Declaration (IS/MND) for the Arcadia Town Center Project, the City of Arcadia (City) adopts this Mitigation Monitoring and Reporting Program (MMRP). The City adopts this MMRP in its capacity as the lead agency for the IS/MND in accordance with the provisions of the California Environmental Quality Act (CEQA) (*California Public Resources Code* Section 21000 et seq.) and the State CEQA Guidelines (*California Code of Regulations,* Title 14, Section 15000 et seq.).

The principal purpose of this MMRP is to ensure that the mitigation measures and regulatory requirements for the approved Project are reported and monitored to ensure compliance with their requirements. In general, the City of Arcadia Development Services Department is responsible for overseeing implementation and completion of the adopted measures. This includes the review of all monitoring reports, enforcement actions, and document disposition, unless otherwise noted in the attached MMRP table.

## 1.2 MITIGATION MONITORING AND REPORTING PROGRAM

The MMRP is provided in tabular format to facilitate effective tracking and documentation of the status of mitigation measures. The attached MMRP table provides the following monitoring information:

- **Regulatory Requirements and Mitigation Measures.** The text of all adopted mitigation measures (MMs) from the IS/MND has been provided in this MMRP. Regulatory requirements (RRs) that are applicable to the Project are also included in the MMRP, which include laws, rules, regulations, and ordinances that would avoid and/or minimize environmental impacts of the Project.
- **Responsible for Implementation.** This MMRP identifies the party that is responsible for implementing each of the RRs and MMs that is specified in the IS/MND.
- **Timing.** This MMRP includes information related to when each RR and MM in the IS/MND will be implemented.
- **Responsibility for Monitoring.** This MMRP identifies the City Department(s) or other public agency(ies) that are responsible for overseeing the implementation and completion of each mitigation measure.
- **Completion Date.** The completion date column of this MMRP is used to record the date that each mitigation measure is completed. This column of the MMRP table will be filled in by the City in the future as the Project is implemented and the RRs and MMs are completed. Upon completion, the MMRP and associated documentation will be kept on file at the City of Arcadia Development Services Department.

**TABLE 1**
**MITIGATION MONITORING AND REPORTING PROGRAM**

| Regulatory Requirements and Mitigation Measures | Responsible for Implementation | Timing | Responsibility for Monitoring | Completion Date (Signature Required) |
|---|---|---|---|---|
| *Aesthetics* | | | | |
| **RR AES-1** The Project Applicant/Property Owner shall prepare a Lighting Plan that provides the type and location of proposed exterior lighting and signage, subject to the review and approval of the City's Development Services Department. All new lighting will be shielded and down-cast, such that the light is not cast onto adjacent properties or visible from above, and all new lighting would be reviewed to ensure compliance with the standards codified in Section 9103.01 of the City of Arcadia Development Code. | Applicant/Property Owner | Prior to issuance of a building permit | City of Arcadia Development Services Department, Planning Division | |
| *Air Quality* | | | | |
| **RR AQ-1** The Project shall be conducted in compliance with all applicable South Coast Air Quality Management District (SCAQMD) rules and permitting requirements, including but not limited to:<br>• SCAQMD Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. Compliance with this rule will reduce short term particulate pollutant emissions.<br>• SCAQMD Rule 402, Nuisance, which states that a Project will not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property".<br>• SCAQMD Rule 1113, Architectural Coatings, which limits the volatile organic content (VOC) of architectural coatings used for the Project. | Applicant/Property Owner<br><br>Construction Contractor | Throughout construction | City of Arcadia Development Services Department, Building Division | |
| *Biological Resources* | | | | |
| **RR BIO-1** Prior to approval of grading plans, the Development Services Department shall verify that the following note is included on the contractor specifications to ensure compliance with the Migratory Bird Treaty Act (MBTA):<br><br>To avoid impacts on nesting birds, vegetation on the Project site should be cleared between September 1 and January 31. If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. If the biologist does not find any active nests within the impact area, the vegetation clearing/construction work will be allowed. If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned. | Applicant/Property Owner<br><br>Construction Contractor<br><br>Qualified Biologist | Prior to approval of grading plans<br><br>Within 5 days of vegetation clearing if between February 1 and August 31 | City of Arcadia Development Services Department Planning Division | |
| **RR BIO-2** As required by the City's Comprehensive Tree Management Program, the Project Applicant/Property Owner shall obtain a permit from the Arcadia Public Works Services Department for the removal and planting of street trees associated with the Project. The Project Applicant/Property Owner will abide by the standards set forth in the permit, as well as standards contained in the Comprehensive Tree Management Program and other applicable sections of the Arcadia Development and Municipal Codes. | Applicant/Property Owner | Prior to issuance of a building permit. | City of Arcadia Public Works Services Department | |
| **RR BIO-3** The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan. | Applicant/Property Owner | During plan-check for approval and the trees must be planted prior to issuance of a Certificate of Occupancy | City of Arcadia Public Works Services Department | |

**TABLE 1**
**MITIGATION MONITORING AND REPORTING PROGRAM**

| Regulatory Requirements and Mitigation Measures | Responsible for Implementation | Timing | Responsibility for Monitoring | Completion Date (Signature Required) |
|---|---|---|---|---|
| *Cultural Resources* | | | | |
| **RR CUL-1** If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the Los Angeles County Coroner shall be notified (California Public Resources Code §5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code §7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code §5097.98). | Applicant/Property Owner<br><br>Construction Contractor<br><br>Los Angeles County Coroner<br><br>Native American Heritage Commission and MLD | During excavation activities | City of Arcadia Development Services Department, Planning and Building Divisions | |
| **MM CUL-1** Prior to the issuance of a demolition permit, the Project Applicant/Property Owner shall submit the name and qualifications of a qualified archaeologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified archaeologist shall be retained by the Project Applicant/Property Owner. If suspected cultural (archaeological) resources or tribal cultural resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery. The Project contractor or Project Applicant/Property Owner shall contact the qualified archaeologist to request an evaluation of the significance of the find and determine an appropriate course of action. If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the State California Environmental Quality Act Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume. | Applicant/Property Owner<br><br>Construction Contractor<br><br>Qualified Archaeologist | Prior to issuance of a demolition permit | City of Arcadia Development Services Department, Planning Division | |
| *Energy* | | | | |
| **RR ENR-1** The Project shall be consistent with the Title 24 energy efficiency standards and the mandatory requirements of the CALGreen code. Construction activities shall comply with idling requirements and maintenance requirements for on- and off-road vehicles. | Applicant/Property Owner<br><br>Construction Contractor | Prior to issuance of a building permit and during construction activities | City of Arcadia Development Services Department, Building Division | |
| *Geology and Soils* | | | | |
| **RR GEO-1** Geotechnical design considerations for Project implementation are governed by the Arcadia Building Code, as set forth in Article VIII of the Arcadia Municipal Code, which incorporates by reference the California Building Code (CBC), including the California Building, Plumbing, Mechanical, Electrical and Existing Building Codes (CBSC 2022). Future buildings and structures shall be designed in accordance with applicable requirements of the CBC, the Arcadia Municipal Code, and any applicable building and seismic codes in effect at the time the grading plans are approved. | Applicant/Property Owner | Prior to approval of grading plans | City of Arcadia Development Services Department, Building Division | |
| **RR GEO-2** The Project building design specifications shall include recommendations from the *Geotechnical Investigation, Proposed Huntington Park View Mixed-Use Development, 25 North Santa Anita, Arcadia, California* (Geocon West, Inc. 2021, Appendix D). These recommendations include, but are not limited to, specifications for the following:<br>• Demolition and site preparation<br>• Fill placement<br>• Remedial grading and over excavation<br>• Foundation recommendations<br>• Building Floor Slabs and reinforcement<br>The Project building design specifications shall be verified by the City of Arcadia Building Official prior to issuance of a demolition permit. | Applicant/Property Owner<br><br>City of Arcadia Building Official | Prior to issuance of a demolition permit | City of Arcadia Development Services Department, Building Division | |

**TABLE 1**
**MITIGATION MONITORING AND REPORTING PROGRAM**

| Regulatory Requirements and Mitigation Measures | Responsible for Implementation | Timing | Responsibility for Monitoring | Completion Date (Signature Required) |
|---|---|---|---|---|
| *Hazards and Hazardous Materials* | | | | |
| **RR HAZ-1** Activities at the Project site shall comply with existing federal, State, and local regulations regarding hazardous material use, storage, disposal, and transport to prevent Project-related risks to public health and safety. All on-site generated waste that meets hazardous waste criteria shall be stored, manifested, transported, and disposed of in accordance with the California Code of Regulations (Title 22) and in a manner to the satisfaction of the local Certified Unified Program Agency (CUPA), as applicable. Any hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including U.S. Department of Transportation regulations under Title 49 (Hazardous Materials Transportation Act) and Title 40, Section 263 (Subtitle C of the Resource Conservation and Recovery Act) of the Code of Federal Regulations; California Department of Transportation (Caltrans) standards; and Division of Occupational Safety and Health (Cal/OSHA) standards. | Applicant/Property Owner<br><br>Construction Contractor | During construction | City of Arcadia Development Services Department, Building Division | |
| *Hydrology and Water Quality* | | | | |
| **RR HWQ-1** Prior to the City's issuance of a demolition permit, the Project Applicant/Property Owner shall obtain coverage under the General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002), which will require the development and implementation of a project-specific Storm Water Pollution Prevention Plan (SWPPP). | Applicant/Property Owner<br><br>Construction Contractor | Prior to issuance of a demolition permit | City of Arcadia Development Services Department – Engineering and Building Divisions | |
| *Noise* | | | | |
| **MM NOI-1** The Project Applicant/Property Owner shall require that all construction contractors restrict the operation of the following construction equipment to beyond the following distances from off-site buildings: (1) vibratory rollers – 25 feet, and (2) Caisson drilling, large bulldozers, loaded trucks, and other large equipment (vehicle weight greater than 25,000 lbs.) – 15 feet. Any activities occurring within 5 feet of existing property line shall use non-vibration intensive methods such as use of concrete saws, universal processors, and/or expansive agents for demolition. | Applicant/Property Owner<br><br>Construction Contractor | During any demolition, grading, and construction | City of Arcadia Development Services Department, Building Division | |
| *Public Services* | | | | |
| **RR PUB-1** The Project Applicant/Property Owner shall comply with all applicable codes, ordinances, and regulations, including the most current edition of the California Fire Code and the Arcadia Municipal and Development Codes, regarding fire prevention and suppression measures; fire hydrants; fire access; water availability; and other, similar requirements. Prior to issuance of building permits, the City of Arcadia Development Services Department and the Arcadia Fire Department shall verify compliance with applicable codes and that appropriate fire safety measures are included in the Project design. All such codes and measures shall be implemented prior to occupancy. | Applicant/Property Owner | Prior to issuance of a building permit<br><br>Implementation prior to issuance of a Certificate of Occupancy permit | City of Arcadia Development Services Department, Planning and Building Divisions<br><br>City of Arcadia Fire Department | |
| **RR PUB-2** In accordance with the City's Ordinance 7492, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current fire protection facilities impact fee to the City. All money collected as fees imposed shall be used against the capital and infrastructure costs required to maintain acceptable life safety and fire protection in the City. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit. | Applicant/Property Owner | Prior to issuance of a building permit | City of Arcadia Development Services Department, Building Division and Arcadia's Fire Department | |
| **RR PUB-3** Prior to issuance of the building permit, the Project Applicant/Property Owner shall pay new development fees to the AUSD pursuant to Section 65995 of the California Government Code. As an option to the payment of developer fees, the AUSD and the Property Owner can enter into a facility and funding agreement, if approved by both parties. Evidence that agreements have been executed shall be submitted to the Development Services Department, or fees shall be paid with each building permit. | Applicant/Property Owner<br><br>Arcadia Unified School District | Prior to issuance of a building permit | City of Arcadia Development Services Department, Building Division | |
| **RR PUB-4** In accordance with the City's Ordinance 2237 and Section 9105.15 of the City's Development Code, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current park facilities impact fee and/or other negotiated park fees to the City. All money collected as fees imposed shall be deposited in the Park Facilities Impact Fee Program and shall be used for the acquisition, development, and improvement of public parks and recreational facilities in the City, as proposed by the City's Parks and Recreation Master Plan. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit. | Applicant/Property Owner | Prior to issuance of a building permit | City of Arcadia Development Services Department, Building Division | |

**TABLE 1**
**MITIGATION MONITORING AND REPORTING PROGRAM**

| Regulatory Requirements and Mitigation Measures | Responsible for Implementation | Timing | Responsibility for Monitoring | Completion Date (Signature Required) |
|---|---|---|---|---|
| *Transportation/Traffic* | | | | |
| **RR TRANS-1** Require the Applicant/Property Owner to contribute, on a cost-share basis, to the City's Transportation Impact Fee program, for any intersections affected by the Project, based on the net new PM Peak House vehicle trips generated, per the City's Transportation Impact Fee Program Update adopted on October 18, 2016. | Applicant/Property Owner | Prior to issuance of a building permit | City of Arcadia Development Services Department, Building and Engineering Divisions | |
| **MM TRANS-1** Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Project Applicant/Property Owner for the review and approval of the City of Arcadia and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Applicant/Property Owner will coordinate begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within the City of Arcadia downtown.<br><br>At a minimum, the Construction Management Plan shall:<br>• Describe the duration and location of lane closures (if any).<br>• Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as-needed use of flagpersons and signage.<br>• Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets.<br>• Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction workers would be provided on-site or at additional off-site locations that are not on public streets.<br>• Identify of emergency access points/routes.<br>• Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.<br>• Require the contractor to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material, which may have been spilled, tracked, or blown onto adjacent streets or areas.<br>• All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays.<br>• Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer.<br>• Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users.<br>• Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer.<br>• Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site or on designated off-site parcels that would not adversely affect access to or parking within the downtown. | Applicant/Property Owner<br><br>Construction Contractor | Prior to issuance of a grading permit | City of Arcadia Development Services Department, Planning and Engineering Divisions | |

**TABLE 1**
**MITIGATION MONITORING AND REPORTING PROGRAM**

| Regulatory Requirements and Mitigation Measures | Responsible for Implementation | Timing | Responsibility for Monitoring | Completion Date (Signature Required) |
|---|---|---|---|---|
| *Tribal Cultural Resources* | | | | |
| **MM TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities**<br>A. The Project Applicant/Property Owner shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.<br>B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.<br>C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered tribal cultural resources, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the Project Applicant/City upon written request to the Tribe.<br>D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs. | Applicant/Property Owner<br>Construction Contractor<br>Native American Monitor – Kizh Nation | Prior to commencement a grading permit or any ground disturbing activities<br>During construction | City of Arcadia Development Services Department, Planning and Building Divisions | |
| **MM TCR-2 Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial)**<br>Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes. | Applicant/Property Owner<br>Construction Contractor<br>Native American Monitor – Kizh Nation | During any grading or ground-disturbing activities | City of Arcadia Development Services Department, Planning and Building Divisions | |
| **MM TCR-3 Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects**<br>A. Native American human remains are defined in Public Resources Code section 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.<br>B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.<br>C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).<br>D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.<br>E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance. | Applicant/Property Owner<br>Construction Contractor<br>Los Angeles County Coroner<br>Native American Heritage Commission and MLD | During any grading or ground-disturbing activities | City of Arcadia Development Services Department, Planning and Building Divisions | |

**TABLE 1**
**MITIGATION MONITORING AND REPORTING PROGRAM**

| Regulatory Requirements and Mitigation Measures | Responsible for Implementation | Timing | Responsibility for Monitoring | Completion Date (Signature Required) |
|---|---|---|---|---|
| *Utilities and Service Systems* | | | | |
| **RR UTIL-1** The Project Applicant/Property Owner shall comply with all applicable regulations and restrictions set forth in the Arcadia Municipal Code, including Section 7472 regarding restrictions on discharges into the sewer and Section 5130 regarding achievement of annual waste diversion rates and other applicable requirements in compliance with but not limited to Assembly Bill 939, Assembly Bill 341, and Assembly Bill 1826. | Applicant/Property Owner | During construction | City of Arcadia Public Works Services Department | |
| **MM UTIL-1 Sewer Upsizing Fair Share Payment.** Prior to issuance of a Certificate of Occupancy permit for the Project, the Applicant/Property Owner shall make a fair share contribution of 9 percent of the total Santa Anita Avenue sewer upsizing project cost to the City's Development Services Department. This payment shall help fund replacing the existing sewer line in Santa Anita Avenue between Huntington Drive and Camino Real Avenue within 12-inch diameter pipelines. The Santa Anita Avenue sewer upsizing project shall be split into three phases and included in the City's 2024-25, 2025-26, and 2026-27 Capital Improvement Plan budgets, respectively. The sewer work will be completed by the City's Public Works Department by approximately the end of the 2026-27 Fiscal Year. A Certificate of Occupancy shall not be issued until all phases of the Santa Anita Avenue sewer upsizing project are fully implemented. This measure shall be implemented to the satisfaction of the City Public Works Services Department as appropriate. | Applicant/Property Owner | Prior to issuance of a Certificate of Occupancy permit | City of Arcadia Public Works Services Department | |

# Arcadia Town Center Project

## Initial Study/Mitigated Negative Declaration


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November 2024

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# SECTION 1.0 INTRODUCTION

## 1.1 PURPOSE OF THIS INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

In accordance with the California Environmental Quality Act (CEQA) (California Public Resources Code Section 21000 et seq.) and the State CEQA Guidelines (California Code of Regulations, Title 14, Section 15000 et seq.), this Initial Study (IS) has been prepared as documentation for a Mitigated Negative Declaration (MND) for the Arcadia Town Center Project (Project). This Initial Study and Mitigated Negative Declaration (IS/MND) includes a description of the Project; the location of the Project site; and an evaluation of the potential environmental impacts that would result from Project implementation. It includes significance determinations from the environmental analyses; identifies regulatory requirements (RRs) that must be implemented; and sets forth mitigation measures (MMs) that will lessen or avoid potentially significant Project impacts on the environment. RRs are based on local, State, and/or federal regulations or laws that are required independent of CEQA review, yet also serve to offset or prevent certain impacts.

Pursuant to Section 15367 of the State CEQA Guidelines, the City of Arcadia (City) is the lead agency for the Project. The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant effect upon the environment. The City, as lead agency, has the authority for Project approval and certification of the accompanying environmental documentation.

## 1.2 PROJECT OVERVIEW

New World International Investment, LLC (Project Applicant/Property Owner) proposes to consolidate and redevelop an approximate 2.27-acre site with a mixed-use development consisting of a 440,938 square foot (sf), five story (above ground) building with one level of subterranean parking and one level of ground level parking. The Project includes 181 residential units; 3,890 sf of residential amenities; 38,713 sf of public and private open space; 13,130 sf of ground-floor commercial uses facing toward Huntington Drive and Santa Anita Avenue; and 378 parking spaces. More detailed information on the Project is provided in Section 2.2, Project Description, of this IS/MND.

## 1.3 SUMMARY OF ENVIRONMENTAL IMPACTS

The analysis in Section 3, Environmental Checklist Form, of this IS/MND finds that implementation of the Project would have no impact or less than significant impacts for the following environmental topics:

- Aesthetics;
- Air Quality;
- Agriculture and Forestry Resources;
- Biological Resources;
- Energy;
- Greenhouse Gas Emissions;
- Geology and Soils;
- Hydrology and Water Quality;
- Land Use and Planning;
- Mineral Resources;
- Population and Housing;
- Public Services;
- Recreation; and
- Wildfire.

As described in Section 3, Environmental Checklist Form, of this IS/MND, construction and operation of the Project would have significant impacts related to the following environmental topics unless the recommended mitigation measures (MMs) described below in Table 1, Summary of Regulatory Requirements and Mitigation Measures, are implemented:

- Cultural Resources;
- Hazards and Hazardous Materials;
- Noise and Vibration;
- Transportation;
- Tribal Cultural Resources; and
- Utilities and Service Systems.

With implementation of the identified MMs, the Project would have less than significant impacts for each of these environmental topics. Therefore, no significant and unavoidable impacts would result due to Project implementation.

According to the Section 15070 to 15075 of the State CEQA Guidelines, an IS/MND is the appropriate environmental document for the Project because, after incorporation of the recommended MMs, potentially significant environmental impacts would be eliminated or reduced to a level considered less than significant. Table 1, Summary of Regulatory Requirements and Mitigation Measures, presents all actions that would be part of the Project that would reduce or avoid environmental impacts.

**TABLE 1**
**SUMMARY OF REGULATORY REQUIREMENTS**
**AND MITIGATION MEASURES**

| ID | Applicable Regulatory Requirements (RR) and Mitigation Measures (MM) |
|---|---|
| *Aesthetics* | |
| **RR AES-1** | The Project Applicant/Property Owner shall prepare a Lighting Plan that provides the type and location of proposed exterior lighting and signage, subject to the review and approval of the City's Development Services Department. All new lighting will be shielded and down-cast, such that the light is not cast onto adjacent properties or visible from above, and all new lighting would be reviewed to ensure compliance with the standards codified in Section 9103.01 of the City of Arcadia Development Code. |
| *Air Quality* | |
| **RR AQ-1** | The Project shall be conducted in compliance with all applicable South Coast Air Quality Management District (SCAQMD) rules and permitting requirements, including but not limited to:<br>• SCAQMD Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. Compliance with this rule will reduce short-term particulate pollutant emissions.<br>• SCAQMD Rule 402, Nuisance, which states that a Project will not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property".<br>• SCAQMD Rule 1113, Architectural Coatings, which limits the volatile organic content (VOC) of architectural coatings used for the Project. |

# TABLE 1
# SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

| ID | Applicable Regulatory Requirements (RR) and Mitigation Measures (MM) |
|---|---|
| *Biological Resources* | |
| **RR BIO-1** | Prior to approval of grading plans, the Development Services Department shall verify that the following note is included on the contractor specifications to ensure compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code:<br><br>To avoid impacts on nesting birds, vegetation on the Project site should be cleared between September 1 and January 31. If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. If the biologist does not find any active nests within the impact area, the vegetation clearing/construction work will be allowed. If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned. |
| **RR BIO-2** | As required by the City's Tree Preservation Ordinance (Section 9110.01 et. seq. of the Development Code) and Comprehensive Tree Management Program (Section 9800 et. seq. of the Arcadia Municipal Code), the Project Applicant/Property Owner shall obtain permits from the Arcadia Public Works Services Department for the removal and planting of Protected trees and street trees in the public right-of-way associated with the Project. The Project Applicant/Property Owner will abide by the standards set forth in the permit, as well as standards contained in the Tree Preservation Ordinance, Comprehensive Tree Management Program, and other applicable sections of the Arcadia Development and Municipal Codes. |
| **RR BIO-3** | The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan. |
| *Cultural Resources* | |
| **RR CUL-1** | If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the Los Angeles County Coroner shall be notified (California Public Resources Code Section 5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code Section 5097.98). |
| **MM CUL-1** | Prior to the issuance of a demolition permit, the Project Applicant/Property Owner shall submit the name and qualifications of a qualified archaeologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified archaeologist shall be retained by the Project Applicant/Property Owner. If suspected cultural (archaeological) resources or tribal cultural resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery. The Project contractor or Project Applicant/Property Owner shall contact the qualified archaeologist to request an evaluation of the significance of the find and determine an appropriate course of action. If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the State California Environmental Quality Act Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume. |

# TABLE 1
# SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

| ID | Applicable Regulatory Requirements (RR) and Mitigation Measures (MM) |
|---|---|
| *Energy* | |
| **RR ENR-1** | The Project shall be consistent with the Title 24 energy efficiency standards and the mandatory requirements of the CALGreen code. Construction activities shall comply with idling requirements and maintenance requirements for on- and off-road vehicles. |
| *Geology and Soils* | |
| **RR GEO-1** | Geotechnical design considerations for Project implementation are governed by the Arcadia Building Code, as set forth in Article VIII of the Arcadia Municipal Code, which incorporates by reference the California Building Code (CBC), including the California Building, Plumbing, Mechanical, Electrical and Existing Building Codes (CBSC 2022). Future buildings and structures shall be designed in accordance with applicable requirements of the CBC, the Arcadia Municipal Code, and any applicable building and seismic codes in effect at the time the grading plans are approved. |
| **RR GEO-2** | The Project building design specifications shall include recommendations from the *Geotechnical Investigation, Proposed Huntington Park View Mixed-Use Development, 25 North Santa Anita, Arcadia, California* (Geocon West, Inc. 2021, Appendix D). These recommendations include, but are not limited to, specifications for the following:<br>• Demolition and site preparation<br>• Fill placement<br>• Remedial grading and over excavation<br>• Foundation recommendations<br>• Building Floor Slabs and reinforcement<br>The Project building design specifications shall be verified by the City of Arcadia Building Official prior to issuance of a demolition permit. |
| *Hazards and Hazardous Materials* | |
| **RR HAZ-1** | Activities at the Project site shall comply with existing federal, State, and local regulations regarding hazardous material use, storage, disposal, and transport to prevent Project-related risks to public health and safety. All on-site generated waste that meets hazardous waste criteria shall be stored, manifested, transported, and disposed of in accordance with the California Code of Regulations (Title 22) and in a manner to the satisfaction of the local Certified Unified Program Agency (CUPA), as applicable. Any hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including U.S. Department of Transportation regulations under Title 49 (Hazardous Materials Transportation Act) and Title 40, Section 263 (Subtitle C of the Resource Conservation and Recovery Act) of the Code of Federal Regulations; California Department of Transportation (Caltrans) standards; and Division of Occupational Safety and Health (Cal/OSHA) standards. |
| **MM TRANS-1**, provided below, is also applicable to hazards and hazardous materials. | |
| *Hydrology and Water Quality* | |
| **RR HWQ-1** | Prior to the City's issuance of a demolition permit, the Project Applicant/Property Owner shall obtain coverage under the General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002), which will require the development and implementation of a project-specific Storm Water Pollution Prevention Plan (SWPPP). |

# TABLE 1
# SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

| ID | Applicable Regulatory Requirements (RR) and Mitigation Measures (MM) |
|---|---|
| *Noise* | |
| **MM NOI-1** | The Project Applicant/Property Owner shall require that all construction contractors restrict the operation of the following construction equipment to beyond the following distances from off-site buildings: (1) vibratory rollers – 25 feet, and (2) Caisson drilling, large bulldozers, loaded trucks, and other large equipment (vehicle weight greater than 25,000 lbs.) – 15 feet. Any activities occurring within 5 feet of existing property line shall use non-vibration intensive methods such as use of concrete saws, universal processors, and/or expansive agents for demolition. |
| *Public Services* | |
| **RR PUB-1** | The Project Applicant/Property Owner shall comply with all applicable codes, ordinances, and regulations, including the most current edition of the California Fire Code and the Arcadia Municipal and Development Codes, regarding fire prevention and suppression measures; fire hydrants; fire access; water availability; and other, similar requirements. Prior to issuance of building permits, the City of Arcadia Development Services Department and the Arcadia Fire Department shall verify compliance with applicable codes and that appropriate fire safety measures are included in the Project design. All such codes and measures shall be implemented prior to occupancy. |
| **RR PUB-2** | In accordance with the City's Ordinance 7492, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current fire protection facilities impact fee to the City. All money collected as fees imposed shall be used against the capital and infrastructure costs required to maintain acceptable life safety and fire protection in the City. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit. |
| **RR PUB-3** | Prior to issuance of the building permit, the Project Applicant/Property Owner shall pay new development fees to the AUSD pursuant to Section 65995 of the California Government Code. As an option to the payment of developer fees, the AUSD and the Property Owner can enter into a facility and funding agreement, if approved by both parties. Evidence that agreements have been executed shall be submitted to the Development Services Department, or fees shall be paid with each building permit. |
| **RR PUB-4** | In accordance with the City's Ordinance 2237 and Section 9105.15 of the City's Development Code, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current park facilities impact fee and/or other negotiated park fees to the City. All money collected as fees imposed shall be deposited in the Park Facilities Impact Fee Program and shall be used for the acquisition, development, and improvement of public parks and recreational facilities in the City, as proposed by the City's Parks and Recreation Master Plan. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit. |
| *Transportation* | |
| **RR TRANS-1** | Require the Applicant/Property Owner to contribute, on a cost-share basis, to the City's Transportation Impact Fee program, for any intersections affected by the Project, based on the net new PM Peak House vehicle trips generated, per the City's Transportation Impact Fee Program Update adopted on October 18, 2016. |
| **MM TRANS-1** | Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Project Applicant/Property Owner for the review and approval of the City of Arcadia and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Applicant/Property Owner will coordinate begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within the City of Arcadia downtown.<br><br>At a minimum, the Construction Management Plan shall:<br><br>• Describe the duration and location of lane closures (if any). |

# TABLE 1
# SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

| ID | Applicable Regulatory Requirements (RR) and Mitigation Measures (MM) |
|---|---|
| | • Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as-needed use of flagpersons and signage.<br>• Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets.<br>• Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction workers would be provided on-site or at additional off-site locations that are not on public streets.<br>• Identify of emergency access points/routes.<br>• Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.<br>• Require the contractor to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material, which may have been spilled, tracked, or blown onto adjacent streets or areas.<br>• All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays.<br>• Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer.<br>• Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users.<br>• Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer.<br>• Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site or on designated off-site parcels that would not adversely affect access to or parking within the downtown. |
| *Tribal Cultural Resources* | |
| **MM TCR-1** | **Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities**<br>A. The Project Applicant/Property Owner shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.<br>B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing activity, or the issuance of any permit necessary to commence a ground-disturbing activity.<br>C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered tribal cultural resources, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any |

# TABLE 1
# SUMMARY OF REGULATORY REQUIREMENTS AND MITIGATION MEASURES

| ID | Applicable Regulatory Requirements (RR) and Mitigation Measures (MM) |
|---|---|
| | discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the Project Applicant/City upon written request to the Tribe.<br><br>D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the project applicant/lead agency that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs. |
| **MM TCR-2** | **Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial)**<br><br>Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes. |
| **MM TCR-3** | **Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects**<br><br>A. Native American human remains are defined in Public Resources Code section 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.<br><br>B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.<br><br>C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).<br><br>D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.<br><br>E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance. |
| *Utilities and Service Systems* | |
| **RR UTIL-1** | The Project Applicant/Property Owner shall comply with all applicable regulations and restrictions set forth in the Arcadia Municipal Code, including Section 7472 regarding restrictions on discharges into the sewer and Section 5130 regarding achievement of annual waste diversion rates and other applicable requirements in compliance with but not limited to Assembly Bill 939, Assembly Bill 341, and Assembly Bill 1826. |
| **MM UTIL-1** | **Sewer Upsizing Fair Share Payment.** Prior to issuance of a Certificate of Occupancy permit for the Project, the Applicant/Property Owner shall make a fair share contribution of 9 percent of the total Santa Anita Avenue sewer upsizing project cost to the City's Development Services Department. This payment shall help fund replacing the existing sewer line in Santa Anita Avenue between Huntington Drive and Camino Real Avenue with 12-inch diameter pipelines. The Santa Anita Avenue sewer upsizing project shall be split into three phases and included in the City's 2024-25, 2025-26, and 2026-27 Capital Improvement Plan budgets, respectively. The sewer work will be completed by the City's Public Works Department by approximately the end of the 2026-27 Fiscal Year. A Certificate of Occupancy shall not be issued until all phases of the Santa Anita Avenue sewer upsizing project are fully implemented. This measure shall be implemented to the satisfaction of the City Public Works Services Department as appropriate. |

## 1.4 PROJECT REVIEW AND APPROVAL PROCESS

Pursuant to Section 15072 of the State CEQA Guidelines, a Notice of the Intent (NOI) to adopt an MND for the Project was sent on November 19, 2024, by the City to the public, applicable responsible and trustee agencies, and other agencies and organizations. The NOI and associated public review period has been filed by the County of Los Angeles Recorder's Office in Norwalk, published in the Arcadia Weekly, and mailed to the last known name and address of all organizations and individuals who have previously requested such notice in writing.

The Initial Study and Draft Mitigated Negative Declaration may be accessed on the City's website at www.arcadiaca.gov/projects. You may also review a copy in-person by visiting the following two locations during regular business hours: Arcadia City Hall - Planning Division (240 West Huntington Drive) and Arcadia Public Library (20 West Duarte Road).

In accordance with the requirements set forth in Sections 15073 and 15105 of the State CEQA Guidelines, this IS/MND will be available for public review and comment for 30 days from Thursday, November 21, 2024, through Friday, December 20, 2024. In reviewing the IS/MND, affected public agencies and the interested public should focus on the adequacy of the document in identifying and analyzing the Project's environmental impacts and the ways in which the potentially significant effects of the Project can be reduced or avoided.

Written comments must be received by 5:30 pm on Friday, December 20, 2024. Comments on the IS/MND must be sent in writing to Edwin Arreola, Senior Planner, ATTN: Arcadia Town Center Project, via email at EArreola@arcadiaca.gov or via by mail to the address listed below.

City of Arcadia Development Services Department
Edwin Arreola, Senior Planner
P.O. Box 60021, Arcadia, California 91066

Following receipt and evaluation of comments from agencies, organizations, and/or individuals that are received during the public review period, the City will determine whether any substantial new environmental issues have been raised that necessitate changes to the IS/MND in accordance with CEQA requirements. If so, further documentation, such as an environmental impact report (EIR) or recirculation of the IS/MND may be required. If not, the Project and the environmental documentation would be submitted to the City's Planning Commission and would subsequently be submitted to the City Council for consideration. In accordance with Section 15074 of the State CEQA Guidelines, prior to approving the Project, the City Council may consider the MND together with any comments received during the public review process. The City Council will adopt the proposed MND only if it finds on the basis of the whole record before it (including the initial study and any comments received), that there is no substantial evidence that the project will have a significant effect on the environment and that the MND reflects the City Council's independent judgment and analysis.

## 1.5 ORGANIZATION OF THIS INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

The IS/MND is organized into the following sections:

- **Section 1 – Introduction.** This section provides an overview of the purpose and conclusions of the IS/MND, as well as a discussion of the public review and approval process for the Project.
- **Section 2 – Environmental Setting and Project Description.** This section provides a description of the Project location; a discussion of the existing environmental setting of the Project site and vicinity; a description of the Project; and a list of discretionary approvals required for the Project.
- **Section 3 – Environmental Checklist Form.** This section contains a summary checklist with Project information and environmental factors potentially affected, as well as a signature block for the Lead Agency. This section also contains an analysis of the Project's environmental setting and environmental impacts. This section describes applicable RRs that the Project would comply with, which would minimize environmental impacts. This section also includes MMs that would be implemented to eliminate potentially significant effects or reduce potentially significant effects to a level considered less than significant. The environmental checklist form also includes "mandatory findings of significance" required by CEQA.
- **Section 4 – Report Preparers and Contributors.** This section identifies the individuals prepared and contributed to the preparation of the IS/MND.
- **Section 5 – References.** This section identifies references used in preparation of the IS/MND.

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# SECTION 2.0 ENVIRONMENTAL SETTING AND PROJECT DESCRIPTION

## 2.1 ENVIRONMENTAL SETTING

### 2.1.1 PROJECT LOCATION

The approximate 2.27-acre Project site is located at the northwest corner of Santa Anita Avenue and Huntington Drive in the downtown area of the City of Arcadia in Los Angeles County, California. Exhibit 1, Regional Location and Local Vicinity, depicts the Project site in the context of the local and regional roadway system. The southern portion of the Project site fronts Huntington Drive, a principal east-west travel corridor[1], and the eastern portion of the site fronts Santa Anita Avenue, a principal north-south travel corridor. The Project is located at 5-19 West Huntington Drive and 25-75 North Santa Anita Avenue. The Los Angeles County Metropolitan Transportation Authority (Metro) A Line (formerly L Line and Gold Line) alignment and the Arcadia Station are both located approximately 950 feet (ft) northeast of the Project site, near the intersection of North First Avenue and Santa Clara Street. The Project site can be regionally accessed from the eastbound/westbound Interstate 210 (I-210; Foothill Freeway), located approximately 0.4 mile north and northwest of the Project site, with freeway access ramps via the Santa Anita Avenue interchange to the north and the Huntington Drive interchange to the east.

The City is surrounded by other municipalities, including City of Sierra Madre to the north; City of Monrovia to the east; City of Temple City and El Monte to the south; and City of Pasadena and the unincorporated communities of East Pasadena and East San Gabriel to the west.

### 2.1.2 EXISTING PROJECT SITE CONDITIONS

The Project site consists of five contiguous parcels (Assessor Parcel Numbers [APNs] 5775-025-032, -033, -034, -037, and -038). Exhibit 2, Aerial Photograph, depicts the existing on-site and surrounding land uses. The Project site contains a total of 11 existing commercial buildings and associated surface parking lots. The existing structures within the Project site are all one story high except for the building in the northeastern corner, which is two stories in height. There are eight vehicular access points to the existing uses including four on Huntington Drive to the south, two on Santa Anita Avenue to the east, and two on Morlan Place to the north. There are existing 5-foot-wide to 10-foot-wide sidewalks along Huntington Drive, Santa Anita Avenue, and Morlan Place adjacent to the Project site. Table 2, Summary of Existing Land Uses, on the following page, provides the address, APN, and size of the 11 existing buildings on the site.

The Project site contains limited ornamental landscaping and trees located along the site perimeters and adjacent to some of the existing structures. A total of 26 trees are present on the Project site (23 trees) or the adjacent public right-of-way (ROW) (3 trees) along Huntington Drive and Santa Anita Avenue. Of these, there are a total of 3 trees along the eastern frontage of the site that meet the City's requirements for consideration as a Protected Tree under the City's Tree Preservation Ordinance (Section 9110.01.030 of the Development Code). These trees include two evergreen pears (*Pyrus kawakamii*) and one sour gum (*Nyssa sylvatica*). There are 3 London plane trees (*Platanus* × *hispanica*) within the public ROW of Huntington Drive. These are not subject to the Tree Preservation Ordinance, being on public property, and are protected pursuant to the City's Comprehensive Tree Management Program (Section 9800 et. seq. of the AMC).

[1] A principal travel corridor is a term used for roadways with a capacity to carry the highest volumes of vehicles (in the range of 22,000 to 35,000 vehicles daily) that generally connect adjacent cities and are typically four-lane streets.




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# Regional Location and Local Vicinity

Exhibit 1

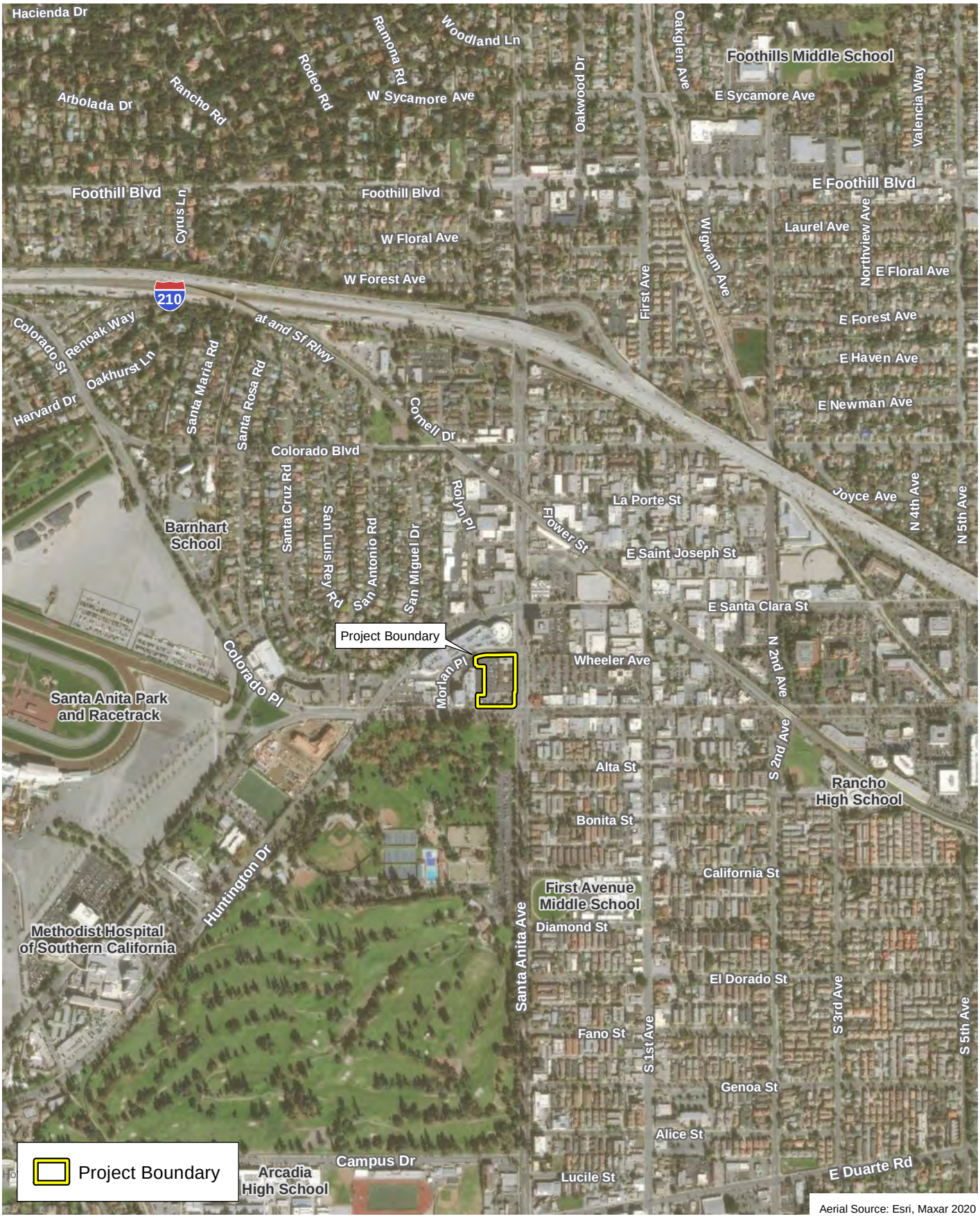
*Arcadia Town Center*

N W E S

1,000 500 0 1,000 Feet

PSOMAS

(Rev: 10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_LV_RL.pdf




Aerial Source: Esri, Maxar 2020

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# Aerial Photograph

Exhibit 2

*Arcadia Town Center*

N W E S

1,000 500 0 1,000 Feet

PSOMAS

(Rev: 10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Aerial.pdf

**TABLE 2**
**SUMMARY OF EXISTING LAND USES**

| Building No. and Address | Assessor Parcel Number | Building Size (sf) |
|---|---|---|
| 1. (25-75 Santa Anita Avenue) | 5775-025-037 | 4,278 |
| 2. (25-75 Santa Anita Avenue) | | 1,903 |
| 3. (25-75 Santa Anita Avenue) | | 1,005 |
| 4. (25-75 Santa Anita Avenue) | | 836 |
| 5. (25-75 Santa Anita Avenue) | | 3,929 |
| 6. (25-75 Santa Anita Avenue) | | 2,755 |
| 7. (25-75 Santa Anita Avenue) | | 3,843 |
| 8. (11 Huntington Drive) | 5775-025-034 | 889 |
| 9. (15 Huntington Drive) | 5775-025-033 | 780 |
| 10. (19 Huntington Drive) | 5775-025-032 | 3,188 |
| 11. (5 Huntington Drive) | 5775-025-038 | 1,575 |
| | **Total Existing Building Area** | **24,981** |
| sf: square feet | | |

The Project site is relatively flat with a gentle slope that trends to the south. Elevations within the Project site range from approximately 483 feet above mean sea level (msl) along the northern boundary of the Project site to approximately 473 feet above msl along the southwest corner of the Project site.

### 2.1.3 SURROUNDING AREA CONDITIONS

As shown on Exhibit 2, the Project site is located within a fully developed portion of the City and is surrounded to the north, east, and west by existing urban development, consisting of retail, a restaurant, a donut shop, coffeehouse, offices, an Elks Lodge, the Rusnak Mercedez-Benz of Arcadia dealership, and associated surface parking. Single-family residential uses are located approximately 410 feet or more to the northwest of the Project site across Santa Clara Street and the car dealership, and multi-family residential uses are located approximately 280 feet or more to the southeast of the Project site along Santa Anita Avenue. Arcadia County Park is located immediately to the south of the Project site across Huntington Drive.

Most of the structures that are adjacent to the Project site are one to two stories in height with heights ranging from 14 feet to 37 feet, with some taller structures interspersed. Within the immediate viewshed of the Project site, there is a 5-story storage building on Huntington Drive approximately 120 feet west of the Project site at 35 West Huntington Drive, and an 8-story office building on Santa Anita Avenue approximately 200 feet northeast of the site at 150 North Santa Anita Avenue. The former Van de Kamp's Bakery building, which is now a Denny's restaurant, is located east of the Project site at the northeast corner of Huntington Drive and Santa Anita Avenue. The Denny's restaurant exhibits variable heights with a single-story main building topped by a 40-foot-tall stylized, operational, windmill.

In the Project site vicinity, Huntington Drive is a four-lane divided road with dedicated turn lanes; Santa Anita Avenue is a four-lane divided road with dedicated turn lanes; Morlan Place is a two-lane road connecting Huntington Drive and Santa Anita Avenue; and Santa Clara Street is a four-lane undivided road with dedicated turn lanes. Street parking is permitted on the north side of Huntington Drive, on the west side of Santa Anita Avenue, and on either side of Morlan Place. There is no street parking permitted on the south side of Santa Clara Street.

### 2.1.4 RELEVANT PLANNING CONSIDERATIONS

**City of Arcadia**

All parcels within the Project site (APNs 5775-025-032, -033, -034, -037, and -038) have a land use designation of Downtown Mixed-Use (DMU) and are zoned as Downtown Mixed-Use (DMU). According to applicable design standards, all parcels within the Project site are permitted a maximum building height of 60 feet with an additional 10-foot height allowance for mechanical equipment (e.g., elevators, stairways, tanks, ventilating fans, heating, cooling and air conditioning equipment) provided no area above the maximum height is used to provide additional floor space (Sections 9102.05.030 and 9103.01.060 of the Arcadia Development Code). The Project site permits a maximum residential density of 80 units per acre, and maximum Floor Area Ratio (FAR) of 1.0 applicable only to the non-residential component of a development. The Project would advance the City's goal as embodied in the General Plan of providing the residential uses necessary to support and complement the existing and proposed businesses in the downtown area as well as the nearby Metro A Line Station. A goal of the Project is to transform the Project site within the City's downtown into a more vibrant, dynamic, transit- and pedestrian-oriented mixed-use development consistent with the Arcadia General Plan (General Plan) and related development standards and requirements.

**Southern California Association of Governments**

Because of its proximity to the Metro A Line Station, the Project site is within both a Transit Priority Area (TPA) as defined under Senate Bill (SB) 743 (Section 21099 of the Public Resources Code), as the geographic area within 0.5-mile of a major transit stop included in a regional transportation plan; and a High Quality Transit Area (HQTA) as defined under SB 375 and codified in the Public Resources Code, as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. For the City of Arcadia, these areas are identified by the Southern California Association of Governments (SCAG)[2] and its *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020 RTP/SCS), adopted by SCAG's Regional Board on September 3, 2020.

Additionally, the Project qualifies as a Transit Priority Project (TPP), defined under SB 375 (Section 21155 of the Public Resources Code) as a development (1) that is consistent with land use regulations (e.g., land use designations, zoning); (2) contains at least 50 percent residential use based on the total building square footage or, if between 26 and 50 percent non-residential uses, an FAR of at least 0.75; (3) a minimum net density of at least 20 dwelling units per acre (du/ac); and (4) is located within ½-mile of a local transit stop or a high quality transit corridor. The Project is consistent with the land use designations and zoning for the site, has approximately 79 percent residential and residential-related amenities, and a density of 79.7 du/ac.

[2] SCAG is the Metropolitan Planning Organization (MPO) serving six of the ten southern California counties of Los Angeles, Orange, San Bernardino, Riverside, Imperial, and Ventura.

## 2.2 PROJECT DESCRIPTION

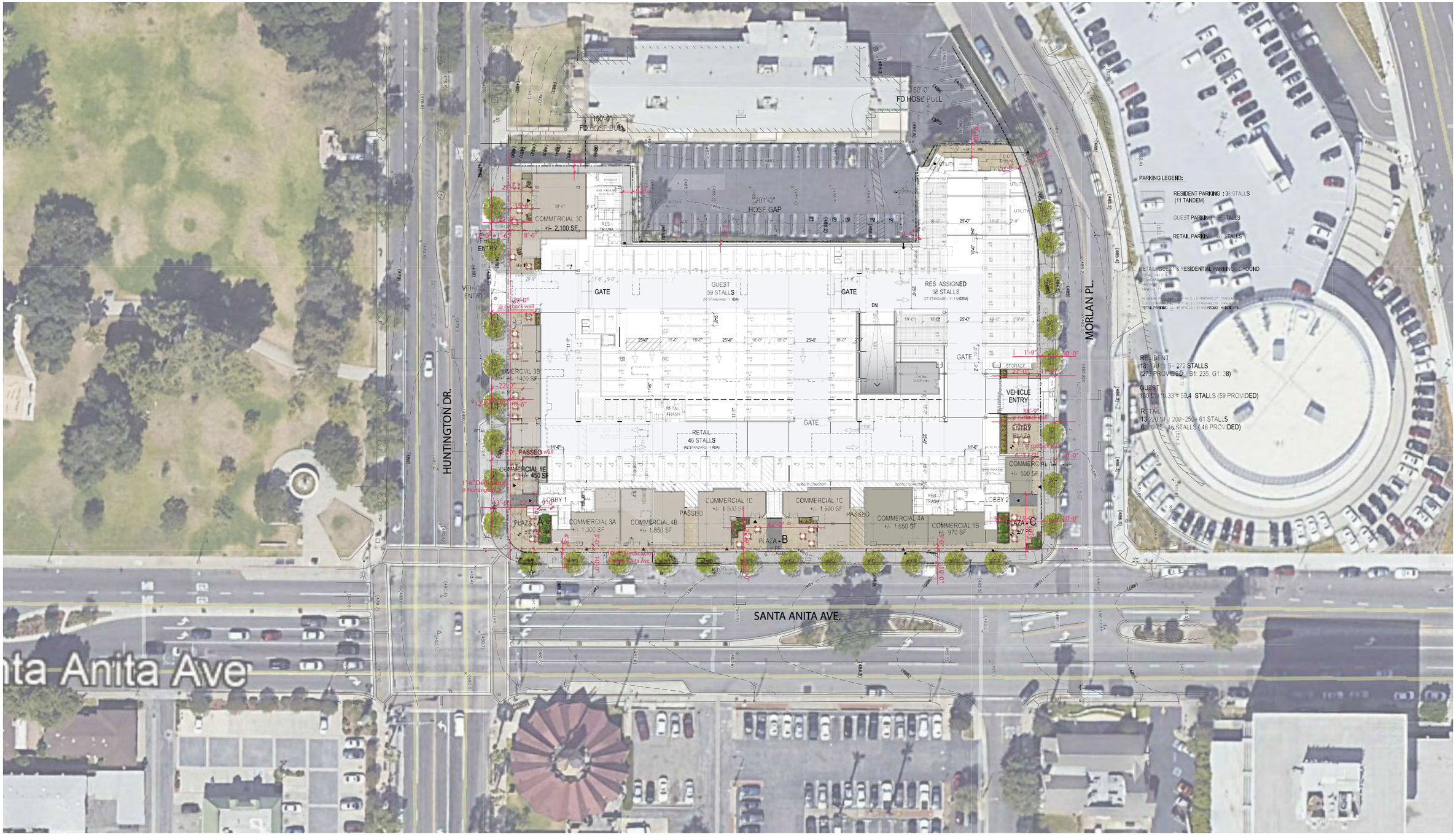
### 2.2.1 OVERVIEW

The Project includes preparation of a tract map to consolidate the five separate parcels encompassing 2.27 acres into a single legal lot of 2.19 net acres, after ROW dedications on Santa Anita Avenue and Huntington Drive; and subdivide the airspace for the residential condo units. The Applicant/Property Owner proposes construction of a mixed-use development consisting of one 440,938 sf, five story (above ground) building with one level of subterranean parking and one level of ground level parking. The Project includes 181 residential units; 3,890 sf of residential amenities; 38,713 sf of public and private open space; 13,130 sf of ground-floor commercial uses facing toward Huntington Drive and Santa Anita Avenue; and 378 parking spaces.

