Initial Study and Mitigated Negative Declaration for the New Park at Linden and Pine Project, South San Francisco, California

NOVEMBER 18, 2025 (FINAL)

PREPARED FOR

City of South San Francisco

PREPARED BY

SWCA Environmental Consultants

INITIAL STUDY/MITIGATED NEGATIVE DECLARATION FOR THE NEW PARK AT LINDEN AND PINE PROJECT, SOUTH SAN FRANCISCO, CALIFORNIA

FINAL

Prepared for

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1 INTRODUCTION

The City of South San Francisco (City) is proposing the New Park at Linden and Pine Project (project), which includes the redevelopment of two parcels on the east side of Linden Avenue (616 and 700 Linden Avenue) and a section of Pine Avenue that bisects the project site in the city of South San Francisco. The new public park will feature a playground, recreational space, a sports court, potential restrooms, community gathering spaces, and public art.

1.1 Project Location

The city of South San Francisco is located approximately 3 miles north of San Francisco International Airport (SFO) and the city of San Bruno; just south of the city of Daly City, the town of Colma, and San Bruno Mountain; approximately 6 miles east of the city of Pacifica; and west of the waters of San Francisco Bay in San Mateo County (Figure 1-1, *Project Location*). The project area is located in the Downtown Subarea between Lindenville and Sign Hill in the *City of South San Francisco 2040 General Plan* (2040 General Plan) and is identified in the Linden Neighborhood Center in the *South San Francisco Downtown Station Area Specific Plan*.[2,3]

The 0.86-acre project site (Assessor's Parcel Numbers [APNs] 012-174-300 and 012-145-370) is located at 700 Linden Avenue and 616 Linden Avenue and includes an approximately 100-foot section of Pine Avenue that bisects the project site in South San Francisco (Figure 1-2, *Project Vicinity*). Both parcels are owned by the City. The project site is bounded by Linden Avenue to the west, 8th Lane to the north, 7th Lane to the south, and residences to the east (see Figure 1-2).

1.2 Existing Conditions

The project site currently includes a vacant, grassy lot at 700 Linden Avenue, an active parking lot at 616 Linden Avenue, and a section of Pine Avenue. The parking lot provides customer and employee parking for adjacent businesses and contains 20 metered vehicle parking spaces and one unmetered Americans with Disabilities Act (ADA)-compliant space. Both lots are zoned Parks and Recreation (PR). Pine Avenue has six unmetered spaces within the project area, and 7th Lane and 8th Lane do not have marked spaces but allow unmetered parking on one side of the street only. Both 7th Lane and 8th Lane are 15 feet wide.

The ground surface across the project site is relatively level, with elevations varying from about 46 to 54 feet above mean sea level. There is an existing overhead powerline with a Pacific Gas and Electric Company (PG&E) joint utility pole on the north side of Pine Avenue. Existing water and sanitary sewer lines are located in Pine Avenue. Existing stormwater infrastructure is located in Linden Avenue (Appendix A1). Previous uses at 616 Linden Avenue included residences and an automotive repair shop that contained underground oil and gas tanks. After the automotive shop closed, the tanks and surrounding contaminated soil were hauled off-site. The groundwater was routinely tested through 2001 until the County of San Mateo (County) confirmed the investigation and remedial action were satisfactorily completed and closed the case (Appendix B5).[4]

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[2] City of South San Francisco. 2022a. *City of South San Francisco 2040 General Plan.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/. Accessed January 2, 2025.

[3] City of South San Francisco. 2015a. *South San Francisco Downtown Station Area Specific Plan.* Adopted February. Available at: https://shapessf.com/wp-content/uploads/2022/09/Adopted-DSASP-February-20.pdf. Accessed June 2, 2025.

[4] Ninyo & Moore. 2023. *Technical Memorandum: Remedial Options Evaluation, 616 Linden Avenue, Closed LUST Cleanup Site Case No. 550097*. November 16.