The Project would include four public plazas and additional outdoor seating on the ground level near commercial uses; residential amenities on Levels 2 through 4 including a swimming pool, recreation center, fitness center, and two clubhouses; private landscape and hardscape features on Levels 2, 4, and 5; and connections to off-site utilities. The Project would provide a total of 378 parking spaces on Level 1 (ground level) and Level B1 (subterranean), including 273 resident spaces, 59 guest spaces, and 46 commercial spaces; and a total of 43 bicycle parking stalls, with 40 resident/long-term stalls and 3 retail/short-term stalls. All existing development and ancillary uses (e.g., surface parking, dividing walls, landscaping) would be demolished with Project implementation. The Project site plan and floor plans are presented on Exhibit 3, Illustrative Site Plan; Exhibit 4, Level B1 Plan; Exhibit 5, Level 1 (Ground Level) Plan; Exhibit 6, Level 2 Plan; Exhibit 7, Level 3 Plan; Exhibit 8, Level 4 Plan; Exhibit 9, Level 5 Plan; and Exhibit 10, Roof Plan. The Project elevations, sections, and perspective views, respectively, are presented on Exhibits 11a and 11b, Proposed Project Elevations; Exhibits 12a and 12b, Proposed Project Sections; and Exhibits 13a through 13d, Proposed Project Perspective Views.

### 2.2.2 PROJECT COMPONENTS

The Project would include 181 multifamily residential units, including 41 one-bedroom units, 108 two-bedroom units, and 32 three-bedroom units. Six of the two-bedroom units will be two-stories and the remaining residential units would be one story. A breakdown of the mix of units is summarized in Table 3, Project Residential Unit Summary. Exhibits 6 through 9 depict that layout of residential units on Levels 2 through 5.




Source: New World International Investment LLC 2022

# Illustrative Site Plan

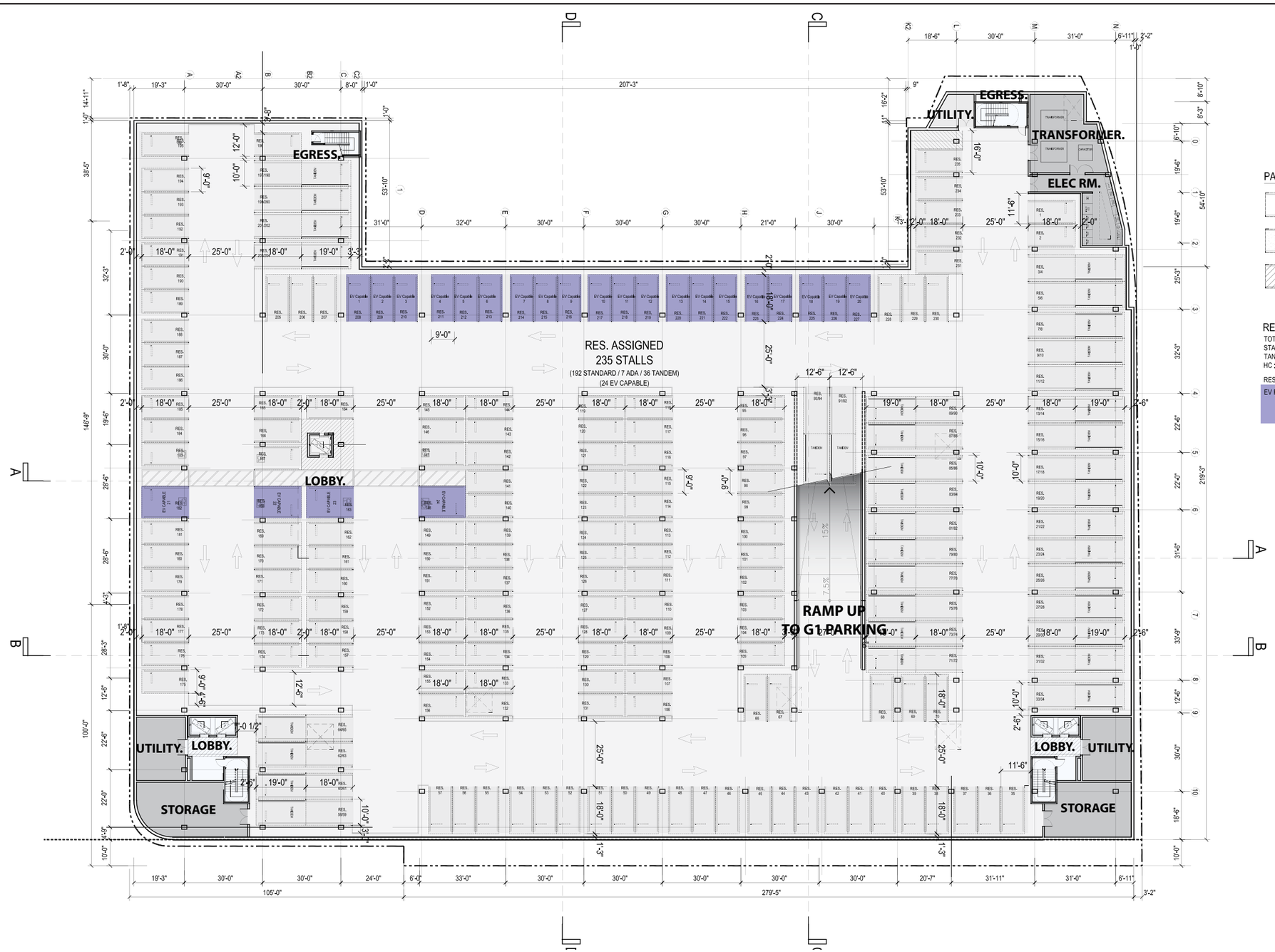
Exhibit 3

*Arcadia Town Center Project*

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PARKING LEGEND:

- RESIDENT PARKING : 235 STALLS
- GUEST PARKING
- RETAIL PARKING

RESIDENTIAL PARKING - BASEMENT 1

TOTAL : 235 STALLS
STANDARD : 192
TANDEM : 36
HC : 7

RESIDENTIAL PARKING : 235 STALLS ( STANDARD: 192, TANDEM: 36 HANDICAP: 7)

EV READINESS ( EV CAPABLE): 24 STALLS

| LEVEL B1 | | |
|---|---|---|
| BUILDING AREA: | 92,497 | SF |
| MVP: | 1,160 | SF |
| MEP: | 2,702 | SF |
| LOADING/ TRASH/ STORAGE: | 1,564 | SF |
| PARKING | 87,071 | SF |
| GRSF: | - | SF |
| NRSF: | - | SF |
| TOTAL PARKING: | 235 | SPACES |

Source: New World International Investment and Humphreys & Partners Architects 2022

# Level B1 Plan

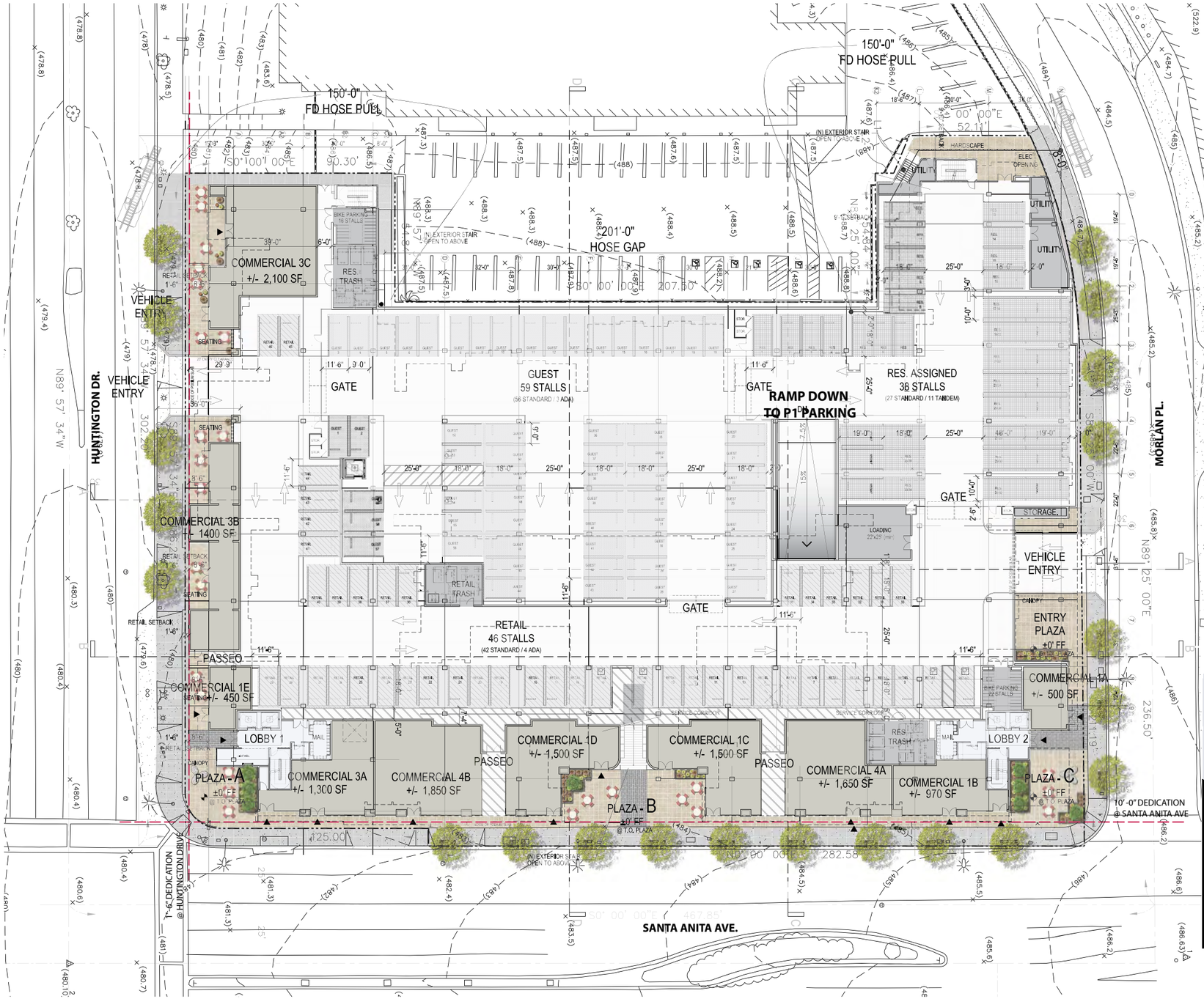
Exhibit 4

*Arcadia Town Center Project*

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| RESIDENTIAL TRASH | | Food | Green | Recycle | Trash |
|---|---|---|---|---|---|
| Total Generation | (yd3/week) | 0.0 | 0.0 | 56.3 | 56.3 |
| | (gallons) | 0 | 0 | 11375 | 11361 |
| Container Size | | 65 gallon cart | | 4 yd3 dumpster | 4 yd3 dumpster |
| Quantity | | 2 | | 4 | 4 |
| Frequency (pickups per week) | | 0 | | 4 | 4 |

| RETAIL TRASH ENCLOSURE | | Food | Green | Recycle | Trash |
|---|---|---|---|---|---|
| Total Generation | (yd3/week) | 6.4 | 0.0 | 23.2 | 21.0 |
| | (gallons) | 1301 | 0 | 4676 | 4241 |
| Container Size | | 65 gallon cart | | 4 yd3 dumpster | 4 yd3 dumpster |
| Quantity | | 6 | | 2 | 2 |
| Frequency (pickups per week) | | 4 | | 3 | 3 |

**Ground LEVEL**

| | | |
|---|---|---|
| BUILDING AREA: | 83,983 | SF |
| MVP: | 1,133 | SF |
| MEP: | 806 | SF |
| DECK: | - | SF |
| LOADING/ TRASH/ STORAGE: | 3,200 | SF |
| LOBBY: | 1,214 | SF |
| RETAIL: | 13,437 | SF |
| PARKING | 64,193 | SF |
| GRSF: | - | SF |
| NRSF: | - | SF |
| TOTAL PARKING: | 143 | SPACES |

Source: New World International Investment 2022

# Level 1 (Ground Level) Plan

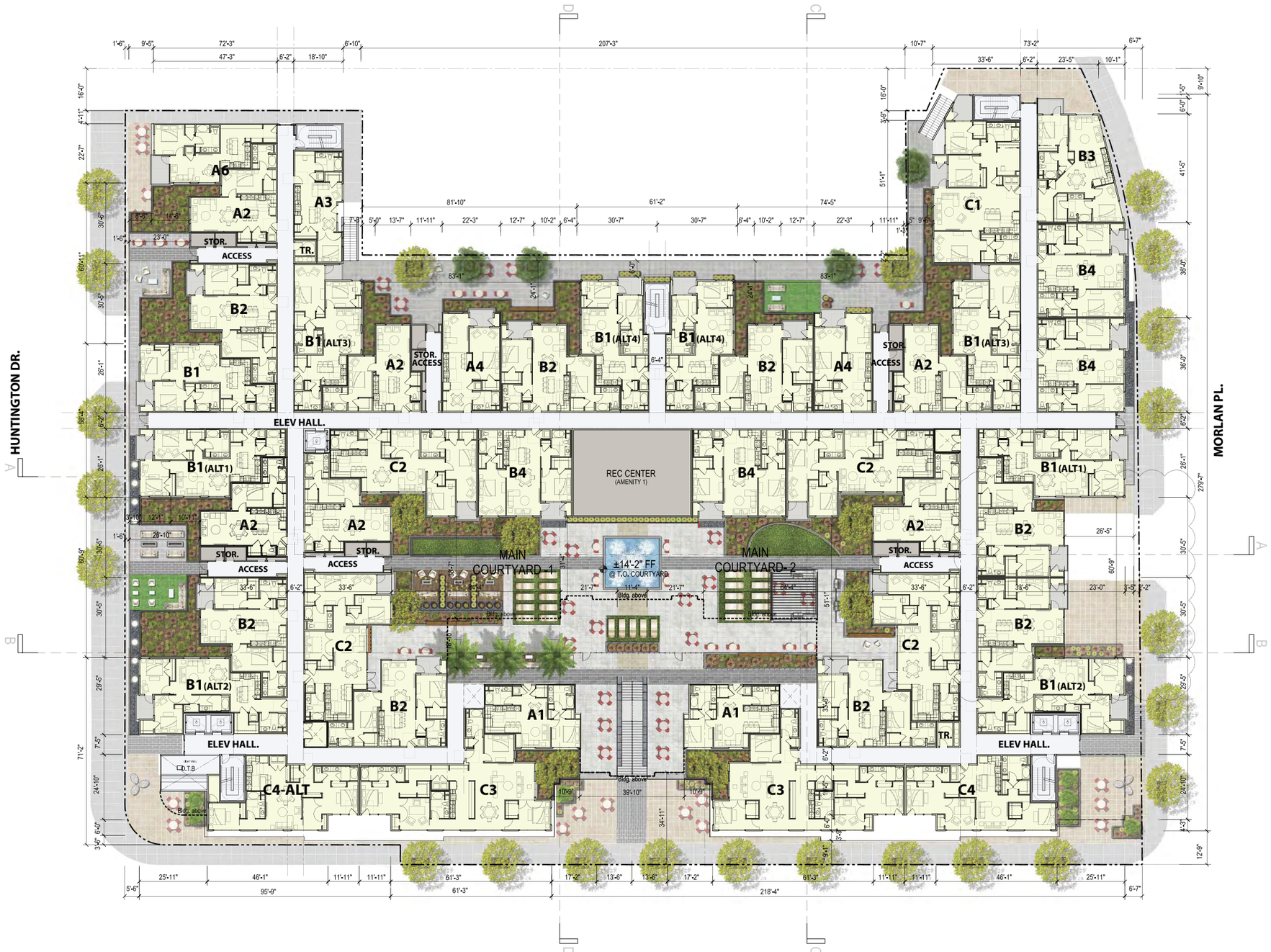
Exhibit 5

*Arcadia Town Center Project*

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| LEVEL 2 | | |
|---|---|---|
| BUILDING AREA: | 63,938 | SF |
| MVP: | 1,317 | SF |
| MEP: | 324 | SF |
| DECK: | 1,903 | SF |
| AMENITY: | 1,524 | SF |
| TRASH/ STORAGE: | 955 | SF |
| GRSF: | 57,915 | SF |
| CIRCULATION: | 8,768 | SF |
| NRSF (FOR SALE): | 49,147 | SF |
| EFFICIENCY: | 84.9% | |
| TOTAL CONDO UNITS: | 43 | UNIITS |

Source: New World International Investment 2022

# Level 2 Plan

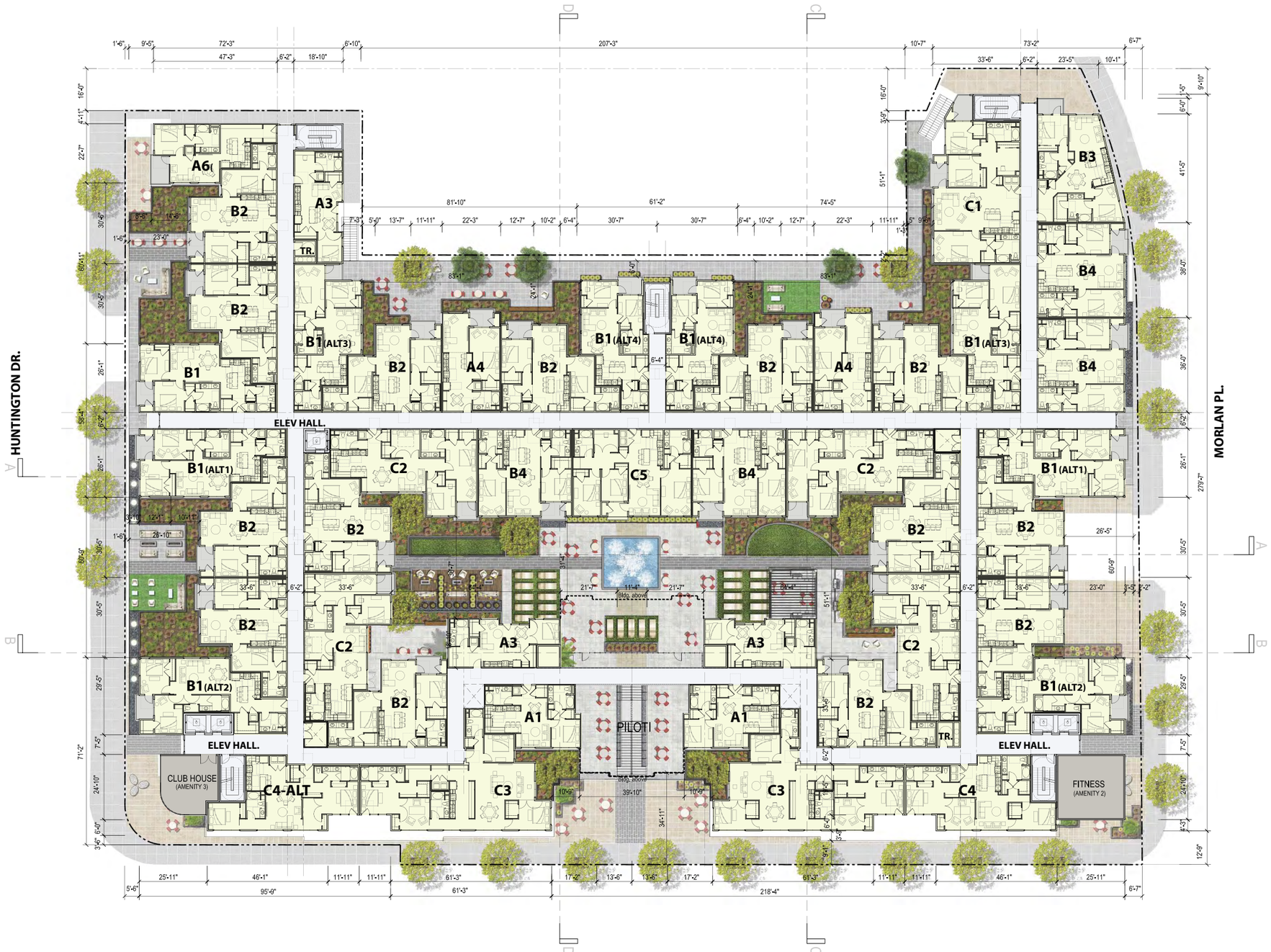
Exhibit 6

*Arcadia Town Center Project*

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| LEVEL 3 | | |
|---|---|---|
| BUILDING AREA: | 67,080 | SF |
| MVP: | 1,317 | SF |
| MEP: | 324 | SF |
| DECK: | 2,337 | SF |
| AMENITY: | 1,118 | SF |
| TRASH/ STORAGE: | 169 | SF |
| GRSF: | 61,815 | SF |
| CIRCULATION: | 7,933 | SF |
| NRSF (FOR SALE): | 53,882 | SF |
| EFFICIENCY: | 87.2% | |
| TOTAL CONDO UNITS: | 46 | UNITS |

Source: New World International Investment 2022

# Level 3 Plan

Exhibit 7

*Arcadia Town Center Project*

PSOMAS

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| LEVEL 4 | | |
|---|---|---|
| BUILDING AREA: | 68,642 | SF |
| MVP: | 1,317 | SF |
| MEP: | 324 | SF |
| DECK: | 4,277 | SF |
| AMENITY: | 1,030 | SF |
| TRASH/ STORAGE: | 169 | SF |
| GRSF: | 61,525 | SF |
| CIRCULATION: | 8,065 | SF |
| NRSF (FOR SALE): | 53,460 | SF |
| EFFICIENCY: | 86.9% | |
| TOTAL TOWN UNITS: | 6 | UNIITS |
| TOTAL CONDO UNITS: | 43 | UNIITS |

Source: New World International Investment 2022

# Level 4 Plan

Exhibit 8

*Arcadia Town Center Project*

PSOMAS

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| LEVEL 5 | | |
|---|---|---|
| BUILDING AREA: | 67,633 | SF |
| MVP: | 1,317 | SF |
| MEP: | 324 | SF |
| DECK: | 4,510 | SF |
| AMENITY: | 248 | SF |
| TRASH/ STORAGE: | 169 | SF |
| GRSF: | 61,313 | SF |
| CIRCULATION: | 8,049 | SF |
| NRSF (FOR SALE): | 53,264 | SF |
| EFFICIENCY: | 86.9% | |
| TOTAL TOWN UNITS: | - | UNIITS |
| TOTAL CONDO UNITS: | 43 | UNIITS |

Source: New World International Investment 2022

# Level 5 Plan

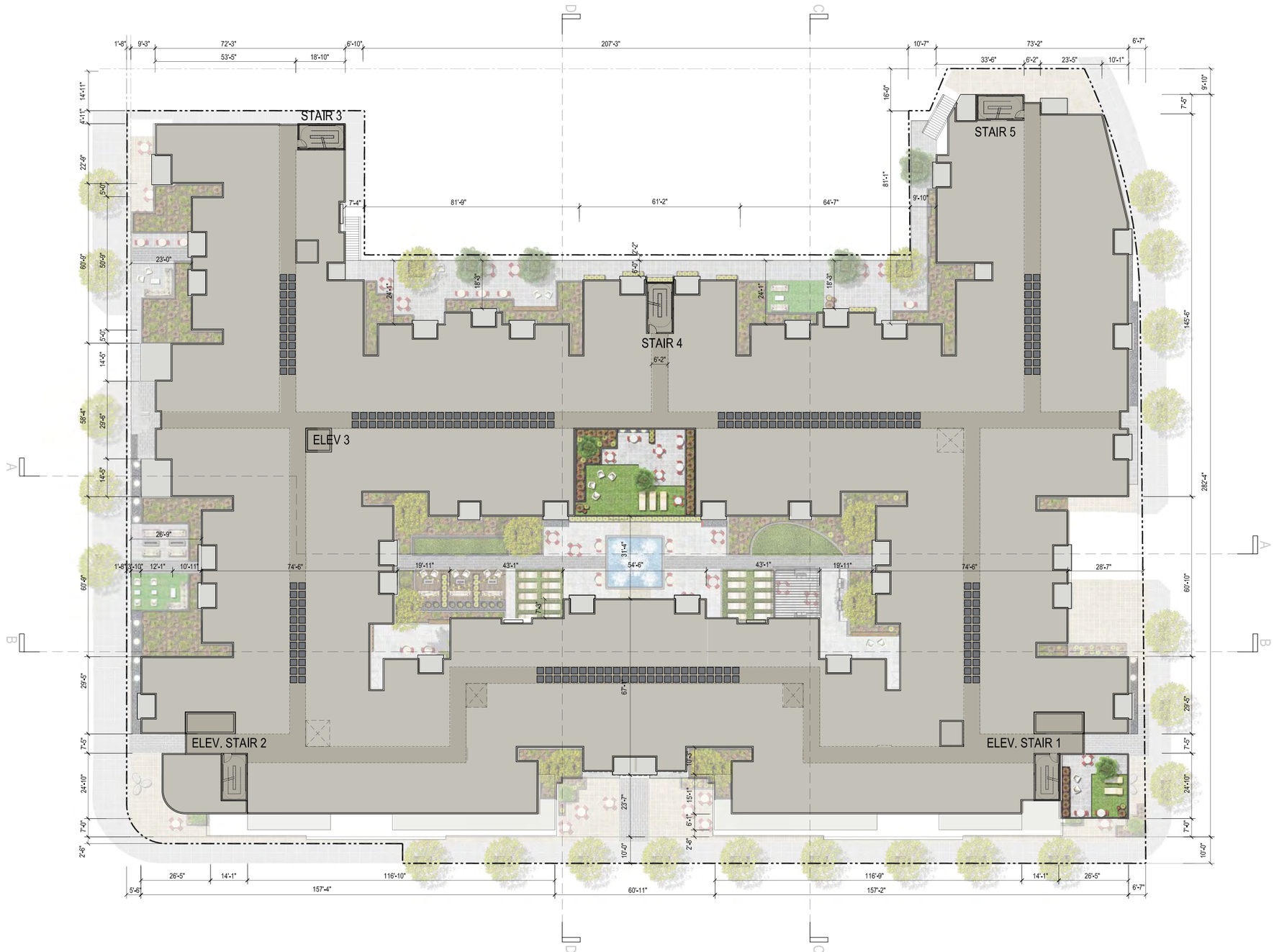
Exhibit 9

*Arcadia Town Center Project*

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Source: New World International Investment 2022

# Roof Plan

## Exhibit 10

*Arcadia Town Center Project*

PSOMAS

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1. EAST ELEVATION : VIEW SANTA ANITA AVE.




2. NORTH ELEVATION : VIEW FROM MORLAN PL.

Source: New World International Investment 2022

# Proposed Project Elevations

Exhibit 11a

*Arcadia Town Center Project*

PSOMAS

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3. SOUTH ELEVATION : VIEW HUNTINGTON DRIVE.




4. WEST ELEVATION : FACING NEIGHBOR RESTAURANT

Source: New World International Investment 2022

# Proposed Project Elevations

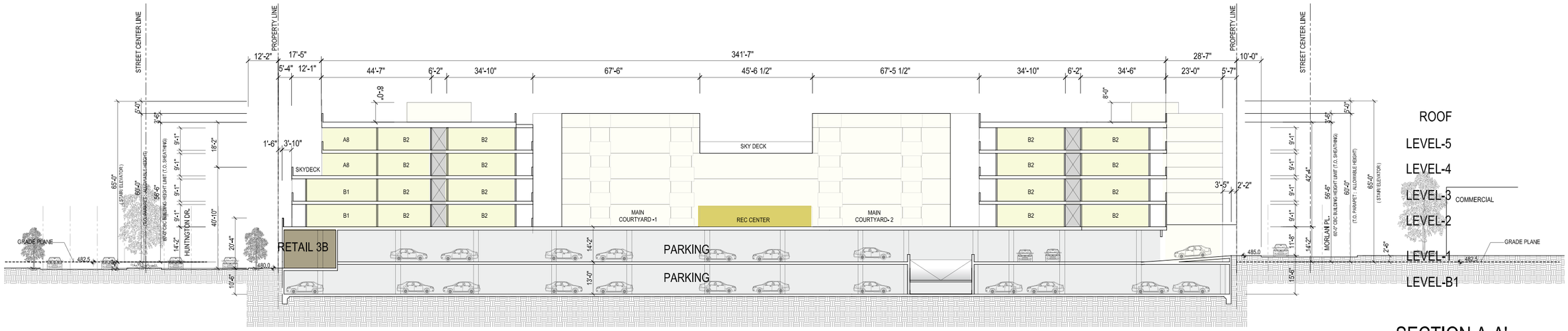
Exhibit 11b

*Arcadia Town Center Project*

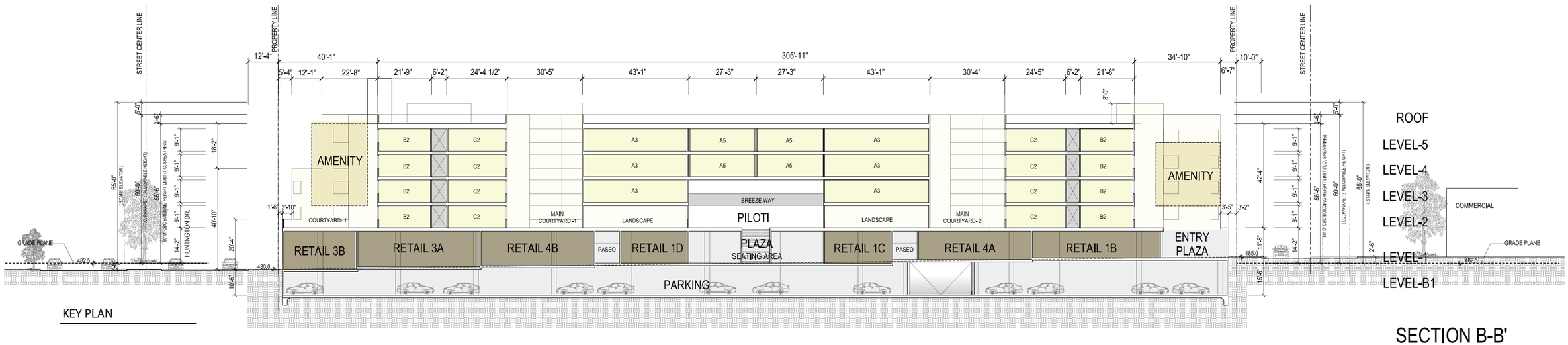
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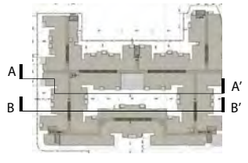



SECTION A-A'




SECTION B-B'

KEY PLAN




Source: New World International Investment 2022

# Proposed Project Sections

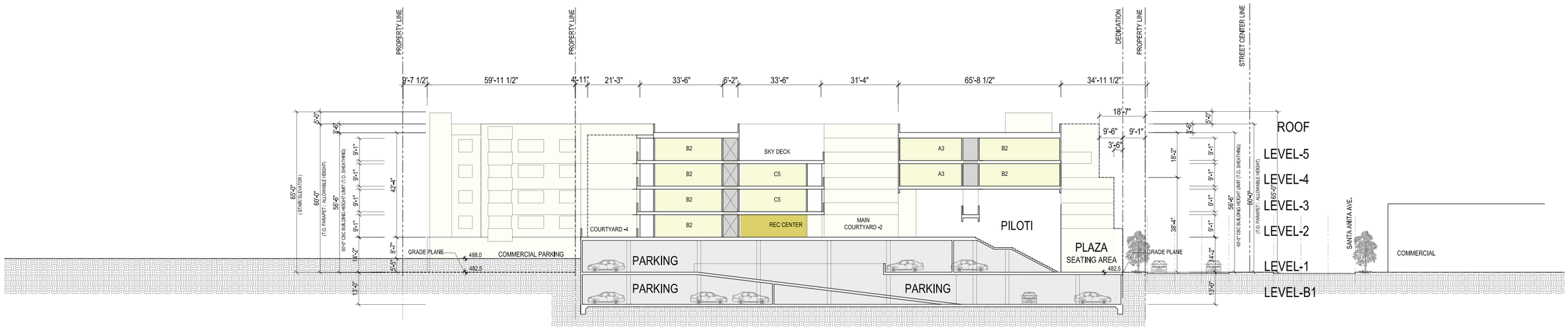
*Arcadia Town Center Project*

Exhibit 12a

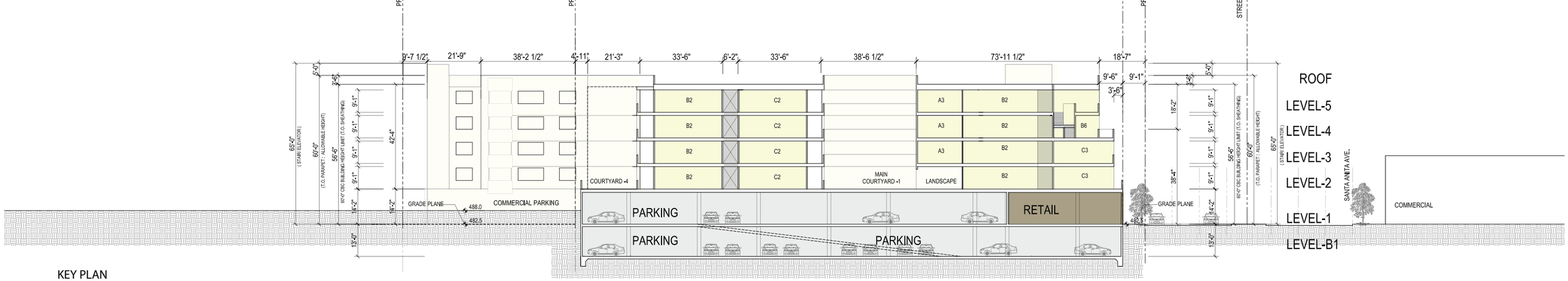
PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Sections.pdf

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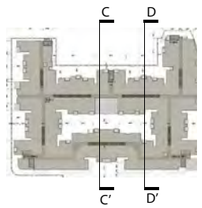



SECTION C-C'




SECTION D-D'

KEY PLAN




Source: New World International Investment 2022

# Proposed Project Sections

Exhibit 12b

*Arcadia Town Center Project*

PSOMAS

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1 : AERIAL PERSPECTIVE VIEW




2 : AERIAL PERSPECTIVE VIEW




3 : CORNER AERIAL PERSPECTIVE VIEW




4 : VIEW FROM ARCADIA COUNTY PARK

Source: New World International Investment 2022

# Proposed Project Perspective Views

Exhibit 13a

*Arcadia Town Center Project*

PSOMAS

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1 : MAIN CORNER VIEW FROM SANTA ANITA AVE. & MORLAN PL.







2 : CORNER VIEW FROM SANTA ANITA AVE. & HUNTINGTON DR.

Source: New World International Investment 2022

# Proposed Project Perspective Views

Exhibit 13b

*Arcadia Town Center Project*

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Perspective.pdf

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1 : VIEW OF SANTA ANITA AVE. CENTRAL PLAZA AND STREET SCAPE







2 : LOOKING WEST FROM SANTA ANITA / MID-BLOCK PODIUM CONNECTION




3 : LOOKING NORTH FROM SANTA ANITA AVE. RETAIL & STREET SCAPE

Source: New World International Investment 2022

# Proposed Project Perspective Views

Exhibit 13c

*Arcadia Town Center Project*

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Perspective.pdf

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1 : LOOKING EAST FROM HUNTINGTON DR.







2 : LOOKING WEST FROM HUNTINGTON DR. MAIN ENTRY




3 : VIEW OF HUNTNGTON DR. FROM ARCADIA COUNTY PARK

Source: New World International Investment 2022

# Proposed Project Perspective Views

Exhibit 13d

*Arcadia Town Center Project*

PSOMAS

(10/31/2022 JVR) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Proposed_Perspective.pdf

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**TABLE 3**
**PROJECT RESIDENTIAL UNIT SUMMARY**

| Unit Type | Net Space per Unit (sf) | Number of Units | Total Area by Unit (sf) | Deck Area per Unit (sf) |
|---|---|---|---|---|
| A1 | 808 | 4 | 3,232 | 0 |
| A2 | 842 | 6 | 5,052 | 0 |
| A3 | 709 | 4 | 2,836 | 0 |
| A3-alt1 | 788 | 6 | 4,728 | 0 |
| A4 | 796 | 8 | 6,368 | 58 |
| A5 | 713 | 6 | 4,278 | 58 |
| A6 | 791 | 4 | 3,164 | 76 |
| A7 | 930 | 2 | 1,860 | 0 |
| A8 | 1,030 | 1 | 1,030 | 0 |
| ***Unit A (One Bedroom) Subtotals*** | | ***41*** | ***32,548*** | ***N/A*** |
| B1 | 1,108 | 2 | 2,216 | 58 |
| B1-alt1 | 1,207 | 6 | 7,242 | 58 |
| B1-alt2 | 1,236 | 8 | 9,888 | 58 |
| B1-alt3 | 1,170 | 8 | 9,360 | 36 |
| B1-alt4 | 999 | 8 | 7,992 | 58 |
| B2 | 1,128 | 50 | 56,400 | 58 |
| B3 | 1,180 | 4 | 4,720 | 61 |
| B4 | 1,157 | 16 | 18,512 | 58 |
| B5 TH1 | 1,398 | 2 | 2,796 | 267 |
| B6 TH1 | 1,529 | 4 | 6,116 | 188 |
| ***Unit B (Two Bedroom) Subtotals*** | | ***108*** | ***125,242*** | ***N/A*** |
| C1 | 1,724 | 4 | 6,896 | 130 |
| C2 | 1,443 | 20 | 28,860 | 52 |
| C3 | 2,014 | 4 | 8,056 | 0 |
| C4 | 1,329 | 2 | 2,658 | 0 |
| C4-alt1 | 1,246 | 2 | 2,492 | 0 |
| ***Unit C (Three Bedroom) Subtotals*** | | ***32*** | ***48,962*** | ***N/A*** |
| **Project Totals** | | **181** | **206,752** | **9,714** |

sf: square feet
Source: New World International Investment, LLC 2022.

The Project would include 13,130 sf of ground-level commercial space that would be divided amongst 10 separate units ranging in size from approximately 500 sf to 2,100 sf, as depicted on Exhibits 3 and 5. The commercial spaces are anticipated to be developed with retail, restaurant, and/or office professional uses. As noted previously, in conjunction with the commercial uses, four public plazas and additional ground-level seating areas would be constructed, as discussed further below.

### 2.2.3 DEVELOPMENT CHARACTERISTICS

**Building Design**

Views of the Project design from various vantage points showing the size, scale, appearance, and key features are presented on Exhibits 11a and 11b, Exhibits 12a and 12b, and Exhibits 13a through 13e, above. The height of the proposed building is depicted on Exhibits 11a, 11b, 12a, and 12b. As shown, when measured from the grade plan (482.5 feet above msl), the Project would be constructed to a height of 60 feet to the top of the parapet and up to 65 feet when including stair well and elevator overruns. The five-story building would be constructed above one level of subterranean parking. As shown on Exhibits 14a through 14d, Material Finishes, the exterior of the building would include sand finish plaster walls in a coordinating mix of tans; stamped concrete; crown molding; fiber cement pattern veneer; fiber cement facade panel in two shades; painted metal tube steel railing with glass insert or painted metal tube steel railing with vertical pickets; bronze finish vinyl window casings; extruded metal openings; painted metal awnings, some with louvers and signage; painted awnings; anodized aluminum storefront windows; single-glazed vertical and horizontal glass facade system; and high performance garage doors. The Project is designed to activate the street-level conditions by orienting the Project's commercial uses as well as three of the public plazas and additional seating toward the Huntington Drive and Santa Anita Avenue streetscapes.

The Land Use and Community Design Element of the City's General Plan identifies Arcadia County Park and the nearby Metro A Line Station as Activity Nodes, which are defined as "places of pedestrian activity and excitement. These are places where people congregate, socialize, and shop. Activity Nodes are also places where residents can leisurely stroll, participate in a recreational activity, or relax and experience the outdoors". Additionally, the General Plan identifies the Huntington Drive and Santa Anita Avenue intersection as a Focal Intersection, which occurs at junctions of Major Corridors. Focal Intersections are important focal points of the community, which provide visual anchors, points of interest, and enhanced pedestrian connections (Arcadia 2010a). The City's General Plan states the following standards should be applied at all Focal Intersections:

- Buildings at Focal Intersections should be of the highest architectural quality to make them memorable and recognizable.
- Buildings should be oriented toward public streets and spaces to make the public space vibrant and pedestrian friendly.
- Activities that attract or generate pedestrian traffic such as cafés, retail functions, and public art are highly desirable at Focal Intersections. Define prominent intersections by locating new buildings or other structures closer to the street and defining the intersection space.
- Main building entrances of corner buildings should be close to the corner.
- Intersections should include raised crosswalks with textured materials to help improve pedestrian visibility and reduce pedestrian/vehicle conflicts.

Of the above standards, all but one is related to design. The last standard is related to City infrastructure and is outside of a developer's authority to implement.

Consistent with the Project site's proximity to two Activity Nodes and a Focal Intersection, the Project would include ground level commercial uses on Huntington Drive and Santa Anita Avenue; four pedestrian-scaled outdoor plazas that open the Project to the Huntington Drive, Santa Anita Avenue, and Morlan Place streetscapes; additional outdoor seating associated with the

NUMBERS DENOTE MATERIALS



1. EXT. PLASTER SAND FINISH



2. STAMPED CONCRETE



3. CROWN MOULDING



4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET



5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT




6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE



7. PAINTED AWNING



8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR



9. ALUMINUM STOREFRONT ANODIZED



10. FIBER CEMENT PATTERN VENEER



11. METAL EXTRUDED OPENING



12. FIBER CEMENT FACADE PANEL



13. FIBER CEMENT FACADE PANEL



14. HIGH PERFORMANCE GARAGE DOOR



15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM ( U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS



A. DUNN EDWARDS CRYSTAL WHITE



B. DUNN EDWARDS ASPEN



C. DUNN EDWARDS MISTY



D. DUNN EDWARDS SANTA FE



F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL




VIEW OF HUNTINGTON DRIVE.

Source: New World International Investment 2022

# Material Finishes

Exhibit 14a

*Arcadia Town Center Project*

PSOMAS

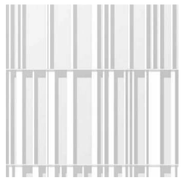
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NUMBERS DENOTE MATERIALS



1. EXT. PLASTER SAND FINISH



2. STAMPED CONCRETE



3. CROWN MOULDING



4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET



5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT




6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE



7. PAINTED AWNING



8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR



9. ALUMINUM STOREFRONT ANODIZED



10. FIBER CEMENT PATTERN VENEER



11. METAL EXTRUDED OPENING



12. FIBER CEMENT FACADE PANEL



13. FIBER CEMENT FACADE PANEL



14. HIGH PERFORMANCE GARAGE DOOR



15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM ( U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS



A. DUNN EDWARDS CRYSTAL WHITE



B. DUNN EDWARDS ASPEN



C. DUNN EDWARDS MISTY



D. DUNN EDWARDS SANTA FE



F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

6 10 2 15 1B 6 7 1E 3 2 5 10 9 13 1C 12 6 9 5 1B 13 12 7 6 8 9 13 12 1A 2 5 9 3 8 1C 1B 6 9 2




VIEW OF SANTA ANITA AVE.

Source: New World International Investment 2022

# Material Finishes

Exhibit 14b

*Arcadia Town Center Project*

PSOMAS

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NUMBERS DENOTE MATERIALS



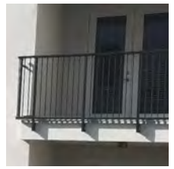
1. EXT. PLASTER SAND FINISH



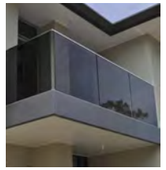
2. STAMPED CONCRETE



3. CROWN MOULDING



4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET



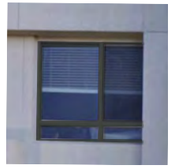
5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT




6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE



7. PAINTED AWNING



8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR



9. ALUMINUM STOREFRONT ANODIZED



10. FIBER CEMENT PATTERN VENEER



11. METAL EXTRUDED OPENING



12. FIBER CEMENT FACADE PANEL



13. FIBER CEMENT FACADE PANEL



14. HIGH PERFORMANCE GARAGE DOOR



15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM ( U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS



A. DUNN EDWARDS CRYSTAL WHITE



B. DUNN EDWARDS ASPEN



C. DUNN EDWARDS MISTY

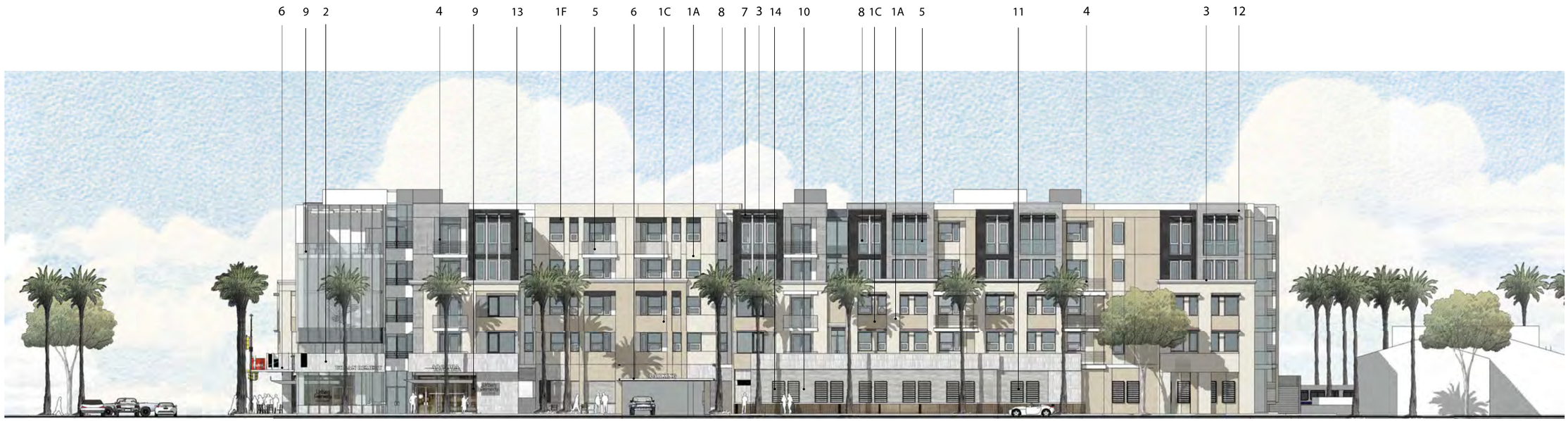


D. DUNN EDWARDS SANTA FE



F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL




VIEW OF MORLAN PL.
NUMBERS DENOTE MATERIALS
LETTERS DENOTE COLORS

Source: New World International Investment 2022

# Material Finishes

Exhibit 14c

*Arcadia Town Center Project*

PSOMAS

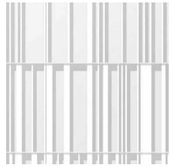
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NUMBERS DENOTE MATERIALS



1. EXT. PLASTER SAND FINISH



2. STAMPED CONCRETE



3. CROWN MOULDING



4. PAINTED METAL TUBE STEEL RAILING VERTICAL PICKET



5. PAINTED METAL TUBE STEEL RAILING W/ GLASS INSERT




6. PAINTED METAL AWNING W/ LOUVERS AND SIGNAGE



7. PAINTED AWNING



8. VINYL WINDOW
COLOR: BRONZE
COLOR: WHITE INTERIOR



9. ALUMINUM STOREFRONT ANODIZED



10. FIBER CEMENT PATTERN VENEER



11. METAL EXTRUDED OPENING



12. FIBER CEMENT FACADE PANEL



13. FIBER CEMENT FACADE PANEL



14. HIGH PERFORMANCE GARAGE DOOR



15. SINGLE-GLAZED VERTICAL& HORIZONTAL FACADE SYSTEM ( U-GLASS)

ALL MATERIALS AS SHOWN OR APPROVED EQUAL

LETTERS DENOTE COLORS



A. DUNN EDWARDS CRYSTAL WHITE



B. DUNN EDWARDS ASPEN



C. DUNN EDWARDS MISTY

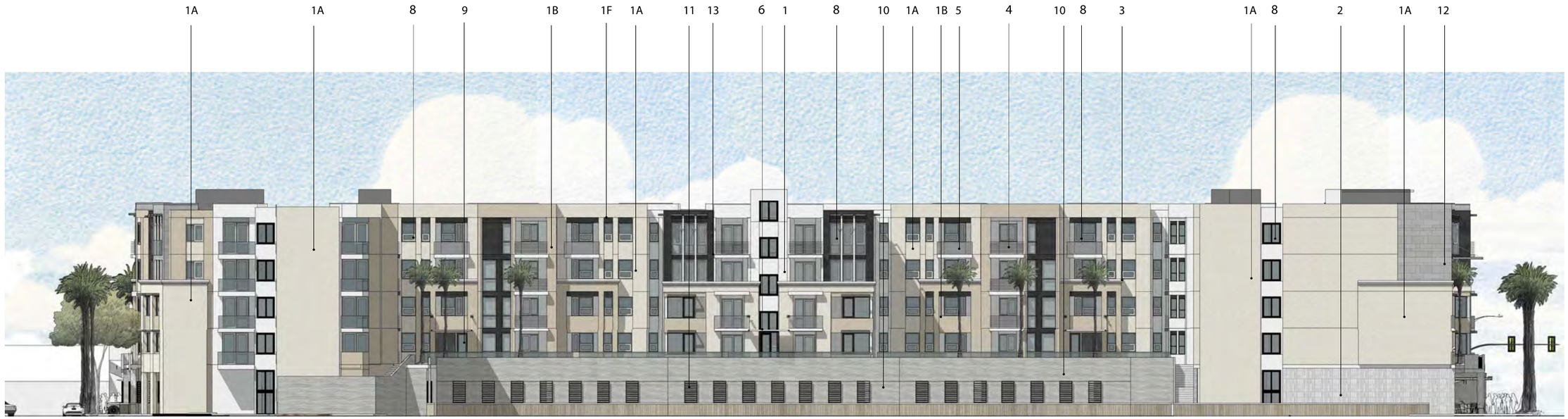


D. DUNN EDWARDS SANTA FE



F. STANDARD DARK BRONZE

ALL MATERIALS AS SHOWN OR APPROVED EQUAL




VIEW OF NORTH COURTYARD
NUMBERS DENOTE MATERIALS
LETTERS DENOTE COLORS

Source: Humphreys & Partners Architects, L.P. 2022

# Material Finishes

Exhibit 14d

*Arcadia Town Center Project*

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commercial uses on Huntington Drive; a single vehicle ingress/egress point on Huntington Drive with a secondary access on Morlan Place to minimize disruption of pedestrian traffic; use of high-quality building materials and finishes with a cohesive color palette and a variety of complementary textures; and use of high-quality hardscape materials, such as pavers, lighting, and furniture.

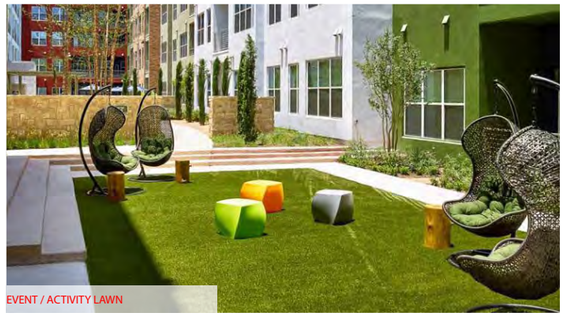
The Project design has been developed to comply with the development standards defined in Section 9102.05, Downtown Zones, of the City's Development Code; the Commercial and Mixed Use Design Guidelines (Design Guidelines) (Arcadia 2019); and the City Center Design Plan (Onyx Architects 2018) to ensure a high standard of design and architectural quality. The General Plan stresses the importance of quality in design and the impact that site design and building form has on enhancing the visual image of Arcadia and establishing places that people enjoy. The Design Guidelines have been written to reinforce these goals and objectives and provide general guidelines for any addition, remodel, or construction requiring a building permit within any commercial or mixed-use land use district (Arcadia 2019). As part of the City's development standards, pursuant to Section 9102.05.060 of the City's Development Code, the Project is subject to Site Plan and Design Review. Further, Section 9107.19.030 of the Development Code states that, where required, Site Plan and Design Review approval shall be required before the issuance of a Building or Grading Permit, Business License, or Certificate of Occupancy.

**Open Space, Landscape, and Hardscape**

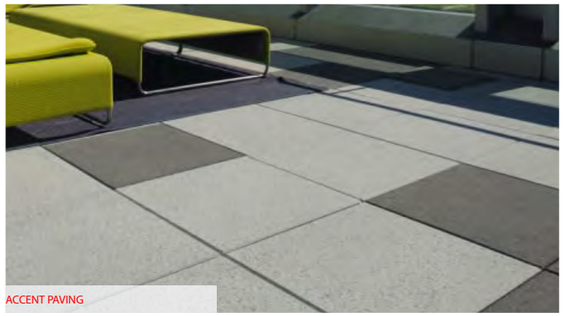
The City requires 100 sf per unit minimum open space for residential uses in the DMU zone, which results in a required minimum of 18,100 sf of open space for the 181 proposed residential units. Per the City's Development Code, open space may be in the form of private or common open space via balconies, courtyards, at-grade patios, rooftop gardens, and/or terraces. The Project includes 38,713 sf of open space, including 9,714 sf of private open space, which is approximately 2.1 times more than the amount of open space that is required for the Project. Exhibit 15, Typical Project Landscape/Hardscape Elements and Conceptual Plant Palette; and Exhibits 16a through 16h, Proposed Landscape Plan, illustrate the public and private open spaces that would be provided as part of the Project.

As shown on Exhibits 16a and 16b, there would be 6,211 sf of plazas and other outdoor areas situated at the Morlan Place entry, the northeast corner of the site, in the central portion of the east side, in the southeast corner, and associated with the commercial uses on Huntington Drive that would provide tables and seating, decorative paving, and/or ornamental plantings. The plazas would be open to the public but would be owned and maintained by the Project Applicant/Property Owner.

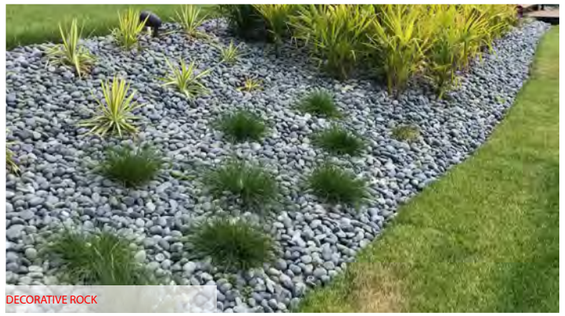
Open spaces on Levels 2 through 5 would be for residents and guest use only. As shown on Exhibits 16c through 16f, Level 2 would provide 21,825 sf of open space distributed across several courtyards. The two larger "main courtyards" would be connected by a paved walkway with seating areas and include a swimming pool, spa, large artificial turf area, barbeque grills with counter space, additional seating areas, decorative paving, and landscaping. The remaining 4 courtyards throughout Level 2 would vary in size and include seating of various types and configurations, decorative paving, and landscaping. As shown on Exhibits 16a through 16h, Levels 4 and 5 would provide 963 sf of open space distributed across a total of 2 skydecks and roof decks as gathering spaces and include seating, umbrellas, decorative paving, and landscaping. All proposed landscaping and related irrigation systems would comply with the City's Water Efficient Landscaping Ordinance.



EVENT / ACTIVITY LAWN



ACCENT PAVING



DECORATIVE ROCK



OUTDOOR BBQ



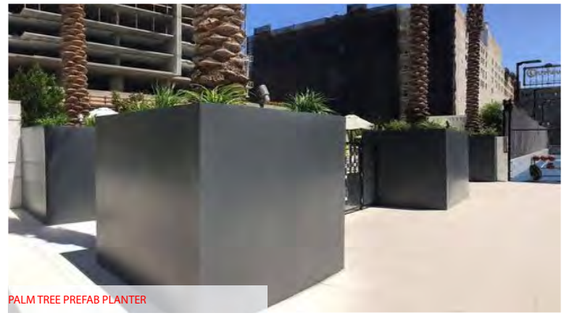
ORNAMENTAL PLANTING



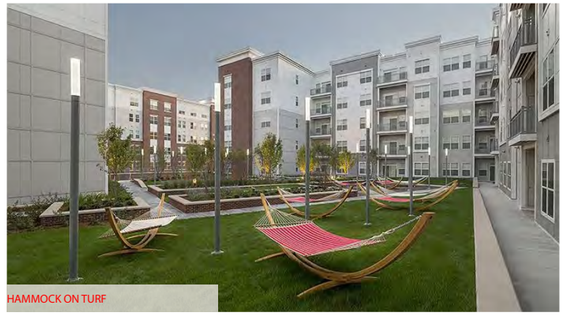
OUTDOOR FURNITURE



CUSTOM CAST IN PLACE CONCRETE BENCH



PALM TREE PREFAB PLANTER



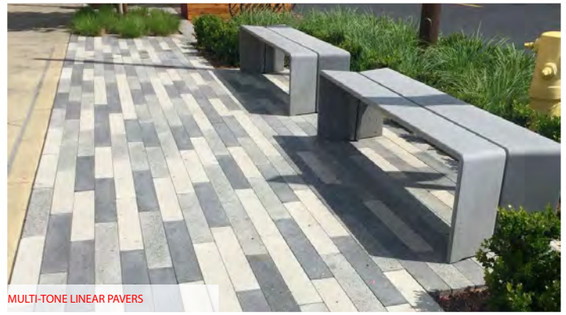
HAMMOCK ON TURF



CAVE



PREFAB FIRE FEATURE



MULTI-TONE LINEAR PAVERS

## CONCEPTUAL PLANT PALETTE

| TREES: | SIZE: |
|---|---|
| ARBUTUS UNEDO<br>STRAWBERRY TREE | 36" |
| LAGERSTROEMIA INDICA<br>CRAPE MYRTLE | 36" |
| OLEA EUROPAEA<br>OLIVE TREE | 36" |
| PARKINSONIA FLORIDA<br>PALO VERDE | 36" |
| TRISTANIA CONFERTA<br>BRISBANE BOX | 36" |

| SHRUBS AND GROUNDCOVERS: | |
|---|---|
| ASCLEPIAS CURA. ' RED BUTTERFLIES'<br>RED BUTTERFLIES MILKWEED | 5 GAL. |
| BUDDLEJA 'BLUE CHIP'<br>DWARF SUMMER LILAC | 5 GAL. |
| CARISSA MACROCARPA<br>NATAL PLUM | 3 GAL. |
| CEANOTHUS GRIS. HORIZ. 'YANKEE POINT'<br>YANKEE POINT CEANOTHUS | 5 GAL. |
| DIANELLA REVOLUTA 'CLARITY BLUE'<br>CLARITY BLUE FLAXLILY | 3 GAL. |
| ECHINOCACTUS GRUSONII<br>BARREL CACTUS | 3 GAL. |
| LANTANA CAMARA 'MISS HUFF'<br>MISS HUFF HARDY LANTANA | 5 GAL. |
| LEUCOPHYLLUM SPP.<br>TEXAS RANGER | 5 GAL. |
| RHAPHIOLEPIS INDICA<br>INDIAN HAWTHORNE | 5 GAL. |
| ROSMARINUS OFF. 'LOCKWOOD DE FOREST'<br>PROSTRATE ROSMARY | 1 GAL. |
| SALVIA SPP.<br>SAGE | 5 GAL. |

| HEDGES: | |
|---|---|
| LIGUSTRUM JAPONICUM<br>JAPANESE PRIVET | 5 GAL. |
| PITTOSPORUM TOBIRA 'MOJO'<br>MOJO PITTOSPORUM | 3 GAL. |
| PODOCARPUS ELONGATUS 'MONMAL'<br>ICEE BLUE YELLOWWOOD | 5 GAL. |
| PRUNUS CAROLINIANA<br>CAROLINA CHERRY LAUREL | 5 GAL. |

| SUCCULENTS: | |
|---|---|
| AGAVE AMERI. VAR. MEDIO-PICTA 'ALBA'<br>WHITE STRIPED CENTURY PLANT | 3 GAL. |
| AGAVE 'BLUE GLOW'<br>BLUE GLOW AGAVE | 1 GAL. |
| AGAVE DESMETTIANA<br>SMOOTH AGAVE | 5 GAL. |
| AGAVE WEBERI<br>WEBER'S AGAVE | 5 GAL. |
| ALOE STRIATA<br>CORAL ALOE | 1 GAL |
| ECHEVERIA SPP.<br>HEN AND CHICKS | 1 GAL. |
| SEDUM SPP.<br>STONECROP | 1 GAL. |
| SENECIO MANDRALISCAE<br>BLUE CHALKSTICKS | 1 GAL. |

| GRASSES: | |
|---|---|
| MUHLENBERGIA LINDHEIMERI<br>AUTUMN GLOW MUHLY | 3 GAL. |
| PENNISETUM ALOPECUROIDES 'HAMELN'<br>DWARF FOUNTAIN GRASS | 3 GAL. |
| VINES: | |
| BOUGAINVILLEA SPP.<br>BOUGAINVILLEA | 5 GAL. |
| CLYTOSTOMA CALLISTEGIODES<br>VIOLET TRUMPET VINE | 5 GAL. |

Source: New World International Investment 2022

# Typical Project Landscape/Hardscape Elements and Conceptual Plant Palette

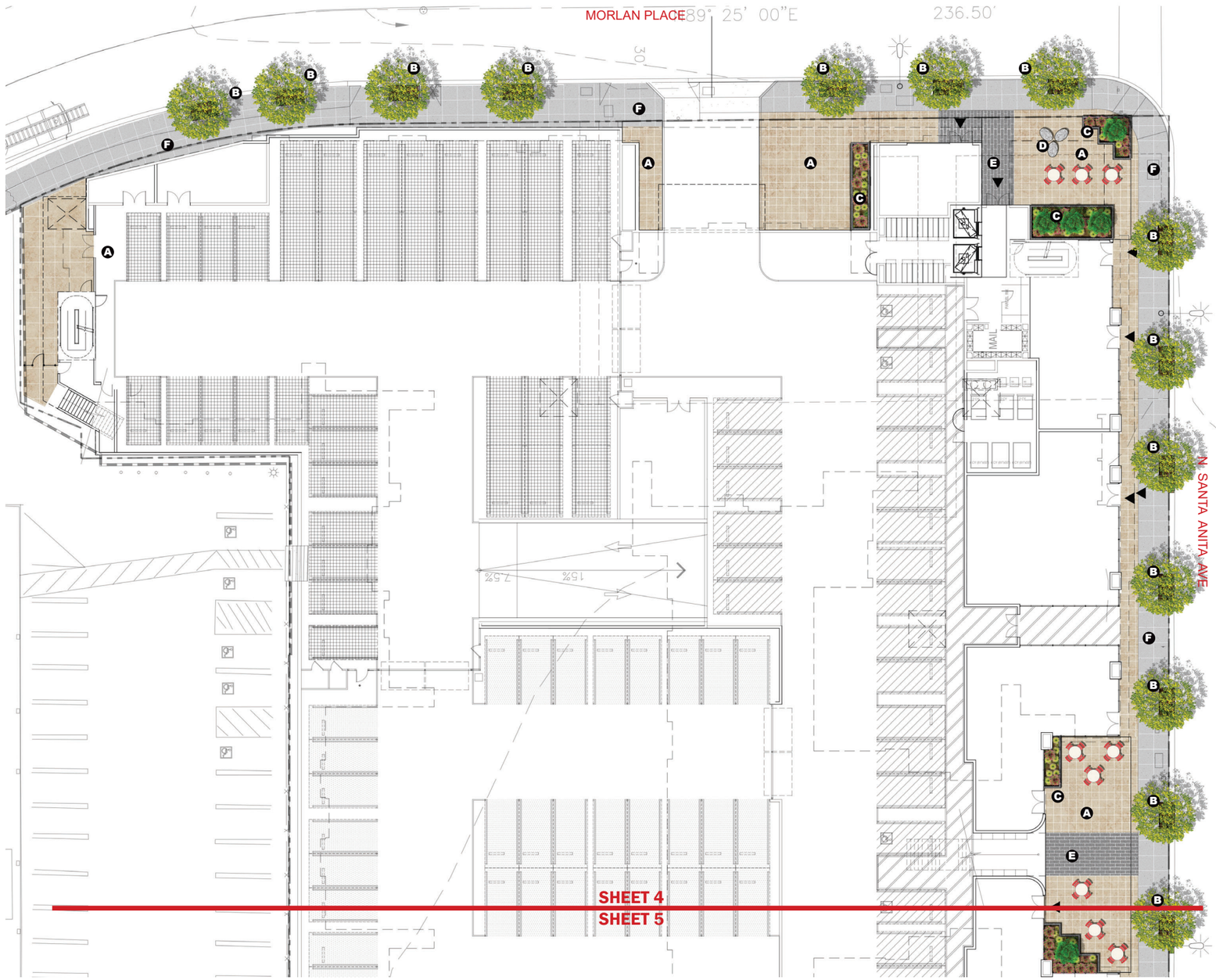
Exhibit 15

*Arcadia Town Center Project*

PSOMAS

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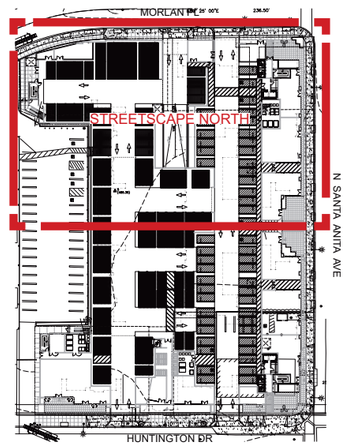



## STREETSCAPE NORTH

Legend

- A 2' x 2' Concrete Pavers
- B 4' x 8' Tree Well w/ Shade Tree
- C Ornamental Planting
- D Pebble Seating
- E Accent Linear Pavers
- F Existing Sidewalk

## GROUND LEVEL KEY MAP




**GENERAL NOTES:**

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Source: New World International Investment and Humphreys & Partners Architects 2022

# Proposed Landscape Plan

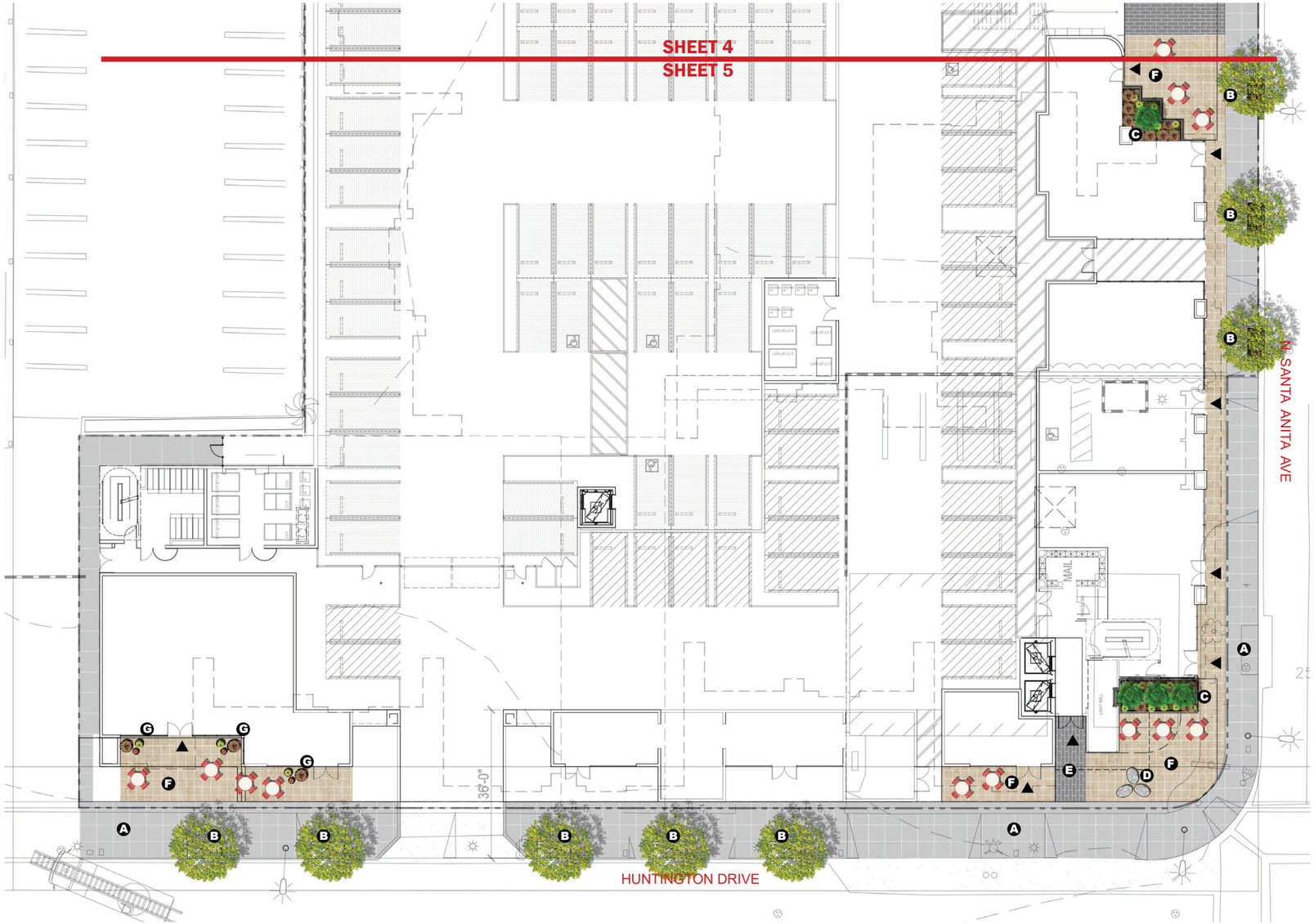
Exhibit 16a

*Arcadia Town Center Project*

PSOMAS

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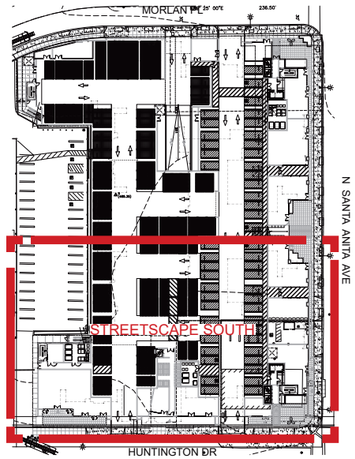



## STREETSCAPE SOUTH

Legend

- A Existing Sidewalk
- B 4' x 8' Tree Well w/ Shade Tree
- C Ornamental Planting
- D Pebble Seating
- E Accent Linear Pavers
- F 2' x 2' Concrete Pavers
- G Circular Planting Pots

## GROUND LEVEL KEY MAP




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Source: New World International Investment and Humphreys & Partners Architects 2022

# Proposed Landscape Plan

Exhibit 16b

*Arcadia Town Center Project*

PSOMAS

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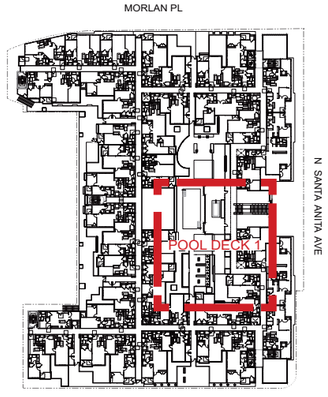



## AMENITY DECK 1

Legend

- A Swimming Pool
- B Lounge Seating without Artificial Turf
- C Artificial Turf w/ Lounge Seating
- D Pre-Fab Planter w/ Shade/Palm Tree
- E 12” Tall Built-In Planter
- F Circular Ornamental Planting Pot
- G Rectangular Pre-Fab Planter
- H Accent Linear Pavers
- I 2’ x 2’ Concrete Pavers
- J Pool Fence & Gate
- K Decorative Rock
- L Wood Decking
- M Pre-Fab Fire Trough
- N Bocce Ball Court
- O String Lighting

## 2ND LEVEL KEY MAP




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Source: New World International Investment and Humphreys & Partners Architects 2022

# Proposed Landscape Plan

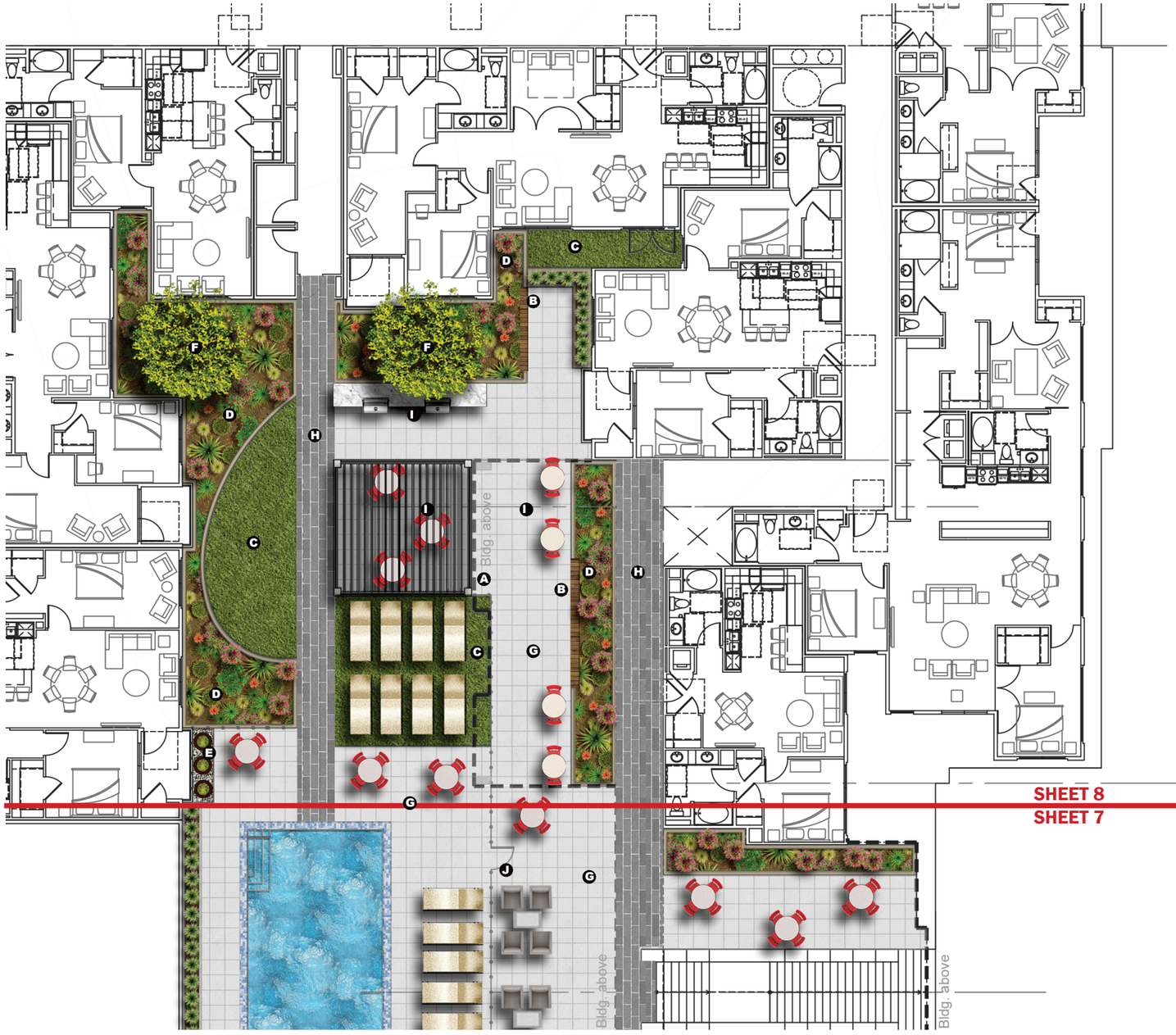
Exhibit 16c

*Arcadia Town Center Project*

PSOMAS

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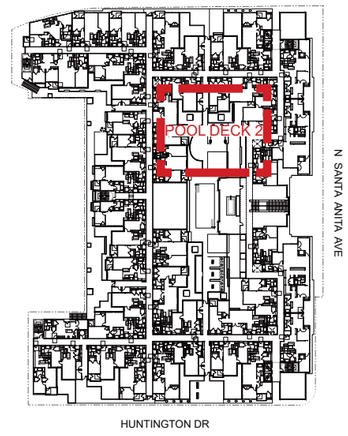



## AMENITY DECK 2

Legend

- A Custom Steel Shade Structure
- B Wood-Cap Planter Bench
- C Artificial Turf Area
- D Raised Planter w/ Ornamental Planting
- E Circular Ornamental Planting Pot
- F 4' x 4' Pre-Fab Planter w/ Shade Tree
- G 2' x 2' Concrete Pavers
- H Accent Linear Pavers
- I Barbeque Grill & Counter
- J Pool Fence & Gate

## 2ND LEVEL KEY MAP




**GENERAL NOTES:**

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Source: New World International Investment and Humphreys & Partners Architects 2022

# Proposed Landscape Plan

Exhibit 16d

*Arcadia Town Center Project*

PSOMAS

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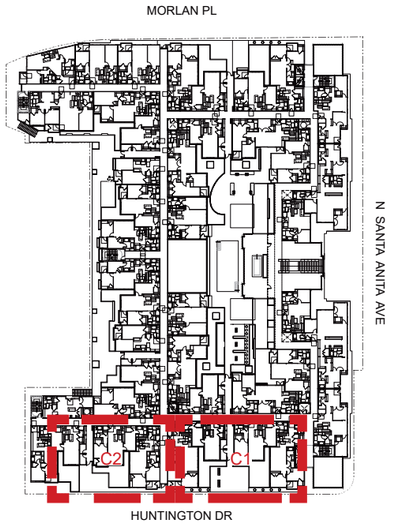



## COURTYARD 1

Legend

- A Contemporary Fire Trough
- B Decorative Rock
- C Accent Linear Pavers
- D Raised Planter w/ Ornamental Planting
- E Artificial Turf
- F 2’ x 2’ Two-Tone Accent Pavers
- G Decorative Light Spheres

## 2ND LEVEL KEY MAP




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## COURTYARD 2

Legend

- Raised Planter w/ Ornamental Planting A
- 2’ x 2’ Concrete Pavers B
- Accent Linear Pavers C

Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan — Exhibit 16e

*Arcadia Town Center Project*

PSOMAS

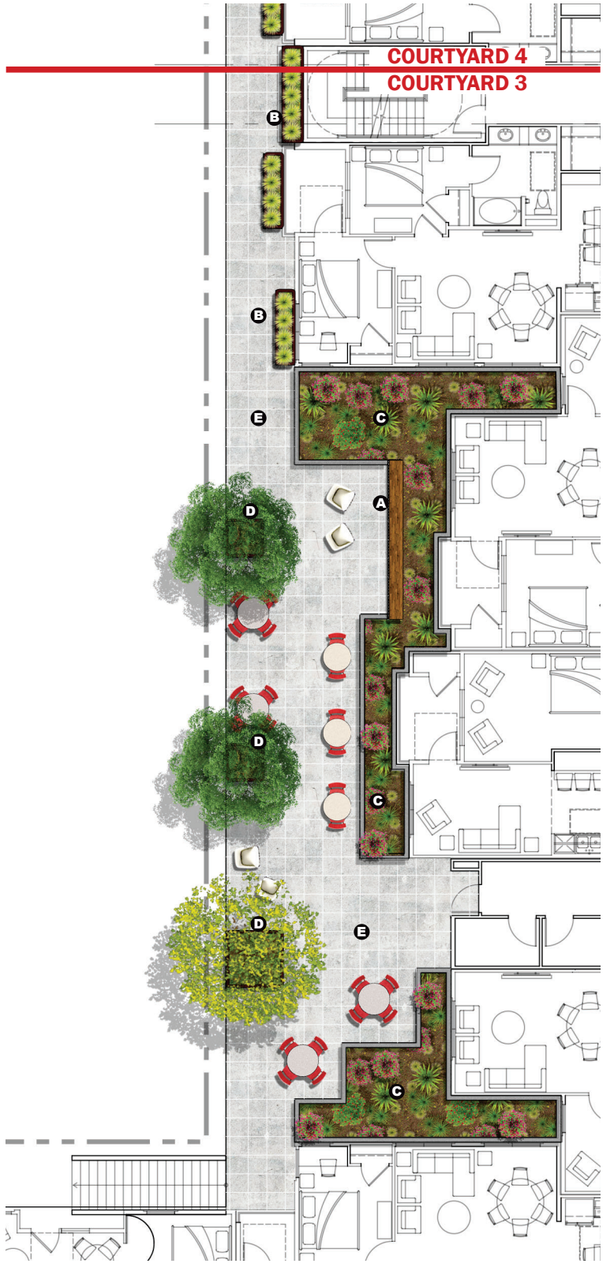
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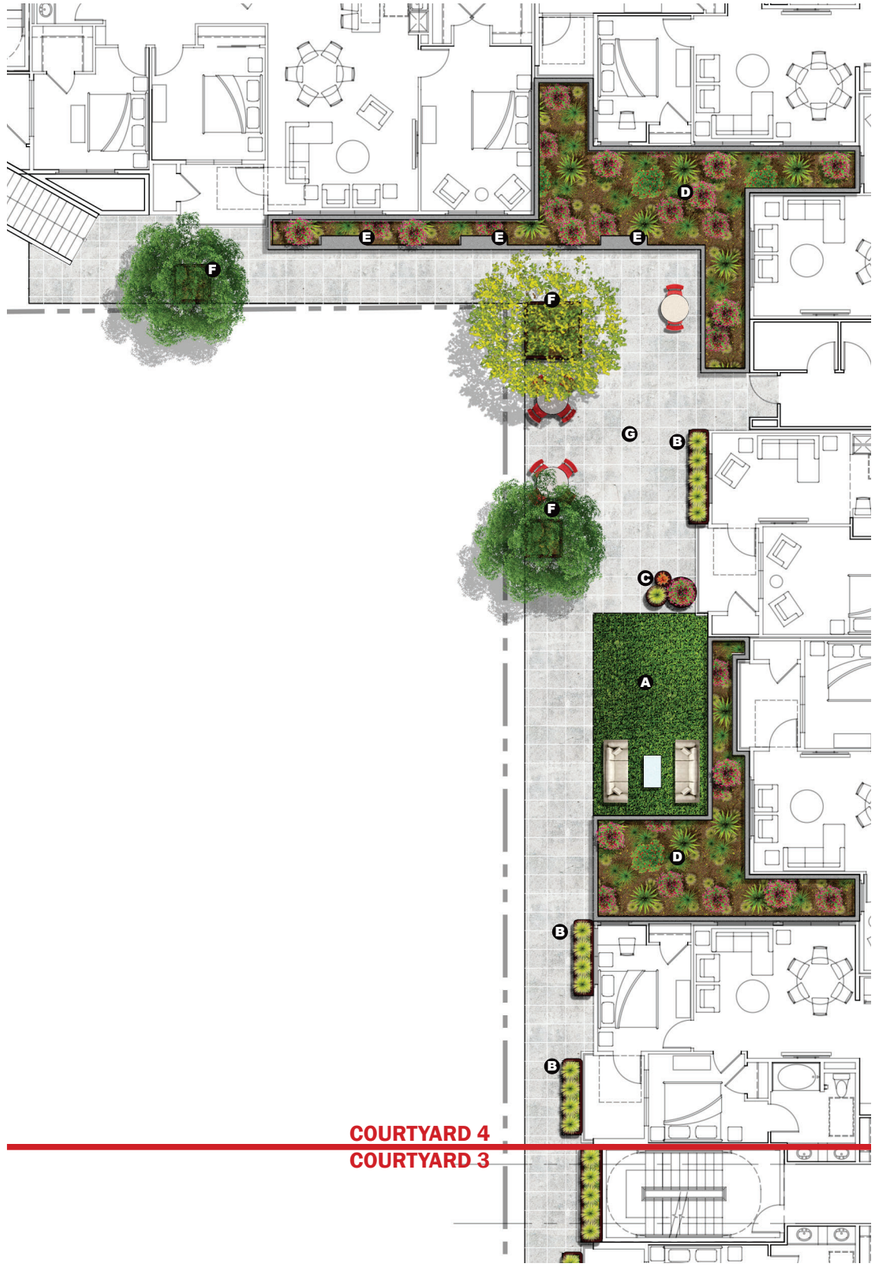
## COURTYARD 3

Legend

- A Built-In Wood Bench
- B Rectangular Pre-Fab Planter
- C Raised Planter w/ Ornamental Planting
- D 4’ x 4’ Pre-Fab Planter w/ Shade Tree
- E 2’ x 2’ Two-Tone Accent Pavers




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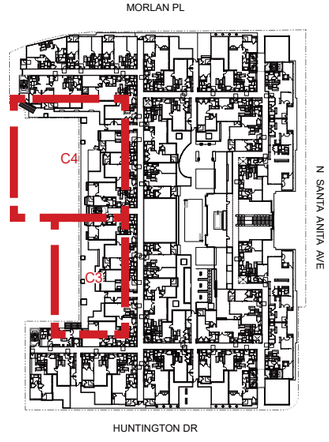



## COURTYARD 4

Legend

- A Artificial Turf Area
- B Rectangular Pre-Fab Planter
- C Ornamental Planting Pots
- D Raised Planter w/ Ornamental Planting
- E Built-In Concrete Bench Seating
- F 4’ x 4’ Pre-Fab Planter w/ Shade Tree
- G 2’ x 2’ Two-Tone Accent Pavers

## 2ND LEVEL KEY MAP




Source: New World International Investment and Humphreys & Partners Architects 2022

# Proposed Landscape Plan

*Arcadia Town Center Project*

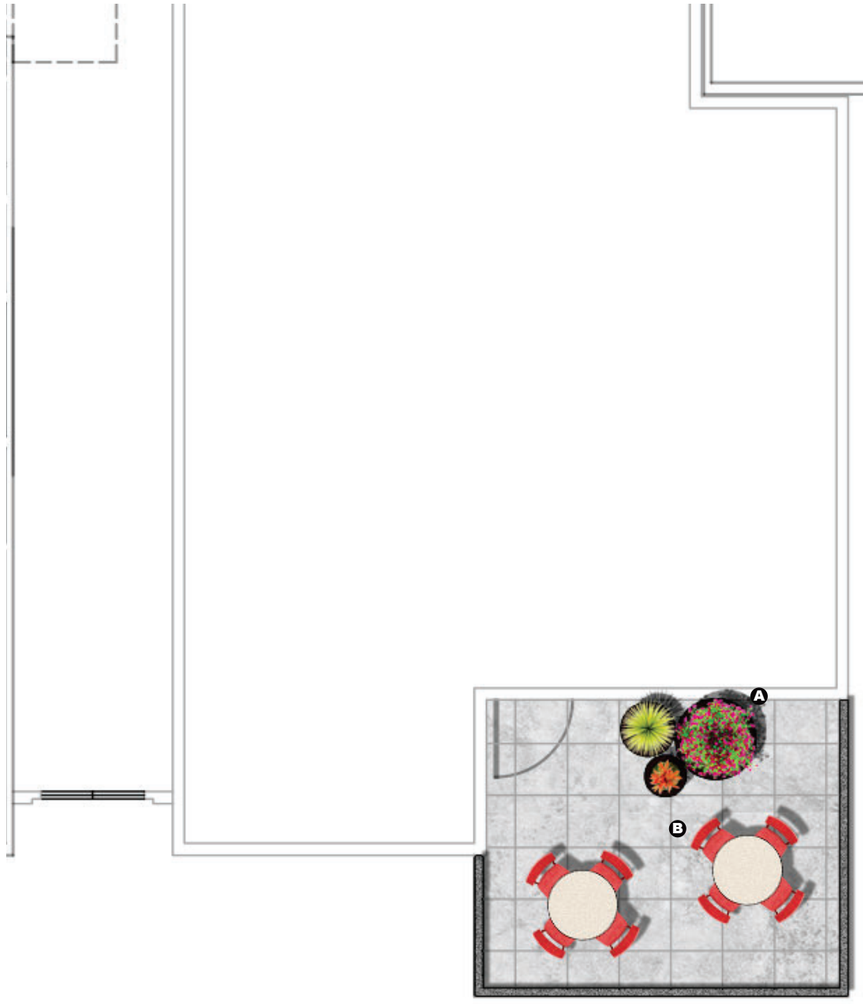
Exhibit 16f

PSOMAS

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**GENERAL NOTES:**
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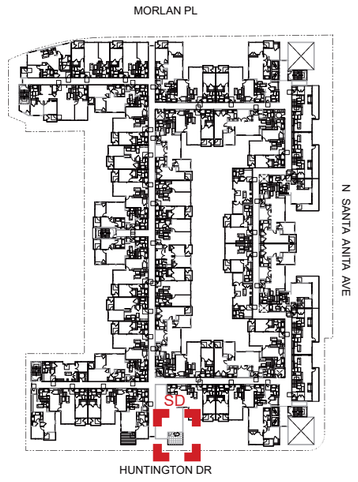



## SKY DECK ( 4TH LEVEL )

Legend

- A Ornamental Planting Pots
- B 2' x 2' Concrete Pavers

## 4TH LEVEL KEY MAP




Source: New World International Investment and Humphreys & Partners Architects 2022

# Proposed Landscape Plan

Exhibit 16g

*Arcadia Town Center Project*

PSOMAS

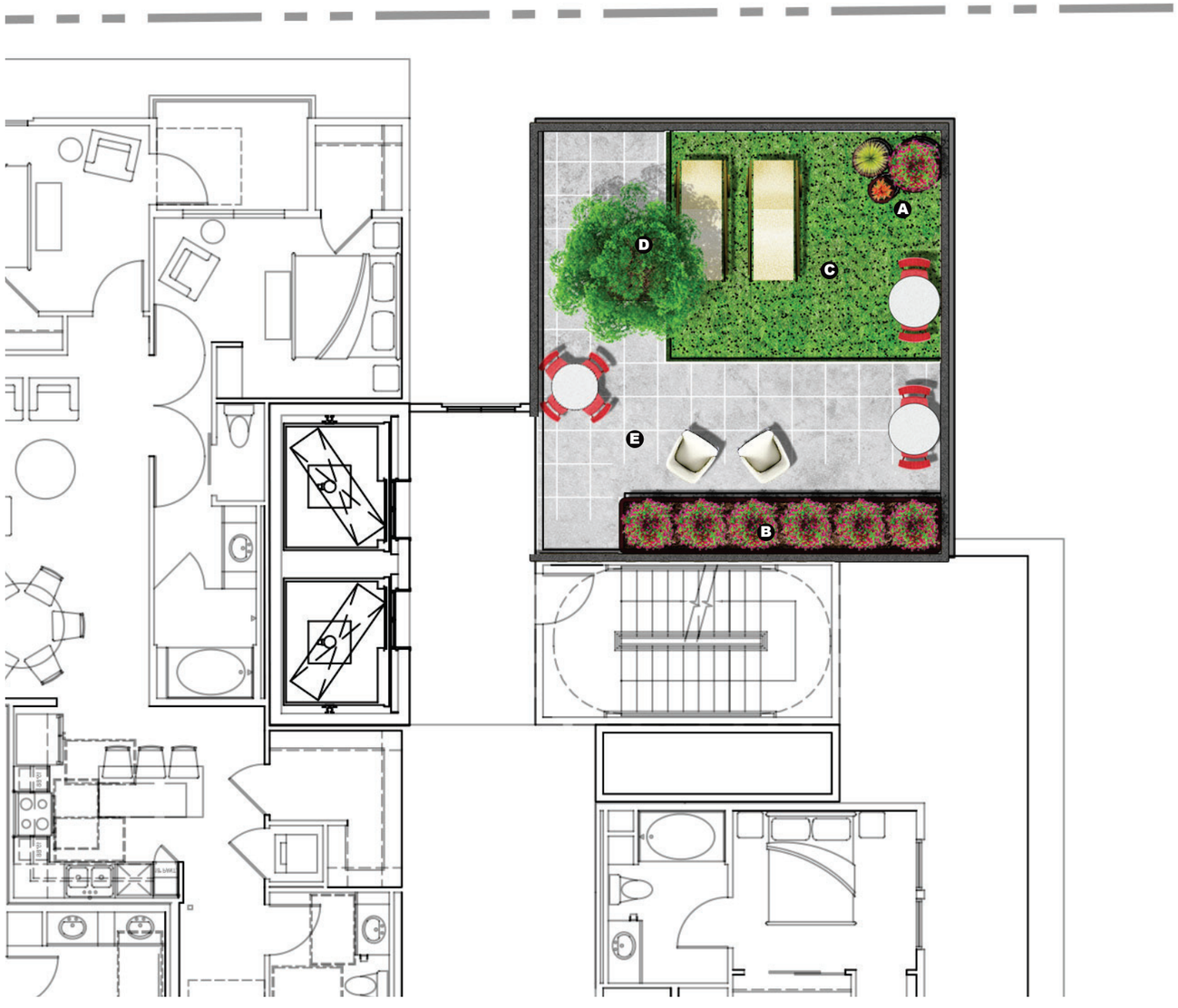
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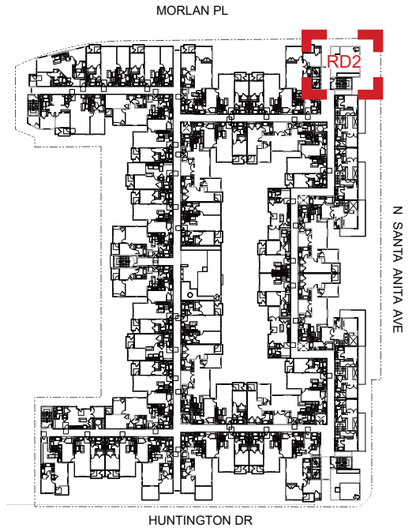
## ROOF DECK ( 5TH LEVEL )

Legend

- **A** Ornamental Planting Pots
- **B** Raised Planter w/ Ornamental Planting
- **C** Artificial Turf Area
- **D** 4’ x 4’ Pre-Fab Planter w/ Shade Tree
- **E** 2’ x 2’ Two-Tone Accent Pavers




## 5TH LEVEL KEY MAP




**GENERAL NOTES:**

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Source: New World International Investment and Humphreys & Partners Architects 2022

Proposed Landscape Plan — Exhibit 16h

*Arcadia Town Center Project*

PSOMAS

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The Project would include removal of the 26 existing trees on the site and adjacent ROW. This would include 11 street trees along the frontages of Huntington Drive and Santa Anita Avenue (both within and outside the existing ROW). There are 3 trees along the frontage of Santa Anita Avenue that are Protected Trees under the City's Tree Preservation Ordinance (Section (9110.01 et. seq. of the Development Code) and 3 trees in the ROW of Huntington Drive that are protected under City's Comprehensive Tree Management Program (Section 9800 et. seq. of the AMC) would be removed as part of Project implementation. The Applicant/Property Owner would be required obtain a permit from the Arcadia Public Works Services Department for the removal of street trees in the public ROW and removal of Protected Trees on private property. The Project's on-site landscaping would include a total of 46 new trees. Among these would be 21 trees along the frontages of Morlan Place, Santa Anita Avenue, and Huntington Drive, planted in a 4-foot by 8-foot tree well consistent with City standards. Tree removals and replacements are discussed further in Section 3.4, Biological Resources, of this IS/MND.

**Circulation and Parking**

***Vehicular Circulation***

As shown on Exhibits 3 and 5, primary vehicular access to the Project's parking structure is proposed via entries accessible from Huntington Drive and Morlan Place. All vehicular access from the street leads to parking for visitors to the commercial areas and for residents and guests on the ground level. As shown on Exhibit 3, there is a through path on Level 1 between the Huntington Drive to Morlan Place entrances for commercial visitors. Vehicles would be able to leave the site via these same two driveways. There is one ramp to and from Level B1, the subterranean level with resident parking only.

***Non-Vehicular Circulation***

Secured/keyed residential access to the Project would be provided at the entry lobbies, staircases, and elevators. All residential units would be accessible from interior walkways that connect to the three elevators and four stairwells. The elevators would provide access to the basement parking garage, the ground floor, and all four levels of residential units.

***Automobile Parking***

The City's off-street parking requirements are set forth in Section 9103.07.070 of the Development Code, which covers Mixed-Use (Nonresidential and Residential Combined) Parking Standards. The following minimum parking requirements apply to the Project:

- **Mixed-Use Residential.** 1.5 parking spaces for every dwelling unit, plus 1.0 guest parking space for every 3 units.
- **Commercial.** 1.0 parking space per 100 sf to 250 sf of gross floor area (GFA), depending on the type of commercial use proposed. For large restaurants that are greater than 2,000 sf, the ratio is 1.0 space per 100 sf of GFA. For retail and small restaurants that is 2,000 sf or less, the ratio is 1.0 space per 200 sf of GFA. For office professional, the ratio is 1.0 space per 250 sf of GFA.

For commercial uses located within 1,320 feet (¼-mile) of a light rail station, which includes the Project site, the Development Code permits a reduction of 25 percent to be applied to the off-street parking requirement for non-residential uses. Based on the requirements noted above, a total of 377 spaces are required for the Project as summarized below:

- **Mixed-Use Residential:** 272 spaces (181 units x 1.5 spaces/unit)

- **Mixed-Use Residential Guest:** 59 spaces (181 units x 0.3)
- **Commercial:** 46 spaces (after 25 percent reduction) (assuming 8,330 sf of small restaurant or general retail and 4,800 of office professional)

In compliance with these requirements, the Project proposes 378 parking spaces, which are located as shown on Exhibits 4 and 5.

### *Bicycle Parking*

As required by Section 9103.07.150 of the Development Code, the Project would include long-term (for residents) and short-term (for visitors and guests) bicycle parking. For multi-family uses, 0.2 space per unit is required. For non-residential uses such as retail, both short-term and long-term bicycle parking must be provided equivalent to 5 percent of the vehicle parking spaces, with a minimum of a two-bicycle capacity rack. The Development Code requires that long-term bicycle parking include one of the following:

- Covered, lockable enclosures with permanently anchored racks for bicycles;
- Lockable bike rooms with permanently anchored racks; or
- Lockable, permanently anchored bicycle lockers.

Based on these requirements, the Project proposes installation of 40 long-term bicycle parking stalls; of these, 37 stalls are for residents and 3 are for retail uses. The Project also includes 3 short-term bicycle parking stalls.

## Infrastructure

The Project would include the installation of and connection to storm drain, sewer, and potable water infrastructure systems; and on- and off-site dry utility connections to accommodate the needs of the Project. The necessary on- and off-site infrastructure would be constructed and/or relocated by the Applicant/Property Owner according to specifications set by the City and utility providers. The following is a brief description of the proposed infrastructure and utility systems.

### *Drainage and Water Quality Treatment*

In the existing condition, storm water runoff from the Project site is conveyed as surface flow and flows into existing 42-inch-diameter storm drain pipelines located in both Huntington Drive and Santa Anita Avenue. Over four miles of City-maintained storm water management facilities are present in Arcadia, which connect to regional flood control and runoff conveyance facilities (Arcadia 2010b). The City's storm water generally flows in a southerly direction through the Eaton Wash, Arcadia Wash, Santa Anita Wash, Sierra Madre Wash, and Sawpit Wash toward the Rio Hondo, which runs southwest into Whittier Narrows and continues southwest to join the Los Angeles River in Downey (Arcadia 2010a).

As discussed in more detail in Section 3.10, Hydrology and Water Quality, a low impact development (LID) Plan would be prepared for the Project to further analyze and specify appropriate source-control best management practices (BMPs), site-design BMPs, and hydraulic source-control BMPs that would be incorporated into the Project consistent with Section 7800 et. seq., Stormwater Management and Discharge Control, of the Arcadia Municipal Code (AMC). The BMPs would be required to control pollutants, pollutant loads, and runoff volumes to the maximum extent feasible by minimizing impervious surface area and controlling runoff through infiltration, evapotranspiration, bioretention, and/or rainfall harvest and use.

### *Potable Water*

The City of Arcadia Public Works Services Department is responsible for producing, storing, and distributing potable water to the City and maintaining the City's water system infrastructure. The existing water infrastructure adjacent to the Project site includes a 30-inch-diameter welded steel water main in Santa Anita Avenue, a 16-inch-diameter welded steel water main in Huntington Drive, and a six-inch-diameter water main is available in Morlan Place.

The Project's proposed water infrastructure would include domestic, irrigation, and fire water service lines, meters, and backflow preventers. The Project would connect to the existing water lines in Santa Anita Avenue, Huntington Drive and Morlan Place via several proposed 2-inch-diameter lateral pipes. Additionally, a proposed 8-inch-diameter fire water line would be connected to the existing water line in Santa Anita Avenue for use by the existing fire hydrant and a 2-inch-diameter irrigation lateral would be connected to the existing water line in Morlan Place. Any portions of Huntington Drive, Santa Anita Drive, or Morlan Place that are disturbed during Project construction would be repaved in-kind, as described in MM TRANS-1.

The City of Arcadia has confirmed that the Project's anticipated potable water demands can be accommodated with the existing potable water infrastructure, as described in more detail in Section 3.19, Utilities and Service Systems.

### *Sewer*

In the existing condition, sewage from the Project site is conveyed via 8-inch-diameter and 10-inch-diameter sewer lines located in Huntington Drive, Santa Anita Avenue, and Morlan Place. These pipelines flow towards an existing 18-inch-diameter Los Angeles County Sanitation Districts (LACSD) trunk line located at the intersection of Camino Real Avenue and First Avenue (LACSD 2024).

Local sewer main lines adjacent to the Project site are maintained by the City, and they convey wastewater into trunk lines that are maintained by the LACSD. The City's sewer system has approximately 138 miles of sewer pipes, six siphons, and one pump station. There are also 15 miles of County-owner pipelines within the City limits into which the City's system discharges. The City's sewer system serves existing developments in the City, with connections to the sewer systems of the cities of Sierra Madre, Temple City, and Monrovia and in unincorporated County areas that allow for sewage conveyance through the City's system to the LACSD sewer trunk lines (Arcadia 2010b). The Project proposes to connect to the existing lines located in Santa Anita Avenue via several proposed six-inch-diameter sewer lateral pipes.

### *Dry Utilities*

Southern California Edison (SCE) would provide electricity service and Southern California Gas Company (SoCal Gas) would provide natural gas service to the Project site. The Project would require the removal and replacement of the existing dry utility lines within the Project site. The Project would connect to the existing electric lines located in Morlan Place; and existing gas infrastructure located in Huntington Drive, Santa Anita Avenue and Morlan Place. There are existing telephone, telecommunication, and cable television lines and facilities associated with private providers such as AT&T, Spectrum, EarthLink, and Frontier throughout the City. Existing utility service to adjacent and nearby parcels would be maintained throughout Project construction.

### 2.2.4 OFF-SITE IMPROVEMENTS

The following off-site improvements are anticipated:

- The Project would require the removal of 11 street trees along the frontages of Huntington Drive and Santa Anita Avenue (both within and outside the existing ROW).
- In addition to on-site landscaping, an anticipated 5 street trees would be planted along the Huntington Drive ROW; 9 street trees would be planted along the Santa Anita ROW; and 7 street trees would be planted along the Morlan Place ROW, although the ultimate number will be determined by the Public Works Services department.
- The Project would require off-site connections to existing utilities within the ROW of Huntington Drive, Santa Anita Avenue, and Morlan Place.

All the items noted above would be designed and constructed in accordance with City requirements and standards and would require City approval.

Additionally, the Project would dedicate the following areas to the City to become a public ROW:

- On Santa Anita Avenue: 2.5 feet of sidewalk alongside the Jiffy Lube parcel and the 10-foot-wide sidewalk for the remaining frontage to Morlan Place, and
- On Huntington Drive: 18 inches of sidewalk along the entire frontage.