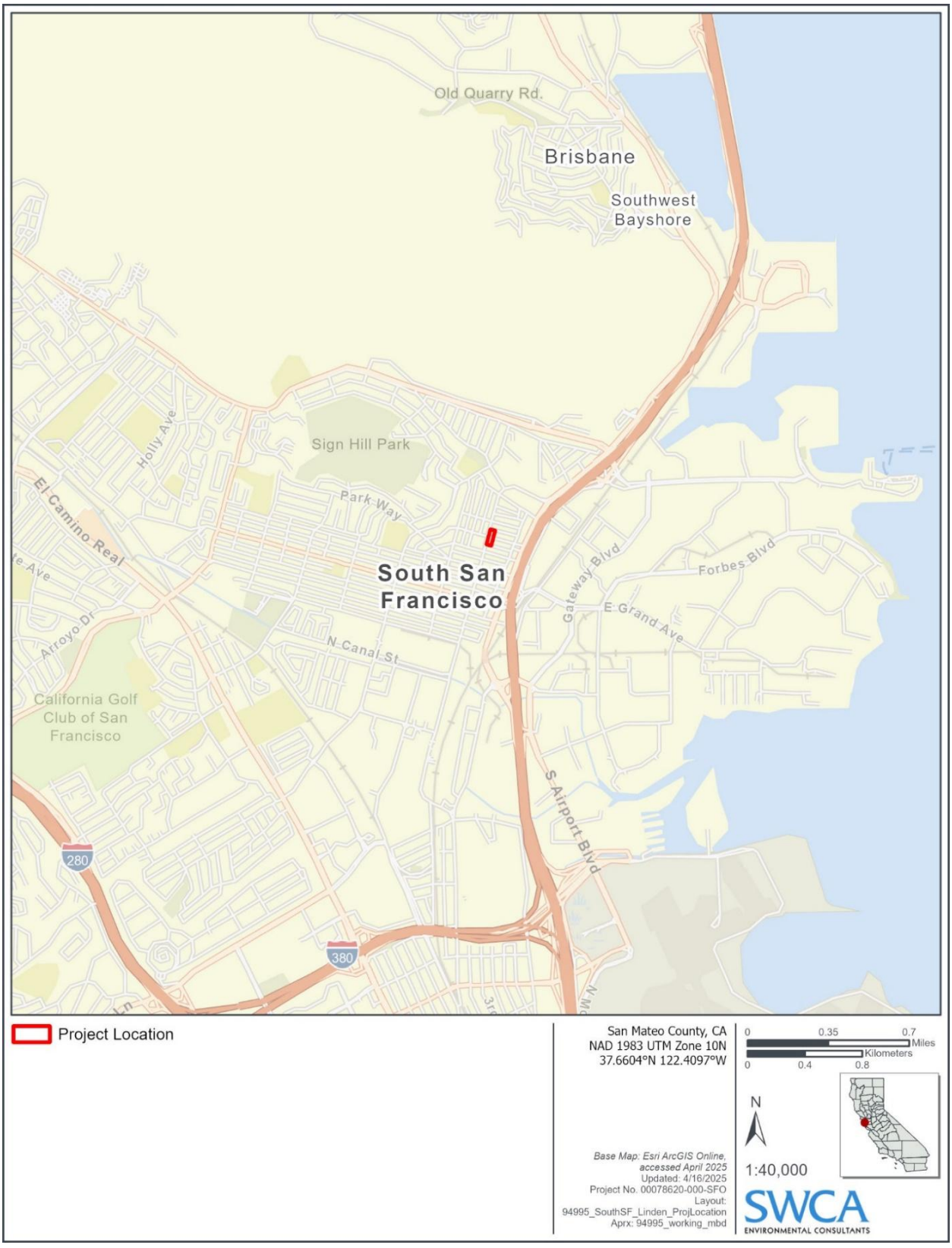


Figure 1-1. Project Location.



Figure 1-2. Project Vicinity.