Finally, to accommodate the wastewater generation of the Project plus other projected growth, the City would replace approximately 1.3 miles (6,685 linear feet) of existing 8- and 10-inch diameter sewer lines with 12-inch diameter sewer lines along Santa Anita Avenue between Huntington Drive and Camino Real Avenue. It was determined this additional capacity must be available before residents and businesses occupy the Project. Therefore, construction of this off-site sewer upsizing is addressed in this IS/MND (see Section 3.19, Utilities and Service Systems). This infrastructure work would be split into three smaller phases and included in future City capital improvement plans (CIPs) for the years prior to occupancy of the Project. While required for the Project to open to the public, the off-site sewer upsizing would be implemented by the City and is not as part of the Project's construction scope.

## 2.3 CONSTRUCTION ACTIVITIES

Construction of the Project would occur in a single phase and is anticipated to require approximately 29 months beginning in 2026, as outlined in Table 4, Estimated Project Construction Schedule. Although the City of Arcadia permits construction activities Monday through Saturday, the Project is expected to have construction activities Monday through Friday from 7:00 AM to 6:00 PM, consistent with the allowable hours of construction defined in Section 4261 of the AMC. Saturday construction activity within the allowable hours of 8:00 AM to 5:00 PM may sometimes occur if needed due to unforeseen circumstances. However, for purposes of this IS/MND the analysis assumes Monday through Friday construction activities and the resulting schedule shown below. In the unlikely event construction were to occur on a Saturday, all applicable mitigation measures and local and State regulations discussed further in Section 3.0 would apply. However, this is not the intent of the Applicant/Property Owner and such activity would be considered speculative for purposes of this analysis pursuant to Section 15145 of the State CEQA Guidelines. There would be no construction activity on Sundays, federal holidays that occur on weekdays, or at nighttime.

**TABLE 4**
**ESTIMATED PROJECT CONSTRUCTION SCHEDULE**

| Construction Activity | Duration or Timing |
|---|---|
| Construction Begins | 2026 |
| Demolition | 3 weeks |
| Site Preparation, Grading, Excavation | 4 months & 1 week |
| Building Construction | 24 months |
| Paving | 2 months (would occur during building construction) |
| Architectural Coating | 3 months (would occur during building construction) |
| Project Opens to the Public | 2028 |
| Source: New World International Investment LLC 2022. | |

During the demolition, grading, and excavation phases, trucks are expected to enter and leave the Project site on a regular basis during working hours. The number of truck trips traveling along the City-designated truck routes would vary daily depending on the nature of the construction activity at the site. Trucks are anticipated to access the Project site primarily via I-210 and larger arterials (e.g., Santa Anita Avenue and Huntington Drive) and would follow City-designated haul routes avoiding residential streets. For purposes of this IS/MND, all hauling of debris or soil is assumed to be via 14 cubic yard (cy) size trucks and over an 8-hour workday, as a conservative assumption. These assumptions result in a greater number of total and daily truck trips.

Project construction would begin with the demolition of the existing structures and removal of the existing vegetation on the site, resulting in an estimated 4,970 cy of demolition debris and green waste to be exported. Debris removal from the Project site would generate an estimated 320 one-way truck trips over a four-week demolition and site preparation phases. On average, it is anticipated that 16 1-way trips per day or approximately 2 trips per work hour would occur.

During the grading and excavation phase, an estimated 44,870 cy of soil would be exported. Excavation is anticipated to generate a total of 4,487 one-way truck trips over a three-month period. On average, it is anticipated that 75 one-way trips per day or nine trips per work hour would occur. No pile driving would be required to install the Project's shoring or for any other construction activities. Building construction would occur for approximately 24 months, including paving and application of architectural coatings (e.g., stucco, exterior paints).

Construction staging and worker parking would be accommodated within the Project site, to be detailed in a Construction Management Plan that would be submitted to the City for approval prior to issuance of the grading permit. As discussed further in Section 3.17, Transportation, the Construction Management Plan would identify the equipment and vehicle staging areas, stockpiling of materials, fencing (e.g., temporary fencing with opaque material), and haul routes.

## 2.4 DISCRETIONARY APPROVALS

This IS/MND is intended to serve as the primary environmental document for all actions associated with the Project, including all discretionary approvals requested or required to implement the Project. In addition, this is the primary reference document for the formulation and implementation of a mitigation monitoring and reporting program for the Project.

The actions and/or approvals that the City needs to consider for the Project include, but are not limited to, the following:

- Adoption of the Arcadia Town Center Project IS/MND,
- Architectural Design Review No. ADR 19-09,
- Tentative Tract Map No. TTM 21-02 (83325),
- Minor Use Permit No. MUP 19-11
- Certificate of Demolition No. COD 22-25
- Other discretionary and ministerial permits and approvals that may be deemed necessary, including, but not limited to grading permit, excavation permit, and building permits.

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# SECTION 3.0 ENVIRONMENTAL CHECKLIST FORM

1. **Project Title:** Arcadia Town Center Project

2. **Lead Agency Name and Address:** City of Arcadia
240 West Huntington Drive
Arcadia, California 91066

3. **Contact Person and Phone Number:** Edwin Arreola, Senior Planner
Development Services Department
(626) 821-4334

4. **Project Location:** 25-75 North Santa Anita Avenue and
5, 11, 15, and 19 West Huntington Drive
Arcadia, California 91006

5. **Project Sponsor's Name and Address:** Arcadia Town Center, LLC
23341 Golden Springs, Suite 200
Diamond Bar, California 91765

6. **General Plan Designation:** Downtown Mixed Use (DMU)

7. **Zoning:** Downtown Mixed Use (DMU)

8. **Description of Project:** The Project proposes to consolidate and redevelop an approximate 2.27-acre site with a mixed-use development consisting of one 440,938 sf, five story (above ground) building with one level of subterranean parking and one level of ground level parking in the City of Arcadia within Los Angeles County. The Project includes 181 residential units; 3,890 sf of residential amenities; 38,713 sf of public and private open space; 13,130 sf of ground-floor commercial uses facing toward Huntington Drive and Santa Anita Avenue; and 378 parking spaces.

9. **Surrounding Land Uses and Setting:** The Project site is located within a fully developed portion of the City and is surrounded to the north, east, and west by existing urban development, consisting of retail, restaurants, and office businesses, an Elks Lodge, the Mercedez-Benz of Arcadia car dealership, and associated surface parking. Single-family residential uses are located approximately 410 feet or more to the northwest of the Project site across Santa Clara Street and the car dealership, and multi-family residential uses are located approximately 280 feet or more to the southeast of the Project site across Santa Anita Avenue. Arcadia County Park is located immediately to the south of the Project site across Huntington Drive. Most of the structures that are adjacent to the Project site are one to two stories in height with heights ranging from 14 feet to 37 feet, with some taller structures interspersed. Within the immediate viewshed of the Project site, there is a 5-story storage building on Huntington Drive approximately 120 feet west of the Project site at 35 West Huntington Drive, and an 8-story office building on Santa Anita Avenue approximately 200 feet northeast of the site at 150 North Santa Anita Avenue. The former Van de Kamp's Bakery building, which is now a Denny's restaurant, is located east of the Project site at the northeast corner of Huntington Drive and Santa Anita Avenue. The Denny's restaurant exhibits variable heights with a single-story main building topped by a 40-foot-tall stylized, operational, windmill.

**10. Other Public Agencies Whose Approval May Be Required:**

- Los Angeles County Sanitation Districts (Sewer Connection Permit);
- Los Angeles Regional Water Quality Control Board (National Pollutant Discharge Elimination System [NPDES] permitting); and
- California Department of Fish and Wildlife (CDFW) (Trustee Agency).

**11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?** Yes. The tribal consultation requirements of AB 52 have been implemented for this Project, as described in more detail in Section 3.18 of this document.

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact" without implementation of MM's, as indicated in Section 3.0 of this IS/MND.

- ☐ Aesthetics
- ☐ Air Quality
- ☒ Cultural Resources
- ☐ Geology and Soils
- ☒ Hazards and Hazardous Materials
- ☐ Land Use and Planning
- ☒ Noise
- ☐ Public Services
- ☒ Transportation
- ☒ Utilities and Service Systems
- ☐ Agriculture and Forest Resources
- ☐ Biological Resources
- ☐ Energy
- ☐ Greenhouse Gas Emissions
- ☐ Hydrology and Water Quality
- ☐ Mineral Resources
- ☐ Population and Housing
- ☐ Recreation
- ☒ Tribal Cultural Resources
- ☐ Wildfire

☒ Mandatory Findings of Significance

## DETERMINATION

On the basis of this initial evaluation:

☐ I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the Project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.

Signature of Lead Agency Representative — Date: 11/18/24

Edwin Arreola — Printed name

City of Arcadia — Agency

| 3.1 AESTHETICS | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Except as provided in Public Resources Code Section 21099, would the project: | | | | |
| a) Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☒ | ☐ |
| b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway? | ☐ | ☐ | ☐ | ☒ |
| c) Substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality? | ☐ | ☐ | ☒ | ☐ |
| d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☐ | ☐ | ☒ | ☐ |

### 3.1.1 ENVIRONMENTAL SETTING

The Project site is within the downtown area of the City north of Huntington Drive and west of Santa Anita Avenue. All five parcels within the Project site (APNs 5775-025-032, -033, -034, -037, and -038) have a land use designation of DMU and are zoned as DMU.

The Project site is located within a fully developed portion of the City and is surrounded to the north, east, and west by existing urban development consisting of retail, restaurants, and office businesses, an Elks Lodge, and associated surface parking. Single-family residential uses are located approximately 410 feet or more to the northwest of the Project site across Santa Clara Street and the car dealership, and multi-family residential uses are located approximately 280 feet or more to the southeast of the Project site across Santa Anita Avenue. Arcadia County Park is located immediately to the south of the Project site across Huntington Drive. Most of the structures that are adjacent to the Project site are one to two stories in height with heights ranging from 14 feet to 37 feet, with some taller structures interspersed. Within the immediate viewshed of the Project site, there is a 5-story storage building on Huntington Drive approximately 120 feet west of the Project site at 35 West Huntington Drive, and an 8-story office building on Santa Anita Avenue approximately 200 feet northeast of the site at 150 North Santa Anita Avenue. The former Van de Kamp's Bakery building, which is now a Denny's restaurant, is located east of the Project site at the northeast corner of Huntington Drive and Santa Anita Avenue. The Denny's restaurant exhibits variable heights with a single-story main building topped by a 40-foot-tall stylized, operational, windmill.

As described in Section 21099 of the Public Resources Code, TTPAs are defined as areas within one-half mile of a major transit stop, which includes the Project site. Pursuant to Section 21099(d)(1) of the Public Resources Code, aesthetic impacts of a mixed-use residential project on an infill site within a TPA shall not be considered significant impacts on the environment. Because the Project meets the qualifications of a TPA, this section primarily focuses on considering aesthetic impacts pursuant to the local design review ordinances applicable to the Project.

### 3.1.2 PROJECT IMPACTS

**Regulatory Requirements**

**RR AES-1** The Project Applicant/Property Owner shall prepare a Lighting Plan that provides the type and location of proposed exterior lighting and signage, subject to the review and approval of the City's Development Services Department. All new lighting will be shielded and down-cast, such that the light is not cast onto adjacent properties or visible from above, and all new lighting would be reviewed to ensure compliance with the standards codified in Section 9103.01 of the City of Arcadia Development Code.

**Impact Discussion**

**a) Would the project have a substantial adverse effect on a scenic vista?**

**Less than Significant Impact.** A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. A substantial adverse effect to a scenic vista is one that degrades the view from a designated viewing location. The City of Arcadia General Plan (Arcadia 2010a) provides no mention of scenic vistas explicitly; however, the General Plan Resource Sustainability Element mentions the undeveloped hillsides to the north of the Project site within the San Gabriel Mountains as creating a scenic backdrop to the City (Arcadia 2010a). Although the Project would potentially obstruct views of the hillsides for a limited number of viewers from Huntington Drive or properties to the south, the Project would not substantially damage any scenic resources. Therefore, the Project would have a less than significant impact, and no mitigation is required.

**b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?**

**No Impact.** The Project is not located along or near a State scenic highway. The nearest designated State scenic highways are State Route (SR) 110 (Arroyo Seco Parkway) and SR-2 (Angeles Crest Highway), located seven and nine miles, respectively, from the Project site (Caltrans 2019). Given the distance and the presence of intervening structures, no damage to scenic resources within a State scenic highway would result from the Project and no mitigation is required.

**c) Would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

**Less Than Significant Impact.** The Project site is located within the City's downtown and is immediately surrounded by existing urban development, including commercial retail, office, and associated parking. Given that the Project site is located in an urbanized area, the analysis for this threshold focuses on whether the Project would conflict with applicable zoning and other regulations governing scenic quality.

The Project would adhere to the applicable development standards for the DMU zone, as well as other citywide policies and requirements including but not limited to Sections 7554.2-7554.9 of the AMC covering the City's Water Efficient Landscaping Ordinance; and Development Code Section 9103.09 of the covering landscaping, Section 9103.01.080 regarding mechanical and

electrical equipment screening, Section 9103.01.130 regarding trash enclosures, and Section 9103.11 regarding signage. Also, the Project is located within the City Center Design Plan (Onyx Architects 2018). Project consistency with the City's Development Code, including development standards for the DMU zone and the City Center Design Plan, is discussed in more detail in Section 3.11, Land Use and Planning, of this IS/MND.

As part of the Project's design review process, the Project Applicant/Property Owner has prepared a landscape plan that provides the proposed plant palette and location of proposed landscaping, hardscaping, and other related features, which have been submitted to the City for review and approval as well as renderings and colors and materials boards, which have undergone the City's Design Review process, which is in place to ensure consistency with the applicable zoning and other applicable regulations, including those that govern scenic quality. More information related to Project consistency with plans, policies, and regulations is provided in Section 3.11. Given that the Project would not conflict with applicable zoning and other regulations governing scenic quality, the Project would result in less than significant impacts, and no mitigation is required.

**d) Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

**Less Than Significant Impact.** The Project site is in an area already subject to nighttime lighting from existing uses on and in the surrounding area. The Project site currently contains on-site lighting associated with existing buildings. In addition, there is existing street lighting on adjacent roadways.

The Project would introduce exterior light sources into the Project site suitable for the proposed mixed-use (residential/commercial) development, including lighting at Project site entrances, storefronts, and building exteriors. All lighting fixtures shall be appropriate in scale, intensity, and height for the Project. The Project's lighting would be consistent with other light generated by existing and surrounding land uses and roadways and would comply with the City's restrictions on exterior lighting (see RR AES-1) including Section 9103.07.060 of the Development Code for Parking Lot Lighting and Section 9103.01.120 of the Development Code for Exterior Lighting, which primarily focus on preventing spillage of lighting and glare onto adjacent properties. Consistent with City requirements, exterior lighting would be hooded and oriented to reflect away from adjoining properties and streets. Due to the urban nature of the Project site and surrounding areas, existing lighting, and lack of sensitive receptors for lighting (e.g., single-family residential) in the immediate vicinity, impacts associated with lighting the Project would be less than significant and no mitigation is required.

Glare is caused by light reflections from pavement, vehicles, and building materials (e.g., reflective glass and polished surfaces). During daylight hours, the amount of glare depends on intensity and direction of sunlight. Glare can create hazards to motorists and nuisances for pedestrians and other viewers. The Project would be constructed with materials and finishes that are common for infill development and are not highly reflective. Furthermore, as discussed above, Project light fixtures would be directed downward and shielded or recessed in such a manner so that light trespass is minimized and light from the project is not perceptible at or beyond the property line. The Project does not include any uses that would have the potential to create noticeable glare from sunlight, vehicle lights, or outdoor lighting which have the potential to pose a hazard to motorists traveling in the Project vicinity or that would affect surrounding uses. Therefore, less than significant impacts would occur related to glare, and no mitigation is required.

### 3.1.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to aesthetics; therefore, no mitigation measures are required.

| 3.2 AGRICULTURE AND FORESTRY RESOURCES | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project: | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | ☐ | ☐ | ☐ | ☒ |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220[g]), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g])? | ☐ | ☐ | ☐ | ☒ |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |

### 3.2.1 ENVIRONMENTAL SETTING

The Project site does not currently support any agricultural uses or activities or forestry resources. Therefore, no impact would occur, and no mitigation is required.

### 3.2.2 PROJECT IMPACTS

**Regulatory Requirements**

None required.

**Impact Discussion**

**a) Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

**b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

**c) Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code, Section 12220[g]), timberland (as defined by Public Resources Code, Section 4526), or timberland zoned Timberland Production (as defined by Government Code, Section 51104[g])?**

**d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?**

**e) Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?**

**No Impact.** The Project site is in an urbanized area and would not convert farmland to a non-agricultural use. The site is zoned as DMU and is developed with commercial land uses and surface parking lots (Arcadia 2010a). No portion of the Project site is covered by a Williamson Act Contract or located on land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance according to the 2016 California Department of Conservation, Farmland Mapping and Monitoring Program (DOC 2018a and 2018b). The City of Arcadia General Plan's Land Use and Community Design Element does not identify any agricultural production areas within the City's corporate boundaries (Arcadia 2010a). In addition, the Project site does not contain designated forest land or timberland as defined in the California Public Resources Code (Sections 12220[g] and 4526, respectively). Therefore, no impacts to agricultural resources, forest land, or timberland would result from Project implementation, and no mitigation is required.

### 3.2.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to agriculture and forestry resources; therefore, no mitigation measures are required.

| 3.3 AIR QUALITY | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan? | ☐ | ☐ | ☒ | ☐ |
| b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard? | ☐ | ☐ | ☒ | ☐ |
| c) Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |

### 3.3.1 ENVIRONMENTAL SETTING

The Project site is in the Los Angeles County portion of the South Coast Air Basin (SoCAB) and, for air quality regulation and permitting, is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SoCAB is a 6,600-square-mile area bound by the Pacific Ocean to the west, the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego County line to the south. The SoCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County. The SoCAB's terrain and geographical location (e.g., a coastal plain with connecting broad valleys and low hills) determine its distinctive semi-arid climate, which is characterized by moderate temperatures, oceanic influence, and precipitation that is limited to a few storms during the winter (November through April).

**Attainment Status**

Regional air quality is defined by whether the area has attained State and federal air quality standards, as determined by air quality data from various monitoring stations. Areas that are considered "nonattainment" are required to prepare plans and implement measures that will bring the region into "attainment". When an area has been reclassified from nonattainment to attainment for a federal standard, the status is identified as "maintenance", and there must be a plan and measures established that will keep the region in attainment for the next ten years.

For the California Air Resources Board (CARB), an "unclassified" designation indicates that the air quality data for the area are incomplete and there are no standards to support a designation of attainment or nonattainment. Table 5, Attainment Status of Criteria Pollutants in the South Coast Air Basin, summarizes the attainment status of the SoCAB for the criteria pollutants.

**TABLE 5**
**ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN**

| Pollutant | State | Federal |
|---|---|---|
| $O_3$ (1-hour) | Nonattainment | No Standards |
| $O_3$ (8-hour) | Nonattainment | Extreme Nonattainment |
| PM10 | Nonattainment | Attainment/Maintenance |
| PM2.5 | Nonattainment | Serious Nonattainment |
| CO | Attainment | Attainment/Maintenance |
| $NO_2$ | Attainment | Attainment/Maintenance |
| $SO_2$ | Attainment | Attainment |
| Lead | No Standard | Attainment/Nonattainment* |
| All others | Attainment/Unclassified | No Standards |

$O_3$: ozone; PM10: respirable particulate matter with a diameter of 10 microns or less; PM2.5: fine particulate matter with a diameter of 2.5 microns or less; CO: carbon monoxide; $NO_2$: nitrogen dioxide; $SO_2$: sulfur dioxide.

* Los Angeles County is classified nonattainment for lead; the remainder of the SoCAB is in attainment of the State and federal standards.

Sources: SCAQMD 2016, USEPA 2022

Sensitive Air Quality Receptors

Sensitive receptors include, but are not limited to, children, the elderly, persons with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. The nearest sensitive receptors to the Project site are residences located approximately 280 feet to the southeast and 410 feet to the northwest. Commercial and office uses are located proximate to the Project site to the north, west, and east. Arcadia County Park is located to the south of the Project site.

## Regulatory Framework

### *Air Pollutants*

Criteria Pollutants

Air quality regulations were first promulgated with the Federal Clean Air Act (CAA) of 1970. Air quality is defined by ambient air concentrations of seven "criteria air pollutants", which are a group of common air pollutants identified by the U.S. Environmental Protection Agency (USEPA) to be of concern with respect to the health and welfare of the general public. Federal and State governments regulate criteria air pollutants by using ambient standards based on criteria regarding the health and/or environmental effects of each pollutant. The criteria pollutants are defined as nitrogen dioxide ($NO_2$), ozone ($O_3$), particulate matter (including both respirable particulate matter with a diameter of 10 microns or less [PM10] and fine particulate matter with a diameter of 2.5 microns or less [PM2.5]), carbon monoxide (CO), sulfur dioxide ($SO_2$), and lead. A description of each criteria air pollutant, including source types and health effects, is provided below.

*Nitrogen Dioxide*

Nitrogen gas, normally relatively inert (nonreactive), comprises about 80 percent of the air. At high temperatures (e.g., in a combustion process) and under certain other conditions, nitrogen can

combine with oxygen to form several different gaseous compounds collectively called nitrogen oxides (NOx). Nitric oxide (NO), $NO_2$, and nitrous oxide ($N_2O$) are important constituents of NOx. NO is converted to $NO_2$ in the atmosphere. Motor vehicle emissions are the main source of NOx in urban areas. $NO_2$ is a red-brown pungent gas and is toxic to various animals and to humans because of its ability to form nitric acid with water in the eyes, lungs, mucus membranes, and skin. In animals, long-term exposure to NOx increases susceptibility to respiratory infections, lowering resistance to such diseases as pneumonia and influenza. Laboratory studies show that susceptible humans, such as asthmatics, who are exposed to high concentrations of $NO_2$ can suffer lung irritation and, potentially, lung damage. Epidemiological studies have also shown associations between $NO_2$ concentrations and daily mortality from respiratory and cardiovascular causes and with hospital admissions for respiratory conditions.

While the NAAQS only address $NO_2$, NO and $NO_2$ are both precursors in the formation of $O_3$ and PM2.5, as discussed below. Because of this, and the fact that NO emissions largely convert to $NO_2$, NOx emissions are typically examined when assessing potential air quality impacts.

*Ozone*

$O_3$ is a secondary pollutant, meaning that it is not directly emitted. It is a gas that is formed when volatile organic compounds (VOCs) (also referred to as reactive organic gases) and $NO_x$ undergo photochemical reactions that occur only in the presence of sunlight. The primary source of VOC emissions is unburned hydrocarbons in motor vehicle and other internal combustion engine exhaust. $NO_x$ forms as a result of the combustion process, most notably due to the operation of motor vehicles. Sunlight and hot weather cause ground-level $O_3$ to form;[3] as a result, ozone is known as a summertime air pollutant. Ground-level $O_3$ is the primary constituent of smog. Because $O_3$ formation occurs over extended periods of time, both $O_3$ and its precursors are transported by wind and high $O_3$ concentrations can occur in areas well away from sources of its constituent pollutants.

People with lung disease, children, older adults, and people who are active can be affected when $O_3$ levels exceed ambient air quality standards. Numerous scientific studies have linked ground-level $O_3$ exposure to a variety of problems, including:

- lung irritation that can cause inflammation much like a sunburn;
- wheezing, coughing, pain when taking a deep breath, and breathing difficulties during exercise or outdoor activities;
- permanent lung damage to those with repeated exposure to $O_3$ pollution; and
- aggravated asthma, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis.

Ground-level $O_3$ can have detrimental effects on plants and ecosystems. These effects include:

- interfering with the ability of sensitive plants to produce and store food, making them more susceptible to certain diseases, insects, other pollutants, competition, and harsh weather;
- damaging the leaves of trees and other plants; and
- reducing crop yields and forest growth, potentially impacting species diversity in ecosystems.

[3] Ground-level $O_3$ is not to be confused with atmospheric $O_3$ or the “ozone layer”, which occurs very high in the atmosphere and shields the planet from some ultraviolet rays.

*Particulate Matter*

Particulate matter includes both aerosols and solid particles of a wide range of size and composition. Of particular concern are those particles smaller than or equal to 10 microns in diameter (PM10) and smaller than or equal to 2.5 microns in diameter (PM2.5). Particulate matter size refers to the aerodynamic diameter of the particle. Smaller particles are of greater concern because they can penetrate deeper into the lungs than large particles.

PM10 is generally emitted directly as a result of mechanical processes that crush or grind larger particles or from the resuspension of dust, most typically through construction activities and vehicular travel. PM10 generally settles out of the atmosphere rapidly and is not readily transported over large distances.

PM2.5 is directly emitted in combustion exhaust and is formed in atmospheric reactions between various gaseous pollutants, including $NO_x$, sulfur oxides ($SO_x$), and VOCs. PM2.5 can remain suspended in the atmosphere for days and/or weeks and can be transported long distances.

The principal health effects of airborne particulate matter are on the respiratory system. Short-term exposure to high PM2.5 and PM10 levels are associated with premature mortality and increased hospital admissions and emergency room visits; a decline in respiratory function is also associated with short-term exposure to high PM10 levels. Long-term exposure to high PM2.5 levels is associated with premature mortality and development of chronic respiratory disease. According to the USEPA, some people are much more sensitive than others to breathing PM10 and PM2.5. People with influenza, chronic respiratory and cardiovascular diseases, and the elderly may suffer worse illnesses; people with bronchitis can expect aggravated symptoms; and children may experience decline in lung function due to breathing in PM10 and PM2.5. Other groups considered sensitive include smokers and people who cannot breathe well through their noses. Exercising athletes are also considered sensitive because many breathe through their mouths.

Particulate matter tends to occur primarily in the form of fugitive dust. This dust appears to be generated by both local sources and by region-wide dust during moderate- to high-wind episodes. These regional episodes tend to be multidistrict and sometimes interstate in scope. The principal sources of dust in urban areas are from grading, construction, disturbed areas of soil, and dust entrained by vehicles on roadways.

*Carbon Monoxide*

CO is a colorless and odorless gas which, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. CO combines with hemoglobin in the bloodstream and reduces the amount of oxygen that can be circulated through the body. High CO concentrations can cause headaches, aggravate cardiovascular disease, and impair central nervous system functions. CO concentrations can vary greatly over comparatively short distances. Relatively high CO concentrations are typically found near crowded intersections; along heavily used roadways carrying slow-moving traffic; and at or near ground level. Even under the most severe meteorological and traffic conditions, concentrations of CO are limited to locations within a relatively short distance (i.e., up to 600 feet or 185 meters) of heavily traveled roadways. Overall, CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO levels in the SoCAB are in compliance with the State and federal one-hour and eight-hour standards.

*Sulfur Dioxide*

$SO_x$ is a class of compounds of which $SO_2$ and sulfur trioxide ($SO_3$) are of greatest importance. Ninety-five percent of pollution-related $SO_x$ emissions are in the form of $SO_2$. $SO_x$ emissions are typically examined when assessing potential air quality impacts of $SO_2$. The primary contributor of $SO_x$ emissions is fossil fuel combustion for generating electric power. Industrial processes, such as nonferrous metal smelting, also contribute to $SO_x$ emissions. $SO_x$ is also formed during combustion of motor fuels; however, most of the sulfur has been removed from fuels, greatly reducing $SO_x$ emissions from vehicles.

$SO_2$ combines easily with water vapor, forming aerosols of sulfurous acid ($H_2SO_3$), a colorless, mildly corrosive liquid. This liquid may then combine with oxygen in the air, forming the even more irritating and corrosive sulfuric acid ($H_2SO_4$). Peak levels of $SO_2$ in the air can cause temporary breathing difficulty for people with asthma who are active outdoors. Longer-term exposures to high levels of $SO_2$ gas and particles cause respiratory illness and aggravate existing heart disease. $SO_2$ reacts with other chemicals in the air to form tiny sulfate particles that are measured as PM2.5.

*Lead*

Lead is a stable compound, which persists and accumulates both in the environment and in animals. In humans, it affects the body's blood-forming (or hematopoletic), nervous, and renal systems. In addition, lead has been shown to affect the normal functions of the reproductive, endocrine, hepatic, cardiovascular, immunological and gastrointestinal systems, although there is significant individual variability in response to lead exposure. Since 1975, lead emissions have been in decline due, in part, to the introduction of catalyst-equipped vehicles and the decline in the production of leaded gasoline. In general, an analysis of lead is limited to projects that emit significant quantities of the pollutant (i.e., lead smelters) and are not applied to transportation sources of emissions.

***Toxic Air Contaminants***

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or in serious illness or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including motor vehicles, gasoline stations, dry cleaners, industrial operations, painting operations, and research and teaching facilities.

TACs are different than the "criteria" pollutants previously discussed in that ambient air quality standards have not been established for them. TACs occurring at extremely low levels may still cause health effects, and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

Diesel engines emit a complex mixture of air pollutants composed of gaseous and solid material. The solid emissions in diesel exhaust are known as diesel particulate matter (diesel PM). In 1998, California identified diesel PM as a TAC based on its potential to cause cancer, premature death, and other health problems (e.g., asthma attacks and other respiratory symptoms). Those most vulnerable are children (whose lungs are still developing) and the elderly (who may have other serious health problems). Overall, diesel engine emissions are responsible for the majority of California's known cancer risk from outdoor air pollutants. Diesel engines also contribute to California's PM2.5 air quality problems.

Carcinogenic risks (i.e., cancer risks) are estimated as the incremental probability that an individual will develop cancer over his/her lifetime as a direct result of exposure to potential carcinogens. The estimated risk is expressed as a probability (e.g., 10 in 1 million). A risk level of 1 in 1 million implies a likelihood that up to 1 person out of 1 million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the specific concentration over 70 years (an assumed lifetime). This would be in addition to those cancer cases that would normally occur in an unexposed population of 1 million people. The Hazard Index (HI) expresses the potential for chemicals to result in non-cancer-related health impacts. HIs are expressed using decimal notation (e.g., 0.001). A calculated HI exposure of less than 1.0 will likely not result in adverse non-cancer-related health effects over a lifetime of exposure. Although a value of 1.0 is a commonly accepted California Environmental Quality Act (CEQA) significance threshold, an HI greater than 1.0 does not necessarily mean that adverse effects will occur.

The Project site is located in the SoCAB. The SoCAB comprises all of Orange County and parts of San Bernardino, Los Angeles, and Riverside Counties. Air quality in the SoCAB is regulated by the USEPA, CARB, and the SCAQMD. Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although USEPA regulations may not be superseded, both State and local regulations may be more stringent. The Southern California Association of Governments (SCAG) is an important partner to the SCAQMD and produces estimates of anticipated future growth and vehicular travel in the basin that are used for air quality planning. The federal, State, regional, and local regulations for criteria air pollutants and TACs are discussed below.

## Federal

### *United States Environmental Protection Agency*

The USEPA is responsible for implementing the CAA, which was first enacted in 1955[4] and amended numerous times thereafter. The CAA established federal air quality standards known as the NAAQS. These standards identify levels of air quality for criteria pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe (with an adequate margin of safety) to protect the public's health and welfare. The USEPA is responsible for setting and enforcing the NAAQS for criteria pollutants. The NAAQS are shown in Table 6. The USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The USEPA requires each State with federal nonattainment areas to prepare and submit a State Implementation Plan (SIP). The SIP must integrate federal, State, and local plan components and regulations to identify specific measures to reduce pollution and thereby attain or maintain federal standards by using a combination of performance standards and market-based programs within the SIP identified time frame.

[4] The Air Pollution Control Act, the predecessor to the Clean Air Act, was enacted in 1955.

## TABLE 6
## CALIFORNIA AND NATIONAL AMBIENT AIR QUALITY STANDARDS

| Pollutant | Averaging Time | California Standards | Federal Standards | |
|---|---|---|---|---|
| | | | Primary[a] | Secondary[b] |
| $O_3$ | 1 Hour | 0.09 ppm (180 µg/m$^3$) | – | – |
| | 8 Hour | 0.070 ppm (137 µg/m$^3$) | 0.070 ppm (137 µg/m$^3$) | Same as Primary |
| PM10 | 24 Hour | 50 µg/m$^3$ | 150 µg/m$^3$ | Same as Primary |
| | AAM | 20 µg/m$^3$ | – | – |
| PM2.5 | 24 Hour | – | 35 µg/m$^3$ | Same as Primary |
| | AAM | 12 µg/m$^3$ | 12.0 µg/m$^3$ | 15.0 µg/m$^3$ |
| CO | 1 Hour | 20 ppm (23 mg/m$^3$) | 35 ppm (40 mg/m$^3$) | – |
| | 8 Hour | 9.0 ppm (10 mg/m$^3$) | 9 ppm (10 mg/m$^3$) | – |
| $NO_2$ | AAM | 0.030 ppm (57 µg/m$^3$) | 0.053 ppm (100 µg/m$^3$) | Same as Primary |
| | 1 Hour | 0.18 ppm (339 µg/m$^3$) | 0.100 ppm (188 µg/m$^3$) | – |
| $SO_2$ | 24 Hour | 0.04 ppm (105 µg/m$^3$) | – | – |
| | 3 Hour | – | – | 0.5 ppm (1,300 µg/m$^3$) |
| | 1 Hour | 0.25 ppm (655 µg/m$^3$) | 0.075 ppm (196 µg/m$^3$) | – |
| Lead | 30-day Avg. | 1.5 µg/m$^3$ | – | – |
| | Calendar Quarter | – | 1.5 µg/m$^3$ | Same as Primary |
| | Rolling 3-month Avg. | – | 0.15 µg/m$^3$ | |
| Visibility Reducing Particles | 8 Hour | Extinction coefficient of 0.23 per km – visibility ≥ 10 miles | **No Federal Standards** | |
| Sulfates | 24 Hour | 25 µg/m$^3$ | | |
| Hydrogen Sulfide | 1 Hour | 0.03 ppm (42 µg/m$^3$) | | |
| Vinyl Chloride | 24 Hour | 0.01 ppm (26 µg/m$^3$) | | |

$O_3$: ozone, ppm: parts per million, µg/m$^3$: micrograms per cubic meter, –: No Standard; PM10: respirable particulate matter with a diameter of 10 microns or less, AAM: Annual Arithmetic Mean, PM2.5: fine particulate matter with a diameter of 2.5 microns or less, CO: carbon monoxide, mg/m$^3$: milligrams per cubic meter, $NO_2$: nitrogen dioxide, $SO_2$: sulfur dioxide, km: kilometer.

[a] National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect the public health.

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

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

Source: CARB 2016.

## State

### *California Air Resources Board*

CARB, as part of the California Environmental Protection Agency (CalEPA), is responsible for coordinating and administering both the federal and State air pollution control programs in California. In this capacity, CARB establishes the California Ambient Air Quality Standards (CAAQS), as shown in Table 6, which are generally more stringent and apply to more pollutants than the National Ambient Air Quality Standards (NAAQS). In addition to the criteria pollutants, CAAQS have been established for visibility-reducing particulates, sulfates, hydrogen sulfide, and vinyl chloride.

In addition, CARB conducts research, compiles emissions inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. CARB requires the air districts in regions that do not attain the CAAQS to prepare plans for attaining the standards. These plans are then integrated into the State SIP. CARB establishes emissions standards for motor vehicles sold in California, consumer products (e.g., hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. The AQMP for the SoCAB is discussed below.

### *Title 24 Energy Efficiency Standards*

The Energy Efficiency Standards for Residential and Nonresidential Buildings (CCR, Title 24, Part 6) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The current applicable standards are the 2022 Standards, effective January 1, 2023. The 2022 standards focus on four key areas: smart residential photovoltaic systems, updated thermal envelope standards (preventing heat transfer from the interior to exterior and vice versa), residential and nonresidential ventilation requirements, and non-residential lighting requirements. The requirements of the energy efficiency standards result in the reduction of natural gas and electricity consumption. Since using natural gas produces criteria pollutant emissions, a reduction in natural gas consumption results in a related reduction in air quality emissions. Additional discussion of the Title 24 energy efficiency standards is included in Sections 3.6, Energy and 3.8, Greenhouse Gas Emissions. The 2022 Energy Efficiency Standards are being developed and would improve upon the 2019 Energy Code for new construction of, and additions and alterations to, residential and non-residential buildings. The California Energy Commission (CEC) updates the standards typically every three years.

### *Title 24 Green Building Standards*

The 2022 California Green Building Standards Code (CCR, Title 24, Part 11), also known as the "CALGreen Code," contains mandatory requirements and voluntary measures for new residential and non-residential buildings (including buildings for retail uses, office uses, public schools, and hospitals) throughout California (CBSC 2022). Development of the CALGreen Code is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. The CALGreen Code was established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction. The City has adopted the CALGreen Code in Article 8 of the AMC.

The CALGreen Code provides standards for bicycle parking, carpool/vanpool/electric vehicle spaces, light and glare reduction, grading and paving, energy-efficient appliances, renewable energy, graywater systems, water efficient plumbing fixtures, recycling and recycled materials, pollutant controls (including moisture control and indoor air quality), acoustical controls, storm water management, building design, insulation, flooring, and framing, among others. Implementation of the CALGreen Code measures reduces energy consumption and vehicle trips and encourages the use of alternative-fuel vehicles which, in turn, reduces pollutant emissions. Additional discussion of the CALGreen Code is included in Sections 5.4, Energy, and 5.7, Greenhouse Gas Emissions.

## Regional

### *South Coast Air Quality Management District*

In the SoCAB, the SCAQMD is the agency responsible for protecting public health and welfare through the administration of federal and State air quality laws, regulations, and policies. Included in the SCAQMD's tasks are the monitoring of air pollution, the preparation of the AQMP for the SoCAB, and the promulgation of rules and regulations.

SCAG is the federally designated Metropolitan Planning Organization and the State-designated transportation planning agency for six counties: Riverside, San Bernardino, Los Angeles, Ventura, Imperial, and Orange.

The SCAQMD and SCAG are jointly responsible for formulating and implementing the AQMP for the SoCAB. SCAG's Regional Mobility Plan and Growth Management Plan form the basis for the land use and transportation control portion of the AQMP.

Air Quality Management Plan

The current regional plan applicable to the Project is the SCAQMD's 2022 AQMP. The SCAQMD is responsible for ensuring that the SoCAB meets the NAAQS and CAAQS by reducing emissions from stationary (area and point), mobile, and indirect sources. To accomplish this goal, the SCAQMD prepares AQMPs in conjunction with the SCAG, County transportation commissions, and local governments; develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

The 2022 AQMP was adopted on December 2, 2022, by the SCAQMD Governing Board. The 2022 AQMP evaluates integrated strategies and measures to meet the following NAAQS (SCAQMD 2022):

- 8-hour $O_3$ target of 80 parts per billion (ppb) by 2024, 75 ppb by 2032, 70 ppb by 2038;
- Annual PM2.5 (12 micrograms per cubic meter [$\mu g/m^3$]) by 2025;
- 1-hour $O_3$ (120 ppb) by 2023; and
- 24-hour PM2.5 (35 $\mu g/m^3$) by 2023.

South Coast Air Quality Management District Rules

The Project would be required to comply with existing SCAQMD rules for the reduction of fugitive dust and criteria pollutant emissions. The following rules are most relevant to the Project.

**SCAQMD Rule 201** requires a "Permit to Construct" prior to the installation of any equipment "the use of which may cause the issuance of air contaminants . . ." and Regulation II provides the requirements for the application for a Permit to Construct. Rule 203 similarly requires a Permit to Operate. Rule 219, Equipment not Requiring a Written Permit Pursuant to Regulation II, identifies "equipment, processes, or operations that emit small amounts of contaminants that shall not require written permits . . .".

**SCAQMD Rule 402, Nuisance** states that a project shall not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

**SCAQMD Rule 403, Fugitive Dust** requires actions to prevent, reduce, or mitigate fugitive particulate matter emissions. These actions include applying water or chemical stabilizers to disturbed soils; managing haul road dust by applying water; covering all haul vehicles before transporting materials; restricting vehicle speeds on unpaved roads to 15 miles per hour (mph); and sweeping loose dirt from paved site access roadways used by construction vehicles. In addition, Rule 403 requires that vegetative ground cover be established on disturbance areas that are inactive within 30 days after active operations have ceased. Alternatively, an application of dust suppressants can be applied in sufficient quantity and frequency to maintain a stable surface. Rule 403 also requires grading and excavation activities to cease when winds exceed 25 mph.

**SCAQMD Rule 445** has been adopted to reduce the emissions of particulate matter from wood-burning devices and prohibits the installation of such devices in any new development.

**SCAQMD Rule 1113** governs the sale of architectural coatings and limits the VOC content in paints and paint solvents. Although this rule does not directly apply to the Project, it does dictate the VOC content of paints available for use during building construction and ongoing maintenance.

**SCAQMD Rule 1401** under Regulation XIV requires new source review of any new, relocated, or modified permit units that emit TACs. The rule establishes allowable risks for permit units requiring permits pursuant to Rules 201 and 203 discussed above.

**SCAQMD Rule 1403, Asbestos Emissions from Demolition/Renovation Activities,** specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

### *Southern California Association of Governments*

SCAG is the regional planning agency for Orange, Los Angeles, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated MPO for the Southern California region. On June 5, 2020, SCAG's Regional Council adopted the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

(Connect Socal). The RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS includes a strong commitment to reduce emissions from transportation sources in order to improve public health, to meet the NAAQS as set forth by the CAA.

### 3.3.2 PROJECT IMPACTS

**Regulatory Requirements**

**RR AQ-1** The Project will be conducted in compliance with all applicable South Coast Air Quality Management District (SCAQMD) rules and permitting requirements, including but not limited to:

- SCAQMD Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance. Compliance with this rule will reduce short-term particulate pollutant emissions.
- SCAQMD Rule 402, Nuisance, which states that a Project will not "discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property".
- SCAQMD Rule 1113, Architectural Coatings, which limits the volatile organic content (VOC) of architectural coatings used for the Project.

**Impact Discussion**

**a) Would the project conflict with or obstruct implementation of the applicable air quality plan?**

**Less than Significant Impact.** The SCAQMD develops rules and regulations, establishes permitting requirements for stationary sources, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary. It is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources and has prepared an AQMP that establishes a program of rules and regulations directed at attaining the NAAQS and CAAQS.

The 2022 AQMP was adopted on December 2, 2022, by the SCAQMD Governing Board. The 2022 AQMP evaluates integrated strategies and measures to meet the following NAAQS (SCAQMD 2022):

- 8-hour $O_3$ target of 80 parts per billion (ppb) by 2024, 75 ppb by 2032, 70 ppb by 2038;
- Annual PM2.5 (12 micrograms per cubic meter [µg/$m^3$]) by 2025;
- 1-hour $O_3$ (120 ppb) by 2023; and
- 24-hour PM2.5 (35 µg/$m^3$) by 2023.

The SCAQMD CEQA Handbook states that "New or amended GP Elements (including land use zoning and density amendments), Specific Plans, and significant projects must be analyzed for consistency with the AQMP". While the Project is consistent with the General Plan land use designation and zoning for the site, an AQMP consistency analysis was conducted. Strict consistency with all aspects of the plan is usually not required. A project should be considered consistent with the AQMP if it furthers one or more policies and does not obstruct other policies.

The SCAQMD CEQA Handbook identifies two key indicators of consistency, as discussed above:

1. Whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
2. Whether the project will exceed the assumptions in the AQMP or increments based on the year of project buildout and phase.

Both criteria are evaluated for the Project, as shown below.

With respect to the first criterion, based on the air quality modeling analysis conducted for the Project [thresholds 3.3(b) and 3.3(c), below)], construction and operation of the Project would not exceed the SCAQMD's CEQA thresholds of significance and consequently would not result in an increase in the frequency or severity of existing air quality violations nor cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emissions reductions in the AQMP. Therefore, the Project is consistent with the first criterion.

With respect to the second criterion, the Project was assessed as to whether it would exceed the assumptions in the AQMP. The SCAQMD's current air quality planning document is the 2022 Air Quality Management Plan (2022 AQMP). The Project parcels have a land use designation of DMU. The Project would advance the City's goal as embodied in the General Plan of providing the residential uses necessary to support and complement the existing and proposed businesses in downtown as well as the nearby Metro A Line Station. The goal of the Project is to transform the Project site within the City's downtown into a more vibrant, dynamic, transit- and pedestrian-oriented mixed-use development consistent with the Arcadia General Plan (General Plan) and related development standards and requirements. Because of its proximity to the Metro A Line Station, the Project site is within both a Transit Priority Area as defined under Senate Bill (SB) 743 (Section 21099 of the Public Resources Code), as the geographic area within 0.5-mile of a major transit stop included in a regional transportation plan; and a High Quality Transit Area as defined under SB 375 and codified in Section 21155 of the Public Resources Code, as a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. For the City of Arcadia, these areas are identified by the Southern California Association of Governments (SCAG) and its 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS), adopted by SCAG's Regional Board on September 3, 2020. Additionally, the Project qualifies as a Transit Priority Project (TPP), defined under SB 375 (Section 21155 of the Public Resources Code)

The Project site is zoned as DMU. As discussed further in Section 3.11, Land Use and Planning, the Project would be consistent with the zoning and General Plan designations of the Project site with issuance of a Conditional Use Permit for multifamily dwellings which are permitted as part of mixed-use development. The development of the Project would support the air pollutant emissions reduction goals detailed in the AQMP and RTP/SCS by developing residential uses in a TPA, HQTA, and TPP area which provides mass transit options which leads to less air quality and greenhouse gas emissions as compared to transportation with single-occupant vehicles. In addition, the amount of emissions generated by the Project is below the SCAQMD's significance

thresholds. The Project is located within a half-mile of the Metro A Line Station. The proximity of the Project site to the station would encourage the use of mass transit which is consistent with the AQMP's goal of using non-single occupancy vehicles. As such, the Project would not conflict with the 2022 AQMP. Therefore, the Project would result in a less than significant impact related to this threshold, and no mitigation is required.

**b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard?**

**Less than Significant Impact.** As identified in Table 6 above, Los Angeles County is a nonattainment area for $O_3$, PM10, and PM2.5. The Project would generate PM10, PM2.5, $NO_2$, and $O_3$ precursors ($NO_x$ and VOC) during short-term construction and long-term operations.

A project may have a significant impact where project-related emissions would exceed federal, State, or regional standards or thresholds, or where project-related emissions would substantially contribute to an existing or projected air quality violation. The SCAQMD has developed construction and operations thresholds to determine whether projects would potentially result in contributing toward a violation of ambient air quality standards. The SCAQMD recommends that projects be evaluated in terms of the quantitative thresholds established to assess both the regional and localized impacts of project-related air pollutant emissions. The City uses the current SCAQMD thresholds to determine whether a project would have a significant impact. These regional emission thresholds cannot be used to correlate whether a specific health impact would occur to an individual receptor. These significance thresholds were developed to assist lead agencies with a consistent threshold that could be used to determine whether a project's emissions could significantly contribute to the total emissions occurring within an air basin. The totality of the air basin's emissions would determine whether it would be in attainment of the CAAQS and NAAQS. These SCAQMD thresholds are identified in Table 7, South Coast Air Quality Management District Air Quality Significance Thresholds.

**TABLE 7**
**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AIR QUALITY SIGNIFICANCE THRESHOLDS**

| Mass Daily Thresholds (lbs/day) | | |
|---|---|---|
| **Pollutant** | **Construction** | **Operation** |
| VOC | 75 | 55 |
| $NO_x$ | 100 | 55 |
| CO | 550 | 550 |
| PM10 | 150 | 150 |
| PM2.5 | 55 | 55 |
| $SO_x$ | 150 | 150 |
| Lead | 3 | 3 |

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SOx: sulfur oxides.

Source: SCAQMD 2019

Air pollutant emissions for the Project were estimated using the California Emissions Estimator Model (CalEEMod) version 2022.1.1.4 (CAPCOA 2022). CalEEMod is designed to model construction and operational emissions for land development projects and allows for the input of

project- and county-specific information. For air quality modeling purposes, construction of the Project was based on the Project's construction assumptions and default assumptions derived from CalEEMod. The input for operational emissions of the existing and proposed uses was based on the vehicle trip generation rates provided in the Traffic Study prepared for the Project (Psomas 2024, Appendix H) and the proposed building area. Additional input details are included in Appendix A, Air Quality and Greenhouse Gas Emissions Calculations.

It is noted that when the following air quality analysis was conducted, construction of the Project was anticipated to require approximately 29 months beginning in 2024 and ending in 2026. As detailed above in Section 2.3, Construction Activities, at this time Project construction is expected to require 29 months beginning in 2026 and ending in 2028. This air quality analysis remains applicable for use in this IS/MND because over time vehicle emissions generally improve because of regulatory efforts and market changes. The improved tailpipe emissions are captured in CalEEMod through periodic updates to CARB's Emissions Factor model. Therefore, the following is expected to represent a more conservative analysis of criteria pollutant emissions during construction and operation of the Project.

**Construction Emissions**

Air pollutant emissions would occur from: construction equipment exhaust; fugitive dust from demolition and site grading; exhaust and particulate emissions from trucks hauling demolition and construction debris, soil, and building materials to and from the Project site; from automobiles and light trucks driven to and from the Project site by construction workers; and VOCs from painting and asphalt paving operations. The Project would comply with applicable SCAQMD rules and regulations as described in RR AQ-1, including Rule 402 for nuisance, Rule 403 for fugitive dust control, and Rule 1113 for architectural coatings. Rule 403 measures include regular watering of active grading areas and unpaved roads, limiting vehicle speeds on unpaved surfaces, stabilizing stockpiled earth, and curtailing grading operations during high wind conditions (SCAQMD 1976). Watering of active grading areas is included in the CalEEMod emissions analysis and results in reduced PM10 and PM2.5 emissions. It should be noted that some Project requirements and features (such as watering grading areas), although required Project elements, are shown in the CalEEMod format as mitigation measures. SCAQMD Rule 1113 limits the VOC content of architectural coatings (SCAQMD 1977). The emission reductions associated with compliance with this rule have been included in the emissions calculations.

***Regional Emissions Thresholds – Maximum Daily Regional Emissions***

Table 8, Estimated Maximum Daily Regional Construction Emissions, presents the estimated maximum daily emissions during construction of the Project and compares the estimated emissions with the SCAQMD's daily regional emission thresholds. As shown in Table 8, Project construction mass daily emissions would be less than the SCAQMD's thresholds for all criteria air pollutants.

**TABLE 8**
**ESTIMATED MAXIMUM DAILY REGIONAL CONSTRUCTION EMISSIONS**

| Year[a]Year[a] | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | **VOC** | **$NO_x$** | **CO** | **SOx** | **PM10** | **PM2.5** |
| 2024 | 3 | 27 | 23 | <1 | 5 | 2 |
| 2025 | 2 | 13 | 22 | <1 | 3 | 1 |
| 2026 | 23 | 20 | 35 | <1 | 3 | 1 |
| ***Maximum*** | 23 | 27 | 36 | <1 | 5 | 2 |
| ***SCAQMD Thresholds (Table 7)*** | ***75*** | ***100*** | ***550*** | ***150*** | ***150*** | ***55*** |
| **Exceeds SCAQMD Thresholds?** | **No** | **No** | **No** | **No** | **No** | **No** |

lbs/day: pounds per day; VOC: volatile organic compound; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.
[a] When this analysis was conducted, construction of the Project was anticipated to begin in 2024. As vehicle emissions generally improve over time, this analysis remains applicable.
Source: SCAQMD 2019 (thresholds); see Appendix A for CalEEMod model outputs.

### *Construction Activities*

Construction activities associated with the Project would result in less than significant construction-related regional and localized air quality impacts, as quantified above in Tables 7 and 8, respectively.

SCAQMD's policy with respect to cumulative impacts associated with the above-referenced pollutants and their precursors is that impacts that would be directly less than significant would also be cumulatively less than significant. As discussed under Threshold 3.3(a), short-term construction emissions associated with the Project would occur at less than significant levels. Therefore, consistent with SCAQMD policy, the cumulative construction impact of criteria pollutants would also be less than significant.

### Operational Emissions

The ongoing operation of the Project would result in a long-term increase in air quality emissions. This increase would be due to emissions from Project-generated vehicle trips and through operational emissions from the ongoing use of the Project. Existing development occurring at the Project site currently generates air pollutant emissions. The Project would replace these existing uses. To determine the net change in air pollutant emissions associated with the Project, existing emissions would be subtracted from emissions occurring with the Project to determine the net change in air pollution that would occur.

Existing development on the Project site includes five buildings which would be demolished to allow for construction of the Project. Existing operations generate air pollutant emissions from a variety of sources including vehicle trips associated with the commercial and office buildings; natural gas used for heating and hot water; landscape and building maintenance equipment; and consumer products. Emissions from the existing uses of the Project site were estimated using CalEEMod, and are shown in Table 9, Existing Daily Operational Emissions. The CalEEMod model input was based on the vehicle trip generation rate provided in the traffic impact analysis and the building area for the existing on-site uses (Appendix A).

**TABLE 9**
**EXISTING DAILY OPERATIONAL EMISSIONS**

| Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | NOx | CO | SOx | PM10 | PM2.5 |
| Mobile sources | 2 | 1 | 15 | <1 | 1 | <1 |
| Area sources | 1 | <1 | 1 | <1 | <1 | <1 |
| Energy sources | <1 | <1 | <1 | <1 | <1 | <1 |
| **Total Existing Operational Emissions*** | **3** | **1** | **16** | **<1** | **1** | **<1** |

lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

* Some totals do not add due to rounding.

Source CalEEMod model data sheets are included in Appendix A.

The following section provides an analysis of potential air quality impacts to regional and local air quality with operation of the Project. The net change in emissions associated with the Project was calculated by deducting the emissions that are currently occurring under existing conditions. The potential operations-related air emissions have been analyzed, as discussed below, for the regional and local criteria pollutant emissions and cumulative impacts.

The primary sources of emissions during the operations phase of the Project are comprised of area, energy, and mobile source emissions. Area based emissions are associated with hearths, consumer products, architectural coatings, and landscaping. Energy related emissions are associated with the combustion of natural gas for space heating or cooking. Mobile sources of emissions are from vehicles accessing the Project site. Area and energy source emissions are based on CalEEMod assumptions for the specific land uses and size. Mobile source emissions are based on estimated Project-related trip generation forecasts, as contained in the Project traffic impact analysis. The Project would generate 1,366 total daily trips (i.e., not deducting trips from existing uses) including reduction of trips from pass-by and internal capture credits (Psomas 2024, Appendix H). Estimated peak daily net operational emissions are shown in Table 10, Peak Daily Net Operational Emissions, on the following page.

**TABLE 10**
**PEAK DAILY NET OPERATIONAL EMISSIONS**

| Source | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | VOC | NOx | CO | SOx | PM10 | PM2.5 |
| Mobile sources | 5 | 4 | 43 | <1 | 9 | 2 |
| Area sources | 4 | <1 | <1 | <1 | <1 | <1 |
| Energy sources | <1 | 1 | 1 | <1 | <1 | <1 |
| **Total Operational Emissions*** | **9** | **5** | **44** | **<1** | **10** | **3** |
| **Less: Existing Emissions (Table 9)** | **3** | **1** | **16** | **<1** | **1** | **<1** |
| **Net Increase in Emissions** | **6** | **4** | **28** | **<1** | **9** | **3** |
| ***SCAQMD Significance Thresholds (Table 7)*** | ***55*** | ***55*** | ***550*** | ***150*** | ***150*** | ***55*** |
| **Significant Impact?** | **No** | **No** | **No** | **No** | **No** | **No** |

lbs/day: pounds per day; VOC: volatile organic compounds; NOx: nitrogen oxides; CO: carbon monoxide; SOx: sulfur oxides; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter; SCAQMD: South Coast Air Quality Management District.

* Some totals do not add due to rounding.

Source: CalEEMod model data sheets are included in Appendix A.

As shown in Table 10, Peak Daily Net Operational Emissions, net operational emissions for all analyzed pollutants would be below the SCAQMD CEQA significance thresholds. Therefore, the Project would not contribute individually or to a cumulatively considerable net increase of a pollutant for which the SoCAB is in nonattainment. Emissions of nonattainment pollutants or their precursors would not be cumulatively considerable. Therefore, the Project would result in a less than significant impact related to this threshold, and no mitigation is required.

**c) Would the project expose sensitive receptors to substantial pollutant concentrations?**

**Less than Significant Impact.** A significant impact may occur when a project would generate pollutant concentrations to a degree that would significantly affect sensitive receptors, which include populations that are more susceptible to the effects of air pollution than the population at large. Exposure of sensitive receptors is addressed for the following situations: CO hotspots; criteria pollutants and toxic air contaminants (TACs), specifically diesel particulate matter (DPM) from on-site construction; exposure to off-site TAC emissions; and asbestos and lead-based paint during demolition. Operational, long-term TACs may be generated by some industrial land uses; commercial land uses (e.g., gas stations and dry cleaners); and diesel trucks on freeways. Residential land uses do not generate substantial quantities of TACs and are therefore not addressed in this report.

***Construction-Phase Localized Significance Thresholds***

In addition to the mass daily emissions thresholds established by the SCAQMD, short-term local impacts to nearby sensitive receptors from on-site emissions of $NO_2$, CO, PM10, and PM2.5 are examined based on SCAQMD's localized significance threshold (LST) methodology. To assess local air quality impacts for development projects without complex dispersion modeling, the SCAQMD developed screening (lookup) tables to assist lead agencies in evaluating impacts. The LST method was developed to provide a conservative estimate of the level of project-generated air pollutants that have the potential to exceed the NAAQS or CAAQS, which could consequently result in adverse health impacts. Exceedance of the LST does not describe the prevalence or

magnitude of health effects, but rather assesses the potential for a project-related health effect to occur. The LST method cannot provide an estimate of health effects related to ozone. Reactive organic gases (ROGs) and $NO_x$ are pollutants that contribute to the formation of ozone, otherwise known as ozone precursors. It would be too speculative to determine how an individual project could affect the formation of ozone, and how it could affect the health for a specific receptor: ozone does not fully form within the proximity of a project site, and the formation of ozone is affected by solar irradiance, meteorological conditions, presence of ozone precursors from other sources, and other factors. As such, modeling of ozone concentrations is conducted on the "macro" scale of an air basin for all pollutant sources within the basin, and not for an individual project. Consequently, the LST analysis focuses on a project-level analysis of the four criteria pollutants of greatest concern (CO, $NO_x$, PM10, and PM2.5).

The LST method is recommended to be limited to projects that are five acres or less. For the purposes of an LST analysis, the SCAQMD considers receptors where it is possible that an individual could remain for 1 hour for $NO_2$ and CO exposure and 24 hours for PM10 and PM2.5 exposure. The emissions limits in the lookup tables are based on the SCAQMD's Ambient Air Quality Standards (SCAQMD 2022). The closest receptors that may remain for 1 hour are commercial uses adjacent to the Project's boundaries, and the closest receptor that may remain for 24 hours are residential uses to the southeast and northwest of the Project site.

Table 11, Construction-Phase Localized Significance Threshold Emissions, shows the maximum daily on-site emissions for construction activities compared with the SCAQMD LST thresholds. The Project's maximum daily on-site emissions would occur during the demolition phase (for NOx and CO), and during the grading/excavation phase (for PM10 and PM2.5). As shown in Table 11, localized emissions for all criteria pollutants would be less than their respective thresholds. Therefore, localized air quality impacts at receptors proximate to construction activities would be exposed to less than significant air quality impacts.

**TABLE 11**
**CONSTRUCTION-PHASE**
**LOCALIZED SIGNIFICANCE THRESHOLD EMISSIONS**

| Emissions and Thresholds | Emissions (lbs/day) | | | |
|---|---|---|---|---|
| | **NOx** | **CO** | **PM10** | **PM2.5** |
| Project maximum daily on-site emissions | 23 | 26 | 4 | 2 |
| **Localized Significance Threshold*** | ***89*** | ***623*** | ***5*** | ***3*** |
| **Exceed threshold?** | **No** | **No** | **No** | **No** |

lbs/day: pounds per day; NOx: nitrogen oxides; CO: carbon monoxide; PM10: respirable particulate matter 10 microns or less in diameter; PM2.5: fine particulate matter 2.5 microns or less in diameter.

Note: Data is for SCAQMD Source Receptor Area 9, East San Gabriel Valley

* NOx, CO, PM10 and PM2.5 thresholds are based on a distance of 25 meters (82 feet) of the Project site.

Source: SCAQMD 2009 (thresholds); see Appendix A for CalEEMod model outputs.

### *Carbon Monoxide Hotspot*

In an urban setting, vehicle exhaust is the primary source of CO. Consequently, the highest CO concentrations generally are found close to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (e.g., congested intersection) increases. The SoCAB is currently in a state of attainment for CO. The East San Gabriel Valley 2 region for which the project area is located was recorded to have 1.4 parts per million 1-hour concentration and 0.9 parts per million 8-hour concentration (SCAQMD 2021). The California ambient air quality standard for a 1-hour concentration is 20 ppm and the

8-hour concentration is 9 ppm. As such, the East San Gabriel Valley 2 region is exposed to CO concentrations that are 7 percent and 10 percent of the 1-hour and 8-hour ambient quality standards, respectively. Based on the Project's Traffic Study (Psomas 2024, Appendix H), the Project would result in 123 total AM peak hour trips and 112 total PM peak hour trips. The increase in vehicle trips is relatively low and is not of sufficient magnitude to contribute toward a CO hotspot. As such, Project-related traffic would result in less than significant CO impacts, and no mitigation is required.

***Toxic Air Contaminant Emissions from On-Site Construction***

Construction activities would result in short-term, Project-generated emissions of DPM from the exhaust of off-road, heavy-duty diesel equipment used for site preparation (e.g., demolition, excavation, and grading); paving; building construction; and other miscellaneous activities. CARB identified DPM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, health risk assessments—which determine the exposure of sensitive receptors to TAC emissions—should be based on a 40-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project.

There would be relatively few pieces of off-road, heavy-duty diesel equipment in operation, and the total construction period would be relatively short when compared to a 30-year exposure period. Combined with the highly dispersive properties of DPM and additional reductions in particulate emissions from newer construction equipment, as required by USEPA and CARB regulations as well as the relatively large distance between the Project site and the nearest sensitive land uses, construction emissions of TACs would not expose sensitive receptors to substantial emissions of TACs. The impact would be less than significant, and no mitigation is required.

**d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?**

**Less than Significant Impact.** Potential operational odors could be created by cooking activities and solid waste storage (trash) associated with residential and commercial uses. These odors would be similar to existing residential and commercial uses surrounding the Project site and throughout the City. Odors would be confined to the immediate vicinity of the proposed uses and are not considered to be objectionable and of such magnitude to constitute a public nuisance.

Furthermore, according to the SCAQMD's *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (SCAQMD 1993). The Project does not include any uses identified by the SCAQMD as being associated with odors and, therefore, would not produce emissions which would lead to odors. The Project uses are also regulated from nuisance odors or other objectionable emissions by SCAQMD Rule 402 (RR AQ-1). Rule 402 prohibits any the discharge from any source of air contaminants or other material which would cause injury, detriment, nuisance, or annoyance to people or the public. As such, the Project would have a less than significant impact regarding other emissions and no mitigation is required.

### 3.3.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to air quality; therefore, no mitigation measures are required.

| 3.4 BIOLOGICAL RESOURCES | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☒ |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☒ |
| c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☐ | ☒ |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☐ | ☒ | ☐ |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | ☐ | ☐ | ☒ | ☐ |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | ☒ |

### 3.4.1 ENVIRONMENTAL SETTING

The Project site is within an urban area and is surrounded entirely by development that consists primarily of commercial uses. The site is fully developed with commercial uses. On-site vegetation includes ornamental street trees, landscaping shrubs, and groundcover along the Huntington Drive and Santa Anita Avenue frontages, as well as some ornamental trees in the parking lot medians.

The City's Tree Preservation Ordinance (Section 9110.01 et. seq. of the Development Code) recognizes oaks, sycamores, and mature trees on private property as significant aesthetic and ecological resources and establishes policies for their protection, removal, and replacement. Protected trees include:

1. Engelmann Oak *(Quercus engelmannii)* or Coast Live Oak *(Quercus agrifolia)* with a trunk diameter larger than four (4) inches measured at a point four and one-half (4½) feet above

the root crown, or two (2) or more trunks measuring three (3) inches each or greater in diameter, measured at a point four and one-half (4½) feet above the root crown.

2. Any other living California native or non-California native Oak tree with a trunk diameter larger than twelve (12) inches measured at a point four and one-half (4½) feet above the root crown, or two (2) or more trunks measuring ten (10) inches each or greater in diameter, measured at a point four and one-half (4½) feet above the root crown.
3. California, or western, Sycamore *(Platanus racemosa*) with a trunk diameter larger than six (6) inches measured at a point four and one-half (4½) feet above the root crown, or two (2) or more trunks measuring four (4) inches each or greater in diameter, measured at a point four and one-half (4½) feet above the root crown.
4. Mature Tree. Any tree, with the exception of the trees listed as Unprotected Trees, that have a trunk diameter larger than twelve (12) inches measured at a point four and one-half (4½) feet above the root crown, or two (2) or more trunks measuring ten (10) inches each or greater in diameter, measured at a point of four and one-half (4½) feet above the root crown and the tree is located within a required front, side, street-side, or rear yard setback.

A total of 26 trees are present on the Project site (23 trees) and adjoining public ROW (3 trees). This would include 11 street trees along the frontages of Huntington Drive and Santa Anita Avenue (both within and outside the existing ROW). There are a total of 3 trees, located along the eastern frontage of the site on Santa Anita Avenue, that meet the City's requirements for consideration as a Protected Tree pursuant to Section 9110.01.030 of the Development Code. These trees include 2 evergreen pears and 1 sour gum. The remaining 20 trees on the Project site are not classified as Protected Trees. There are 3 London plane trees within the public ROW of Huntington Drive. These are not subject to the City's Tree Preservation Ordinance, being on public property, and are protected pursuant to the City's Comprehensive Tree Management Program (Section 9800 et. seq. of the AMC). The Comprehensive Tree Management Program establishes additional policies for the regulation of the planting, maintenance, removal, and replacement of City-owned trees on public property, including street trees. No street tree may be planted, removed, cut, or otherwise damaged without first obtaining a permit from the Arcadia Public Works Services Department.

### 3.4.2 PROJECT IMPACTS

**Regulatory Requirements**

**RR BIO-1** Prior to approval of grading plans, the Development Services Department shall verify that the following note is included on the contractor specifications to ensure compliance with the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code:

> To avoid impacts on nesting birds, vegetation on the Project site should be cleared between September 1 and January 31. If vegetation clearing occurs during the peak nesting season (between February 1 and August 31), a pre-construction survey shall be conducted by a qualified biologist to identify if there are any active nesting locations. If the biologist does not find any active nests within the impact area, the vegetation clearing/construction work will be allowed. If the biologist finds an active nest within the construction area and determines that the nest may be impacted by construction activities, the biologist will delineate an appropriate buffer zone around the nest depending on the

species and the type of construction activity. Construction activities shall be prohibited in the buffer zone until a qualified biologist determines the nest is abandoned.

**RR BIO-2** As required by the City's Tree Preservation Ordinance (Section 9110.01 et. seq. of the Development Code) and Comprehensive Tree Management Program (Section 9800 et. seq. of the Arcadia Municipal Code), the Project Applicant/Property Owner shall obtain permits from the Arcadia Public Works Services Department for the removal and planting of Protected trees and street trees in the public right-of-way associated with the Project. The Project Applicant/Property Owner will abide by the standards set forth in the permit, as well as standards contained in the Tree Preservation Ordinance, Comprehensive Tree Management Program, and other applicable sections of the Arcadia Development and Municipal Codes.

**RR BIO-3** The Project Applicant/Property Owner shall submit the Project's landscape plans, which will include the proposed locations and species of replacement street trees, to the Arcadia Public Works Services Department for review. Street tree species will consist of those set forth in the City's Street Tree Master Plan.

**Impact Discussion**

**a) Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

**No Impact.** The Project site is within an urban area and surrounded entirely by development, which consists primarily of commercial uses. As discussed above, on-site vegetation includes ornamental street trees, landscaping shrubs, trees, and groundcover. No Critical Habitat occurs on the site or in the nearby vicinity, and on relevant records of candidate, sensitive, or special-status species at or near the Project site are identified in the California Natural Diversity Database (USFWS 2019, CDFW 2019). The Project would have no impact, and no mitigation is required.

**b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?**

**c) Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**No Impact.** The Project site does not contain riparian habitat, wetlands, or any other sensitive natural vegetation community. The Project site is mostly paved and within a developed, urban area. No impacts to riparian habitats, wetlands, or sensitive natural vegetation communities would result from Project implementation. There would be no impact, and no mitigation is required.

**d) Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**Less than Significant Impact.** Due to the presence of ornamental trees on site, there is the potential for nesting birds subject to the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. The MBTA prohibits activities that result in the direct take (defined as killing or possession) of birds covered by the MBTA. Through compliance with the provisions of the MBTA and California Fish and Game Code, including implementation of RR BIO-1, there would be a less than significant impact and no mitigation is required.

**e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**Less Than Significant Impact.** As described above, the City regulates the removal of certain trees on private property through the Tree Preservation Ordinance and the removal and planting of street trees through the Comprehensive Tree Management Program. As discussed above, the Project would include removal of the 26 existing trees on the site and adjacent ROW. This would include the 3 trees along Santa Anita Avenue that are considered Protected Trees under the Tree Preservation Ordinance (two evergreen pears and one sour gum) and 3 street trees in the ROW of Huntington Drive that are protected under City's Comprehensive Tree Management Program (London plane trees).

Accordingly, the Applicant/Property Owner would be required obtain a permit from the Arcadia Public Works Services Department for the removal of street trees in the public ROW and removal of Protected Trees on private property. RR BIO-2 and RR BIO-3 require the Project Applicant/Property Owner to obtain and abide by the standards set forth in the permits and to submit a landscaping plan for review and approval by the City Public Works Services Department, respectively. The landscaping plan would include specifications for replacement street trees that would need to be removed as part of the project. The Project's on-site landscaping would include a total of 46 new trees. Among these would be 21 trees along the frontages of Morlan Place, Santa Anita Avenue, and Huntington Drive, planted in a 4-foot by 8-foot tree well consistent with City standards. With incorporation of RR BIO-2 and BIO-3, a less than significant impact would result from the Project, and no mitigation is required.

**f) Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

**No Impact.** The Project site is not located within an adopted habitat conservation plan or natural community conservation plan (Arcadia 2010a). Therefore, there would be no impact and no mitigation measures are required.

### 3.4.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to biological resources; therefore, no mitigation measures are required.

| 3.5 CULTURAL RESOURCES | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5? | ☐ | ☐ | ☐ | ☒ |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? | ☐ | ☒ | ☐ | ☐ |
| c) Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☒ | ☐ |

In addition to adhering with the requirements of CEQA, the Project must also comply with Section 9107.07.030 of the City's Development Code, which outlines the procedures for issuance of Certificates of Demolition given that the Project proposes to demolish nine buildings and one structure on the site that are over 50 years old. Consistent with City requirements, a qualified architectural historian was retained to conduct an assessment to determine whether any of the nine buildings and one existing structure have any historical significance and whether any of the buildings or the structure proposed for demolition are eligible for listing in the California Register of Historic Resources. The Project Applicant/Property Owner will submit the report along with an application for a certificate of demolition. As discussed in more detail below, the *Historical Resource Evaluation Report* (Historical Report) prepared by GPA Consulting and dated March 2020 (GPA 2020, Appendix B-1) provides evidence and supporting documentation related to the lack of historic significance of the nine buildings and one structure proposed for demolition on the Project site (not including the Jiffy Lube structures), including photographic evidence as to the current condition, and a narrative evaluation by the qualified architectural historian. It should also be noted that the 2020 Historical Report follows the City's 2019 Development Code for Historic Preservation.

The Historical Report also documents the structures and provides a full evaluation of the structures. To comply with Section 9107.07 of the Development Code, the Project Applicant/Property Owner will pay for an architectural historian to complete the California Department of Parks and Recreation Primary Record Form (DPR 523A), a Building, Structure, and Object (BSO) Record Form (DPR 523B); and Location Map Form (DPR 523J) and submit these forms with the City's application for a Certificate of Demolition, if determined necessary by the City in addition to the Historical Report already prepared for the Project. If the DPR forms are requested by the City, once they are complete the Project architectural historian or Project Applicant/Property Owner shall submit the completed DPR forms to the South Central Coastal Information Center (SCCIC) at the California State University at Fullerton. It is noted the Historical Report does not include evaluation of the existing Jiffy Lube building located at 5 Huntington Drive because this parcel was not included in the Project site at the time the historic assessment was conducted. However, this building is not 50 years old and is not otherwise considered to be potentially historic.

Information in this section is based upon the records searches and literature reviews of information available from the SCCIC at California State University, Fullerton and the Native American Heritage Commission (NAHC) (Appendix B-2); as well as the Historical Report, which is provided in its entirety in Appendix B-1 of this IS/MND.

### 3.5.1 ENVIRONMENTAL SETTING

**Cultural Resources Records Search at the South-Central Costal Information Center**

***Previous Cultural Resources Studies***

A literature review of documents on file at the SCCIC was completed on July 30, 2020. The results of the records search identified 13 studies that have been previously conducted within ½-mile of the Project site, which includes 4 previous studies (LA-06859, LA-12525, LA-10896, and LA-12497) covering a portion of the Project site, which are described in more detail in Table 12, Previous Cultural Resource Studies Including Portions of the Project Site. In general, prior studies within a half-mile of the Project area consist of archaeological reconnaissance or Phase I cultural resource studies conducted between 1984 and 2015.

LA-06859 is an overview study that encompasses the entire City of Arcadia for the Arcadia General Plan. LA-12525 is a National Historic Preservation Act (NHPA) Section 106 review for the Metro A Line Phase II Extension Project that occurred alongside the northeastern boundary of the Project site along Indiana Street during the environmental review of the A Line. LA-10896 is a historic properties survey also conducted for the A Line Phase II Project (Pasadena to Montclair). The Area of Potential Effect (APE) for LA-10896 included the Project site located along Santa Anita Avenue. LA-12497 is also an overview study that encompasses the entire City of Arcadia for the 2010 Arcadia General Plan Update.

**TABLE 12**
**PREVIOUS CULTURAL RESOURCE STUDIES INCLUDING PORTIONS OF THE PROJECT SITE**

| Report No | Affiliation | Year | Author | Title |
|---|---|---|---|---|
| LA-06859 | LSA Associates, Inc. | 1996 | Unknown | Arcadia General Plan |
| LA-12525 | Federal Highway Administration, Federal Transit Administration | 2003 | Poka, Ervin | NHPA Section 106 Review; Metro A Line Phase II Extension Project |
| LA-10896 | Myra L. Frank/Jones & Stokes, Applied EarthWorks | 2004 | Greenwood, David | Historic Properties Survey and Effects Report for the A Line Phase II Project (Pasadena to Montclair) Los Angeles and San Bernardino Counties, CA |
| LA-12497 | BonTerra Consulting | 2010 | Maxon, Pat | Draft Program Environmental Impact Report, City of Arcadia, 2010 General Plan Update |
| Source: South Central Coastal Information Center. 2020 (July 30). Re: Records Search Request for the 3ARD012200 Project. Fullerton, CA: SCCIC. | | | | |

***Previously Recorded Cultural Resources***

SCCIC records indicate that a total of 54 previously recorded cultural resources have been identified within half-mile of the Project site, all of which are historic-era buildings, structures, or districts. None of these resources were identified within the Project site.

**Native American Heritage Commission Sacred Lands Files**

Psomas submitted a request to the NAHC on July 10, 2020, to review the Sacred Lands File database regarding the possibility of Native American cultural resources and/or sacred places in the Project vicinity that are not documented on other databases. The NAHC completed its Sacred

Lands File search on July 15, 2020. The results were positive for known Tribal Cultural Resources and/or sacred sites in the vicinity of the Project site. Additionally, the NAHC recommended contacting the Gabrieleño Band of Mission Indians – Kizh Nation for more information., in which the City did The analysis of tribal cultural resources is provided in Section 3.18 of this IS/MND.

**REGULATORY REQUIREMENTS**

In addition to adherence to the City's Development Code including the requirements associated with obtaining a Certificate of Demolition, RR CUL-1 would be implemented during Project excavations.

**Regulatory Requirements**

**RR CUL-1** If human remains are encountered during excavation activities, all work shall halt in the immediate vicinity of the discovery and the Los Angeles County Coroner shall be notified (California Public Resources Code Section 5097.98). The Coroner shall determine whether the remains are of forensic interest. If the Coroner determines that the remains are prehistoric, s/he will contact the Native American Heritage Commission (NAHC). The NAHC shall be responsible for designating the most likely descendant (MLD), who will be responsible for the ultimate disposition of the remains, as required by Section 7050.5 of the California Health and Safety Code. The MLD shall make his/her recommendation within 48 hours of being granted access to the site. The MLD's recommendation shall be followed if feasible and may include scientific removal and non-destructive analysis of the human remains and any items associated with Native American burials (California Health and Safety Code Section 7050.5). If the landowner rejects the MLD's recommendations, the landowner shall rebury the remains with appropriate dignity on the property in a location that will not be subject to further subsurface disturbance (California Public Resources Code Section 5097.98).

### 3.5.2 IMPACT ANALYSIS

**a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?**

**No Impact.** In April 2019, the Arcadia City Council adopted a Historic Preservation Ordinance, Ordinance No. 2359, with the goal of identifying and preserving historic buildings throughout the City and establishing policies for how to evaluate and consider approval of projects that proposed alterations to historic resources. A literature review and record search were conducted for the Project through the SCCIC failed to identify known, significant historic resources on the Project site.

None of the existing buildings or the structures on the Project site are currently listed under national, State, or local landmark designation programs. None of the buildings on the Project site have been previously evaluated. One structure on the Project site, a retaining wall constructed circa 1910, was recorded during the 2016-2017 citywide historic resources survey of the City of Arcadia and given a Status Code of 5S3 (appears to be individually eligible for local listing or designation through survey evaluation). As part of the Historic Report prepared for the Project, all properties over 45 years of age were evaluated as potential historical resources under CEQA. After careful inspection, investigation, and evaluation, it was concluded that the properties on the Project site are ineligible for listing in the National Register of Historic Places, California Register of Historical Resources, as well as ineligible for designation as City of Arcadia Historic Landmarks for lack of historical significance and architectural distinction. In the case of the retaining wall

segment, it became evident upon closer examination that it no longer retained sufficient integrity to convey its significance. Therefore, none of the structures evaluated are historical resources as defined by CEQA. Furthermore, the literature review and records search did not identify any resources designated on the CRHR or NRHP immediately adjacent to the Project site.

The Project would not involve any direct or indirect impacts to historic resources pursuant to CEQA, and no mitigation is required.

**b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?**

**Less Than Significant With Mitigation.** The literature review and record searches conducted through the SCCIC failed to identify known, significant archaeological resources within the Project site or within a half-mile of the site. Therefore, the Project would not cause a substantial adverse change in the significance of a documented archaeological resource pursuant to Section 15064.5 of the State CEQA Guidelines. Nevertheless, even though the SCCIC has identified the Project site as having low sensitivity for prehistoric archaeological resources, the NAHC sacred lands file did identify sacred sites in the vicinity of the Project site. Therefore, there is the possibility that undiscovered intact cultural resources, including archaeological resources, may be present below the surface in native sediments. Therefore, MM CUL-1 would require that any inadvertently uncovered resources during grading be evaluated by a qualified archaeologist to determine their significance and the need to protect in place, salvage and preserve, or other measure(s) as appropriate to reduce impacts to important cultural resources. With implementation of MM CUL-1, potential impacts to archaeological resources would be reduced to a less than significant level.

**c) Would the project disturb any human remains, including those interred outsides of formal cemeteries?**

**Less Than Significant Impact.** There is no indication that human remains are present within the Project site, including those interred outside formal cemeteries. The records search indicates no evidence of human remains on or near the Project site. In the unlikely event of an unanticipated encounter with human remains within the Project site, the California Health and Safety Code and the California Public Resources Code require that any activity in the area of a potential find be halted and the Los Angeles County Coroner be notified, as described in RR CUL-1. Through compliance with RR CUL-1, there would be less than significant and no mitigation is required.

### 3.5.3 MITIGATION PROGRAM

**MM CUL-1** Prior to the issuance of a demolition permit, the Project Applicant/Property Owner shall submit the name and qualifications of a qualified archaeologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified archaeologist shall be retained by the Applicant. If suspected cultural (archaeological) resources or tribal cultural resources are inadvertently unearthed during excavation activities, the contractor shall immediately cease all earth-disturbing activities within a 100-foot radius of the area of discovery. The Project contractor or Property Owner/Applicant shall contact the qualified archaeologist to request an evaluation of the significance of the find and determine an appropriate course of action. If avoidance of the resource(s) is not feasible, salvage operation requirements pursuant to Section 15064.5 of the State California Environmental Quality Act Guidelines shall be followed. After the find has been appropriately avoided or mitigated, work in the area may resume.

| 3.6 ENERGY | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? | ☐ | ☐ | ☒ | ☐ |

### 3.6.1 ENVIRONMENTAL SETTING

As discussed previously, SCE and SoCal Gas are the utility companies that currently provide electrical and natural gas services, respectively, to the site. Compliance with energy efficiency and conservation policies and regulations is discussed in this section.

The Resource Sustainability Element of the City's General Plan provides for the following policies related to energy use by proposed projects in the City of Arcadia.

g) Policy RS-5.3: Require that all new development meets or exceeds the State and local energy conservation requirements.

h) Policy RS-5.9: Facilitate the provision of energy-efficient modes of transportation and fixed facilities which establish transit, bicycle, and pedestrian modes as viable alternatives.

The State of California has also adopted efficiency design standards within the Title 24 Building Standards and CALGreen requirements. Title 24 of the California Code of Regulations (CCR, specifically, Part 6) is California's Energy Efficiency Standards for Residential and Non-residential Buildings. Title 24 was established by the California Energy Commission (CEC) in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and to provide energy efficiency standards for residential and non-residential buildings.

The 2022 Energy Code focuses on four key areas in newly constructed homes and businesses:

- Encouraging electric heat pump technology for space and water heating, which consumes less energy and produces fewer emissions than gas-powered units.
- Establishing electric-ready requirements for single-family homes to position owners to use cleaner electric heating, cooking and electric vehicle (EV) charging options whenever they choose to adopt those technologies.
- Expanding solar photovoltaic (PV) system and battery storage standards to make clean energy available onsite and complement the state's progress toward a 100 percent clean electricity grid.
- Strengthening ventilation standards to improve indoor air quality.

The 2022 California Green Building Standards Code (24 CCR, Part 11), also known as the CALGreen Code, contains mandatory requirements for new residential and nonresidential buildings throughout California. The development of the CALGreen Code is intended to (1) cause a reduction

in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the Code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction. The regulation of energy efficiency for residential and non-residential structures is established by the CEC and its California Energy Code.

### 3.6.2 PROJECT IMPACTS

**Regulatory Requirements**

**RR ENR-1** The Project shall be consistent with the Title 24 energy efficiency standards and the mandatory requirements of the CALGreen code in effect at the time the grading plans are approved. Construction activities shall comply with idling requirements and maintenance requirements for on- and off-road vehicles.

**Impact Discussion**

**a) Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

**Less than Significant Impact.** The Project would consume energy during the construction and operations phases of the Project. Energy consumption of the different fuels from each of these phases have been calculated and is discussed below.

**Construction**

Project construction would require the use of construction equipment for grading and building activities. All off-road construction equipment is assumed to use diesel fuel. Construction also includes the vehicles of construction workers and vendors traveling to and from the Project site. Off-road construction equipment use was calculated from the equipment data (mix, hours per day, horsepower, load factor, and days per phase) provided in the CalEEMod construction output files which informed the air quality and greenhouse gas emissions analyses and is included in Appendix A (Air Quality and Greenhouse Gas Emissions Calculations). The total horsepower hours for the Project was then multiplied by fuel usage estimates per hours of construction activities included in the OFFROAD2017 Model (see Appendix C, Energy Calculations).

Fuel consumption from construction worker, vendor, and delivery/haul trucks was calculated using the trip rates and distances provided in the CalEEMod construction output files. Total vehicle miles traveled (VMT) was then calculated for each type of construction-related trip and divided by the corresponding miles per gallon factor using CARB's EMissions FACtor (EMFAC) 2017 model. EMFAC provides the total annual VMT and fuel consumed for each vehicle type. Construction vendor and delivery/haul trucks were assumed to be heavy-duty diesel trucks.

Table 13, Energy Use During Construction, on the following page provides an estimate of diesel and gasoline fuel consumption during Project construction.

**TABLE 13**
**ENERGY USE DURING CONSTRUCTION**

| Source | Gasoline - gallons | Diesel Fuel - gallons |
|---|---|---|
| Off-road construction equipment | 20,574 | 18,296 |
| Worker commute trips | 51,050 | 260 |
| Vendor trips | 8,605 | 154 |
| On-road haul trips | 0 | 289 |
| **Total**[1] | **80,230** | **18,999s** |

[1]Totals may be affected by rounding.
Sources: Based on data from CalEEMod, OFFROAD2007 and EMFAC2017. See Appendix A for CalEEMod data and Appendix C for energy calculations

Fuel energy consumed during construction would be temporary in nature and would not represent a significant demand on energy resources. The Project would also implement BMPs such as requiring equipment to be properly maintained and minimize idling and where feasible, use electric or clean alternative fuel equipment. Furthermore, there are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the State. Energy used in the construction of the Project would enable the development of buildings that meet the latest energy efficiency standards as detailed in California's Title 24 building standards. Therefore, the proposed construction activities would not result in inefficient, wasteful, or unnecessary fuel consumption.

## Operations

The Project would consume energy from transportation fuels (gasoline and diesel) and electricity and natural gas for the proposed land uses. The Project would result in energy consumption shown in Table 14, Energy Use During Operations, below.

**TABLE 14**
**ENERGY USE DURING OPERATIONS**

| Land Use | Gasoline (Gallons/yr) | Diesel (Gallons/yr) | Natural Gas (kBtu/yr) | Electricity (kWh/yr) |
|---|---|---|---|---|
| Project Land Uses | 143,864 | 13,479 | 5,407,501 | 1,523,198 |

yr: year; kBtu: kilo-British thermal unit; kWh: kilowatt hour.
Sources: Based on data from CalEEMod, OFFROAD2007 and EMFAC2017. See Appendix A for CalEEMod data and Appendix C for energy calculations

The Project would be required to comply with the latest Title 24 energy efficiency standards. These Standards expand upon energy efficiency and renewable energy generation requirements as well as providing electric-ready requirements (cleaner electric heating, cooking and electric vehicle charging options). Therefore, the new buildings would be more energy efficient than the existing buildings to be demolished due to the incorporation of the latest energy efficiency standards and renewable energy options. The Project would add residential units and commercial uses proximate to mass transit, contribute to pedestrian-oriented development in downtown Arcadia, and incorporate the latest adopted Title 24 energy efficiency standards. As detailed in Section 2.3.2, Development Characteristics, the Project would provide both short-term and long-term parking with 30 long-term and 2 short-term bicycle parking stalls. Promoting pedestrian- and transit-oriented development would result in less energy consumption by reducing traffic congestion and single-occupancy vehicle ridership. As such, the Project is not considered a wasteful, inefficient, or unnecessary consumption of energy resources and would result in less than significant energy impacts relative to the consumption of energy for Project construction and operation. There would be a less than significant impact and no mitigation is required.

**b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

**Less than Significant Impact.** The Project would be required to comply with the State of California's Title 24 Building Standards. As discussed previously, the latest building standards will incorporate the CEC's building energy efficiency standards and renewable energy options which would reduce energy consumption. The Project would also be consistent with the Policies RS-5.3 (meets or exceeds the State conservation requirements) and RS-5.9 (provision of energy-efficient modes of transportation and fixed facilities which establish transit, bicycle, and pedestrian modes) of the City of Arcadia's Resource Sustainability Element. Because the Project would comply with the latest State of California energy efficiency standards, provides infill development close to mass transit, and promotes pedestrian-oriented development, the Project would not conflict with or obstruct a State or the City of Arcadia's Resource Sustainability Element for renewable energy or energy efficiency. There would be a less than significant impact and no mitigation is required.

### 3.6.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to energy; therefore, no mitigation measures are required.

| 3.7 GEOLOGY AND SOILS | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | ☐ | ☐ | ☐ | ☒ |
| ii) Strong seismic ground shaking? | ☐ | ☐ | ☒ | ☐ |
| iii) Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☐ | ☒ |
| iv) Landslides? | ☐ | ☐ | ☐ | ☒ |
| b) Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☒ | ☐ |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse? | ☐ | ☐ | ☒ | ☐ |
| d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property? | ☐ | ☐ | ☐ | ☒ |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? | ☐ | ☐ | ☐ | ☒ |
| f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☒ | ☐ | ☐ |

Information in this section is derived from the *Geotechnical Investigation, Proposed Huntington Park View Mixed-Use Development, 25 North Santa Anita, Arcadia, California* (Geotechnical Investigation) dated April 29, 2021, and prepared by Geocon West, Inc. (Geocon West, Inc. 2021, Appendix D), as well as information from the City of Arcadia General Plan and EIR (Arcadia 2010a and 2010b) and other sources, where noted.

### 3.7.1 ENVIRONMENTAL SETTING

The City of Arcadia lies at the boundary between the Peninsular Ranges geomorphic province (on the south) and the Transverse Ranges geomorphic province (on the north). The east-west trending San Gabriel Mountains, which underlie the northern part of the City, are part of the Transverse Ranges. The City is in the north-central portion of the San Gabriel Valley, which is bound on the north by the San Gabriel Mountains, on the west by the Raymond Basin, on the

south by the Puente Hills, and on the east by the Covina and Indian Hills. The San Gabriel Mountains are the result of uplift along a predominant fault line at the base of this steep mountain front. This fault line is a part of the Sierra Madre Fault system that extends from the western San Fernando Valley to the City of Claremont on the east, where it joins the Cucamonga Fault. Due to its location along and just south of the southern slope of the San Gabriel Mountains, the City of Arcadia is situated within a very seismically active area of Southern California. Numerous faults capable of producing significant ground motion are located near the Project site.

The two active and potentially active faults that pass beneath Arcadia and are evident at the ground surface or just below it, are the Sierra Madre and Raymond Faults. Deep beneath the City are two blind thrust faults: the shallower Elysian Park Fault and the deeper Puente Hills Fault. They are called blind-thrust faults due to their depth and the fact that fault movement consists of upward or thrusting action. The Eaton Wash Groundwater Barrier shows no surface geologic evidence of existence, and the nature of this possible buried fault is not known. In addition to these local faults, there are several regional faults that could produce significant ground shaking at the Project site, including the San Gabriel Fault and the San Andreas Fault.

The Project site is underlain by artificial fill and Holocene age young alluvial fan deposits, consisting of varying amounts of sand, silt, clay, and gravel. The near surface soil conditions encountered at the site generally consist of artificial fill extending to a maximum depth of approximately 6.5 feet below existing ground surface. The artificial fill generally consists of brown to reddish brown silty sand with some fine to coarse gravel and a few cobbles. The fill is characterized as fine- to medium-grained, slightly moist, and loose to medium dense. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored. The Holocene age alluvium was encountered beneath the artificial fill and consists primarily of light brown to brown and reddish brown to olive brown interbedded silty sand, poorly graded sand, and well-graded sand with varying amounts of fine to coarse gravel and cobbles. Locally, there are zones with a very high concentration of gravel and cobbles. The alluvium is characterized as slightly moist and loose to very dense. Additionally, the Project site occurs within an area classified as Zone X as mapped by the Federal Emergency Management Agency (FEMA), which is described as areas of minimal flood hazard and determined to be outside the 0.2 percent annual chance floodplain (Geocon West, Inc. 2021).

### 3.7.2 PROJECT IMPACTS

**Regulatory Requirements**

**RR GEO-1** Geotechnical design considerations for Project implementation are governed by the Arcadia Building Code, as set forth in Article VIII of the Arcadia Municipal Code, which incorporates by reference the California Building Code (CBC), including the California Building, Plumbing, Mechanical, Electrical and Existing Building Codes. Future buildings and structures shall be designed in accordance with applicable requirements of the CBC, the Arcadia Municipal Code, and any applicable building and seismic codes in effect at the time the grading plans are approved.

**RR GEO-2** The Project building design specifications shall include recommendations from the *Geotechnical Investigation, Proposed Huntington Park View Mixed-Use Development, 25 North Santa Anita, Arcadia, California* (Geocon West, Inc. 2021, Appendix D). These recommendations include, but are not limited to, specifications for the following:

- Demolition and site preparation

- Fill placement
- Remedial grading and over excavation
- Foundation recommendations
- Building Floor Slabs and reinforcement

The Project building design specifications shall be verified by the City of Arcadia Building Official prior to issuance of a demolition permit.

**Impact Discussion**

**a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:**

**i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?**

**No Impact.** The Project site is not located within a designated Alquist-Priolo Earthquake Fault Zone or a City-designated Fault Hazard Management Zone for surface fault rupture hazards. The Project is not expected to be impacted directly by ground rupture from a known fault due to the distances between the Project site and mapped faults in the area (Geocon West, Inc. 2021, Appendix D). There would be no impact, and no mitigation is required.

**ii) Strong seismic ground shaking?**

**Less than Significant Impact.** The Project site, as with the entire Southern California region, is subject to secondary effects from earthquakes. No known Holocene-active or pre-Holocene faults with the potential for surface rupture are known to pass directly beneath the site. The nearest known faults in the vicinity of the Project site include the Raymond Fault (0.6 mile from the Project site); Sierra Madre Fault (1.8 miles from the Project site); the Duarte Fault (2.3 miles from the Project site); the East Montebello Fault (6.6 miles from the Project site); Whittier Fault (11.0 miles from the Project site). The active San Andreas Fault is located approximately 23 miles northeast of the site.

Implementation of the Project would not change the intensity of ground shaking that would occur on the Project site during a seismic event, but it would increase exposure to additional people. The proposed buildings would be designed in accordance with the most recent California Building Code (CBC) (see RR GEO-1). The CBC contains minimum standards regulating the design and construction of excavations, foundations, retaining walls, and other building elements to control the effects of seismic ground shaking and adverse soil conditions. The CBC includes provisions for earthquake safety based on factors such as occupancy type, the types of soil and rock on-site, and the strength of ground motion that may occur at the Project site. Project implementation would also occur consistent with the recommendations outlined in the Geotechnical Investigation prepared for the Project, as set forth in RR GEO-2 (Geocon West, Inc. 2021, Appendix D). Based on the Geotechnical Investigation, the Project is geotechnically feasible provided that the recommendations in the geotechnical report are reviewed in the context of the final Project design and are incorporated during the Project's construction phase. Seismic design parameters have been included in the Geotechnical Investigation (Geocon West, Inc. 2021, Appendix D). based on the seismic zone, soil profile, and proximity of known faults to the Project site, which provide the minimum design procedures to avoid significant cosmetic damage to the structure.

Compliance with the applicable regulations as identified in RR GEO-1, and proper grading, design, and building construction methods required in RR GEO-2, would ensure that impacts that may result from strong seismic ground shaking at the Project site are less than significant and no mitigation is required.

**iii) Seismic-related ground failure, including liquefaction?**

**No Impact.** Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations. The current standard of practice requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction (Geocon West, Inc. 2021, Appendix D).

The Seismic Hazards Map for the Mt. Wilson Quadrangle, published by the CGS indicates that the Project site, is not located within a zone of required investigation for liquefaction. In addition, the General Plan and the County of Los Angeles Safety Element indicate that the Project is not located within an area designated as having potential for liquefaction. Groundwater was not encountered in our borings drilled to a maximum depth of 60½ feet beneath the existing ground surface and the historic high groundwater level in the area is reported to be approximately 100 to 150 feet beneath the existing ground surface. As such, the potential for liquefaction and associated ground deformations beneath the site is very low (Geocon West, Inc. 2021, Appendix D). No impacts would result, and no mitigation is required.

**iv) Landslides?**

**No Impact.** Earthquake-induced land sliding often occurs in areas where previous landslides have moved and in areas where the topographic, geologic, geotechnical, and subsurface groundwater conditions are conducive to permanent ground displacements. No slopes are present on or near the site, which was previously graded and developed. The City of Arcadia General Plan and Los Angeles County Seismic Safety Element indicate that the site is not located in a “hillside area” or an area identified as having a potential for slope stability hazards. The Project site is not located within a designated earthquake-induced landslide zone. Also, there are no known occurrences of landslides in the Project vicinity nor is the site in the path of any known or potential landslides (Geocon West, Inc. 2021, Appendix D). Therefore, no impact would result, and no mitigation is required.

**b) Would the project result in substantial soil erosion or the loss of topsoil?**

**Less Than Significant Impact.** The Project would demolish the existing buildings and surface parking lots on the Project site and would develop the site with new impervious surfaces and new pervious (i.e., landscaped) areas. The Project would not result in a substantial change in the amount of pervious/impervious area during operation of the Project. Project construction would expose soils on the site and would require the hauling of soil and demolition materials off-site, which could result in soil erosion and the loss of topsoil if not implemented consistent with regulatory requirements. The Project’s potential construction and operational stormwater impacts, and applicable regulatory requirements are addressed further in Section 3.10, Hydrology and

Water Quality. As discussed, less than significant impacts would result, and no mitigation is required.

**c) Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

**Less Than Significant Impact.** As discussed in Threshold 3.6(a)(iv) above, the Project site is not located in an area subject to on- or off-site landslides. As discussed under the analysis of Threshold 3.6(a)(iii) above, impacts from seismic-related ground failure related to liquefaction for the Project are considered to have no impact. Lateral spreading, a phenomenon associated with liquefaction, is a function of ground shaking and may occur during an earthquake. The potential for earthquake-induced lateral spreading of confined, discontinuous interbedded zones of liquefiable sandy soils underlying a relatively level surface is low.

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site (Geocon West, Inc. 2021, Appendix D).

Based on the depth of the proposed excavations, the proximity to adjacent property lines, and the granular nature of the soils, sloping and/or shoring measures would be required for excavation of the subterranean level of the Project. Excavation recommendations are provided in Section 7.16 of the Geotechnical Investigation (Geocon West, Inc. 2021, Appendix D), which would be implemented to maintain lateral support of existing off-site improvements.

As stated in RR GEO-1, the Project would be designed and constructed in compliance with current CBC standards. Project implementation would also occur consistent with the recommendations outlined in the Geotechnical Investigation prepared for the Project, as set forth in RR GEO-2 (Geocon West, Inc. 2021, Appendix D). Compliance with RRs GEO-1 and GEO-2 would ensure that impacts related to soil engineering constraints would be less than significant, and no mitigation is required.

**d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1004), creating substantial direct or indirect risks to life or property?**

**No Impact.** Expansive soils are materials that, when subject to a constant load, are prone to expand when exposed to water. The hazard associated with expansive soils is that they can overstress and cause damage to the foundation of buildings set on top of them. The Geotechnical Investigation (Geocon West, Inc. 2021, Appendix D) states that based on depth of the proposed subterranean levels, the proposed structure would not be prone to the effects of expansive soils. The soils encountered at the site are primarily granular in nature and are considered to be “non-expansive”. The Project would implement the applicable regulations and geotechnical recommendations, as identified in RRs GEO-1 and GEO-2, which assume that near surface foundations and slabs will derive support in these materials with a “low” expansion potential. Since the foundations and slabs for the Project would be in an area that is already developed and since all construction would be required to comply applicable building codes (as required by RR GEO-1), there would be no impacts related to expansive soils.

**e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?**

**No Impact.** Project development would be connected to the municipal sewer system for wastewater disposal. The Project does not require the development of either septic tanks or alternative wastewater systems. No related impacts would result, and no mitigation is required.

**f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

**Less Than Significant With Mitigation.** A paleontological resources records search conducted by the Natural History Museum of Los Angeles (LACM) did not identify any fossil localities that lie directly within the proposed Project site; therefore, the Project will not directly destroy a known unique paleontological resource. However, the LACM did identify localities nearby from the same sedimentary deposits that occur in the Project site. If the Project would require excavations that would likely penetrate the paleontologically sensitive sediment deposits, the Natural History Museum of Los Angeles (LACM) has recommended monitoring of all substantial excavations. Impacts to paleontological resources, if encountered, would be significant without mitigation. MM GEO-1 requires that a qualified paleontologist be retained to observe grading activities in the older Quaternary Alluvium on the Project site and to salvage and catalogue fossils as necessary. With implementation of MM GEO-1, impacts to paleontological resources would be reduced to a less than significant level.

### 3.7.3 MITIGATION MEASURES

**MM GEO-1** Prior to the issuance of a demolition permit, the Project Applicant/Property Owner shall submit the name and qualifications of a qualified paleontologist to the City of Arcadia Development Services Department for review and approval. Once approved, the qualified paleontologist shall be retained by the Project Applicant/Property Owner on an on-call basis to observe grading activities in the older Quaternary Alluvium on the Project site and to salvage and catalogue fossils as necessary. At the Project's Pre-Grade Meeting, the paleontologist shall discuss the sensitivity of the sediment being graded and shall establish procedures for monitoring. Protocols must be developed and explained for temporarily halting or redirecting work to permit sampling, identification, and evaluation of any fossils discovered. If the fossils are deemed significant, the paleontologist shall determine appropriate actions, in cooperation with the City of Arcadia, to recover and treat the fossils and to prepare them to the point of identification. A final Paleontological Resources Monitoring Report shall include a catalogue and analysis of the fossils found; a summary of their significance; and the repository that will curate the fossils in perpetuity.

| 3.8 GREENHOUSE GAS EMISSIONS | Potentially Significant Impact | Less Than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☐ | ☒ |

### 3.8.1 ENVIRONMENTAL SETTING

Climate change refers to any significant change in measures of climate (e.g., average temperature, precipitation, or wind patterns) over a period of time. Climate change may result from natural factors, natural processes, and human activities that change the composition of the atmosphere and alter the surface and features of the land. Significant changes in global climate patterns have recently been associated with global warming, which is an average increase in the temperature of the atmosphere near the Earth's surface; this is attributed to an accumulation of greenhouse gas (GHG) emissions in the atmosphere. GHGs trap heat in the atmosphere which, in turn, increases the Earth's surface temperature. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through fossil fuel combustion in conjunction with other human activities appears to be closely associated with global warming.

GHGs, as defined under California's Assembly Bill (AB) 32, include carbon dioxide ($CO_2$), methane ($CH_4$), nitrous oxide ($N_2O$), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride ($SF_6$). General discussions on climate change often include water vapor, atmospheric ozone, and aerosols in the GHG category. Water vapor and atmospheric ozone are not gases that are formed directly in the construction or operation of development Projects, nor can they be controlled in these Projects. Aerosols are not gases. While these elements have a role in climate change, they are not considered by either regulatory bodies, such as CARB, or climate change groups, such as the California Climate Action Registry, as gases to be reported or analyzed for control. Therefore, no further discussion of water vapor, atmospheric ozone, or aerosols is provided.

As previously discussed in Section 3.3, Air Quality, of this IS/MND, air quality in the County of Los Angeles is regulated by the SCAQMD, the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin (SoCAB). To that end, the SCAQMD, a regional agency, works directly with SCAG, County transportation commissions, and local governments and cooperates actively with all federal and State government agencies. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

Beginning in April 2008, the SCAQMD convened a Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. The Working Group was scheduled to meet once per month. On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold of

10,000 $MTCO_2e$ per year ($MTCO_2e$/yr)[5] for industrial projects where the SCAQMD is the lead agency. In September 2010, the Working Group presented a revised tiered approach to determining GHG significance for residential and commercial projects (SCAQMD 2010). These proposals have not yet been considered by the SCAQMD Board.