Based on the State's Low-Threat Underground Storage Tank Case Closure Policy, the soil currently meets the criteria for use as a park, including for direct contact and outdoor air exposure (see Appendix B3).[5] Testing also revealed the presence of a buried concrete structure on the southern edge of the parcel, which was likely a basement-level utility, furnace, or storage room for the former residence. The soil within the concrete structure has an elevated lead concentration, likely due to pieces of metal in the soil (Appendix B1).[6] As part of the project, the City plans to remove lead-contaminated soils within the buried concrete structure, but will leave the concrete structure in place.

Surrounding land uses include single-family residential to the northeast, multi-family and single-family residential to the southeast, and multi-family residential and commercial to the northwest and southwest. The commercial properties are part of the Linden Neighborhood Center commercial stakeholder group. The neighborhood, including the Linden Neighborhood Center, is served by the public parking lot and street parking.

The *City of South San Francisco Parks and Recreation Master Plan*,[7] *South San Francisco Downtown Station Area Specific Plan*,[8] and 2040 General Plan[9] identify the neighborhoods surrounding the project site—the Downtown Subarea and Linden Neighborhood Center—as areas of concern for their lack of parks and open space. Goal 2 of the Parks and Recreation Master Plan is that "every South San Francisco resident should be within a 5-minute walk of a park, trail or open space."[10] The Parks and Recreation Master Plan identifies areas that are not within ¼ mile of an existing park or open space area.

The Downtown Neighborhood is an L-shaped area of the city with a roughly north–south arm surrounding Linden Avenue (approximately bounded by Maple Avenue to the west, Airport Boulevard to the east, Armour Avenue to the north, and Railroad Avenue to the south) and a roughly east–west arm surrounding Grand Avenue and Baden Avenue. The portion of the Downtown Neighborhood surrounding Linden Avenue has one mini park (0.3 acre) at the corner of Cypress and Pine Avenues with a children's play area and basketball courts, approximately 800 feet southwest of the project site. The Sign Hill trailhead in the Sign Hill Neighborhood is approximately 0.25 mile northwest of the project site. Sign Hill is used for passive recreation with hiking trails, but recreation uses are limited by habitat conservation concerns. There are no parks in the neighborhood with facilities for adults or seniors or that support neighborhood gatherings or events. The project site is within ¼ mile of neighborhoods that are not currently within a 5-minute walking distance of parks, including neighborhoods on Hawthorne Place, Maple Avenue, and Spruce Avenue to the northwest and Lux Avenue and Miller Avenue to the south.[11]

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[5] Ninyo & Moore. 2023. *Technical Memorandum: Remedial Options Evaluation, 616 Linden Avenue, Closed LUST Cleanup Site Case No. 550097*. November 16.

[6] Toerock Associates. 2021. *Final Phase 1/Phase II Environmental Site Assessment Targeted Brownfields Assessment Report, South San Francisco – Linden & Cypress Avenues, South San Francisco, CA. U.S. EPA Region 9, Resource Conservation and Recovery Act (REPA) Contract No. 68HERH19D0018*. July 2.

[7] City of South San Francisco. 2015b. *City of South San Francisco Parks and Recreation Master Plan.* Adopted July 22. Available at: https://www.ssf.net/Departments/Parks-Recreation/About-Us/Parks-and-Recreation-Master-Plan. Accessed June 12, 2025.

[8] City of South San Francisco. 2015a. *South San Francisco Downtown Station Area Specific Plan.* Adopted February. Available at: https://shapessf.com/wp-content/uploads/2022/09/Adopted-DSASP-February-20.pdf. Accessed June 2, 2025.

[9] City of South San Francisco. 2022a. *City of South San Francisco 2040 General Plan.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/. Accessed January 2, 2025.

[10] City of South San Francisco, 2015b.

[11] City of South San Francisco, 2015b.