At Tier 1, GHG emissions impacts would be less than significant if the Project qualifies under a categorical or statutory CEQA exemption. At Tier 2, for projects that do not meet the Tier 1 criteria, the GHG emissions impact would be less than significant if the Project is consistent with a previously adopted GHG reduction plan that meets specific requirements.[6] At Tier 3, the Working Group proposes extending the 10,000 $MTCO_2e$/yr screening threshold currently applicable to industrial projects where the SCAQMD is the lead agency, described above, to other lead agency industrial projects. For residential and commercial projects (that is, non-industrial projects), the Working Group proposes the following Tier 3 screening values: either (1) a single 3,000 $MTCO_2e$/yr threshold for all land use types or (2) separate thresholds of 3,500 $MTCO_2e$/yr for residential projects, 1,400 $MTCO_2e$/yr for commercial projects, and 3,000 $MTCO_2e$/yr for mixed-use projects. These screening values were developed from a survey of CEQA projects. It is estimated that projects with emissions above these values would produce 90 percent of the anticipated GHG emissions from residential/commercial projects and projects below the screening level would contribute 10 percent or less of the regional GHG emissions from land development. Therefore, a project with emissions less than the applicable screening value would be considered to have less than significant GHG emissions. Projects with emissions greater than the Tier 3 screening values would be analyzed at Tier 4 by one of three methods:

1. **A Percent Emission Reduction Target.** This method is used by the Sacramento Metropolitan and San Joaquin Valley Air Districts and the City of San Diego. The SCAQMD Working Group made no recommendation relative to this method.
2. **Early Implementation of Applicable AB 32 Scoping Plan Measures.** The Working Group assumes implementation of AB 32 measures would be incorporated in method 3 below.
3. **Efficiency Targets.** On the project level, 2020 GHG emissions should not exceed 3.8 $MTCO_2e$/year per service population (SP) where SP is project residents plus employees. Further, 2035 GHG emissions should not exceed 3.0 $MTCO_2e$/year per SP (SCAQMD 2010).

Projects with GHG emissions not meeting the Tier 4 targets would be required to provide mitigation in the form of real, quantifiable, and verifiable offsets to achieve the target thresholds. The offsets may be achieved through project design features, other on-site methods, or by off-site actions, such as energy efficiency upgrade of existing buildings.

In summary, to date, the SCAQMD Board has adopted an interim CEQA significance threshold for GHGs for industrial projects where the SCAQMD is the lead agency and continues to consider screening levels under CEQA for residential, commercial, and mixed-use projects. This proposed

[5] GHG emissions are commonly expressed as $MTCO_2e$. Larger quantities of emissions, such as on the world or State scale, are expressed in $MMTCO_2e$.

[6] The plan must (a) quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area; (b) establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable; (c) identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area; (d) specify measures or a group of measures, including performance standards, that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specified emissions level; (e) establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels; and (f) be adopted in a public process following environmental review (State CEQA Guidelines, Section 15183.5).

screening and mitigation proposal from SCAQMD remains a work in progress; the Working Group has not convened since the fall of 2010. The proposal has not been considered or approved for use by the SCAQMD Board. Thus, no GHG significance thresholds are approved for use in the SoCAB for non-industrial projects.

**City of Arcadia General Plan**

For the purposes of the Project, the City's existing General Plan is the applicable planning document. The City does not have an adopted Climate Action Plan. GHG reduction is a cross-cutting issue relevant to various policy arenas, including policies that address land use, transportation, buildings, energy, waste, and ecology. The Land Use and Community Design Element includes policies that focus on encouraging compact, mixed-use development in the City's downtown around the Metro A Line Station; along Live Oak Avenue and N. First Avenue; and in other focus areas through the City. Trip reduction strategies are addressed in the Circulation and Infrastructure Element (Arcadia 2010a). The Resource Sustainability Element of the General Plan also includes GHG-reducing goals and policies to reduce the City's carbon footprint.

The Project site has a General Plan land use designation of DMU, is zoned as DMU, and is developed with commercial land uses and surface parking lots (Arcadia 2010a). Existing GHG emissions result from the existing on-site commercial uses and associated mobile (i.e., vehicular) emissions.

### 3.8.2 PROJECT IMPACTS

**Regulatory Requirements**

None required.

**Impact Discussion**

**a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

**Less than Significant Impact.** In developing methods for GHG impact analysis, there have been suggestions of quantitative thresholds, often referred to as screening levels, which define an emissions level below which it may be presumed that climate change impacts would be less than significant. Neither the SCAQMD, the City of Arcadia nor the County of Los Angeles have adopted a significance threshold for the GHG emissions from non-industrial development projects.

As explained in further detail above, the SCAQMD Board has adopted an interim CEQA significance threshold for GHGs for industrial projects where the SCAQMD is the lead agency and continues to consider screening levels under CEQA for residential, commercial, and mixed-use projects. At their September 28, 2010, meeting, the Working Group suggested a Tier 3 threshold of 3,000 $MTCO_2e$ per year for all land use types. This proposed screening and mitigation proposal from SCAQMD remains a work in progress as the Working Group has not convened since the fall of 2010. As no additional GHG thresholds have been established thus far, the GHG analysis in this IS/MND relies on the interim threshold for its evaluation.

***Construction***

Construction GHG emissions are generated by vehicle engine exhaust from construction equipment, on-road hauling trucks, vendor trips, and worker commuting trips. Construction

GHG emissions were calculated by using CalEEMod Version 2022.1.1.0 (the model is described in Section 3.3, Air Quality). Input details are provided in Appendix A (Air Quality and Greenhouse Gas Emissions Calculations). The results are output in $MTCO_2e$ for each year of construction. The estimated construction GHG emissions for the Project are shown in Table 15, Estimated Annual Greenhouse Gas Emissions From Construction.

GHG emissions generated from construction activities are finite and would occur for a relatively short-term time period. Unlike the numerous opportunities available to reduce a project's long-term GHG emissions through design features, operational restrictions, use of green-building materials, and other methods, GHG emissions-reduction measures for construction equipment are relatively limited. Therefore, SCAQMD staff recommended that construction emissions be amortized over a 30-year project lifetime, so that GHG reduction measures will address construction GHG emissions as part of the operational GHG reduction strategies (SCAQMD 2008). As shown in Table 15, Estimated Annual Greenhouse Gas Emissions from Construction, the 30-year amortized construction emissions would be 52 $MTCO_2e$/yr.

**TABLE 15**
**ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS**
**FROM CONSTRUCTION**

| Year | Emissions ($MTCO_2e$) |
|---|---|
| 2024 | 631 |
| 2025 | 642 |
| 2026 | 301 |
| **Total** | **1,574** |
| **Annual GHG Emissions*** | **52** |

$MTCO_2e$: metric tons of carbon dioxide equivalent

* Combined total amortized over 30 years

Notes:

- Totals may not add due to rounding
- Detailed calculations in Appendix A.

### *Operations*

As stated previously, the Project site is developed with existing commercial and office uses. Table 16, Estimated Annual Greenhouse Gas Emissions From Existing Use, on the following page shows the estimated annual GHG emissions from existing uses at the Project site.

**TABLE 16**
**ESTIMATED ANNUAL GREENHOUSE GAS**
**EMISSIONS FROM EXISTING USE**

| Source | Emissions ($MTCO_2e$/yr) |
|---|---|
| Mobile | 457 |
| Area | 1 |
| Energy | 37 |
| Water | 2 |
| Waste | 7 |
| Refrigerants | 0 |
| **Total** | **504** |

$MTCO_2e$/yr: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

Operational GHG emissions would come primarily from vehicle trips; other sources include electricity and water consumption; natural gas for space and water heating; and gasoline-powered landscaping and maintenance equipment. Estimated Project operational GHG emissions are shown in Table 17, Estimated Annual Greenhouse Gas Emissions from Project Operation.

**TABLE 17**
**ESTIMATED ANNUAL GREENHOUSE GAS**
**EMISSIONS FROM PROJECT OPERATION**

| Source | Emissions ($MTCO_2e$/yr.) |
|---|---|
| Mobile | 1,519 |
| Energy | 528 |
| Water | 51 |
| Waste | 63 |
| Refrigerants | 2 |
| Stationary | 18 |
| **Total** | **2,181** |

$MTCO_2e$/yr.: metric tons of carbon dioxide equivalent per year
Notes:
- Totals may not add due to rounding
- Detailed calculations in Appendix A.

As described above, construction and operational GHG emissions are combined by amortizing the construction operations over a 30-year period. As shown in Table 18, Estimated Annual Greenhouse Gas Emissions, on the following page with consideration of amortized construction emissions, the total annual estimated GHG emissions for the Project is 1,729 $MTCO_2e$/yr, with the reduction of emissions associated with the existing uses. This value is less than the draft SCAQMD Tier 3 screening threshold (e.g., 3,000 $MTCO_2e$/yr for all land use types). Because the Project's GHG emissions would be less than 3,000 $MTCO_2e$/yr, the emissions would not be cumulatively considerable. Therefore, the Project would result in less than significant GHG emissions.

**TABLE 18**
**ESTIMATED TOTAL ANNUAL GREENHOUSE GAS EMISSIONS**

| Source | Emissions $MTCO_2e/yr$ |
|---|---|
| Construction (amortized) (from Table 15) | 52 |
| Operations (from Table 17) | 2,181 |
| Net Reduction: Existing Emissions (from Table 16) | -504 |
| ***Total*** | ***1,729*** |
| $MTCO_2e/yr$: metric tons of carbon dioxide equivalent per year. | |

**b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

**No Impact.** The SCAQMD and the City of Arcadia have not adopted standards for the purpose of reducing GHG emissions. As discussed previously, the State policy and standards adopted for the purpose of reducing GHG emissions that are applicable to the Project are Executive Order S-3-05, Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006, and Senate Bill (SB) 32. The quantitative goal of these regulations is to reduce GHG emissions to 1990 levels by 2020 to 80 percent below 1990 levels by 2050, and for SB 32, to 40 percent below 1990 levels by 2030. Statewide plans and regulations (such as GHG emissions standards for vehicles, the Low Carbon Fuel Standard, Cap-and-Trade, and renewable energy) are being implemented at the Statewide level, and compliance at a project level is not addressed.

The Project would reduce GHG emissions due to its location to complementary uses and mass transit, as well as incorporation of the latest energy efficiency standards for buildings. The proposed development is an infill and mixed-use development project. The Project's mixed-use nature would result in trip reductions internally due to the walkability of this site relative to nearby commercial and park uses and accessibility of mass transit. The Project is located within a half-mile of the Metro A Line Station. The proximity of the Project site to the station would encourage the use of mass transit which is consistent with the City of Arcadia's and State of California's goals of using non-single occupancy vehicles. Public transit availability would also reduce vehicle trips and associated GHG emissions when compared with similar projects located on sites that do not have similar transit accessibility. The development of the Project would support the GHG emissions reduction goals detailed in the California Scoping Plan and RTP/SCS by developing residential uses in a TPA, HQTA, and TPP area which provides mass transit options which leads to less air quality and greenhouse gas emissions as compared to transportation with single-occupant vehicles. The provision of infill development near high-quality transit service supports the goals and policies of the SCAG RTP/SCS, thereby also supporting SB 375 and AB 32 goals. Additionally, the Project would provide bicycle parking and storage areas to encourage the reduction of fossil-fueled vehicle use by employees and residents and the associated GHG emissions, and it would provide new facilities for charging of electric vehicles.

The regulations, plans, and polices adopted for the purpose of reducing GHG emissions that are directly applicable to the Project include the Title 24 Energy Efficiency Standards for Residential and Nonresidential Buildings and the Title 24 California Green Building Standards Code. These codes are enforced by the City, and adherence to standard requirements for construction and operations would ensure that the Project would comply with both of these regulations.

Because the Project would promote mixed use infill development in a TPA, HQTA, and TPP area which promotes mass transit options as well as includes the latest building energy efficiency

measures, the Project would not conflict with the City's General Plan nor the State of California's Scoping Plan. There would be a less than significant impact, and no mitigation is required.

### 3.8.3 MITIGATION MEASURES

There would be no significant adverse impacts related to GHG emissions; therefore, no mitigation measures are required.

| 3.9 HAZARDS AND HAZARDOUS MATERIALS | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☒ | ☐ |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☒ | ☐ |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter-mile of an existing or proposed school? | ☐ | ☐ | ☒ | ☐ |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☒ |
| e) For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area? | ☐ | ☐ | ☐ | ☒ |
| f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☒ | ☐ | ☐ |
| g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires? | ☐ | ☐ | ☐ | ☒ |

Information in this section is derived from the *EDR Radius Map Report* (EDR Report) dated March 10, 2021, and prepared by Environmental Data Resources, Inc. (EDR 2021, Appendix E-1). The site boundary that is the subject of the EDR Report does not include the Jiffy Lube site. However, the Jiffy Lube site is within the EDR Report's search radius; therefore, this information is applicable to the Project site as a whole. Information in this section pertinent to the Jiffy Lube site is derived from the *Phase I Environmental Site Assessment* (Phase I ESA), dated May 4, 2021, and the *Phase II Soil Gas Screening Report* (Phase II Report) dated May 5, 2021, prepared by EDI Consultants, Inc. and provided in Appendix E-2 and Appendix E-3, respectively.

### 3.9.1 ENVIRONMENTAL SETTING

#### On-Site Hazardous Materials

***Project Site – EDR Report***

As stated in the EDR Report, a search of available environmental records was conducted by to meet the search requirements of USEPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed or the evaluation of environmental risk associated with a parcel of land. The Project site was not listed in any of the databases searched as part of the EDR Report (EDR 2021, Appendix E-1).

***Jiffy Lube Site – Phase I and II ESA***

As stated in the Phase I ESA, the existing Jiffy Lube site is equipped with a 29-year-old gasoline service station, with a fueling system consisting of three 10,000-gallon gasoline underground storage tanks (USTs) (EDI 2021a, Appendix E-2). The latest tank, piping, and sensors testing completed in 2021 indicated no leakage in the UST system and compliance with all federal and State requirements for a passing system. However, due to the sensitive nature of service station operations, which involve the storage and dispensing of fuels, a soil gas screening was conducted to investigate the potential impact of VOCs–including benzene, toluene, ethylbenzene, and xylenes (BTEX) found in petroleum products such as gasoline–and Total Petroleum Hydrocarbons as Gasoline (TPH-g) to soil gas as a consequence of potentially one or more historic releases from the on-site gasoline service station and auto repair/lube operations. The scope of the Phase II Report included the collection of nine soil gas samples and a field duplicate from six locations on April 27, 2021. Laboratory analytical results indicated that none of the soil gas samples had concentrations of TPH-g or VOCs detected above the listed reporting limits. Therefore, a significant environmental threat or human health concern was not discovered on the Jiffy Lube site and no further action was warranted (EDI 2021b, Appendix E-3).

#### Nearby Hazardous Materials

Review of government databases as well as field reconnaissance conducted as part of the Phase I ESA indicates that there are no users of hazardous materials or generators of hazardous wastes in the vicinity of the Project site (EDI 2021a, Appendix E-2).

#### Nearby Airports

The nearest airport to the site is the San Gabriel Valley Airport, formerly known as the El Monte Airport, located in El Monte, a public use airport owned by the County of Los Angeles, which is located approximately 3.5 miles south of the Project site.

### 3.9.2 PROJECT IMPACTS

#### Regulatory Requirements

**RR HAZ-1** Activities at the Project site shall comply with existing federal, State, and local regulations regarding hazardous material use, storage, removal and disposal of underground storage tanks, and transport to prevent Project-related risks to public health and safety. All on-site generated waste that meets hazardous waste criteria

shall be stored, manifested, transported, and disposed of in accordance with the California Code of Regulations (Title 22) and in a manner to the satisfaction of the local Certified Unified Program Agency (CUPA), as applicable. Any hazardous materials removed from the Project site shall be transported only by a Licensed Hazardous Waste Hauler, who shall be in compliance with all applicable State and federal requirements, including U.S. Department of Transportation regulations under Title 49 (Hazardous Materials Transportation Act) and Title 40, Section 263 (Subtitle C of the Resource Conservation and Recovery Act) of the Code of Federal Regulations; California Department of Transportation (Caltrans) standards; and Division of Occupational Safety and Health (Cal/OSHA) standards.

**Impact Discussion**

**a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?**

**Less Than Significant Impact.** The Project would not involve the routine use, transport, handling, or storage of hazardous materials on-site. The proposed land uses are limited to residential and commercial, and no industrial or manufacturing land uses would be developed. The Project would result in the on-site handling of materials that are common in similar urban developments, such as commercial cleansers, solvents and other janitorial or industrial-use materials; paints; and landscape fertilizers/pesticides. While many such common materials are technically labeled “hazardous”, the presence of such materials is common in a mixed-use urban environment and their transport and use is considered a less than significant impact. The proposed land uses would not generate hazardous emissions, nor would they involve hazardous materials that would create a substantive hazard to the public or environment. There would be a less than significant impact, and no mitigation is required.

**b) Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

**Less Than Significant Impact.** Project construction activities routinely involve the use and handling of limited volumes of commonly used hazardous materials, such as petroleum (fuel), paints, adhesives, and solvents. During construction, there is a limited risk of spills and/or accidental release of hazardous materials that are used for the operation and maintenance of construction equipment. The on-site temporary handling, storage, and usage of these materials would be subject to applicable local, State, and/or federal regulations, including BMPs) related to stormwater required by the City (see RR HWQ-1 in Section 3.10 of this IS/MND). As required by RR HAZ-1, any hazardous materials used during construction would also be transported, used, stored, and disposed of according to any applicable local, State, and/or federal regulations. Compliance with applicable regulations would reduce the risk of any damage or injury from any potential spill hazards to a less than significant level.

As stated above, the Project site excluding the Jiffy Lube site was not listed on any databases as searched by the EDR. The latest testing completed in 2021 indicated no leakage and compliance with all federal and State requirements for a passing system. However, due to the sensitive nature of service station operations, a soil gas screening was conducted to investigate whether one or more historic releases of petroleum products from the on-site gasoline service station and auto repair/lube operations had occurred. Laboratory testing indicated that no soil gas samples collected on the Jiffy Lube site had detectable concentrations of TPH-g or VOCs. Therefore, the Phase II Report concluded that a significant environmental threat or human health concern was not present. The proposed land uses would not create a significant hazard to the public or

environment involving release of hazardous materials into the environment. Impacts would be less than significant, and no mitigation is required.

**c) Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

**Less Than Significant Impact.** There are a total of 3 public and private K-12 schools and other educational institutions within 0.25 mile of the Project site: Excelsior School, located approximately 0.08 mile to the northwest at 41 Santa Clara Street; Arroyo Pacific Academy, located approximately 0.20 mile to the north at 325 N Santa Anita Avenue; and s, located approximately 0.20 mile to the east at 17 East Huntington Drive. However, as discussed above, the Project would not develop land uses that involve the use, storage, or transport of hazardous materials that represent a significant hazard to the public or the environment. No industrial or manufacturing land uses would be developed as part of the Project. During Project operations, the Project would result in the routine on-site handling of materials that are common in similar urban developments, such as commercial cleansers, solvents and other janitorial or industrial-use materials; paints; and landscape fertilizers/pesticides. The on-site temporary handling, storage, and usage of these materials would be subject to applicable local, State, and/or federal regulations, including BMPs required by the City (see RR HWQ-1). Therefore, impacts would be less than significant, and no mitigation is required.

**d) Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

**No Impact.** Section 65962.5 requires the development of a hazardous waste and substances site list, also known as the Cortese List, which provides the location of known hazardous materials release sites. The EDR Report did not identify any Cortese List sites on the Project site. Details of the databases searched, along with descriptions of each database researched, are provided in Appendix E-1. The nearest cleanup site reported on the Cortese list database is the Foulger Ford site location at 55 Huntington Drive, approximately 0.01 miles from the Project site. However, the Foulger Ford site cleanup status is completed and currently closed (EDR 2021, Appendix E-1).

The Project site and adjacent sites were not identified on any databases reviewed. Given that the Project does not occur on a Cortese List property or contain other hazardous materials of concern that would create a significant hazard to the public or environment, no impact would result from implementation of the Project, and no mitigation is required.

**e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?**

**No Impact.** The nearest airport to the site is the San Gabriel Valley Airport (formerly El Monte Airport), a public use airport, which is owned by the County of Los Angeles and located approximately 3.5 miles south of the Project site. The Project site is located outside the airport Area of Influence of the San Gabriel Valley Airport (LA County 1991). There are no other private airstrips in the vicinity of the Project. Therefore, the Project does not pose an adverse aeronautical effect. No impacts are anticipated, and no mitigation is required.

**f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

**Less Than Significant with Mitigation.** The City has adopted an Emergency Preparedness Program that addresses the City's response to extraordinary emergency situations associated with natural disasters, technological incidents, and threats to national security. It provides operational concepts related to various emergency situations; identifies components of the City of Arcadia Emergency Management Program; and describes the overall responsibilities of the organization for protecting life and property and assuring the overall well-being of the population. The plan also identifies the sources of outside support that might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, State and federal agencies, and the private sector.

Project construction activities would be constrained due to the fully developed nature of the surrounding land uses and location near heavily traveled roadways. As such, construction activities have the potential to disrupt traffic and emergency access through temporary lane closures or traffic diversions. As required by MM TRANS-1, a Construction Management Plan shall be prepared in compliance with the Manual on Uniform Traffic Control Devices (MUTCD). Compliance with MM TRANS-1 would ensure that potential short-term impacts to emergency response plans or evacuation routes would be less than significant. Once construction activities that could impact surrounding roadways are completed, the roads would be returned to the previous condition and there would be no impact. As required by MM TRANS-1, the Project Applicant/Property Owner would be responsible for repairing any damage to City roadways that may occur during construction or through transport of heavy trucks or equipment related to construction. Therefore, with implementation of MM TRANS-1, short term impacts would be reduced to a less than significant level.

The long-term operation of the Project involves residential, commercial, and parking land uses that would not result in a significant impact to existing roadways and would neither interfere with nor impact the implementation of the City's Emergency Preparedness Program. Additionally, emergency access to the site and surrounding areas would be maintained in compliance with applicable City requirements during and after construction.

**g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?**

**No Impact.** As discussed in Section 3.20, the Project site is not located within a very high fire hazard severity zone (CalFire 2023). The nearest high-risk zone closest to the Project site is located approximately 2 miles to the north, at the base of the San Gabriel Mountains. The Project site is located in an urban area of the City and is not adjacent to wildlands. Therefore, implementation of the Project would not result in a significant risk of loss, injury, or death involving wildland fires. No mitigation is required.

### 3.9.3 MITIGATION MEASURES

MM TRANS-1, presented in Section 3.17, Transportation, would also be applicable to the analysis of hazards and hazardous materials.

| 3.10 HYDROLOGY AND WATER QUALITY | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? | ☐ | ☐ | ☒ | ☐ |
| b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? | ☐ | ☐ | ☒ | ☐ |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would: | | | | |
| i) result in substantial erosion or siltation on- or offsite; | ☐ | ☐ | ☐ | ☒ |
| ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; | ☐ | ☐ | ☐ | ☒ |
| iii) create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; or | ☐ | ☐ | ☐ | ☒ |
| iv) impede or redirect flows? | ☐ | ☐ | ☐ | ☒ |
| d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? | ☐ | ☐ | ☒ | ☐ |
| e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? | ☐ | ☐ | ☐ | ☒ |

Information in this section is partially derived from the *Civil Engineering Hydrology Report* dated August 21, 2024, and prepared by Fuscoe Engineering (Fuscoe 2024a2024a, Appendix F).

### 3.10.1 ENVIRONMENTAL SETTING

#### Surface Drainage

The Project site is located within the 824-square-mile Los Angeles River Watershed (Watershed). The Watershed is highly modified; the northern 324-square-mile portion is covered by forest or open space, while the remaining 500 square miles is intensely urbanized (California Water Board 2014). The Watershed encompasses and is shaped by the path of the Los Angeles River. The Project site is located within the intensely urbanized portion of the Watershed and is currently developed with existing buildings and paved surface parking lots.

Storm drainage in the City of Arcadia is provided by curbs and gutters along streets, which direct storm water into the catch basins, pipes, and washes that run in a southerly direction in or near the City. Over four miles of City-maintained storm water management facilities are present in the

City, which connect to regional flood control and runoff conveyance facilities (Arcadia 2010b). Most storm water from the City flows in a southerly direction predominately through Arcadia Wash and Santa Anita Wash, as well as through Sawpit Wash, which all ultimately flow to the Rio Hondo, which runs southwest to join the Los Angeles River in Downey.

**Flooding**

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicates that the Project site is located in Flood Zone X, which designates areas that are determined to be outside the 0.2-percent annual chance floodplain (Geocon West, Inc. 2021, Appendix D). However, inundation can also occur as a result of significant structural damage to a dam or other water retention facility upstream of the Project site. Dam or reservoir failure could occur because of an earthquake, erosion, design flaw, or water overflow during storms (for a dam). The City's location along the San Gabriel Mountain foothills and below extensive regional flood control facilities places it within the potential inundation area of six water retention facilities. The Project area is located within the inundation hazard area of the Santa Anita Dam (Arcadia 2010b).

**Groundwater**

The Project site overlies the Main San Gabriel Groundwater Basin (Main Basin), which has a 255 square mile surface area and is in eastern Los Angeles County. The Main Basin is present beneath the majority of the San Gabriel Valley floor and is bound by the Raymond Basin on the northwest, the base of the San Gabriel Mountains on the north, the Puente Basin on the east, and Whittier Narrows to the south. The Main Basin is replenished by stream runoff, rainfall, and inflow from the surrounding Raymond and Puente Basins, and is also replenished with imported water through the Upper San Gabriel Valley Municipal Water District (Arcadia 2010a). The Raymond Basin's main water-bearing materials are unconsolidated to semi-consolidated Quaternary alluvial sediments deposited by streams originating in the San Gabriel Mountains (DWR 2004).

During the drilling of soil borings for the Geotechnical Investigation (Geocon West, Inc. 2021, Appendix D), groundwater was not encountered drilled to a maximum depth of 60 ½ feet. Also, a review of available data indicates that the historically highest groundwater level in the immediate area is approximately 100- 150 feet beneath ground surface.

### 3.10.2 PROJECT IMPACTS

**Regulatory Requirements**

**RR HWQ-1** Prior to the City's issuance of a demolition permit, the Project Applicant/Property Owner shall obtain coverage under the General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002), which will require the development and implementation of a Project-specific Storm Water Pollution Prevention Plan (SWPPP). As required by Section 7800 et. seq., Stormwater Management and Discharge Control, of the Arcadia Municipal Code, the Project's grading permit would only be issued after the Project Applicant/Property Owner submits proof that an NOI was filed and a SWPPP prepared to the satisfaction of the City's Public Works Director.

## Impact Discussion

**a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?**

**Less Than Significant Impact.** This section discusses the Project's potential construction- and operational-related water quality impacts.

### *Construction-Related Water Quality Impacts*

The Project could result in short-term construction impacts to surface water quality from demolition, grading, and other construction-related activities. Storm water runoff from the Project site during construction could contain soils and sediments from these activities. Spills or leaks from heavy equipment and machinery, construction staging areas, and/or building sites can also enter runoff and typically include petroleum products such as fuel, oil and grease, and heavy metals.

The State Water Resources Control Board (SWRCB) has issued the Statewide National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2022-0057-DWQ, NPDES No. CAS000002, which became effective on September 1, 2023) (Construction General Permit). Individual NPDES permits or Construction General Permit coverage must be obtained for discharges of storm water from construction sites with a disturbed area of one or more acres. Since the Project site is 2.27 acres, coverage under the Construction General Permit is required. To obtain coverage, the Project Applicant/Property Owner must retain the services of a certified Qualified SWPPP Developer (QSD) to prepare a SWPPP for the Project. The Project Applicant/Property Owner, or the contractor if specifically delegated, would electronically submit permit registration documents prior to beginning construction activities in the Storm Water Multi-Application Report Tracking System (SMARTS), which would consist of a Notice of Initiation (NOI), Risk Assessment, Post-Construction Calculations, a site map, the SWPPP, a signed certification statement, and the first annual fee. Project construction would also be required to adhere to the SCAQMD's Rule 402 (Nuisance) and Rule 403 (Fugitive Dust) to avoid and minimize airborne dust from leaving the site.

Also, as required by Section 7827 of the AMC, the Project would be required to implement an erosion and sediment control plan, or SWPPP, and BMPs required by the City's Director of Public Works to ensure that discharges of pollutants are effectively prohibited and would not cause or contribute to an exceedance of water quality standards. Also, consistent with Section 7827 of the AMC and Ordinance No. 2325 (Article VII, Chapter 8, Stormwater Management and Discharge Control), since the Project would disturb more than one acre, BMPs for new development and redevelopments would apply. This would include the requirement to comply with the Construction General Permit. The SWPPP would include BMPs to control erosion and sedimentation, and to manage waste and non-stormwater in accordance with the Construction General Permit. The Project Applicant/Property Owner may also be required by the City to develop an Erosion and Sediment Control Plan including structural BMPs, which would need to be certified by a QSD. The Project's grading permit would only be issued after the Project Applicant/Property Owner submits proof that an NOI was filed and a SWPPP prepared to the satisfaction of the Public Works Director. Construction activities are not anticipated to encounter groundwater, as levels are anticipated to be more than 100 to 150 feet below ground surface at the Project site (Geocon West, Inc. 2021, Appendix D), which is well below the depth of proposed excavation.

With implementation of RR HWQ-1, the impacts to surface water quality during construction would be less than significant, and no mitigation is required.

### *Operational Water Quality Impacts*

The Project is subject to requirements of the 1972 Federal Water Pollution Control Act, subsequently known as the Clean Water Act (CWA). In 1972, the CWA was amended to require NPDES permits for the discharge of pollutants to "waters of the U.S." from any point source. In 1987, the CWA was amended to require that the USEPA establish regulations for municipal and industrial storm water discharges for permitting under the NPDES permit program. The regulations require that municipal separate storm sewer system (MS4) discharges to surface waters be regulated by an NPDES permit. The MS4s are designated or used for collecting or conveying stormwater.

The City of Arcadia is located in both the Rio Hondo and San Gabriel River Watersheds, while the Project site is solely located in the San Gabriel River Watershed, and is within the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB). The City is therefore subject to the MS4 Permit (Order No. R4-2021-0105, NPDES Permit No. CAS004004), which became effective on September 11, 2021. The MS4 Permit governs stormwater and urban runoff discharges to public storm drain systems owned and operated by "the Permittees". Permittees that have land use authority are responsible for implementing a storm water management program to inspect and control pollutants from industrial and commercial facilities, new development and re-development projects, and development construction sites within their jurisdictional boundaries. As a Permittee under the MS4 Permit, the City has the authority to enforce the terms of the permit for design and operation of the Project.

The MS4 Permit also provides the option to develop integrated planning and monitoring plans to address many of the MS4 Permit's water quality and program requirements. The City of Arcadia is a participant in the Rio Hondo/San Gabriel River Water Quality Group (RH/SGRWQG), which also includes the County of Los Angeles, the Los Angeles County Flood Control District, and the cities of Azusa, Bradbury, Duarte, Monrovia, and Sierra Madre. In 2013, the RH/SGRWQG began preparation of an Enhanced Watershed Management Program (EWMP) and Coordinated Integrated Monitoring Program (CIMP) pursuant to the MS4 Permit in effect at that time (Order No. R4-2012-0175, NPDES Permit No. CAS004004). The LARWQCB approved the CIMP in 2015 and the EWMP in 2016. In 2019, a Revised EWMP was approved by the LARWQCB and replaces the 2016 EWMP. The 2019 rEWMP and 2015 CIMP are the current plans in place for the RH/SGRWQG.

The technique of Low Impact Development (LID) is the preferred stormwater management approach across the region. LID practices emphasize water conservation and the use of existing natural site features integrated with stormwater controls to more closely mimic natural hydrology patterns in residential, commercial, and industrial settings. The City's LID Ordinance, Ordinance No. 2325, was passed, approved, and adopted by the Arcadia City Council on April 7, 2015. This added Article VII, Chapter 8, to the AMC, entitled Stormwater Management and Discharge Control. The intent of Ordinance No. 2325 is to protect and enhance the water quality of the City's watercourses, water bodies, and receiving waters of the United States in a manner pursuant to and consistent with the Clean Water Act (CWA).

The Project meets the definition of a Planning Priority Project as defined in Ordinance No. 2325, as it is a redevelopment project that would disturb more than 5,000 square feet of impervious surface area on an already developed site. Therefore, the Project must be designed to control pollutants, pollutant loads, and runoff volume to the maximum extent feasible by minimizing impervious surface area and controlling runoff from impervious surfaces through infiltration, evapotranspiration, bioretention, and/or rainfall harvest and use. Prior to issuance of a Demolition or Grading Permit for the Project, the City Public Works Director would ensure that the Project Applicant/Property Owner has had a LID Plan prepared. The LID Plan must include measures to

retain stormwater runoff onsite for the Stormwater Quality Design Volume (SWQDv), as defined further in the AMC. This LID Plan would be reviewed by the City to ensure the Project minimizes hydromodification impacts to natural drainage systems. When, as determined by the City, 100 percent onsite retention of the SWQDv is not technically feasible, partially or fully, the infeasibility shall be demonstrated in the LID Plan.

If partial or complete onsite retention is determined by the City to be technically infeasible as documented in the LID Plan, the Project may instead biofiltrate 1.5 times the portion of the remaining SWQDv that is not reliably retained onsite. Biofiltration BMPs must adhere to the design specifications provided in the MS4 Permit. Additional alternative compliance options such as offsite infiltration will be analyzed, although much of the area surrounding the Project site is developed with impervious surfaces and unlikely to be able to be used for infiltration. Alternative compliance options are further specified in the County of Los Angeles Department of Public Works' *Stormwater Best Management Practices Design and Maintenance Manual*. The Project Applicant/Property Owner should contact the City Public Works Director to determine eligibility and obtain approval. In all cases, the Project would comply with all relevant provisions of the MS4 Permit.

The remaining SWQDv that cannot be retained or biofiltered onsite must be treated onsite to reduce pollutant loading. BMPs must be selected and designed to meet pollutant specific benchmarks as required per the MS4 Permit. Flow through BMPs may be used to treat the remaining SWQDv and must be sized based on a rainfall intensity of: 0.2 inches per hour, or the one year, one hour rainfall intensity as determined from the most recent Los Angeles County isohyetal map, whichever is greater (Fuscoe 2024a).

The Project's preliminary drainage design complies with City requirements for stormwater management and discharge control contained in the AMC to reduce pollutants in stormwater discharges to the maximum extent practicable. Compliance with applicable regulatory requirements, including the City's LID Ordinance and requirements contained in the County's LID Standards Manual, would ensure that long-term water quality impacts would be less than significant, and no mitigation would be required.

**b) Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?**

**Less Than Significant Impact.** The Project would not involve direct or indirect withdrawals of groundwater. Domestic water service would be provided by the City, as described in Section 3.17, Utilities and Service Systems. Also, the Project would not deplete groundwater supplies or interfere substantially with groundwater recharge. Most of the Project site is currently covered in impervious surfaces and Project implementation would also result in full coverage with impervious surfaces, except for some limited landscaping as described in Section 2.2. Therefore, there would be minimal change in groundwater recharge. There would be a less than significant impact, and no mitigation is required.

**c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:**

**i) Result in substantial erosion or siltation on- or offsite?**

**No Impact.** Most of the Project site is covered with impervious surfaces and is relatively flat. Implementation of the Project would not result in a substantial increase in the amount of

impervious surface. The Project site is in an urban setting and there are no natural streams or rivers within or near to the Project site. The Project would convey storm water to existing storm drains that connect to regional flood control and runoff conveyance facilities (Arcadia 2010b), which run southwest into the Whittier Narrows and continues southwest to join the Los Angeles River in Downey. Therefore, Project implementation would not result in an increase in erosion or sedimentation on- or off-site. There would be no impact, and no mitigation is required.

**ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?**

**iii) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?**

**No Impact.** The rate of stormwater runoff from the Project site would generally remain unchanged with Project implementation because the impervious cover on the Project site would not be substantively changed. Therefore, no net increase in storm flows is anticipated because of the Project, and no additional incremental flows would be contributed to the City's storm drain system. As such, the runoff from the site would not result in flooding on- or off-site and would not exceed the capacity of the storm drain system. Additionally, as described under the analysis of Thresholds 3.9(a) above, the Project would not result in substantial additional sources of polluted runoff. There would be no impact, and no mitigation is required.

**iv) Impede or redirect flood flows?**

**No Impact.** The Project site is not located in an area identified as a 100-year flood area (Arcadia 2010a). Therefore, the Project would not impede or redirect flood flows. There would be no impact, and no mitigation is required.

**d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?**

**Less Than Significant Impact.** The Project is not located in a flood zone or near the ocean or other water body with the potential to be at risk of seismically-induced tidal phenomena. Furthermore, the Project would not utilize, store, or otherwise contain pollutants that would be at risk of release if inundated. Therefore, hazards related to the potential release of pollutants due to inundation caused by a flood, tsunami, and/or seiche are considered to be negligible.

However, the Project site and surrounding area are located within the inundation hazard area of the Santa Anita Dam (Arcadia 2010a). The potential for inundation because of significant structural damage to the Santa Anita Dam as a result of an earthquake, erosion, a design flaw, or water overflow during storms is an existing inundation hazard that affects the Project site. As such, implementation of the Project would not exacerbate these hazards. There would be a less than significant impact, and no mitigation is required.

**e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?**

**No Impact.** The Project would develop a mix of residential and commercial uses. These land uses exist on or near the Project site currently and would not introduce sources of water pollutants that would have the potential to interfere with a water quality control plan or sustainable groundwater management plan. Moreover, the Project would mitigate runoff in a manner that

removes stormwater pollutants prior to the water being discharged into the municipal storm water system. There would be no impact, and no mitigation is required.

### 3.10.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to hydrology and water quality; therefore, no mitigation is required.

| 3.11 LAND USE AND PLANNING | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? | ☐ | ☐ | ☒ | ☐ |

### 3.11.1 ENVIRONMENTAL SETTING

The Project site is located in the downtown area of the City of Arcadia. The Project site isis within the downtown area of the City north of Huntington Drive and west of Santa Anita Avenue. All five parcels within the Project site (APNs 5775-025-032, -033, -034, -037, and -038) have a land use designation of DMU and are zoned as DMU. According to applicable design standards, all parcels within the Project site are permitted a maximum building height of 60 feet with an additional 10-foot height allowance for mechanical equipment, maximum residential density of 80 units per acre, and maximum FAR of 1.0, applicable only to the non-residential component of a development.

As shown on Exhibit 2, the Project site is located within a fully developed portion of the City and is surrounded to the north, east, and west by existing urban development, consisting of retail, restaurants, and office businesses, an Elks Lodge, and associated surface parking. Single-family residential uses are located approximately 410 feet or more to the northwest of the Project site across Santa Clara Street and multi-family residential uses are located approximately 280 feet or more to the southeast of the Project site across Santa Anita Avenue. Arcadia County Park is located immediately to the south of the Project site across Huntington Drive. Most of the structures that are adjacent to the Project site are one to two stories in height with heights ranging from 14 feet to 37 feet, with some taller structures interspersed. Within the immediate viewshed of the Project site, there is a 5-story storage building on Huntington Drive approximately 120 feet west of the Project site at 35 West Huntington Drive, and an 8-story office building on Santa Anita Avenue approximately 200 feet northeast of the site at 150 North Santa Anita Avenue. The former Van de Kamp's Bakery building, which is now a Denny's restaurant, is located east of the Project site at the northeast corner of Huntington Drive and Santa Anita Avenue. The Denny's restaurant exhibits variable heights with a single-story main building topped by a 40-foot-tall stylized, operational, windmill.

### 3.11.2 PROJECT IMPACTS

**Impact Discussion**

**a) Would the project physically divide an established community?**

**No Impact.** As shown in Exhibit 2, Aerial Photograph, and described in Section 2.1, Project Location, the Project site is currently developed and is surrounded by other urban development including commercial land uses. The Project involves redevelopment of the Project site and would not disrupt the physical arrangement of an established community. There would be no impact related to this threshold, and no mitigation is required.

**b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?**

**Less Than Significant Impact.** There are several land use-related planning programs, policies, and ordinances that are relevant to the Project, which are discussed below including the City of Arcadia General Plan and Zoning Ordinance.

***City of Arcadia General Plan***

The City's General Plan was adopted in 2010 (Arcadia 2010a). Each Element of the General Plan contains goals, policies, and implementation programs designed to guide the various aspects of the future land use, development, and revitalization decisions of the City. The State's general rule for a General Plan consistency determination is an action, program, or Project is consistent with the General Plan if, considering all aspects, it will further the objectives and policies of the General Plan and will not inhibit or obstruct their attainment.

The Project site has a General Plan land use designation of DMU. The Project would advance the City's goal as embodied in the General Plan of providing the residential uses necessary to support and complement the existing and proposed businesses in the downtown as well as the nearby Metro A Line Station. A goal of the Project is to transform the Project site within the City's downtown into a more vibrant, dynamic, transit- and pedestrian-oriented mixed-use development consistent with the Arcadia General Plan and related development standards and requirements. The Land Use and Community Design Element of the General Plan includes goals and policies that apply citywide. The Project would be consistent and help achieve the following goals and policies.

- **Goal LU-1:** A balance of land uses that preserves Arcadia's status as a Community of Homes and a Community of Opportunity.
    - **Policy LU-1.1:** Promote new infill and redevelopment projects that are consistent with the City's land use and compatible with surrounding existing uses.
    - **Policy LU-1.2:** Promote new uses of land that provide diverse economic, social, and cultural opportunities, and that reinforce the characteristics that make Arcadia a desirable place to live.
    - **Policy LU-1.3:** Encourage community involvement in the development review process.
    - **Policy LU-1.4:** Encourage the gradual redevelopment of incompatible, ineffective, and/or undesirable land uses.

- **Policy LU-1.6:** Establish consistency between the Land Use Plan and the Zoning Code.
- **Policy LU-1.7:** Encourage developments to be placed in areas that reduce or better distribute travel demand.
- **Policy LU-1.8:** Encourage development types that support transit and other alternative forms of transportation, including bicycling and walking.
- **Policy LU-1.9:** Establish incentives and development standards to encourage development of land uses that provide public amenities and/or desirable facilities or features, as well as private open space and recreation areas.
- **Policy LU-1.10:** Require that new development projects provide their full fair share of the improvements necessary to mitigate project generated impacts on the circulation and infrastructure systems.

- **Goal LU-2:** A City with a distinctive and attractive public realm, with pedestrian-friendly amenities in commercial and mixed-use districts and single-family neighborhoods that continue to maintain Arcadia's standard of architectural and aesthetic quality.
  - **Policy LU-2.1:** Ensure that trees planted in the public right-of-way continue to be well maintained where they exist, are planted in areas where they are currently lacking, and encourage replacement of undesirable tree species in public rights-of-way.
  - **Policy LU-2.2:** Emphasize the use of public spaces and design that are oriented toward the pedestrian and use of transit throughout the community.
  - **Policy LU-2.6:** Ensure the aesthetic quality and pedestrian orientation of the City's commercial corridors by implementing the recommendations of this Community Design section, as well as the Architectural Design Guidelines for commercial and industrial properties.
  - **Policy LU-2.7:** Through a combination of incentives to business owners and enforcement measures, attain compliance with signage standards and guidelines throughout the City, with a priority placed on high-traffic commercial corridors and gateway areas.

Also, the Land Use and Community Design Element of the General Plan includes various goals and policies specific to development within the City's downtown. The Project would be consistent with and help achieve the following goal and policies:

- **Goal LU-10:** A thriving downtown, with healthy commercial areas supported by high-quality, residential uses and supportive of the Metro A Line transit station (e.g., Arcadia A Line Station).
  - **Policy LU-10.1:** Provide diverse housing, employment, and cultural opportunities in downtown, with an emphasis on compact, mixed-use, transit- and pedestrian-oriented development patterns that are appropriate to the core of the City.
  - **Policy LU-10.2:** Promote the Metro A Line Extension and establishment of a transit station in downtown Arcadia and take full advantage of the opportunities the A Line station (e.g., Arcadia A Line Station) will bring to downtown and the City as a whole.
  - **Policy LU-10.3:** Work toward the establishment of public gathering areas in downtown to bring public activities and civic events into downtown.

- **Policy LU-10.4:** Establish commercial uses that complement the vision of the downtown core with opportunities for more intense, quality development at key intersections that are unique from the regional offerings at the regional mall.
- **Policy LU-10.6:** Encourage high standards for property maintenance, renovation and redevelopment.
- **Policy LU-10.7:** Provide accessible plazas and public spaces throughout downtown that provide both intimate, outdoor rooms and larger spaces that could accommodate public gatherings and celebrations.
- **Policy LU-10.9:** Connect various activity areas and plazas via sidewalks, paseos, and pedestrian alleys to create a comprehensive pedestrian network.
- **Policy LU-10.10:** Establish a "park once" system in downtown with a collection of shared surface and parking structures.
- **Policy LU-10.11:** Buildings should be oriented to the pedestrian and the street.
- **Policy LU-10.12:** Encourage architecture that uses quality, lasting building materials; provides building scale that relates to intimate nature of downtown; and applies a unified theme.
- **Policy LU-10.13:** Recognize that well-designed public open spaces are vital to the success of downtown. Work with private developers and landowners to facilitate the construction of such spaces.
- **Policy LU-10.14:** Create a high-quality pedestrian experience in downtown through the use of street trees, public art, street furniture, and public gathering spaces. Using signage, art, and unique uses, entice and encourage people to walk and explore the commercial core of downtown.

The Land Use and Community Design Element of the City's General Plan identifies the ¼-mile radius surrounding the Metro A Line Station as an "activity node", which is defined as "places of pedestrian activity and excitement. These are places where people congregate, socialize, and shop. Activity nodes are places where residents can leisurely stroll, participate in a recreational activity, or relax and experience the outdoors" (Arcadia 2010a). The Project site is within ¼-mile of the Metro A Line Station.

In summary, the Project would implement the City's goals for the City's downtown by enhancing the street frontage, orienting the retail and publicly accessible components of the Project towards Huntington Drive and Santa Anita Avenue, and by providing additional vehicle, pedestrian, and bicycle facilities. The Project would support the City's goals to provide a connected, balanced, and integrated bicycle and pedestrian network by developing a mixed-use project that promotes pedestrian connectivity with the City and includes on-site improvements to facilitate circulation and community cohesion within the existing environment. Therefore, the Project would be consistent with the applicable goals and policies of the City's General Plan.

### *City of Arcadia Development Code*

The Arcadia's Development Code Zoning Ordinance is the primary tool for implementing the City's General Plan. It provides development standards (e.g., setbacks, building height, site coverage, parking, and sign requirements). Also, the Development Code provides detailed guidance for development based on and consistent with the land use policies established in the General Plan. As discussed previously, current zoning for the Project site is DMU.

The DMU zone is intended to provide opportunities for complementary service and retail commercial businesses, professional offices, and residential uses located within the City's downtown. A wide range of commercial and residential uses are appropriate, oriented towards pedestrians to encourage shared use of parking, public open space, and interaction of uses within the zone. Residential uses are permitted above ground floor commercial or adjacent to a commercial development. Both uses must be located on the same lot or on the same project site, and exclusive residential structures are not allowed. Development standards for the DMU zone are defined in Table 19, Project Consistency with the Downtown Mixed-Use Zone Development Standards, which includes an analysis of Project consistency.

**TABLE 19**
**PROJECT CONSISTENCY WITH THE DOWNTOWN MIXED-USE ZONE DEVELOPMENT STANDARDS**

| Standard | Development Standards for DMU Zone | Project Consistency |
|---|---|---|
| Minimum Lot Area | 10,000 sf | 98,880 sf |
| Maximum Residential Density | 80 units per acre | 79.7 units per acre |
| Maximum Height (excluding mechanical equipment[1]) | 60 feet | 60 feet |
| Maximum Floor Area Ratio for Non-Residential Uses | 1.0 | 0.13 |
| Minimum Open Space for Residential Uses | 100 sf per unit | 213.9 sf per unit |
| *Setbacks* | | |
| Front (or adjacent to a street) | 0 feet minimum;<br>10 feet maximum | 3 foot minimum (Santa Anita Ave) and 2.5- and 10-foot-wide ROW dedications |
| Side (Interior Abutting Non-residential or Mixed-Use Zone) | 0 feet minimum (no maximum) | 6 inch minimum (Morlan Place) |
| Side (Street Side) | 0 feet minimum;<br>10 feet maximum | 8 feet 6 inch minimum at retail level (Huntington Dr) 18-inch-wide ROW dedication |
| Rear (Abutting Non-residential or Downtown Zone) | 0 feet minimum (no maximum) | 2 foot minimum (Project site interior) |

sf: square feet, Ave: Avenue, Dr: Drive, ROW: right-of-way
[1] Mechanical equipment may exceed the maximum height limit by up to 10 feet per Development Code Section 9103.01.050(D)
Source (DMU zone standards): Arcadia Development Code Section 9102.05.030

The Project's maximum building height of 60 feet would comply with the DMU zone development standard of up to 60 feet, excluding mechanical equipment. As described in Section 9103.01.050(D) of the Development Code, in any commercial, industrial, or mixed-use zone, mechanical equipment required for the operation of or maintenance of structures, including elevators and stairways, may exceed the maximum height limit by up to 10 feet. The Project proposes up to 5 feet of additional height for the building's mechanical equipment. This can be seen most clearly in Exhibits 11a and 11b, Proposed Project Elevations. Therefore, the proposed Project would be consistent with all applicable Arcadia Development Code requirements.

As noted in Table 19, Project Consistency with the Downtown Mixed-Use Zone Development Standards, there are no front, side, or rear minimum setback requirements for buildings within the DMU zone. The maximum setback permitted for any street side is 10 feet, which may be used for landscaping, pedestrian circulation, entry court, outdoor dining, and similar uses related to a downtown pedestrian environment. For the proposed Project, Santa Anita Avenue is defined as the building's front and Huntington Drive and Morlan Place are defined as the building's sides.

As noted in Table 19, the Project includes dedications to the City that would become part of the public ROW. On Santa Anita Avenue, 2.5 feet of sidewalk alongside the Jiffy Lube parcel and the 10-foot-wide sidewalk for the remaining frontage to Morlan Place would be dedicated. And on Huntington Drive, 18 inches of sidewalk along the entire frontage would be dedicated. The Project's setbacks are measured in addition to the ROW dedications. As shown in Table 19, the Project's setbacks would be consistent with the range allowed for the DMU zone. Also, as part of the City's design review, City staff will ensure that the Project complies with all other applicable City regulations, including those contained in:

Division 2 of the Development Code – Zones, Allowable Uses, and Development Standards;

- Division 3 of the Development Code – Regulations Applicable to All Zones – Site Planning, Parking Standards, and General Development Standards; and
- Division 4 of the Development Code – Regulations for Specific Land uses and Activities.

As mentioned above, in DMU zones in the City's downtown, multi-family dwellings require the issuance of a Minor Use Permit. Therefore, prior to commencement of any construction activities, the Project Applicant/Property Owner shall obtain approval of a Conditional Use Permit from the City.

***City Center Design Plan***

In addition to consistency with the development standards for the DMU zone and other elements of the City Development Code, the Project has been designed to comply with the *City Center Design Plan* (City Center Design Plan, Plan) (Onyx Architects 2018). The City Center Design Plan was approved by the City Council in August 2018 and provides additional design standards for new development in the City's downtown. The Plan was developed to balance the goals of increasing density and improving walkability and mobility while at the same time embracing the scale and architecture of the existing downtown buildings that give the area its identity and character by improving design quality for all future projects.

One goal of the City Center Design Plan is to make the downtown more walkable and to improve mobility. The Project would promote this goal by providing mixed uses in the downtown near transit. Also, the Project would include ground-floor public spaces associated with the non-residential uses. The Project would provide residential uses and commercial space in close walking distance to the Metro A Line Station. Also, in furtherance of the City Center Design Plan goal of increasing density, the Project would increase density on the site. The Project has been designed to be consistent with the urban design principles and all relevant design concepts provided in the City Center Design Plan. The Project would not result in any conflicts with the Plan while at the same time implementing many of its goals. The Project massing is developed to step back from the ground level with height along Huntington Drive and Santa Anita Avenue, which is consistent with the recommendations in the Plan. The Plan's proposed massing diagram allows 5-story structures on Wheeler Avenue and maximum 3-story structures along Huntington Drive, but a note is included in the Plan stating that some flexibility is necessary for individual projects fronting Huntington Drive. Finally, the Project implements the Plan's goal of having centralized, shared parking below 4 to 5 story developments to allow for a "park-once" approach so that every parking stall can serve several uses within the area (Onyx Architects 2018).

Therefore, impacts related to applicable land use plans, policies, or regulations would be less than significant, and no mitigation is required.

### 3.11.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to land use and planning; therefore, no mitigation measures are required.

| 3.12 MINERAL RESOURCES | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? | ☐ | ☐ | ☐ | ☒ |

### 3.12.1 ENVIRONMENTAL SETTING

Mineral resources are naturally occurring chemicals, elements, or compounds formed by inorganic processes or organic substances. These resources include bituminous rock, gold, sand, gravel, clay, crushed stone, limestone, diatomite, salt, borate, potash, geothermal, petroleum, and natural gas resources. Construction aggregate refers to sand and gravel (natural aggregates) and crushed stone (rock) that are used as Portland-cement-concrete aggregate, asphaltic-concrete aggregate, road base, railroad ballast, riprap, fill, and the production of other construction materials.

The State Mining and Geology Board classifies lands in California based on the availability of mineral resources. The Project site is located within an MRZ-4 zone, meaning there is insufficient data to assign any other MRZ designation. However, as discussed in the Resource Sustainability Element of the Arcadia General Plan, the only area available for future mining activity is the Livingston-Graham sand and gravel extraction site, which is located approximately 2.5 miles south of the Project site and most of which occurs in the adjacent City of Irwindale (Arcadia 2010a). Review of maps prepared by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources shows that there are no gas, geothermal fields, or active wells in or near the Project site (Arcadia 2010b).

### 3.12.2 PROJECT IMPACTS

**Regulatory Requirements**

None required.

**Impact Discussion**

**a) Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

**b) Would the project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

**No Impact.** Based on review of the Resource Sustainability Element of the City of Arcadia General Plan, the Project site does not contain known State or locally designated mineral resources or locally important mineral resource recovery sites (Arcadia 2010a). Project implementation would not result in adverse impacts to any significant mineral resource. There would be no impact, and no mitigation is required.

### 3.12.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to mineral resources; therefore, no mitigation measures are required.

| 3.13 NOISE | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project result in: | | | | |
| a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | ☐ | ☐ | ☒ | ☐ |
| b) Generation of excessive groundborne vibration or groundborne noise levels? | ☐ | ☒ | ☐ | ☐ |
| c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

### 3.13.1 ENVIRONMENTAL SETTING

#### Overview of Noise and Vibration

Several rating scales (or noise "metrics") are used to analyze the effects of noise on a community. These scales include the equivalent noise level ($L_{eq}$) and the community noise equivalent level (CNEL). Average noise levels over a period of minutes or hours are usually expressed as A-weighted decibels (dBA) $L_{eq}$, which is the equivalent noise level for that period of time. The period of time averaging may be specified; where $L_{eq(3)}$ would be a 3-hour average. When no period is specified, a 1-hour average is assumed. Noise of short duration (e.g., substantially less than the averaging period) is averaged into ambient noise during the period of interest. Thus, a loud noise lasting several seconds, or a few minutes may have minimal effect on the measured sound level averaged over a one-hour period.

To evaluate community noise impacts, CNEL was developed to account for human sensitivity to evening and nighttime noise. CNEL separates a 24-hour day into three periods: daytime (7:00 AM to 7:00 PM), evening (7:00 PM to 10:00 PM), and nighttime (10:00 PM to 7:00 AM). The evening sound levels are assigned a 5-dBA penalty, and the nighttime sound levels are assigned a 10-dBA penalty prior to averaging them with daytime hourly sound levels. Several statistical descriptors are also often used to describe noise, including $L_{max}$ and $L_{min}$, which are the highest and lowest A-weighted sound levels that occur during a noise event, respectively. Noise levels measured in

dBA associated with common events and activities is shown in Exhibit 17, Noise Levels for Common Events.

Vibration amplitudes are commonly expressed in peak particle velocity (ppv) or root-mean square (rms) vibration velocity. PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV and RMS vibration velocity are normally described in inches per second. Similar to airborne sound, vibration velocity can be expressed in decibel notation as vibration decibels (VdB).

## Existing Conditions

To evaluate the existing noise environment, noise level measurements were collected at the Project site boundaries on April 12, 2023. A total of four 20-minute noise measurements were collected for the Project. The short-term measurement results are provided in Table 20, Summary of Short-term Ambient Noise Level Measurements, and include the energy average ($L_{eq}$), maximum noise level ($L_{max}$), and minimum noise level ($L_{min}$) values. The complete noise monitoring results are included in Appendix G (Noise Calculations).

**TABLE 20**
**SUMMARY OF SHORT-TERM AMBIENT NOISE LEVEL MEASUREMENTS**

| Location | Time | Noise Levels (dBA) | | | Primary Noise Source |
|---|---|---|---|---|---|
| | | $L_{eq}$ | $L_{max}$ | $L_{min}$ | |
| Western Project Boundary | 4:25-4:45 | 54.0 | 61.7 | 47.2 | Heating Ventilation and Air Conditioning unit at the Rusnak Mercedes Benz dealership to the north of the site |
| Northern Project Boundary | 4:47-5:07 | 61.0 | 67.2 | 56.1 | Pressure washer and Heating Ventilation and Air Conditioning unit at the Mercedes Benz dealership to the north of the site |
| Eastern Project Boundary | 5:14-5:34 | 64.9 | 76.6 | 50.4 | Vehicle traffic traveling along Santa Anita Avenue |
| Southern Project Boundary | 5:36-5:56 | 66.3 | 81.6 | 53.8 | Vehicle traffic traveling along Huntington Drive |

dBA: A-weighted decibels; $L_{eq}$: equivalent noise level; $L_{max}$: maximum noise level; $L_{min}$: minimum noise level
Source: see Appendix G for noise calculations

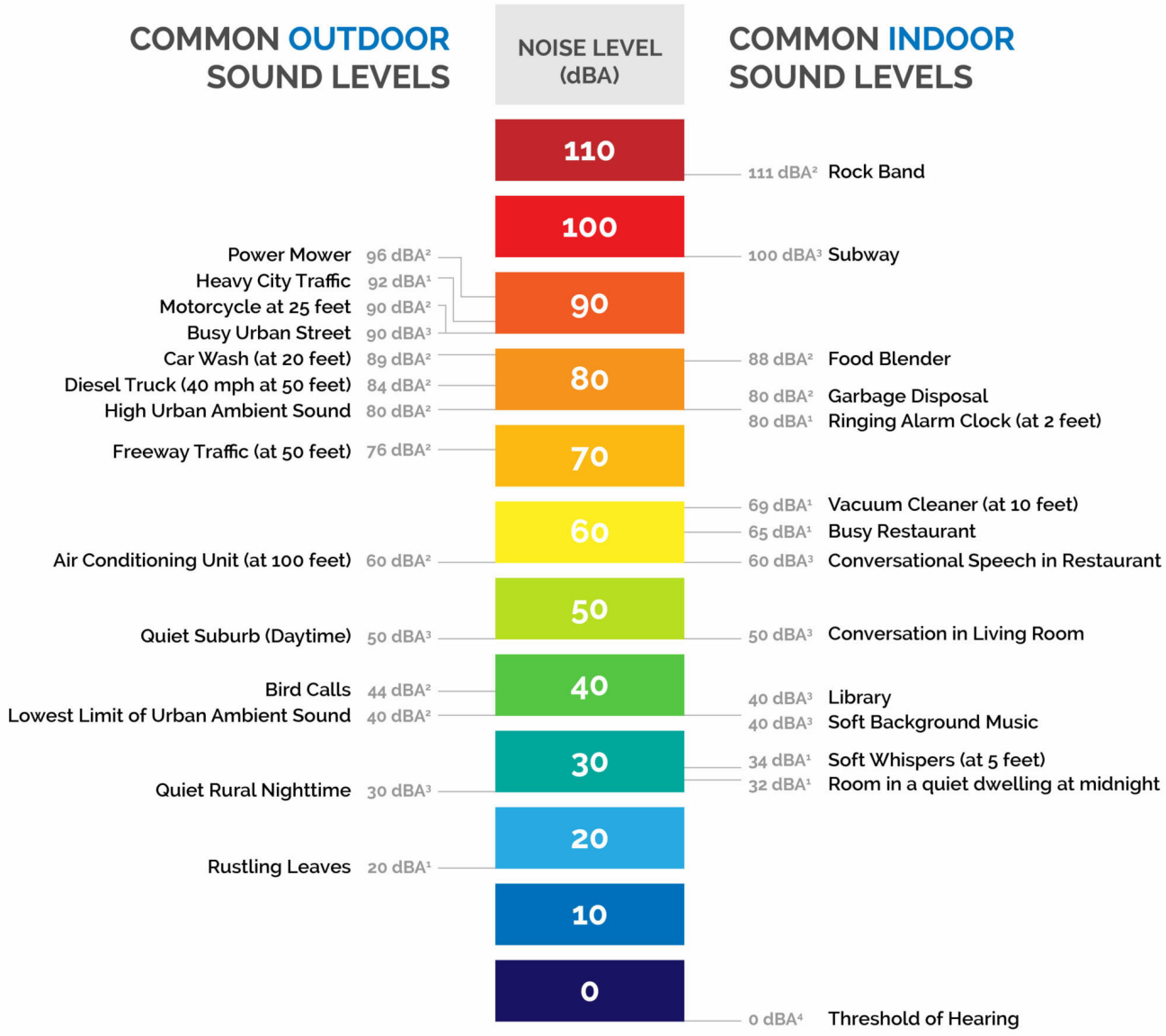
As shown in Table 20, the traffic along Huntington Drive and Santa Anita Avenue are the primary noise sources affecting noise exposure levels on the eastern and southern Project boundaries. The maximum noise levels recorded ranged from 61.7 to 81.6 dBA $L_{max}$ and average noise levels ranged from 54.0 to 66.3 dBA $L_{eq}$.

Measured noise levels on the western Project boundary are considered relatively low with primary contribution of noise from the Heating Ventilation and Air Conditioning (HVAC) unit at the Mercedes Benz dealership to the north of the site. At the northern Project site boundary, noise measurements were most heavily influenced by a pressure washer used for cleaning cars as well as the HVAC unit at Mercedes Benz dealership.

## Sensitive Receptors

Noise-sensitive receptors are generally considered to be humans who are engaged in activities that may be subject to the stress of significant interference from noise. The Project site is adjacent to commercial uses present to the north and east; an Elk's Lodge to the west, and the Arcadia

# Comparative Noise Levels (dBA)




1 Aviation Noise Effects, FAA, AEE, March, 1985 (FAA-EE-85-2), Table 1.1
2 Federal Agency Review of Selected Airport Noise Analysis Issues (Federal Interagency Committee on Noise), August 1992, Table B.1
3 Children's health and the environment, A Global Perspective, World Health Organization, 2005. Table 15.1
4 OSHA Technical Manual, TED 01-00-015. Section III (Health Hazards), Chapter 5 (Noise, Updated 8/15/2013)

Source: Federal Aviation Administration 2020

## Noise Levels for Common Events

Exhibit 17

*Arcadia Town Center Project*

PSOMAS

(11/05/2024 PLO) R:\Projects\ARD\3ARD012200\Graphics\MND\ex_Noise_Levels_for_Common_Events.pdf

D:\Projects\3ARD\Arcadia_Town_Center\Graphics\MND\ex_Noise_Levels_for_Common_Events.ai

County Park to the south. The nearest residential uses are located approximately 280 feet to the southeast and 410 feet to the northwest.

**City of Arcadia Noise Element and Municipal Code**

The City of Arcadia has established guidelines and standards in the General Plan and the AMC.

***General Plan Noise Element***

The City of Arcadia is affected by several different sources of noise, including automobile traffic, Santa Anita Race Track events and other sports events, commercial activity, periodic nuisances such as construction, and other sources typical of urban and suburban areas. The Noise Element of the General Plan is intended to identify these sources and provide objectives and policies that ensure that noise from these sources does not create an unacceptable noise environment (Arcadia 2010a).

The Noise Element of the General Plan acknowledges that noise from major roadways may affect sensitive receptors and identifies roadways proximate to the Project site such as Santa Anita Avenue and Huntington Drive. The following policy measures are applicable to the Project:

**Policy N-1:** Effective incorporation of noise considerations into land use planning decisions.

*Policy N-1.1* Consider noise impacts as part of the development review process relative to residential and other noise-sensitive land uses.

*Policy N-1.2* Ensure that acceptable noise levels are maintained near schools, hospitals, and other sensitive areas in accordance with the Noise/Land Use Compatibility Guidelines in Figure N-4, Table N-2 Interior/Exterior Noise Standards (of the Noise Element), and the City's noise ordinance.

*Policy N-1.3* New commercial and industrial developments located adjacent to residential areas and identified noise-sensitive uses shall demonstrate reduction of potential noise impacts on neighboring sensitive uses to acceptable levels.

*Policy N-1.4* Discourage new development of residential or other noise-sensitive uses in noise-impacted areas unless effective mitigation measures are incorporated into the project design to reduce noise levels that comply with Noise/Land Use Compatibility Guidelines in Figure N-4 and Table N-2 Interior/Exterior Noise Standards (in the Noise Element).

*Policy N-1.5* Require that proposed projects that have the potential to result in noise impacts include an acoustical analysis and appropriate mitigation to achieve the interior and exterior noise standards indicated in Table N-2 Interior/Exterior Noise Standards. (in the Noise Element)

**Policy N-3**: Limited intrusion of point-source noise within residential neighborhoods and on noise-sensitive uses.

*Policy N-3.1* Enforce the noise ordinance to protect residents and noise-sensitive uses from excessive noise levels associated with stationary sources.

*Policy N-3.3* Explore requiring the use of noise suppression devices and techniques on all exterior noise sources (construction operations, pumps, fans, leaf blowers) to lower exterior noise to levels that are compatible with adjacent land uses.

*Policy N-3.4* Require any new mixed-use structures to be designed to minimize the transfer of noise and vibration from commercial or industrial to residential and other noise-sensitive uses.

*Policy N-3.5* Require noise created by new non-transportation noise sources to be mitigated so as not to exceed acceptable interior and exterior noise level standards identified in this Noise Element.

The Noise Element contains guidelines for noise-compatible land use for long-term operations, as shown in Table 21, City of Arcadia Guidelines for Noise Compatible Land Uses.

## TABLE 21
## CITY OF ARCADIA GUIDELINES FOR NOISE COMPATIBLE LAND USES

| Land Use Category | Community Noise Exposure Ldn or CNEL, DBA | | | | | | |
|---|---|---|---|---|---|---|---|
| | 55 | 60 | 65 | 70 | 75 | 80 | 85 |
| Estate Residential, Very Low Density Residential, Low Density Residential (1) | | | | | | | |
| Medium Density Residential | | | | | | | |
| High Density Residential, Mixed Use, Downtown Mixed Use | | | | | | | |
| Commercial, Regional Commercial, Horse Racing | | | | | | | |
| Commercial/Light Industrial | | | | | | | |
| Public/Institutional | | | | | | | |
| Open Space – Outdoor Recreation | | | | | | | |
| Open Space - Resource Protection | | | | | | | |

NORMALLY ACCEPTABLE

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

NORMALLY UNACCEPTABLE

New construction or development generally is discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and incorporated into project design.

CONDITIONALLY ACCEPTABLE

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

CLEARLY UNACCEPTABLE

New construction or development should generally not be undertaken, unless it can be demonstrated that an interior level of 45 dBA can be achieved.

Source: Arcadia 2010a.

While the compatibility guidelines in Table 21 above show the degree of noise exposure that is considered acceptable, the Noise Element also provides interior and exterior noise standards for different land uses, as shown in Table 22, City of Arcadia Interior/Exterior Noise Standards, on the following page.

**TABLE 22**
**CITY OF ARCADIA INTERIOR/EXTERIOR NOISE STANDARDS**

| Land Use | Maximum Exterior Noise Level | Maximum Interior Noise Level |
|---|---|---|
| Residential: Rural, Single-Family, and Multifamily | 65 dBA CNEL | 45 dBA CNEL |
| Schools | | |
| Classroom | 70 dBA CNEL | 45 dBA $L_{eq}$ |
| Playground | 70 dBA CNEL | - |
| Libraries | - | 45 dBA $L_{eq}$ |
| Hospitals/Convalescent Facilities | | |
| Sleeping Areas | 65 dBA CNEL | 45 dBA CNEL |
| Living Areas | - | 50 dBA CNEL |
| Reception, Office | - | 50 dBA CNEL |
| Hotels/Motels | | |
| Sleeping Areas | - | 45 dBA CNEL |
| Reception, Office | - | 50 dBA $L_{eq}$ |
| Places of Worship | 65 dBA CNEL | 45 dBA $L_{eq}$ |
| Open Space/Recreation | | |
| Wildlife Habitat | 60 dBA CNEL | - |
| Passive Recreation Areas | 65 dBA CNEL | - |
| Active Recreation Areas | 70 dBA CNEL | - |
| Commercial and Business Park | | |
| Office | - | 55 dBA $L_{eq}$ |
| Restaurant, Retail, Service | - | 65 dBA $L_{eq}$ |
| Warehousing/Industrial | - | 70 dBA $L_{eq}$ |

dBA: A-weighted decibels; $L_{eq}$: equivalent noise level; CNEL: Community Noise Equivalent Level.

Source: Arcadia Noise Element of the General Plan, Table N-2 (Arcadia 2010a).

### *Municipal Code*

The AMC (Article IV, Chapter 6, Noise Regulations) is the City's Noise Ordinance. As stated in the AMC, "It is hereby declared to be the policy of the City to prohibit unnecessary, excessive, and annoying noises from all sources subject to its police power. At certain levels, noises are detrimental to the health and welfare of the citizenry, and, in the public interests, such noise levels shall be systematically proscribed." The following sections of the Noise Ordinance are applicable to the Project:

**Article IV, Chapter 6 – Noise Regulations, Part 1.**
**4610.3. – Noise Limits.**

(a) It shall be unlawful for any person within the City of Arcadia to produce or cause or allow to be produced sound or noise which is amplified by the use of sound amplifying equipment and which amplified noise or sound is received on property occupied by another person within the designated region, in excess of the following levels (shown in Table 23 on the following page), except as expressly provided otherwise or exempted hereinafter:

**TABLE 23**
**STATIONARY SOURCE NOISE LIMITS**

| Region | Day 7:00 AM to 10:00 PM | Night 10:00 PM to 7:00 AM |
|---|---|---|
| Residential Zone | 55 dBA | 50 dBA |
| Commercial Zone | 65 dBA | 60 dBA |
| Industrial Zone | 70 dBA | 70 dBA |
| dBA: A-weighted decibels. | | |
| Source: Arcadia Municipal Code, Chapter 6. | | |

**Article IV, Part 6. – Nighttime Construction**

**4261. – Prohibited Hours Defined**

The term "prohibited hours" as used in this Part shall mean any time after the hour of 6:00 PM of any weekday; any time before the hour of 7:00 AM of any weekday; any time after the hour of 5:00 PM of any Saturday; any time before the hour of 8:00 AM of any Saturday; any time on any Sunday; and any time on any of the following holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day; and Christmas Day, provided that if in any calendar year any such holiday falls on a Sunday, the following Monday shall constitute the holiday.

**4262. – Construction Limited**

Unless a permit to do so has first been obtained as provided in Section 4263, no person shall during prohibited hours engage in any earth excavation, land fill or earth moving operation or in the construction of any portion of a building or structure, nor shall any person during prohibited hours use or operate any truck, tractor, crane, rig or any mechanical equipment of any kind in connection with, in the performance of or in furtherance of any of the foregoing.

**4263. - PERMIT**

Any person desiring a permit to do any act described in Section 4262 during prohibited hours may make application to the Superintendent of Building and Safety for a permit therefor. No such permit shall be granted unless the applicant therefor submits proof of special circumstances establishing that the performance of any such act during prohibited hours is by its very nature necessary, or that the public welfare of the City or of the community will be better served by the performance or such activities during prohibited hours, or that the location for which a permit is requested is so far removed from occupied buildings that the public welfare and convenience will not be adversely affected by the performance of any such work during prohibited hours. Mere financial hardship or loss shall not of itself constitute sufficient proof of necessity to warrant the issuance of a permit under this Section.

**4630.2. – Noise. Gardening and Landscaping**

No person shall operate any mechanical equipment related to the gardening and/or landscaping of any property within a residential zone other than from seven (7) AM to seven (7) PM, Monday through Saturday, and from nine (9) AM to five (5) PM on Sundays within all residential zones; provided, however, that use of mechanical equipment for tree trimming on Sundays shall be prohibited. (Added by Ord. 2246 adopted 10-7-08)

### 3.13.2 PROJECT IMPACTS

**Impact Discussion**

**a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

***Construction (Temporary) Noise Generation***

**Less than Significant Impact.** Temporary noise increases associated with the Project would occur during the construction phase. Article IV, Chapter 6, Noise Regulations of the AMC is the City's Noise Ordinance, as described above. Construction activities are anticipated to involve demolition of existing structures and pavement, grading and excavation for parking, utilities and building foundations, and building construction. Construction activities are anticipated to start in 2026 and finish in 2028. All construction activities would occur within the hours specified by the Noise Ordinance.

During the demolition and grading activities, trucks are expected to enter and leave the Project site on a regular basis during working hours. Table 24 lists the anticipated number of truck trips associated with each construction phase. The number of truck trips traveling along the City-designated truck routes would vary daily depending on the nature of the construction activity at the site. It is anticipated that the trucks would use Santa Anita Avenue and travel to the 210 freeway which is approximately half-a-mile away to the north. Santa Anita Avenue has approximately 1,400 average daily trips per hour. The addition of up to 17 haul truck trips per hour would not result in a substantial change in noise levels along Santa Anita Avenue. Thus, this impact would be less than significant.

**TABLE 24**
**TRUCK HAULING QUANTITIES**

| Construction Phase | Hauling Quantity (cubic yards) | Truck Loads | Truck Capacity | Duration (Days) | Hourly Truck Trips |
|---|---|---|---|---|---|
| Demolition | 4,900 | 315 | 16 | 15 | 5 |
| Site Preparation | 70 | 5 | 14 | 5 | <1 |
| Shoring | 350 | 35 | 10 | 22 | <1 |
| Grading | 44,520 | 4,452 | 10 | 66 | 17 |
| Based on responses to a data request provided to the Applicant/Property Owner. | | | | | |

In typical construction projects (such as the Project), demolition and grading activities generate the highest noise levels since these phases involve use of the largest equipment. During demolition and grading, persons in the immediate vicinity of the construction site would experience short-term noise impacts related to the operation of heavy construction equipment such as bulldozers, excavators, and dump trucks. Noise levels would fluctuate depending on equipment type, duration of use, and distance between noise source and receiver. The operation of heavy equipment may occur adjacent to existing commercial buildings.

Local commercial, fraternal, and recreational uses would be subject to elevated noise levels due to the operation of Project-related construction equipment. Construction activities are carried out in discrete steps, each of which has its own mix of equipment and, consequently, its own noise

characteristics. These various sequential phases would change the character of the noise levels surrounding the construction site as work progresses. Construction noise levels reported in the USEPA's *Noise from Construction Equipment and Operations, Building Equipment, and Home Appliances* were used to estimate future construction noise levels for the Project (USEPA 1971).

Typically, the estimated construction noise levels are governed primarily by equipment that produces the highest noise levels. Construction noise levels for each generalized construction phase (ground-clearing/demolition, excavation, foundation construction, building construction, paving, and site cleanup) are based on a typical construction equipment mix for this type of project and do not include the use of atypical, very loud, and/or vibration-intensive equipment (e.g., pile drivers). According to the Project Applicant, Project construction would utilize equipment such as backhoes, excavators, bulldozers, augers, cranes, and track loaders, which are typical of infill construction projects in urban areas.

The degree to which noise-sensitive receptors are affected by construction activities depends heavily on their proximity. Estimated noise levels attributable to the development of the Project are shown in Table 25, Construction Noise Levels at Noise-Sensitive Uses, and calculations are included in Appendix G, Noise Calculations.

**TABLE 25**
**CONSTRUCTION NOISE LEVELS AT NOISE-SENSITIVE USES**

| | Noise Levels ($L_{eq}$ dBA) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | North - Commercial Use | | West - Elks Lodge | | South - Arcadia County Park | | East – Commercial Use | |
| Construction Phase | Max (60 ft) | Avg (240 ft) | Max (10 ft) | Avg (170 ft) | Max (95 ft) | Avg (305 ft) | Max (110 ft) | Avg (230 ft) |
| Ground Clearing/ Demolition | 82 | 70 | 98 | 73 | 78 | 68 | 77 | 71 |
| Excavation | 77 | 65 | 93 | 68 | 73 | 63 | 72 | 66 |
| Foundation Construction | 76 | 64 | 92 | 67 | 72 | 62 | 71 | 65 |
| Building Construction | 73 | 61 | 89 | 64 | 69 | 59 | 68 | 62 |
| Paving and Site Cleanup | 73 | 61 | 89 | 64 | 69 | 59 | 68 | 62 |

$L_{eq}$ dBA: Average noise energy level; Max: maximum; avg: average; ft: feet
Note: Noise levels from construction activities do not take into account attenuation provided by intervening structures.
Source: USEPA 1971 (see Appendix G for Project-related noise calculations)

Table 25 shows both the maximum and average noise levels for construction equipment activity at the distances shown for each land use. In Table 25, maximum noise levels represent the noise generation from a mix of construction equipment operating nearest to the noise sensitive use/receptor. Average noise levels represent the noise exposure to sensitive uses based on the distance to the center of the Project site. Noise levels from general Project-related construction activities would range from 68 to 98 dBA $L_{eq}$ for the maximum noise levels and 59 to 73 dBA $L_{eq}$ for the average noise levels. Although no sensitive receptors occur near the Project construction site, some construction activities would generate an increase in the ambient noise level experienced at nearby properties including adjacent commercial, fraternal, and recreational properties.

For comparison, the noise generation measured on the site from traffic on Huntington Drive ranged from approximately 54 to 81 dBA, which overlaps much of the estimated construction

noise levels. Exhibit 17, provided above, also provides context for these noise levels against common, everyday events and activities. As noted above, Project construction would not entail the use of unusually loud or vibration-intensive equipment to implement the Project. Construction of the Project would be implemented to comply with Section 4261 of the AMC, which establishes restrictions related to construction activities. This includes limiting construction noise generation to the least noise-sensitive portions of the day (i.e., 7:00 AM–6:00 PM Monday through Friday and 8:00 AM–5:00 PM Saturday) consistent with Section 4261 of the AMC. The ambient noise level during construction activities would fluctuate over the course of each workday as well as based on distance and relative location from the site. Noise attenuation, or reduction, provided by distance from the construction area would further limit the ambient noise level increase experienced by the surrounding land uses. For these reasons, construction noise generation would not be considered a substantial temporary increase in ambient noise levels in the vicinity of the Project and would not be in excess of standards established by City of Arcadia (i.e., Section 4261 of the AMC). Therefore, the Project would result in less than significant construction noise impacts, and no mitigation is required.

***Operational (Permanent) Noise Generation***

Permanent sources of noise associated with the Project involves vehicle trips traveling to and from the Project site, property maintenance activities (landscaping), and mechanical sources of noise.

Noise Generated by Project-Related Traffic

**Less than Significant Impact.** In community noise assessments, a 3-dBA increase is considered "barely perceptible," and increases over 5 dBA are generally considered "readily perceptible" (Caltrans 2009). Operation of the Project would displace traffic generated by existing uses. The difference between vehicle trips generated by existing and Project uses is 867 net new trips per day, with 75 net new trips during the AM peak hour and 67 net new trips in the PM peak hour (refer to Section 3.17, Transportation, for further information). The corresponding increase in off-site traffic noise would range from 0.0 to 1.9 dBA for the analyzed roadway segments proximate to the Project site. Table 26, Existing and Projected Traffic Noise Levels, on the following page summarizes the noise increase from the Project's net traffic generation. Thus, the traffic noise increases are below the 5 dBA noise increase threshold and would also not be perceptible or substantial. The impact on traffic noise levels would be less than significant, and no mitigation is required.

Noise Generated by On-Site Sources

**Less than Significant Impact.** The primary on-site noise sources generated by operation of the Project would be HVAC equipment, landscape maintenance, and trash collection, similar to the existing conditions. Noise generated by HVAC equipment is regulated by the Section 4610.3(c), which requires that noise exposure at offsite residential uses not exceed 55 dBA. For maintenance and landscaping activities, Section 4630.2 of the AMC limits activities to the hours of 7:00 AM and 7:00 PM Monday through Saturday, and from 9:00 AM to 5:00 PM on Sundays within all residential zones; provided, however, that use of mechanical equipment for tree trimming on Sundays shall be prohibited. Activities associated with maintenance of property would comply with Section 4630.2 of the AMC. There would be a less than significant noise impact, and no mitigation is required.

## TABLE 26
## EXISTING AND PROJECTED TRAFFIC NOISE LEVELS

| Roadways | | Existing Traffic | | Future No Project | | Future With Project | | Project Noise Increase | Cumulative Plus Project Noise Increase |
|---|---|---|---|---|---|---|---|---|---|
| | | *ADT* | *dBA CNEL* | *ADT* | *dBA CNEL* | *ADT* | *dBA CNEL* | *dBA CNEL* | *dBA CNEL* |
| Santa Anita Avenue | north of Morlan Place | 14,200 | 70.9 | 15,580 | 71.3 | 15,710 | 71.3 | 0.0 | 0.4 |
| | south of Morlan Place | 14,190 | 70.9 | 15,510 | 71.3 | 15,530 | 71.3 | 0.0 | 0.4 |
| Morlan Place | west of Santa Anita Ave | 930 | 59.0 | 930 | 59.0 | 1,120 | 59.8 | 0.8 | 0.8 |
| | east of Santa Anita Ave | 1,640 | 61.5 | 2,340 | 63.0 | 2,340 | 63.0 | 0.0 | 1.5 |
| Santa Anita Avenue | north of Huntington Drive | 14,120 | 70.9 | 15,460 | 71.2 | 15,540 | 71.3 | 0.0 | 0.4 |
| | south of Huntington Drive | 20,470 | 72.5 | 21,600 | 72.7 | 21,750 | 72.7 | 0.0 | 0.3 |
| Huntington Drive | west of Santa Anita Ave | 24,240 | 73.1 | 26,060 | 73.4 | 26,360 | 73.5 | 0.0 | 0.4 |
| | east of Santa Anita Ave | 20,920 | 72.5 | 22,330 | 72.8 | 22,560 | 72.8 | 0.0 | 0.3 |
| Huntington Drive | west of South Driveway | 24,240 | 73.1 | 26,050 | 73.4 | 26,170 | 73.5 | 0.0 | 0.3 |
| | east of South Driveway | 24,240 | 73.1 | 26,050 | 73.4 | 26,350 | 73.5 | 0.0 | 0.4 |
| Morlan Place | west of North Driveway | 805 | 58.4 | 810 | 58.4 | 1,010 | 59.4 | 1.0 | 1.0 |
| | east of North Driveway | 805 | 58.4 | 810 | 58.4 | 1,250 | 60.3 | 1.9 | 1.9 |
| Santa Anita Avenue | north of Morlan Place | 14,200 | 70.9 | 15,580 | 71.3 | 15,710 | 71.3 | 0.0 | 0.4 |
| | south of Morlan Place | 14,190 | 70.9 | 15,510 | 71.3 | 15,530 | 71.3 | 0.0 | 0.4 |

ADT: average daily traffic volume. CNEL: Community Noise Equivalent Level

Note: Noise levels calculated from the FHWA's RD-77-108 Traffic Noise Prediction Model Source: FHWA 1978, see Appendix G for noise calculations.

**b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?**

**Less Than Significant With Mitigation.** Construction of the Project would involve use of vibration-generation equipment. There are no applicable City standards for structural damage from vibration. The California Department of Transportation (Caltrans) vibration damage potential guideline thresholds are shown in Table 27, Vibration Damage Threshold Criteria.

**TABLE 27**
**VIBRATION DAMAGE THRESHOLD CRITERIA**

| Structure and Condition | Maximum ppv (in/sec) | |
|---|---|---|
| | Transient Sources | Continuous/Frequent Intermittent Sources |
| Extremely fragile historic buildings, ruins, ancient monuments | 0.12 | 0.08 |
| Fragile buildings | 0.20 | 0.10 |
| Historic and some old buildings | 0.50 | 0.25 |
| Older residential structures | 0.50 | 0.30 |
| New residential structures | 1.00 | 0.50 |
| Modern industrial/commercial buildings | 2.00 | 0.50 |

ppv: peak particle velocity; in/sec: inch(es) per second.

Note: Transient sources create a single isolated vibration event, such as blasting or drop balls. Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.

Source: Caltrans 2020.

The nearest structures to the Project site are the Elks Lodge located adjacent to the Project's western property line and the commercial uses further to the west. In terms of classifications in Table 27, the structures to the west are conservatively considered "Older residential structures" for purposes of this analysis. Though the existing uses are commercial buildings, the nearest offsite building to the west (Elks Lodge) is a wood-framed stucco building that has similar characteristics to older residential structures. Therefore, the criterion for a significant impact for continuous/frequency intermittent sources is 0.3 ppv inches per second for older residential structures.

The newer commercial structures to the north of the site are recently constructed and have been evaluated under the thresholds developed for "Modern industrial/commercial buildings". Similar to structural damage from vibration, there are no applicable standards in the AMC for human annoyance from construction vibration. The Caltrans vibration annoyance potential guideline thresholds are shown in Table 28, Vibration Annoyance Criteria, on the following page. Based on the guidance in Table 28, the "strongly perceptible" vibration level of 0.9 ppv in/sec is used in this analysis as the threshold for a potentially significant vibration impact for human annoyance.

**TABLE 28**
**VIBRATION ANNOYANCE CRITERIA**

| Average Human Response | ppv (in/sec) |
|---|---|
| Severe | 2.000 |
| Strongly perceptible | 0.900 |
| Distinctly perceptible | 0.240 |
| Barely perceptible | 0.035 |
| ppv: peak particle velocity; in/sec: inch(es) per second.<br>Source: Caltrans 2020. | |

Conventional construction equipment would be used for demolition and grading activities, with no pile driving or blasting equipment. Table 29, Vibration Levels for Construction Equipment summarizes typical vibration levels measured during construction activities for various vibration-inducing equipment at a distance of 25 feet.

**TABLE 29**
**VIBRATION LEVELS FOR CONSTRUCTION EQUIPMENT**

| Equipment | ppv at 25 ft (in/sec) |
|---|---|
| Vibratory roller | 0.210 |
| Large bulldozer | 0.089 |
| Caisson drilling | 0.089 |
| Loaded trucks | 0.076 |
| Jackhammer | 0.035 |
| Small bulldozer | 0.003 |
| ppv: peak particle velocity; ft: feet; in/sec: inches per second.<br>Source: Caltrans 2020. | |

Demolition, grading, and construction would occur up to the property lines and, as noted above, off-site land uses are relatively close to the property lines. Table 30, Vibration Levels and Annoyance Criteria at Sensitive Uses, on the following page shows the estimated vibration levels from construction activity compared to the annoyance criterion (i.e., 0.9 ppv at land uses proximate to the Project site.

**TABLE 30**
**VIBRATION LEVELS AND ANNOYANCE CRITERIA AT SENSITIVE USES**

| | Vibration Levels (ppv) | | | |
|---|---|---|---|---|
| | **North - Commercial Use** | **West – Elks Lodge** | **South – Arcadia County Park** | **East – Commercial Use** |
| **Equipment** | **(ppv @ 85 ft)** | **(ppv @ 10 ft)** | **(ppv @ 1,070 ft)** | **(ppv @ 115 ft)** |
| Vibratory roller | 0.03 | 0.83 | 0.00 | 0.02 |
| Caisson Drill | 0.01 | 0.35 | 0.00 | 0.01 |
| Large bulldozer | 0.01 | 0.35 | 0.00 | 0.01 |
| Small bulldozer | 0.00 | 0.01 | 0.00 | 0.00 |
| Jackhammer | 0.01 | 0.14 | 0.00 | 0.00 |
| Loaded trucks | 0.01 | 0.30 | 0.00 | 0.01 |
| **Annoyance Criteria** | **0.9** | **0.9** | **0.9** | **0.9** |
| **Exceeds Criteria?** | No | No | No | No |

ppv: peak particle velocity; Max: maximum; avg: average; ft: feet
Source: Caltrans 2020, calculations can be found in Appendix G.

As shown in Table 30, ppv would not exceed the annoyance criteria threshold when construction activities occur under maximum (e.g., closest to the receptor) exposure conditions. These vibration levels represent conditions when construction activities occur closest to receptor locations. Construction-related vibration would be substantially less under average conditions when construction activities are located further away. Because vibration levels would be below the applicable thresholds, vibration generated by the Project's construction equipment would not be expected to generate strongly perceptible levels of vibration at the nearest uses. There would be less than significant impacts related to vibration annoyance, and no mitigation is required.

Table 31, Building Damage Criteria at Sensitive Uses, shows the estimated vibration levels from construction compared to the building damage criteria from construction activity at land uses proximate to the Project site.

**TABLE 31**
**VIBRATION LEVELS AND BUILDING DAMAGE CRITERIA AT SENSITIVE USES**

| | Vibration Levels (ppv) | | | |
|---|---|---|---|---|
| | **North - Commercial Use** | **West – Elks Lodge** | **South – Arcadia County Park** | **East – Commercial Use** |
| **Equipment** | **(ppv @ 85 ft)** | **(ppv @ 10 ft)** | **(ppv @ 1,070 ft)** | **(ppv @ 115 ft)** |
| Vibratory roller | 0.03 | **0.83** | 0.00 | 0.02 |
| Caisson Drill | 0.01 | **0.35** | 0.00 | 0.01 |
| Large bulldozer | 0.01 | **0.35** | 0.00 | 0.01 |
| Small bulldozer | 0.00 | 0.01 | 0.00 | 0.00 |
| Jackhammer | 0.01 | 0.14 | 0.00 | 0.00 |
| Loaded trucks | 0.01 | **0.30** | 0.00 | 0.01 |
| **Building Damage Criteria** | **0.5** | **0.3** | **0.5** | **0.3** |
| **Exceeds Criteria?** | No | **Yes** | No | No |

ppv: peak particle velocity; Max: maximum; avg: average; ft: feet
Note: Calculations can be found in Appendix G.
Source of vibration criteria: Caltrans 2020.

As shown in Table 31, all vibration levels would be below the building damage criteria at adjacent off-site structures except for loaded trucks, vibratory rollers, caisson drills, and large bulldozers at the Elks Lodge building to the west. Therefore, MM NOI-1 specifies the minimum distance from this off-site building that the construction contractor may operate these three types of construction equipment. Specifically, vibratory rollers shall operate a minimum of 25 feet from the building face and loaded trucks, caisson drills, and large bulldozers shall operate a minimum of 15 feet from the building. Table 32, Mitigated Construction Vibration Levels at the Nearest Land Use, shows the estimated vibration levels from these four types of equipment at the minimum distances specified in MM NO-1. As shown in Table 32, estimated vibration levels from this equipment would be below the building damage criteria with implementation of MM NOI-1. Potential impacts associated with cosmetic structural damage would be less than significant.

**TABLE 32**
**MITIGATED CONSTRUCTION VIBRATION LEVELS AT THE NEAREST LAND USE**

| Equipment | Vibration Levels (ppv) | |
|---|---|---|
| | **West – Elks Lodge** | **West – Elks Lodge** |
| | **(ppv @ 25 ft)** | **(ppv @ 15 ft)** |
| Vibratory roller | 0.21 | N/A |
| Caisson Drill | N/A | 0.19 |
| Large bulldozer | | 0.19 |
| Loaded trucks | | 0.16 |
| **Building Damage Criteria** | **0.3** | **0.3** |
| **Exceeds Criteria?** | No | No |

ppv: peak particle velocity; ft: feet; N/A: not applicable
Note: Calculations can be found in Appendix G.
Source of vibration criteria: Caltrans 2020.

With implementation of MM NOI-1, vibration generated by construction equipment would at levels that would avoid cosmetic building damage to off-site buildings when operated beyond the distances specified in MM NOI-1. As a result, potential impacts related to vibration are anticipated to be less than significant with mitigation.

**c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels?**

**No Impact.** The Project site is not located within 2.0 miles of an airport. There are no private airstrips in the Project area or in the City. The nearest public airport is the San Gabriel Valley Airport, which is located 3.5 miles south of the Project site. The Project site is not located within the planning areas (including the Runway Protection Zones, Safety Compatibility Zones, and Airport Impact Zones) for these airports. Therefore, the Project would not expose people residing or working in the Project area to excessive noise levels from airport operations. There would be no impact related to excessive airport noise levels, and no mitigation is required.

### 3.13.3 MITIGATION MEASURES

**MM NOI-1** The Project Applicant/Property Owner shall require that all construction contractors restrict the operation of the following construction equipment to beyond the following distances from off-site buildings: (1) vibratory rollers – 25 feet, and (2) Caisson drilling, large bulldozers, loaded trucks, and other large equipment (vehicle weight greater than 25,000 lbs.) – 15 feet. Any activities occurring within 5 feet of existing property line shall use non-vibration intensive methods such as use of concrete saws, universal processors, and/or expansive agents for demolition.

Implementation of MM NOI-1 would reduce impacts related to vibration to a less than significant level during Project construction.

| 3.14 POPULATION AND HOUSING | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through the extension of roads or other infrastructure)? | ☐ | ☐ | ☒ | ☐ |
| b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |

### 3.14.1 ENVIRONMENTAL SETTING

As of January 2022, the City of Arcadia had a population of 55,918 persons and a housing stock consisting of 20,619 dwelling units (DOF 2022). The California Employment Development Department estimates the February 2019 labor force for the City of Arcadia at 28,700 persons, of which 1,200 persons (4.1 percent) are unemployed (EDD 2023). The Project site includes a total of 11 existing commercial buildings and associated surface parking lots.

### 3.14.2 PROJECT IMPACTS

**Regulatory Requirements**

None required.

**Impact Discussion**

**a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new units and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

**Less Than Significant Impact.** The Project is not anticipated to generate substantial unplanned population growth. Using an estimate of 2.83 persons per dwelling unit for residential development (DOF 2022), the 181-unit Project would generate approximately 512 residents. It is unlikely that all the Project residents would be new residents to the City as some current City residents would likely relocate to the Project site. However, for purposes of providing a conservative analysis, it is assumed that the Project would result in an increase of 512 residents to the City. This additional population would represent approximately 0.92 percent of the current City of Arcadia population estimate of 55,918 persons for the year 2022, and approximately 0.82 percent of the projected population of 62,200 persons by 2045 (SCAG 2020). A population increase of approximately 0.82 percent would not be considered substantial unplanned population growth. Additionally, as stated above in Section 3.11, Land Use and Planning, the Project would be consistent with the zoning and planned use of the Project site with incorporation of a Conditional Use Permit, as multi-family dwellings require a CUP in the DMU zone in the City's downtown.

The proposed ground floor space would consist of up to 13,130 sf of commercial space. Because the specific tenants are not yet identified, the exact number of employees anticipated for the Project's retail uses at full occupancy is not known. Based on an employee generation factor for Los Angeles County from the *Employment Density Study Summary Report* prepared for the

Southern California Association of Governments (SCAG) of 1 employee per 424 sf of retail/service land uses, a total of approximately 31 jobs may be generated by the Project (SCAG 2001).

As such, a generation of 31 additional jobs is a negligible increase in new jobs when compared to the total existing and projected jobs in the County or the City of Arcadia. Specifically, this additional employment would represent approximately 0.11 percent of the current City of Arcadia population estimate of 28,700 positions as of June 2023 (EDD 2023), and approximately 0.09 percent of the projected employment of 36,100 positions by 2045 (SCAG 2020). Also, the unemployment rate in Los Angeles County is 5.3 percent and in the City of Arcadia is 4.1 percent, or 1,200 positions as of June 2023 (EDD 2023). Also, additional jobs would be created associated with the proposed residential units in addition to the retail jobs, which would include a limited number of leasing and maintenance employees.

It is expected that the positions generated by the Project would involve opportunities that would be found in the large and diverse Southern California demographic and would not offer an opportunity unique enough to encourage relocation from outside the region. Further, the majority of new employment positions generated by the Project are the type that may be filled by the local labor force in the City of Arcadia and surrounding municipalities based on the type of positions and the existing unemployment rate in the region. There would not be substantial indirect population growth as a result of the employment generated by the Project. There would be a less than significant impact, and no mitigation is required.

**b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

**No Impact.** The Project would result in a -mixed-use development, including accommodations for approximately 512 residents and would not require the demolition of any existing residential structures. Therefore, implementation of the Project would not displace existing housing or people and would not require the construction of replacement housing. There would be no impact, and no mitigation is required.

### 3.14.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to population or housing; therefore, no mitigation measures are required.

| 3.15 PUBLIC SERVICES | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered government facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: | | | | |
| i) Fire protection? | ☐ | ☐ | ☒ | ☐ |
| ii) Police protection? | ☐ | ☐ | ☒ | ☐ |
| ii) Schools? | ☐ | ☐ | ☒ | ☐ |
| iv) Parks? | ☐ | ☐ | ☒ | ☐ |
| v) Other public facilities? | ☐ | ☐ | ☒ | ☐ |

### 3.15.1 ENVIRONMENTAL SETTING

Fire protection for the Project area is provided by the City of Arcadia Fire Department. As of 2023, the Arcadia Fire Department has 59 full-time employees (not including reserve firefighters, temporary employees, ambulance operators, and volunteers). The Arcadia Fire Station that would respond to calls in the area of the Project site is Station 105, which is located at 710 South Santa Anita Avenue, approximately one mile south of the Project site. Station 105 has daily staffing of nine personnel, including one battalion chief, two fire captains, two engineers, two firefighter paramedics, and two firefighters. If units from Station 105 are committed to an incident, resources from neighboring stations and/or jurisdictions may be required to response to the Project site. As of 2018, the average response time for Fire Station 105 was 5.48 minutes (Spriggs 2019).

Police protection for the Project site is currently provided by the Arcadia Police Department, which is located at 250 Huntington Drive, approximately 0.7 miles southwest from the Project site. Additionally, the Los Angeles County Sheriff's Department serves the Arcadia area from the Temple Station located at 8838 Las Tunas Drive in Temple City. The Arcadia Police Department currently has 97 full time police employees. The department's response time was 2 minutes and 54 seconds as of the last study conducted in 2015 (Torrico 2019).

The Project site is located in the Arcadia Unified School District (AUSD), and residents of the Project would be served by Holly Avenue Elementary School, First Avenue Middle School, and Arcadia High School.

The Project site is currently developed with eleven commercial structures, which may generate a limited demand for libraries and parks. The nearest library is the City of Arcadia Public Library located at 20 West Duarte Road, approximately 0.9 mile to the south of the Project site. The nearest parks are the Arcadia Regional Community Park, located 0.2 miles south of the Project site, and Newcastle Park located at 143 Colorado Boulevard approximately 0.5 mile north of the Project site.

### 3.15.2 PROJECT IMPACTS

**Regulatory Requirements**

**RR PUB-1** The Project Applicant/Property Owner shall comply with all applicable codes, ordinances and regulations, including the most current edition of the California Fire Code and the Arcadia Municipal and Development Codes, regarding fire prevention and suppression measures; fire hydrants; fire access; water availability; and other, similar requirements. Prior to issuance of building permits, the City of Arcadia Development Services Department and the Arcadia Fire Department shall verify compliance with applicable codes and that appropriate fire safety measures are included in the Project design. All such codes and measures shall be implemented prior to occupancy.

**RR PUB-2** In accordance with the City's Ordinance 7492, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current fire protection facilities impact fee to the City. All money collected as fees imposed shall be used against the capital and infrastructure costs required to maintain acceptable life safety and fire protection in the City. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.

**RR PUB-3** Prior to issuance of the building permit, the Project Applicant/Property Owner shall pay new development fees to the AUSD pursuant to Section 65995 of the California Government Code. As an option to the payment of developer fees, the AUSD and the Project Applicant/Property Owner can enter into a facility and funding agreement, if approved by both parties. Evidence that agreements have been executed shall be submitted to the Development Services Department, or fees shall be paid with each building permit.

**RR PUB-4** In accordance with the City's Ordinance 2237 and Section 9105.15 of the City's Development Code, prior to the issuance of the building permit, the Project Applicant/Property Owner shall remit the most current park facilities impact fee and/or other negotiated park fees to the City. All money collected as fees imposed shall be deposited in the Park Facilities Impact Fee Program and shall be used for the acquisition, development, and improvement of public parks and recreational facilities in the City, as proposed by the City's Parks and Recreation Master Plan. The Development Services Department shall confirm compliance with this requirement prior to issuance of a building permit.

**Impact Discussion**

**a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

**i) Fire protection?**

**Less Than Significant Impact.** As discussed above, fire protection services for the Project site would be provided by the City of Arcadia Fire Department, and Station 105 is the nearest station to the Project site. The Project would require fire protection services, including administrative tasks

associated with approval and construction of the Project (e.g., building plan check) and response to fire service calls once the Project is occupied. The City has established a Fire Protection Facilities Impact Fee and authorized the collection of development impact fees to provide a funding source for capital and infrastructure costs required to maintain acceptable life safety and fire protection services throughout the City. Pursuant to Council Resolution 7492, effective July 2, 2023, the City's fire protection facilities impact fee is $0.35 per square foot for residential uses, which would apply to the Project's 181 residential units; and $1.91 per square foot for commercial uses, which would apply to the Project's 13,130 sf of ground floor commercial.

Based on coordination with the City's Fire Department, the increase in demand for fire protection services is not expected to independently require the construction of new or alteration of existing fire protection facilities to maintain an adequate level of fire protection service to the Project area. Accordingly, no physical impacts associated with the provision of fire protection services would occur and no mitigation is required. Compliance with fire protection design standards during Project-specific site planning and construction design processes (RR PUB-1) and payment of required fire protection facilities impact fees (RR PUB-2) would ensure that the Project would not inhibit the ability of fire protection or paramedic crews to respond at optimum levels. Therefore, impacts would be less than significant, and no mitigation is required.

**ii) Police protection?**

**Less Than Significant Impact.** Police protection services for the Project site are provided by the Arcadia Police Department, located approximately 0.7 miles from the Project site. The City participates in a mutual aid program with Los Angeles County Sheriff's Department at various levels, which provides back-up support to member departments as needed.

Construction of the proposed 181 residential units would result in approximately 512 new residents and the proposed 13,130 sf of proposed commercial on the Project site would collectively increase the demand for police protection services in the City. As population and commercial activity increases, the demand for police services in the City also increases. Although the relatively small number of new residents and commercial activity is not anticipated to generate the need for new sworn officers, the Project would require police protection services, including administrative tasks associated with approval and construction of the Project (e.g., building plan check) and response to police service calls once the Project is occupied. This increase in demand for police protection services would not require the construction of new or alteration of existing police department facilities to maintain an adequate level of service to the Project area. Therefore, no physical impacts associated with the provision of police protection services would occur, impacts would be less than significant and no mitigation is required.

**iii) Schools?**

**Less Than Significant Impact.** The Project site is within the AUSD, which offers an open enrollment policy to City residents. The proposed 181 residential units are estimated to generate approximately 33 students in grades K-5, 20 students in grades 6-8, and 26 students in grades 9--12.[7]

Senate Bill (SB) 50 (Leroy Green School Facilities Act), enacted in 1998, established a comprehensive program for funding school facilities based on 50 percent funding from the State and 50 percent funding from local districts, while limiting the obligation of developers to mitigate

[7] Student generation rates were provided during a phone conversation with Connie Chu of the Arcadia Unified School District on 4/8/2019. Student generation rates are currently calculated by the District to be 0.181 students per occupied dwelling unit for Grades K-5, 0.108 students per occupied dwelling unit for Grades 6-8, and 0.141 students per occupied dwelling unit for Grades 9-12.

the impact of projects on school facilities. Except in very limited circumstances prescribed by statute, Section 65995 of the California Government Code establishes the statutory criteria for assessing construction fees for school facilities. The legislation recognizes the need for the fees to be adjusted periodically to keep pace with inflation; therefore, the State of California Department of General Services State Allocation Board increases the maximum fees according to the adjustment for inflation in the Statewide cost index for Class B[8] construction. The AUSD has adopted impact fees for new residential uses pursuant to SB 50.