2 PROJECT DESCRIPTION

The proposed project includes demolition of the existing parking lot at 616 Linden Avenue and a section of Pine Avenue and construction of a new neighborhood park. The new park will cover 616 and 700 Linden Avenue and an approximately 100-foot section of Pine Avenue, and will provide a new public space for residents of the neighborhood to gather, connect, and play. The new park would contain a plaza/outdoor event space, lawns, picnic areas, play structures, a fitness area, a potential restroom structure, new parking areas, and new lighting and landscaping (Figure 2-1, *Project Site Plan*). The park is envisioned and designed as a neighborhood park, with the majority of users walking to the park from nearby residential areas.

2.1 Proposed Park Design

The park would include the following elements (see Figure 2-1; Appendix A2):

- A large, paved plaza/event space with a stage, electricity, and lighting with capacity for 200 people that would either be paved with concrete or underlain with concrete pavers.
- One or more art installations, which could include art columns, a ground mural at the plaza, and/or an interactive art installation. The art installations would be decided based on a public art process and designed to reflect the community's identity and heritage.
- Two flexible lawn spaces (1,487.5 square feet and 3,535 square feet, respectively) with a combined capacity for approximately 500 people that could host a variety of activities and provide overflow space during larger events. The lawn areas would have either natural or synthetic turf.
- Small gathering areas, including picnic tables and benches, which would surround each flexible lawn. There would be approximately three tables surrounding the north lawn and two tables and four benches surrounding the south lawn.
- A play area with play structures for ages 2-to-5 and 5-to-12 would be surrounded by a 4-foot-tall fence and include a climbing/sliding structure, group spinner, group swing, tot slide, art feature, and nature play edges (logs and boulders). The play area surfacing would be engineered wood fiber safety surfacing, with a small amount of poured-in-place rubber safety surfacing at the sloped hillside at the tot slide.
- A fitness area that would include outdoor exercise equipment for the public to use.
- A potential restroom building, if funds are acquired.
- New lighting and landscaping, including approximately 30 to 35 new trees.
- Realignment of Pine Avenue as a one-way lane leading to 7th Lane.
- Seventeen new parking spaces on Pine Avenue, 7th Lane, and 8th Lane.
- A privacy fence on the eastern side between the park and adjacent housing.

The project also involves the demolition of an existing parking lot containing 21 parking spaces, an approximately 100-foot segment of Pine Avenue, and a vacant grassy field along Linden Avenue between 7th Lane and 8th Lane.