The payment of school mitigation impact fees authorized by SB 50 is deemed to provide "full and complete mitigation of impacts" on school facilities from the development of real property (California Government Code Section 65995). SB 50 provides that a State or local agency may not deny or refuse to approve the planning, use, or development of real property based on a developer's refusal to provide mitigation in amounts in excess of that established by SB 50.

With payment of school fees or execution of a facility and funding agreement between the Applicant/Property Owner and the school district(s) as required by RR PUB-3, potential impacts to schools would be less than significant and no mitigation is required.

**iv) Parks?**

**Less Than Significant Impact**. As specified in Article II, Chapter 5, Part 3, Division I of the AMC, the City has established a Park Facilities Impact Fee Program and authorized the collection of development impact fees to provide a funding source from new development for parks to serve new development. Pursuant to Council Resolution 6602 as codified in Article IX, Chapter 1, Division 5, Section 9105.15.040 of the Development Code, effective March 14, 2008, the City's park facilities impact fee is $3.73 per square foot for multifamily projects, which would apply to the Project's 181 residential units. Also, the City requires 100 sf per unit minimum open space for residential uses in the DMU zone, which results in a required minimum of 18,100 sf of open space for the 181 proposed residential units. Per the AMC, open space may be in the form of private or common open space via balconies, courtyards, at-grade patios, rooftop gardens, and/or terraces. The Project includes 39,713 sf of open space, which is approximately 2.2 times more than the amount of open space that is required for the Project. Exhibit 15, and Exhibits 16a through 16h, illustrate the public and private open spaces that would be provided as part of the Project, as discussed in Section 2.0.

The increase in Project residents and employees would increase the demand on public parks and recreational facilities in the nearby vicinity. However, because the Project results in a relatively small number of new residents and employees to the City's existing population and provides on-site recreational amenities, the increased use of existing public park facilities would not be at a level that would result in a substantial deterioration of existing facilities or require the need for new or physically altered facilities.

Additionally, the Project Applicant/Property Owner would be required to pay the park facilities impact fee applicable at the time building permits are issued. Although the Project's impacts to City of Arcadia park facilities would be less than significant, payment of required park facilities impact fees would further reduce any potential impacts on City parks and recreational facilities associated with the increased demand and use of the facilities (RR PUB-4). Therefore, less than significant impacts would result from the Project, and no mitigation is required.

[8] The Office of Public School Construction defines Class B construction as buildings constructed primarily of reinforced concrete, steel frames, concrete floors, and roofs.

**v) Other public facilities?**

**Less than Significant Impact.** Implementation of the Project would increase the demand for library services; however, the Project would not result in the need for the construction of new or expanded library facilities. No physical environmental impacts would result, and no mitigation is required.

### 3.15.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to public services; therefore, no mitigation measures are required.

| 3.16 RECREATION | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would/does the project: | | | | |
| a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☒ | ☐ |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | ☐ | ☐ | ☒ | ☐ |

### 3.16.1 ENVIRONMENTAL SETTING

There are various County and City parks and recreational facilities in the Project area. Table 33, Parks and Recreational Facilities Within a half-mile of the Project Site, summarizes the eight park and recreational facilities located in the Project site vicinity (Arcadia 2010a).

**TABLE 33**
**PARKS AND RECREATIONAL FACILITIES WITHIN A HALF-MILE OF THE PROJECT SITE**

| Name (Location) | Size (acres) | Distance from Site (miles) | Type | Facilities |
|---|---|---|---|---|
| Arcadia Community Regional Park (405 S Santa Anita Ave) | 52 | 0.2 | County Park and Facility | Baseball diamonds, bowling greens, play areas, community room, open field, swimming pool, tennis courts |
| Santa Anita Golf Course (405 S Santa Anita Ave) | 147 | 0.4 | County Park and Facility | 18-hole golf course |
| First Avenue Middle School (301 S. First Ave) | 3.30 | 0.4 | Joint-Use Park and Facility | 3.3 acres of basketball courts and open field |
| Newcastle Park (143 Colorado Blvd) | 2.64 | 0.5 | Neighborhood Park | Tennis courts, handball courts, sand volleyball courts, play area, picnic sites |
| Civic Center Athletic Field (240 W Huntington Dr) | 2.24 | 0.7 | Special Park | Open field for soccer, bleachers |
| Eisenhower Park and Dog Park (Second Ave and Colorado Blvd) | 5.39 | 0.8 | Neighborhood Park | Baseball field, bleachers, batting cage, game courts and fields, picnic shelter, play area, dog park |
| Bonita Park and Skate Park (Second Ave and Bonita St) | 3.38 | 0.8 | Special Park | Baseball diamond, bleachers, batting cage, picnic sites, play area, skate park |
| Forest Avenue Park (132 Forest Ave) | 0.26 | 1.0 | Mini Park | Picnic sites |

Source: Arcadia 2010a.

In addition to the facilities discussed above, the following open space and park areas also serve the residents of the City: the Los Angeles County Arboretum and Botanical Gardens (127 acres); the Arcadia Wilderness Park (120 acres); the Arcadia Par-3 Golf Course (25.8 acres); and the Peck Road Water Conservation Park (120 acres).

The Angeles National Forest is located in the San Gabriel Mountains just north of the City. This National Forest has a natural environment, offering scenic views, with developed campgrounds, picnic areas, and opportunities for swimming, fishing, and skiing. Walking and hiking trails wind throughout the forest for use by hikers, equestrians, mountain bikers, and off-highway vehicle enthusiasts.

### 3.16.2 PROJECT IMPACTS

#### Regulatory Requirements

Refer to RR PUB-4 in Section 3.15, Public Services.

**Impact Discussion**

**a) Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

**Less than Significant Impact.** Project implementation would lead to an increase in the population within the City by approximately 512 residents. These residents would increase demand for parks and recreational facilities and are likely to use proposed recreational amenities on the Project site, existing parks, and other recreational facilities in the City, especially those that are immediately surrounding the Project including Newcastle Park and Arcadia Community Regional Park. The City's Parks and Recreation Master Plan would continue to be implemented for the improvement of existing parks and recreational facilities, as well as the development of new facilities to meet City needs. As stated in RR PUB-4, the Project Applicant/Property Owner would be responsible for paying park facilities impact fees for the development of new or expanded park facilities in the City.

Improvement and expansion of existing parks and facilities would be made through implementation of the Parks and Recreation Master Plan, supported through payment of park facilities impact fees by new residential development, including the subject Project. These improvements would reduce the use and accompanying deterioration that may occur on existing park facilities due to the increase in the City's resident population. With implementation of RR PUB-4, impacts from the increased use of parks and recreational facilities by implementation of the Project would be less than significant. No mitigation is required.

**b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?**

**Less than Significant Impact.** As described in Section 2.2, Project Description, the Project would include plazas and outdoor areas including courtyards, a swimming pool, spa, large artificial turf area, barbeque grills with counter space, additional seating areas, decorative paving, skydecks and landscaping that would be available for use by residents. These areas would be on the Project site and the physical impacts resulting from the construction of these facilities have been addressed through the impact analysis presented throughout this IS/MND. Impacts would be less than significant, and no mitigation is required.

### 3.16.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to recreation; therefore, no mitigation measures are required.

| 3.17 TRANSPORTATION | Potentially Significant Impact | Less Than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| Would the project: | | | | |
| a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities? | ☐ | ☐ | ☒ | ☐ |
| b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? | ☐ | ☐ | ☒ | ☐ |
| c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☐ | ☐ | ☒ | ☐ |
| d) Result in inadequate emergency access? | ☐ | ☒ | ☐ | ☐ |

Unless otherwise noted, the information presented in this section is based on the *Traffic Impact Study for the Arcadia Town Center Project* (Traffic Study) prepared by Psomas and dated September 2024 (Psomas 2024, Appendix H). The Traffic Study was prepared in accordance with the *City of Arcadia Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment.*

### 3.17.1 ENVIRONMENTAL SETTING

#### Regional and Local Vehicle Access

Interstate (I) 210 (Foothill Freeway) provides regional access to the Project site via the on- and off-ramps at both Santa Anita Avenue and Huntington Drive. Local access is provided by Huntington Drive, which is a four-lane divided road with dedicated turn lanes and located to the south; Santa Anita Avenue, which is a four-lane divided road with dedicated turn lanes and located to the east; Morlan Place, which is a two-lane road connecting Huntington Drive and Santa Anita Avenue located to the north; and Santa Clara Street, which is a four-lane undivided road with dedicated turn lanes, also located to the north. There are eight existing vehicular access points to the existing uses including four on Huntington Drive to the south, two on Santa Anita Avenue to the east, and two on Morlan Place to the north.

#### Pedestrian Access

There are existing sidewalks adjacent to the Project site, including a 10-foot-wide sidewalk along Huntington Drive, a 7-foot-wide sidewalk along Santa Anita Avenue, and a 5-foot-wide sidewalk along Morlan Place.

### 3.17.2 PROJECT IMPACTS

#### Regulatory Requirements

**RR TRANS-1** Require the Applicant/Property Owner to contribute, on a cost-share basis, to the City's Transportation Impact Fee program, for any intersections affected by the Project, based on the net new PM Peak House vehicle trips generated, per the City's Transportation Impact Fee Program Update adopted on October 18, 2016.

**Impact Discussion**

**a) Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?**

**Less than Significant Impact.** The proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities, as discussed below.

**RTP/SCS Consistency**

The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Connect SoCal) is a regional growth-management strategy that targets per capita GHG reduction from passenger vehicles and light-duty trucks in the Southern California region. The Connect SoCal incorporates local land use projections and circulation networks in city and county general plans. The 2020 RTP/SCS goals aim to:

(1) encourage regional economic prosperity and global competitiveness;

(2) improve mobility, accessibility, reliability, and travel safety for people and goods;

(3) enhance the preservation, security, and resilience of the regional transportation system;

(4) increase person and goods movement and travel choices within the transportation system;

(5) reduce greenhouse gas emissions and improve air quality;

(6) support healthy and equitable communities;

(7) adapt to a changing climate and support an integrated regional development pattern and transportation network;

(8) leverage new transportation technologies and data-driven solutions that result in more efficient travel;

(9) encourage development of diverse housing types in areas that are supported by multiple transportation options; (10) promote conservation of natural and agricultural lands and restoration of habitats (SCAG 2020).

Typically, a project would be consistent with the RTP/SCS if the project does not exceed the underlying growth assumptions within the RTP/SCS. As discussed in Section 3.11, Population and Housing, the proposed Project would result in approximately 512 residents, which would estimate approximately 0.82 percent of the 2045 SCAG estimate for the City's projected total population of 62,200 persons by 2045. Additionally, it is likely that the proposed residential units would accommodate a combination of existing residents and new residents that either currently work within the City and/or new residents that would be hired as a result of projected employment generation within the City, which would be consistent with the RTP/SCS.

In addition, the Project would facilitate a more balanced jobs-housing profile and, once constructed, would continue to support regional economic development. The Project site's vicinity is served by existing public transit and is located adjacent or up to within one-half mile of the Metro A Line Station, Foothill Transit bus lines 187 and 270, and Metro bus lines 179 and 287. Project development would increase transit accessibility of jobs and services within the Project site's vicinity and would provide an additional mix of residential and commercial development, thereby reducing travel demands for people. Therefore, the proposed Project would not conflict with the applicable goals in the RTP/SCS.

**City of Arcadia General Plan**

The proposed Project's consistency with the City of Arcadia General Plan is summarized in Section 3.11, Land Use and Planning. The Project is designed to implement the City's goals for the City's downtown by enhancing the street frontage, orienting the retail and publicly accessible components of the Project towards Huntington Drive and Santa Anita Avenue, and by providing additional pedestrian and bicycle facilities, such as bicycle parking and proximity to nearby transit facilities, as discussed in further detail below. The Project would not hinder the City's ability to provide an efficient roadway system that serves all transportation modes and balances the roadway system with planned land uses.

In addition, the Project site is located in an Enhanced Pedestrian Environment as identified in the Circulation Element of the City's General Plan (Arcadia 2010a). An Enhanced Pedestrian Environment is defined by the City as a focus area where the goal is to make streets friendlier to pedestrians and improve walkability in mixed use areas. Typical improvements that the City envisions in these zones may include wider sidewalks, ensuring sufficient space and clearance on sidewalks available for walking, improved lighting, seating, enhanced landscaping, shade trees, distinctive sidewalk paving, sidewalk bulb-outs or similar treatments at intersections where feasible, wider crosswalks, and pedestrian signage. Project design has incorporated several of these components, including sufficient space, improved lighting, seating, enhanced landscaping, shade trees, and distinctive sidewalk paving. Furthermore, the Project's orientation towards the streetscapes of Huntington Drive and Santa Anita Avenue would maintain and enhance pedestrian conditions in the Project vicinity.

The Project would support the City's goals to provide a connected, balanced, and integrated bicycle and pedestrian network by developing a mixed-use project that promotes pedestrian connectivity with the City and includes on-site improvements to facilitate circulation and community cohesion within the existing environment. Therefore, the Project would be consistent with the applicable goals and policies of the City's General Plan.

**Transit, Bicycle and Pedestrian Facilities**

The proposed Project would support transit, bicycle, and pedestrian circulation throughout the Project site and the surrounding environment and would not conflict with any plans or policies regarding existing or proposed transit, bicycle, and pedestrian facilities in the Project vicinity.

The Project would include bicycle parking as well as on-site improvements to support pedestrian connectivity with the City and nearby transit facilities. The Project would provide 40 long-term bicycle parking stalls and 3 short-term bicycle parking stalls. Both Metro and Foothill Transit provide bus service to and through the City as part of their regional systems. Three transit routes occur along Huntington Drive, and the site is located within 0.5 mile of the Metro A Line Station. The Project would not conflict with or result in the change of bus routes in the Project vicinity; therefore, the Project would not severely delay, impact, or reduce the service level of transit in the area.

The Project would enhance the street frontage and orient the retail and publicly accessible components of the Project towards the main thoroughfares. All residential units would be accessible from interior walkways that connect to the three elevators and four stairwells. The elevators would provide access to the basement parking garage, the ground floor, and all four levels of residential units. Sidewalks and other designated pathways would follow direct and safe routes from the external pedestrian circulation system to each building on the Project site. All pedestrian areas within the Project site would meet American Disability Act (ADA) requirements and adhere to the City's Design Guidelines and City Center Design Plan. Site

improvements include open space for future residents including playas, courtyards, skydecks, and landscaping areas.

The Project's setbacks are measured in addition to the ROW dedications.

Additionally, as part of Project implementation, the Project includes dedications to the City that would become part of the public ROW. On Santa Anita Avenue, 2.5 feet of sidewalk alongside the Jiffy Lube parcel and the 10-foot-wide sidewalk for the remaining frontage to Morlan Place would be dedicated. And on Huntington Drive, 18 inches of sidewalk along the entire frontage would be dedicated.

As stated above, the Project would not adversely affect, in a manner that conflicts with, an applicable program, plan, ordinance, or policy, addressing the performance of the circulation system, including public transit, roadway, bicycle or pedestrian facilities. Impacts would be less than significant, and no mitigation is required.

**b) Would the project conflict or be inconsistent with the CEQA Guidelines Section 15064.3, subdivision (b)?**

**Less Than Significant Impact.** CEQA Guidelines Section 15064.3(b) focuses on VMT for determining the significance of transportation impacts. The following VMT analysis is based on the City of Arcadia *Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment* and OPR's *Technical Advisory on Evaluating Transportation Impacts in CEQA*.

The City's Guidelines provide VMT screening criteria that can be applied to the proposed Project to screen from a project-level VMT assessment, as discussed in the Project's Traffic Study (Psomas 2024, Appendix H). As discussed previously, the Project site is within one-half mile of the Metro A Line station and is therefore within a TPA. Per the City's Guidelines, projects located within a TPA may be presumed to have a less than significant impact absent substantial evidence to the contrary. This presumption may not be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;
2. Includes more parking for use by residents, customers, or employees of the project than required by the jurisdiction (if the jurisdiction requires the project to supply parking);
3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Metropolitan Planning Organization)
4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The Project would have an FAR greater than 0.75, the vehicle parking provided would not exceed the amount required by the City, the Project would be consisting with the RTP/SCS, and would not replace affordable residential units with a smaller number of moderate or high income units. Also, consistent with City Public Works requirements, the Applicant/Property Owner would be required to contribute to the City's Transportation Impact Fee Program for any intersections affected by the Project, as defined in the approved Traffic Impact Study (RR TRANS-1). Therefore, the Project is presumed to have a less than significant impact on VMT, and no mitigation is required.

**c) Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

**Less Than Significant Impact.** Primary vehicular access to the Project's parking structure is proposed via entries accessible from Huntington Drive and Morlan Place. All vehicular access from the street leads to parking for visitors to the commercial areas and for residents and guests on the ground level. As shown on Exhibit 3, there is a through path on Level 1 between the Huntington Drive to Morlan Place entrances for commercial visitors. Vehicles would be able to leave the site via these same two driveways. Additionally, the proposed vehicle access point to the building at the sidewalk on Huntington Drive would be oversized to provide vehicles with expanded views of pedestrians on the sidewalk, thus reducing potential public safety hazards. There is one ramp to and from Level B1, the subterranean level with resident parking only. The Project driveways would be constructed to City of Arcadia standards.

The Project's circulation system, including parking areas, would be designed to meet the standards of the City and would not result in uses or design features that would create traffic hazards. The Project would not interfere with access, circulation, or activities at the surrounding land uses. Therefore, impacts would be less than significant, and no mitigation is required.

**d) Would the project result in inadequate emergency access?**

**Less Than Significant With Mitigation**. As discussed under Threshold 3.8(g) in Section 3.8, Hazards and Hazardous Materials, construction activities on the Project site have the potential to disrupt traffic and emergency access through temporary lane closures or traffic diversions. As required by MM TRANS-1, a Construction Management Plan shall be prepared in compliance with the MUTCD. Compliance with MM TRANS-1 would ensure that potential short-term impacts to emergency response plans or evacuation routes would be less than significant. Once construction activities that could impact surrounding roadways are completed, the roads would be returned to the previous condition and there would be no impacts. As required by MM TRANS-1, the Project Applicant/Property Owner would be responsible for repairing any damage to City roadways that may occur during construction or through transport of heavy trucks or equipment related to construction.

The long-term operation of the Project involves residential, commercial, and parking land uses that would not result in a significant impact to existing roadways and would neither interfere with nor impact the implementation of the City's Emergency Management Plan. The City Fire Department would review the Project's plans during design review to ensure that emergency access to the site and surrounding areas would be maintained in compliance with applicable City requirements. Therefore, impacts would be less than significant, and no mitigation is required.

### 3.17.3 MITIGATION MEASURES

**MM TRANS-1** Prior to the issuance of a grading permit, a Construction Management Plan shall be prepared by the Project Applicant/Property Owner for the review and approval of the City of Arcadia and any other affected jurisdictions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). Construction activities shall comply with the approved plan to the satisfaction of the City of Arcadia. The Project Applicant/Property Owner will begin coordination with the City on the Construction Management Plan as soon as practicable during the final design process and in advance of construction so that effective measures can be developed to avoid, minimize, and mitigate construction impacts to parking and circulation within the City of Arcadia downtown.

At a minimum, the Construction Management Plan shall:

- Describe the duration and location of lane closures.
- Address traffic control for any partial street closures, detours, or other disruption to traffic circulation during project construction, including as-needed use of flagpersons and signage.
- Identify the routes that construction vehicles would utilize for the delivery of construction materials to access the project site. Haul routes would follow the City's approved truck routes and avoid residential streets.
- Identify the location of parking and materials storage for construction workers during all phases of construction. Parking for construction workers would be provided on-site or at additional off-site locations that are not on public streets.
- Identify of emergency access points/routes.
- Specify the hours during which transport activities can occur and methods to mitigate construction-related impacts to adjacent streets.
- Require the contractor to keep all haul routes clean and free of debris including but not limited to gravel and dirt as a result of its operations. The contractor shall clean adjacent streets, as directed by the City Engineer (or representative of the City Engineer), of any material, which may have been spilled, tracked, or blown onto adjacent streets or areas.
- All hauling or transport of oversize loads would occur between the hours of 7:00 AM and 5:00 PM only, Monday through Friday, unless approved otherwise by the City Engineer. No hauling or transport shall be allowed during nighttime hours, weekends or Federal holidays.
- Include details on the maintenance of bicycle and pedestrian facilities and connectivity through the Project to the satisfaction of the City Engineer.
- Require that haul trucks entering or exiting public streets shall at all times yield to public traffic, pedestrians, bicyclists, and other users.
- Provisions for the contractor to repair existing pavement, streets, curbs, sidewalks, and/or gutters that may be altered during project construction. The repairs shall be completed in consultation with and to the satisfaction of the City Engineer.
- Require that all construction-related parking and staging of vehicles will be kept out of the adjacent public roadways and will occur either on-site or on designated off-site parcels that would not adversely affect access to or parking within the downtown.

| 3.18 TRIBAL CULTURAL RESOURCES | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code § 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is: | | | | |
| i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code § 5020.1(k)? or | ☐ | ☐ | ☐ | ☒ |
| ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code § 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. | ☐ | ☒ | ☐ | ☐ |

## 3.18.1 EXISTING CONDITIONS

Section 3.4, Cultural Resources, of this IS/MND addresses other cultural resources, including historical resources, archaeological resources, and human remains. The impact analysis concluded that impacts on these resources would be less than significant. For historic resources, the existing structures are not listed in the CRHR, the NRHP, California Historical Landmarks, or California Points of Historical Interests lists. Existing properties located on the Project site are ineligible for listing in the National Register of Historic Places, California Register of Historical Resources, as well as ineligible for designation as City of Arcadia Historic Landmarks for lack of historical significance and architectural distinction.

For archaeological resources, the cultural resources impact analysis concluded the Project could result in unanticipated discovery of previously unknown archaeological resources. In order to reduce this impact, the Project will be required to implement mitigation measure MM-CUL-1, which includes retaining a professional archaeologist to evaluate the significance of any suspected archaeological resources and to determine an appropriate course of action as necessary. Also, RR CUL-1 provides guidance in the event of inadvertent discovery of human remains, the regulatory requirements that address the handling of human remains if previously unknown human remains are encountered, as well as if the remains are determined to be Native American. Compliance with the State-required regulations would ensure such impacts are reduced to a less than significant level. The following subsections address the potential for the discovery of tribal cultural resources.

## METHODOLOGY

### Native American Sacred Lands File Review

Psomas submitted a request to the NAHC on July 10, 2020, to review the Sacred Lands File database regarding the possibility of Native American cultural resources and/or sacred places in the Project vicinity that are not documented on other databases. The NAHC completed its Sacred Lands File search on July 15, 2020. The results were positive for known Tribal Cultural Resources and/or sacred sites in the vicinity of the Project site. Additionally, the NAHC recommended contacting the Gabrieleño Band of Mission Indians – Kizh Nation for more information.

### AB 52

AB 52 is applicable to projects that have filed a Notice of Preparation (NOP) of an Environmental Impact Report (EIR) or notice of a Negative Declaration (ND) or Mitigated Negative Declaration (MND) on or after July 1, 2015. AB 52 requires that the tribes ask the lead agency to be contacted for consultation. Then, the lead agency must contact the tribes to initiate consultation with California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project and have requested such consultation prior to determining the type of CEQA documentation that is applicable to the project (i.e., EIR, ND, MND). AB 52 allows Tribes 30 days after receiving notification to request consultation. The lead agency then has 30 days to initiate consultation. Significant impacts to Tribal cultural resources are considered significant impacts to the environment.

Consistent with requirements of AB 52, the City of Arcadia sent a letter to the one tribe that has previously expressed interest in being consulted regarding Native American resources for projects being undertaken in the City of Arcadia. On December 28, 2022, the City sent an invitation to Andrew Salas, Chairman of the Gabrieleño Band of Mission Indians – Kizh Nation, to request any information or knowledge regarding Native American Sacred Lands or other tribal cultural resource in or around the Project site, and to ask whether the Tribe would like to consult with the City pursuant to AB 52. The City requested that the Tribe respond within 30-days after receiving notification of the letter. On January 19, 2023, Andrew Salas of the Gabrieleño Band of Mission Indians – Kizh Nation emailed the City and requested to schedule consultation to discuss the Project in further detail. On April 12, 2023, the City and Gabrieleño Band of Mission Indians – Kizh Nation met, agreed on mitigation measures (discussed below), and closed consultation.

## 3.18.2 IMPACT ANALYSIS

**Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:**

**a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or**

**No Impact.** For purposes of impact analysis, a tribal cultural resource is considered a site, feature, place, cultural landscape, sacred place, or object which is of cultural value to a California Native American Tribe and is either eligible for the CRHR or a local register. As indicated in Section 3.4 of this document, based on a SCCIC record search and the results from the NAHC SLF database results there are no resources within the Project area that are currently listed on the CRHR or

local register. As such, there are no known resources on the Project site. The Project would have a less than significant impact on tribal cultural resources and would not cause a substantial adverse change in the significance of a known tribal cultural resource. There would be no impact, and no mitigation is required.

**b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

**Less Than Significant With Mitigation.** As stated previously in Section 3.4, Cultural Resources, the Project site is generally developed, and only limited work would occur within native sediments. However, due to the excavation within native sediments that is required to construct the Project's subterranean parking garage, there is a potential to encounter unknown cultural, historic, and/or tribal cultural resources. Therefore, MM CUL-1 will be implemented during construction requiring the procedures for temporarily stopping work and obtaining an evaluation of the find by a qualified archaeologist. With implementation of MM CUL-1, the Project would not cause a substantial adverse change in the significance of a tribal cultural resource. There would be a less than significant impact on tribal cultural resources with MM CUL-1.

Additionally, based on information available through the record searches at the SCCIC and the NAHC, and the disturbed and urbanized nature of the Project area, there is no information available that indicates there are significant tribal resources within the Project area that would be significant pursuant to criteria set forth in subdivision (c) of Public Resource Code Section 5024.1. However, as noted above, AB 52 consultation with the Gabrieleño Band of Mission Indians – Kizh Nation indicates that the area was traditionally and culturally affiliated with their Tribe. Although no archaeological resources important to Native Americans have been identified within the Project area, there is the possibility that undiscovered intact cultural resources, including tribal cultural resources may be present below the surface in native sediments. Mitigation measures were agreed upon by the Gabrieleño Band of Mission Indians – Kizh Nation and the City during the AB 52 consultation process and would be implemented as part of construction activity to ensure impacts to tribal cultural resources would be less than significant. With implementation of RR CUL-1, MM CUL-1, and MMs TCR 1 through TCR 3, any inadvertent discoveries of tribal cultural resources and/or human remains would be reduced to a less than significant level.

### 3.18.3 MITIGATION MEASURES

**MM TCR-1 Retain a Native American Monitor Prior to Commencement of Ground-Disturbing Activities**

A. The project applicant/lead agency shall retain a Native American Monitor from or approved by the Gabrieleño Band of Mission Indians – Kizh Nation. The monitor shall be retained prior to the commencement of any "ground-disturbing activity" for the subject project at all project locations (i.e., both on-site and any off-site locations that are included in the project description/definition and/or required in connection with the project, such as public improvement work). "Ground-disturbing activity" shall include, but is not limited to, demolition, pavement removal, potholing, auguring, grubbing, tree removal, boring, grading, excavation, drilling, and trenching.

B. A copy of the executed monitoring agreement shall be submitted to the lead agency prior to the earlier of the commencement of any ground-disturbing

activity, or the issuance of any permit necessary to commence a ground-disturbing activity.

C. The monitor will complete daily monitoring logs that will provide descriptions of the relevant ground-disturbing activities, the type of construction activities performed, locations of ground-disturbing activities, soil types, cultural-related materials, and any other facts, conditions, materials, or discoveries of significance to the Tribe. Monitor logs will identify and describe any discovered tribal cultural resources, including but not limited to, Native American cultural and historical artifacts, remains, places of significance, etc., (collectively, tribal cultural resources, or "TCR"), as well as any discovered Native American (ancestral) human remains and burial goods. Copies of monitor logs will be provided to the project applicant/lead agency upon written request to the Tribe.

D. On-site tribal monitoring shall conclude upon the latter of the following (1) written confirmation to the Kizh from a designated point of contact for the project applicant/lead agency that all ground-disturbing activities and phases that may involve ground-disturbing activities on the project site or in connection with the project are complete; or (2) a determination and written notification by the Kizh to the Project/Applicant/City that no future, planned construction activity and/or development/construction phase at the project site possesses the potential to impact Kizh TCRs.

**MM TCR-2 Unanticipated Discovery of Tribal Cultural Resource Objects (Non-Funerary/Non-Ceremonial)**

Upon discovery of any TCRs, all construction activities in the immediate vicinity of the discovery shall cease (i.e., not less than the surrounding 50 feet) and shall not resume until the discovered TCR has been fully assessed by the Kizh monitor and/or Kizh archaeologist. The Kizh will recover and retain all discovered TCRs in the form and/or manner the Tribe deems appropriate, in the Tribe's sole discretion, and for any purpose the Tribe deems appropriate, including for educational, cultural and/or historic purposes.

**MM TCR-3 Unanticipated Discovery of Human Remains and Associated Funerary or Ceremonial Objects**

A. Native American human remains are defined in Public Resources Code section 5097.98 (d)(1) as an inhumation or cremation, and in any state of decomposition or skeletal completeness. Funerary objects, called associated grave goods in Public Resources Code Section 5097.98, are also to be treated according to this statute.

B. If Native American human remains and/or grave goods are discovered or recognized on the project site, then Public Resource Code 5097.9 as well as Health and Safety Code Section 7050.5 shall be followed.

C. Human remains and grave/burial goods shall be treated alike per California Public Resources Code section 5097.98(d)(1) and (2).

D. Preservation in place (i.e., avoidance) is the preferred manner of treatment for discovered human remains and/or burial goods.

E. Any discovery of human remains/burial goods shall be kept confidential to prevent further disturbance.

| 3.19 UTILITIES AND SERVICE SYSTEMS | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Would the project:** | | | | |
| a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects? | ☐ | ☒ | ☐ | ☐ |
| b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years? | ☐ | ☐ | ☒ | ☐ |
| c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☒ | ☐ | ☐ |
| d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? | ☐ | ☐ | ☒ | ☐ |
| e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? | ☐ | ☐ | ☐ | ☒ |

Information in this section is derived from the *Sewer Area Study Report for Tentative Tract No. 83325, Arcadia Town* Center (Sewer Area Study) prepared by Fuscoe Engineering and dated September 19, 2024 (Fuscoe 2024b, Appendix J); the City of Arcadia's and the utilities' websites; the City of Arcadia General Plan and its Environmental Impact Report (EIR); the City of Arcadia's *2020 Urban Water Management Plan* (UWMP); the will-serve letter from the County Sanitation Districts of Los Angeles County regarding wastewater; and other sources as cited herein.

### 3.19.1 ENVIRONMENTAL SETTING

The potable water and sewer services for the Project site are provided by the City of Arcadia Public Works Services Department. Water pipeline infrastructure and sewer infrastructure is available in the vicinity. Potable water is available from existing water infrastructure including a 30-inch-diameter welded steel water main in Santa Anita Avenue, a 16-inch-diameter welded steel water main in Huntington Drive, and a 6-inch-diameter water main is available in Morlan Place. Existing sewer infrastructure includes 8-inch8 and 10-inch diameter sewer pipelines located in Huntington Drive, Santa Anita Avenue, and Morlan Place.

The City's water supply sources include groundwater production from Main Basin and the Raymond Basin and direct delivery of treated imported water from the Metropolitan Water District (MWD). The City primarily obtains its water from groundwater wells located in the Main Basin. The City is also a sub-agency of Upper San Gabriel Municipal Water District, a wholesale water agency and can purchase treated, imported water (Arcadia 2021).

Los Angeles County Sanitation Districts (LACSD) includes 24 independent special district and operates 11 wastewater facilities that provide sanitation services, including wastewater and solid waste management, to approximately 5.5 million people in the County. The LACSD currently conveys and treat approximately 510 million gallons per day (mgd) of wastewater. Approximately 165 mgd of the treated wastewater is available for reuse, after receiving a high level of treatment. Wastewater is treated through a regional interconnected sewerage system called the Joint Outfall System (JOS), which includes the main Joint Water Pollution Control Plant in Carson and six satellite water reclamation plants (LACSD 2023).

The City contracts with Waste Management Inc. for solid waste collection services. Waste Management Inc. operates the El Sobrante Landfill located in the City of Corona in Riverside County, which accepts construction/demolition waste, contaminated soil, mixed municipal waste, and tires. Waste generated in the City is ultimately disposed of in this landfill or others in the vicinity. As of April 1, 2018, the latest data available, El Sobrante Landfill had a remaining capacity of 143,977,170 cubic yards (38,873,835 tons). The facility's maximum permitted throughput is 16,054 tons per day, a remaining capacity of 143,944,170 cubic yards as of 2018, and a cease operation date of 2051 (CalRecycle 2023b).

### 3.19.2 PROJECT IMPACTS

**Regulatory Requirements**

**RR UTIL-1** The Project Applicant/Property Owner shall comply with all applicable regulations and restrictions set forth in the Arcadia Municipal Code, including Section 7472 regarding restrictions on discharges into the sewer and Section 5130 regarding achievement of annual waste diversion rates and other applicable requirements in compliance with but not limited to Assembly Bill 939, Assembly Bill 341, and Assembly Bill 1826.

**Impact Discussion**

**a) Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

**c) Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

**Less Than Significant With Mitigation.** The City of Arcadia provides water and wastewater service to the Project site, LACSD provides conveyance and wastewater treatment, SoCal Gas provides natural gas service, SCE provides electrical service, and telecommunications services are provided by a variety of providers throughout the City. Required Project infrastructure improvements are described in Sections 2.2.2 and 2.2.3, and Project-related off-site improvements are discussed in Section 2.2.4.

***Potable Water Conveyance***

The City of Arcadia Public Works Services Department is responsible for producing, storing, and distributing potable water to the City and maintaining the City's water system infrastructure. The existing water infrastructure adjacent to the Project site includes a 30-inch-diameter welded steel

water main in Santa Anita Avenue, a 16-inch-diameter welded steel water main in Huntington Drive, and a six-inch-diameter water main is available in Morlan Place.

The Project's proposed water infrastructure would include domestic, irrigation, and fire water service lines, meters, and backflow preventers. The Project would connect to the existing water lines in Santa Anita Avenue, Huntington Drive via several proposed 2-inch lateral pipes. Domestic water service for residential units would be provided by a common master meter with an approved reduced-pressure backflow device for meter services protection. Additionally, a proposed eight-inch fire water line would be connected to the existing water line in Santa Anita Avenue for use by the existing fire hydrant, and a two-inch irrigation lateral would be connected to the existing water line in Morlan Place. Any portions of Huntington Drive, Santa Anita Drive, or Morlan Place that are disturbed during Project construction would be repaved in-kind, as described in MM TRANS-1.

The City of Arcadia has confirmed that the Project's anticipated potable water demands (discussed below under Threshold 3.19b) can be accommodated with the existing potable water infrastructure, and therefore, impacts would be less than significant.

***Sewer Conveyance***

On-Site Sewer Improvements

Local sewer main lines adjacent to the Project site are maintained by the City, and they convey wastewater into trunk lines that are maintained by the LACSD. The City's sewer system has approximately 138 miles of sewer pipes, six siphons, and one pump station. There are also 15 miles of County-owner pipelines within the City limits into which the City's system discharges. The City's sewer system serves existing developments in the City, with connections to the sewer systems of the cities of Sierra Madre, Temple City, and Monrovia and in unincorporated County areas that allow for sewage conveyance through the City's system and discharging into trunk lines maintained by LACSD (Arcadia 2010b).

In the existing condition, sewage from the Project site is conveyed via 8-inch-diameter and 10-inch-diameter sewer pipelines located in Huntington Drive and Santa Anita Avenue. Wastewater generated on the Project site discharges into the 18-inch diameter Arcadia-Sierra Relief Trunk Sewer Section 2, located in First Avenue at East Camino Real. The Project proposes to connect to these existing sewer lines located in Santa Anita Avenue via several proposed 6-inch lateral pipes.

Off-Site Sewer Improvements

The Sewer Area Study (Fuscoe 2024b, Appendix J) determined that approximately 1.3 miles (6,685 linear feet) of sewer line would need to be upsized along Santa Anita Avenue between Huntington Drive and Camino Real Avenue to properly handle the additional capacity needed for the Project's wastewater generation. This additional capacity must be available before residents and businesses occupy this Project. Therefore, the City's proposed off-site sewer upsizing is being addressed in this IS/MND.

The proposed sewer upsizing along Santa Anita Avenue would replace the existing 8- and 10-inch-diameter sewer lines with 12-inch diameter sewers. The sewer upsizing would be split into three phases to be included in future capital improvement plans (CIPs) for the years prior to occupancy of the Project, as follows:

- Phase 1, scheduled for Fiscal Year 2024 – 2025, would upsize approximately 0.47 mile (2,467 linear feet) of sewer line between Christina Street and Camino Real Avenue;
- Phase 2, scheduled for Fiscal Year 2025 – 2026, would upsize approximately 0.41 mile (2,176 linear feet) of sewer line between Christina Street and El Dorado Street; and
- Phase 3, scheduled for Fiscal Year 2026 – 2027, would upsize approximately 0.39 mile (2,304 linear feet) of sewer line between Huntington Drive and El Dorado Street.

The Sewer Area Study considered all tributary flow, existing and proposed; and a portion of existing sewer mains downstream of the Project site were studied based on the City's built-out development condition. Based on the Project's incremental impact to the City's sewer infrastructure on Santa Anita Avenue downstream on the site, the Project Applicant would be required to implement MM UTIL-1 that requires a fair share payment for the upsized sewer line.

The depth of the existing sewer lines along Santa Anita Avenue varies between 7 feet to 15 feet. The average, approximate trench dimensions would be 10 feet deep by 40 feet long by 4 feet wide. The length of open trench and number of trenches that would be in active construction at any one time as well as the excavation depth would vary depending on field conditions. However, the trench width of 4 feet would be consistent. This represents a typical and common construction scenario for municipal utility work in the City of Arcadia, the San Gabriel Valley, and the wider area. Construction of this type of utility work typically results in limited impacts for a brief period, as the work moves in a linear fashion.

Construction of the sewer upsizing would not entail the use of unusually loud or vibration-intensive equipment to implement the Project. Excavation during the replacement of the sewer lines would not extend more than about 12 inches below the bottom of the existing sewer lines (i.e., between 8 feet and 15 feet). The materials located immediately below the existing sewer lines were previously disturbed during construction of the existing sewer line. Therefore, it is unlikely that excavation would extend into undisturbed soils and potentially encounter unknown cultural resources. Additionally, the off-site construction activity would be limited to the public right-of-way of Santa Anita Avenue, which is a paved roadway throughout the sewer upsizing alignment. No built structures, natural resources, or other environmentally sensitive conditions existing in the proposed sewer alignment. Additionally, the sewer upsizing would be constructed in compliance with applicable federal, State, and City planning, engineering, and environmental regulations, including but not limited to: SCAQMD rules related to air quality, the requirements of the Migratory Bird Treaty Act and California Fish and Game Code regarding nesting birds that may be present in the vicinity, Title 24/CALGreen construction energy efficiency requirements, coverage under the NPDES Construction General Permit related to water quality, Section 4261 of the AMC related to construction noise generation, preparation of a Construction Management Plan related to traffic control, and Section 5130.1 of the AMC related to construction and demolition debris reduction and recycling.

The Project would be required to fund its fair share of the costs associated with the necessary sewer upsizing and this municipal improvement would have to be fully constructed before a Certificate of Occupancy is issued, as required in MM UTIL-1. Therefore, indirect impacts on the City's wastewater infrastructure from Project implementation would be less than significant with mitigation. Additionally, the potential direct impacts of the City's construction of the sewer upsizing

as per MM UTIL-1 would be less than significant through compliance with applicable federal, State, and City regulations, as addressed above, and no mitigation is required.

LACSD Wastewater Conveyance and Treatment

The Sewer Area Study estimated the Project would generate an average wastewater generation of approximately 66,266 gallons per day (gpd) and a peak flow of approximately 165,665 gpd. The LACSD estimates the net increase in average wastewater generation from the Project, when considering the site's existing wastewater generation, that would be contributed to its facilities would be 26,379 gpd.

As noted above, wastewater from the Project site discharges into the LACSD's 18-inch-diameter trunk sewer in First Avenue at East Camino Real. According to the LACSD will-serve letter for the Project (see Appendix D of the Sewer Area Study [Appendix J to this IS/MND]), this trunk sewer "has a capacity of 6.7 million gallons per day (mgd) and conveyed a peak flow of 3 mgd when last measured in 2013" (Fuscoe 2024b). The proposed Project's estimated average net increase of 26,379 gpd, or 0.026 mgd, represents approximately 0.007 percent of the approximate 3.7 mgd remaining capacity of the downstream trunk sewer. The Project site's future total average wastewater generation (66,266 gpd) would represent approximately 0.018 percent of the remaining capacity of this sewer line. Even when considering the area's growth since 2013 when the capacity was last measured, these miniscule incremental wastewater contributions would not exceed the capacity of any LACSD conveyances. Therefore, the Project can be accommodated and no capacity-driven expansions and/or relocations of LACSD sewer lines are required.

The LACSD states that wastewater generated by the proposed Project would be treated at the San Jose Creek Water Reclamation Plant (WRP) located adjacent to the City of Industry, which has a capacity of 100 mgd and currently processes an average recycled flow of 62.7 mgd. All biosolids and wastewater flows that exceed the capacity of the San Jose Creek WRP are diverted to and treated at the Joint Water Pollution Control Plant in the City of Carson (Fuscoe 2024b). The average net increase with Project implementation of approximately 0.026 mgd would represent about 0.0007 percent of the San Jose Creek WRP's approximate 37.3 mgd remaining treatment capacity. Therefore, the LACSD would have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments.

Therefore, impacts related to the LACSD's infrastructure would be less than significant, and no mitigation is required.

### *Dry Utilities*

As discussed, dry utility service for the Project would be provided by SCE (electric); SoCal Gas (natural gas); and one or more of the private telecommunications providers with facilities in the City such as AT&T, Spectrum, EarthLink, and Frontier. The Project would require the removal and replacement of the existing dry utility lines within the Project site, which include electricity, telephone, and cable lines. The Project would connect to the existing electric lines located in Morlan Place; existing gas infrastructure located in Huntington Drive, Santa Anita Avenue and Morlan Place; and existing telecommunications lines located in Santa Anita Avenue. Existing utility service to adjacent and nearby parcels would be maintained throughout Project construction. The Project would not necessitate the construction of additional dry utility infrastructure outside the laterals to connect to the existing utility lines and related infrastructure. Therefore, there would be less than significant impacts related to dry utilities, and no mitigation is required.

**b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

**Less than Significant Impact.** Based on information provided by the Project Applicant, the average existing water demand for the Project site is approximately 2,367 gallons per day (gpd) and the estimated total water use for the Project would be approximately 57,459 gpd. Therefore, the net water demand would be approximately 55,092 gpd. The Project would be required to comply with the California Green Building Standards Code (CALGreen) (California Code of Regulations [CCR], Title 24, Part 11) water efficiency and conservation requirements; and City of Arcadia Ordinance 2330, Water Efficient Landscaping, which requires drought tolerant plants and LID strategies, as discussed in further detail in Section 3.10, Hydrology and Water Quality.

Water supplies would be provided by the City of Arcadia and subject to the requirements set forth in the City's 2020 Urban Water Management Plan (UWMP) (Arcadia 2021). UWMPs are prepared every five years by urban water suppliers to support long-term resource planning and ensure that adequate water supplies are available to meet existing and future water needs. The Project, then referred to as Huntington Parkview, was considered as a major project during development of the 2020 UMWP (Lee 2024). As such, the water demand for the Huntington Parkview project was factored into the water supply forecast during UWMP preparation. While the Huntington Parkview project included slightly fewer residential units (160 units instead of 181 units) and slightly more commercial uses (18,000 sf instead of 13,130 sf), this iteration of the Applicant's development is consistent in scale, form, and intensity of land uses with the proposed Project. As such, the water demand for these two project variations would be comparable.

It is also noted the Project is consistent with the General Plan land use designation and zoning, and the Huntington Parkview project was consistent as well. Buildout of the applicable land use plan(s) within the service area of a water supplier is also considered in UWMP preparation. Because the Project (represented as Huntington Parkview) was included in the 2020 UWMP and both projects are consistent with land use planning policies, the water demand for the Project would already be anticipated in the City's protections of future water supply.

The Project is consistent with the 2020 UWMP, which concluded that the City is able to meet projected water demands during normal years, single dry years, and five consecutive year drought periods over the next 25 years (Arcadia 2021). Therefore, less than significant impacts would occur, and no mitigation is required.

**d) Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

**Less than Significant Impact.** The Project involves demolition of the existing structures, removal of the existing vegetation on the site, and removal of soil to accommodate the subterranean parking garage, which would generate debris that would need to be removed from the site. To comply with the State of California Waste Management Act (AB 939), the City of Arcadia has implemented a recycling program. In accordance with Section 5130.1, Commercial/Industrial Waste Hauler Requirements, of the AMC, the Project Applicant/Property Owner is required to divert at least 50 percent of demolition debris generated at the Project site from landfills by recycling, reuse, and diversion programs. Even without recycling efforts, the solid waste generated from the demolition Project could be accommodated within the permitted capacity of the El Sobrante Landfill as discussed below.

Project implementation would result in the development of 181 multi-family residential units and 13,130 sf of commercial space. Based on a solid waste generation rate of 4.9 pounds per person per day, assuming a maximum occupancy of 512, the Project's residential uses would generate 2,509 pounds of trash per day (USEPA 2023). Based on 5 pounds per 1,000 sf per day for commercial solid waste generation, the Project's commercial uses would generate approximately 66 pounds of solid waste per day (CalRecycle 2023b).

The City of Arcadia is serviced by Waste Management, Inc., which takes trash from Southern California to the El Sobrante Landfill in the City of Corona in Riverside County. The Project's estimated increase in solid waste disposal could be accommodated within the permitted capacity of the El Sobrante Landfill, which has a remaining capacity of 143,944,170 cubic yards as of 2018, and a cease operation date of 2051 (CalRecycle 2023b). Less than significant impacts would occur, and no mitigation is required.

**e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

**No Impact.** Section 5130 of the AMC sets forth requirements for achieving annual diversion rates in compliance with AB 939 for all commercial waste as defined in the City's Source Reduction and Recycling Element, including varieties of paper, plastic, glass, wood, yard and greenwaste, and construction/demolition debris. These diversions must be reported to the City by the recycling company or waste hauler, and each permitted commercial hauler must provide a recycling container for the customer's separated recyclables at no additional charge upon request of the commercial customer. Also, AB 341 requires that businesses generate over four cubic yards of waste per week and multifamily residential properties with five or more units must establish a recycling program. Similarly, AB 1826 requires businesses and multifamily properties to separate and recycle organic waste if they generate more than four cubic yards of each type of waste per week. The AMC Section 5130.1 covers commercial/industrial waste hauler requirements, including multifamily residential, and outlines how the City's contracted waste hauler shall comply with State requirements related to waste diversion. Compliance with the AMC (RR UTIL-1) will ensure that the Project has no impact on the ability to satisfy applicable regulations related to solid waste.

### 3.19.3 MITIGATION MEASURES

**MM UTIL-1** **Sewer Upsizing Fair Share Payment.** Prior to issuance of a Certificate of Occupancy permit for the Project, the Applicant/Property Owner shall make a fair share contribution of 9 percent of the total Santa Anita Avenue sewer upsizing project cost to the City's Development Services Department. This payment shall help fund replacing the existing sewer line in Santa Anita Avenue between Huntington Drive and Camino Real Avenue with 12-inch diameter pipelines. The Santa Anita Avenue sewer upsizing project shall be split into three phases and included in the City's 2024-25, 2025-26, and 2026-27 Capital Improvement Plan budgets, respectively. The sewer work will be completed by the City's Public Works Department by approximately the end of the 2026-27 Fiscal Year. A Certificate of Occupancy shall not be issued until all phases of the Santa Anita Avenue sewer upsizing project are fully implemented. This measure shall be implemented to the satisfaction of the City Public Works Services Department as appropriate.

| 3.20 WILDFIRE | Potentially Significant Impact | Less than Significant with Mitigation | Less than Significant Impact | No Impact |
|---|---|---|---|---|
| **If located in or near State responsibility areas or lands classified as very high fire hazard severity zones, would the project:** | | | | |
| a) Substantially impair an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☐ | ☒ |
| b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? | ☐ | ☐ | ☐ | ☒ |
| c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? | ☐ | ☐ | ☐ | ☒ |
| d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? | ☐ | ☐ | ☐ | ☒ |

### 3.20.1 ENVIRONMENTAL SETTING

The Project is located in a fully developed location within the City of Arcadia with no exposure to wildfire risk. The Project site is not located within a very high fire hazard severity zone (VHFHSZ) (CalFire 2023). The nearest VHFHSZ is located over two miles to the north associated with the undeveloped foothills in the City.

### 3.20.2 PROJECT IMPACTS

**Regulatory Requirements**

None required.

**Impact Discussion**

**a) Substantially impair an adopted emergency response plan or emergency evacuation plan?**

**b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**

**c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

**d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

**No Impact.** As detailed in response to Threshold 3.9(g), given the Project is not located in lands classified as VHFHSZ and there is no wildfire risk to the Project during or site users during its construction or operation, the Project would have no impact and no mitigation is required.

### 3.20.3 MITIGATION MEASURES

Project implementation would not result in significant impacts related to wildfire; therefore, no mitigation measures are required.

| 3.21 MANDATORY FINDINGS OF SIGNIFICANCE | Potentially Significant Impact | Less Than Significant With Mitigation | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **Does the project:** | | | | |
| a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | ☐ | ☒ | ☐ | ☐ |
| b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | ☐ | ☒ | ☐ | ☐ |
| c. Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly? | ☐ | ☒ | ☐ | ☐ |

**a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

**Less Than Significant With Mitigation.** As discussed in Section 3.4, Biological Resources, there are no sensitive biological resources, habitat, or species located on the Project site that would be affected by implementation of the Project. Potential impacts to nesting birds would be less than significant with implementation of standard regulatory requirements listed in RR BIO-1, and impacts related to removal of Protected Trees and trees in the public ROW would be less than significant with implementation of City requirements listed in RRs BIO-2 and BIO-3.

As discussed in Section 3.5, Cultural Resources, potential impacts to unknown cultural resources and human remains from implementation of the Project would be less than significant with implementation of MM CUL-1 and RR CUL-1, respectively. Similarly, as discussed in Section 3.18, Tribal Cultural Resources, potential impacts to unknown tribal cultural resources from implementation of the Project would be less than significant with implementation of MMs TCR-1 through TCR-3. Therefore, with the incorporation of identified RR's and MM's, the Project does not have the potential to restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. No further mitigation is required.

**b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?**

**Less Than Significant With Mitigation.** The proposed Project would result in potentially significant impacts involving cultural resources, hazards and hazardous materials (emergency access during construction), noise (vibration during construction), transportation (construction traffic), tribal cultural resources, and utilities and service systems (wastewater conveyance). However, feasible mitigation measures have been identified that would reduce these impacts to less than significant levels. All reasonably foreseeable future development in the City would be subject to the same land use and environmental regulations that have been described throughout this document. Furthermore, all development projects are guided by the policies identified in the City's General Plan and by the regulations established in the Development Code and AMC. Therefore, compliance with applicable land use and environmental regulations and implementation of the mitigation program would ensure that environmental effects associated with the proposed Project would not combine with effects from reasonably foreseeable future development in the City to cause cumulatively considerable significant impacts. Cumulative impacts would therefore be less than significant with mitigation incorporated. No further mitigation is required.

**c) Does the project have environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly?**

**Less Than Significant With Mitigation**. As detailed throughout this IS/MND, the proposed Project would not exceed any significance thresholds or result in significant impacts in the environmental categories typically associated with indirect or direct effects to human beings, such as aesthetics, air quality, hazards and hazardous materials (involving hazard materials), public services, or transportation (involving long-term adverse effects). However, as described in Section 3.13, Noise, the proposed Project would result in a potential significant impact related to vibration generated during construction activity. With implementation of MM-NOI-1, this impact would be reduced to a less than significant level. As such, impacts would be less than significant with mitigation incorporated. No further mitigation is required.

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