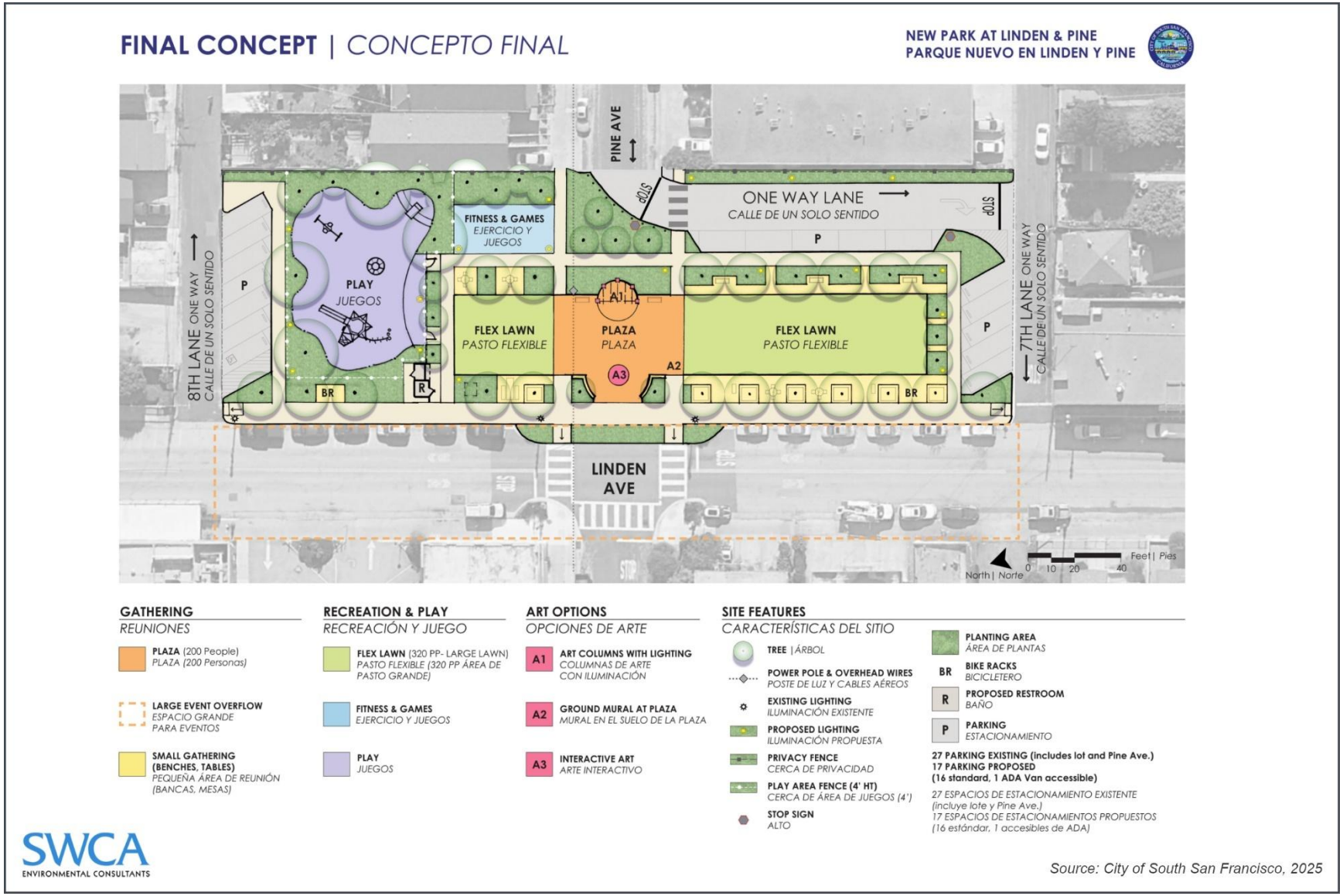


Figure 2-1. Project Site Plan.

Voluntary cleanup and removal of lead-contaminated soil in an existing buried concrete structure would be completed as part of the project. The bottom of the concrete structure is approximately 36 inches below ground surface. Removal of the contaminated soil would require excavation to a depth of approximately 36 inches. The concrete structure would be left in place. The project would require grading and excavation for installation of utilities and foundations for park amenities (play structures, lighting, landscaping, etc.), potentially including a restroom building. The maximum depth of excavation for footings for play equipment and lighting would be up to approximately 60 inches below ground surface.

2.2 Park Community Events

The park is planned as a place for neighbors to gather and play and would provide space for both large and small gatherings. The park is expected to host approximately 100 to 250 people on a daily basis, most of whom would walk to the park, in the absence of events. The central plaza would host medium-to-large neighborhood events that could include concerts, dance performances, outdoor exercise classes, and other events. The lawns would provide additional space for participants of concerts and events. The larger lawn to the south of the plaza would provide space for a variety of activities such as casual sports play and movie nights, and the smaller lawn north of the plaza would provide space for picnics or spillover activity from the play and fitness areas.

While the event program for the park has not yet been determined, some potential activities could include:

- Weekly or monthly farmers' markets, typically on weekends between 9:00 a.m. and 12:00 p.m., with additional time allotted for setup and cleanup. Anticipated attendance would be no more than 150 people at any one point in time during the event.
- Concerts or festivals, likely no more than four times per year, that may include road closures surrounding the park, amplified music, food trucks, and vendor booths. These events would typically take place during the day and end before 8:00 p.m., which is the required end time according to the City's amplified sound ordinance (South San Francisco Municipal Code Section 8.32.080, *Amplified Sound—Regulations*). Anticipated attendance would be no more than 500 people at any one point in time during the event.
- Movie nights, likely no more than four times per year, and may involve a large inflatable movie screen, amplified noise, and food trucks and/or vendor booths for movie concessions. It is possible that amplified noise could be heard up to 10:00 p.m. as outdoor movies can only be shown after sundown to be visible on the screen. This time surpasses the City's amplified sound ordinance (Section 8.32.080) and would only take place with City approval as well as a notice to neighbors within 500 feet of the park. Anticipated attendance would average around 300 people.
- An informal stage setting, which is an element of the plaza that could be used for various types of performances. These performances could potentially be a part of the events listed above, or standalone, for example, if the City were to invite a limited-term mini-concert series for small-scale performances.

The City's Special Event Permit process allows for different departments to assess potential impacts of any proposed event to the park and surrounding neighborhood and to ensure compliance with federal, state, and local law.[12]

[12] City of South San Francisco. 2025. *City of South San Francisco Special Event Permit Guidelines*. Available at: https://www.ssf.net/files/assets/public/v/1/police/images/documents/ssf20set20guidelines.pdf. Accessed August 4, 2025.

2.3 Site Access, Parking, and Vehicle Circulation

Park construction would reroute one block of Pine Avenue and convert it to a one-way alley ending at 7th Lane. The project would reduce the existing number of parking spaces from 27 to 17 by removing 21 parking spaces from the existing parking lot and six spaces along Pine Avenue, and constructing 17 new parking spaces, including one new ADA van-accessible space, on Pine Avenue, 7th Lane, and 8th Lane. Diagonal parking would be available on 7th Lane (five spaces) and 8th Lane (seven spaces, including one ADA van-accessible space) and parallel parking would be on the one-way portion of Pine Avenue (five spaces). Parking will have time constraints during weekday daytime hours. The project would also include roadway and sidewalk frontage improvements along Linden Avenue, Pine Avenue, 7th Lane, and 8th Lane. Traffic calming measures, including stop signs, crosswalks, and signage would be added surrounding the park for pedestrian safety. The park would also feature several bicycle racks, addressing the current lack of bicycle parking (Appendix A3).

2.4 Landscaping and Lighting

The project would include the removal of approximately nine existing trees on-site, seven trees adjacent to the parking lot on Linden Avenue, and two trees on Pine Avenue, most of which are in fair to poor condition. Approximately 30 to 35 new trees of a variety of species would be planted throughout the project site along with low-water shrubs and other landscape plants. The City has adopted the State of California Model Water Efficient Landscape Ordinance (WELO) and all qualified projects must comply with the water efficient landscape requirements. Landscaping would include drought-tolerant and native species with new efficient drip irrigation that meets state WELO requirements.[13] Three planting areas would be added on-site for stormwater retention and treatment (Appendix A4). The existing draft stormwater retention plan assumes the two lawn areas would have natural turf. If the City chooses to use artificial turf, the stormwater retention plan would be revised to include the additional approximately 5,000 square feet of artificial turf lawn as impervious surface.

New lighting within the park will build upon the existing street lighting along Linden Ave. Existing streetlights, which are a traditional double-acorn design, would be retained and updated with energy-efficient bulbs. New streetlights would be a maximum 16 feet in height and would not be as traditional in style but would complement the existing double acorns in color. Sightlines will be maintained between tree canopies and lower ground plane plantings to ensure visibility into the park.

2.5 Utilities

The project would include the replacement and addition of new wastewater, water, and stormwater drainage throughout the project site. A new 4-inch lateral and water meter connected to the water main on Pine Avenue would be installed for potable and irrigation water supply. New storm drains would connect to the bioretention basins on Linden Avenue, and overflow would be routed to existing storm drains in Linden Avenue. A new sanitary sewer line would be constructed, likely 4 or 6 inches in size, and would connect to the existing 6-inch sanitary sewer line located on Pine Avenue.

Two planting areas and Silva cells would be added on-site for stormwater retention and treatment. Stormwater retention infrastructure would include a combination of below-grade Silva cells, bioretention planters, and/or bioretention areas. These areas would encompass approximately 675 square feet of Low

[13] City of South San Francisco. 2025. WELO Landscape Document Package. Available at: https://www.ssf.net/files/assets/public/v/1/economic-amp-community-development/documents/welo-document-package-jul2.pdf. Accessed July 9, 2025.

Impact Development (LID) treatment areas. Bioretention planters require above-grade space. Silva Cells are underground but more expensive to maintain. Stormwater would be routed through the LID stormwater treatment areas and excess stormwater would be directed to the stormwater system in Linden Avenue (see Appendix A4).

The existing PG&E joint pole and overhead lines on Pine Avenue would be retained. Existing overhead service lines from the joint pole to individual streetlights and one residence will be removed and/or relocated. The park would be designed to accommodate the PG&E joint pole and overhead lines in place. New electrical lines would connect to the park lighting, stage area, and restroom. No gas infrastructure would be installed.

2.6 Construction

Project construction is expected to begin in March 2026 and occur over a period of approximately 8 to 10 months. Construction is expected to be completed by December 2026. Staging areas would occur on-site. Additional construction parking would be required and parking spaces may be reserved on Linden Avenue during project construction for construction and worker vehicles. Construction hours would be from 8:00 a.m. to 5:00 p.m., Monday through Friday. Activities may begin as early as 7:00 a.m. on weekdays and occur from 9:00 a.m. to 4:00 p.m. on Saturdays, but such activities would be limited to quiet activities and would not involve engine-driven machinery. Although the City allows construction from 8:00 a.m. to 6:00 p.m. on Saturdays and 10:00 a.m. to 6:00 p.m. on Sundays, weekend construction is not anticipated and would require permission from the City.

Construction activities would include the following elements:

1. The project site would be fenced, prepared, and cleared. The existing parking lot and section of Pine Avenue would be demolished and regraded. Trenching for new utilities would occur.
2. The new park facilities would be constructed, including the new Pine Avenue alignment, hardscape, utilities, sidewalks, and pathways necessary for access.
3. The new park furniture, including play structures, picnic tables and benches, fitness and games equipment, and bicycle racks, would be installed. Traffic calming measures in streets surrounding the park would be constructed, along with street and sidewalk improvements.
4. Construction activities would conclude with landscaping and final site work, including storm drainage, irrigation facilities, and rehabilitation of the staging area.
5. Project construction would require removal of approximately 10 cubic yards of lead-contaminated soil from the below-ground concrete structure. This would be replaced with 10 cubic yards of clean fill.
6. In addition to off-hauling 10 cubic yards of lead-contaminated soil, site grading would include 1,200 cubic yards of cut and 450 cubic yards of fill, with 750 cubic yards of soils off-hauled from the site. Demolition of the existing parking lot and section of Pine Avenue will generate approximately 600 cubic yards of debris, which would be off-hauled for recycling or disposal. Nine trees would be removed and chipped. The estimated maximum depth of excavation is anticipated to be approximately 5 feet below ground surface for new utilities. If natural turf is selected for the lawn areas, the project would reduce the impervious surface area by 2,750 square feet, from 19,150 to 16,200 square feet, and increase the total pervious surface area from 13,150 to 16,100 square feet.

7. Project construction would generate approximately 140 round-trip truck trips to haul soils, demolition debris (concrete, asphalt, trees, existing utility infrastructure), and construction materials (concrete paving, decomposed granite paving, engineered wood fiber [play safety surfacing], trees/shrubs, parking meters, irrigation equipment, lighting, play and exercise equipment, site furnishings, fencing, bollards, signage, and art elements).
8. Existing site materials would be recycled or reused following demolition, when feasible. Demolished asphalt and concrete would be taken to an asphalt recycling facility. Various recycled materials would be used in construction, and durable, long-lasting exterior finish materials would be incorporated throughout the project. Standard construction equipment, including excavators, graders, tractors, loaders, off-haul trucks, rollers, and pavers, would be used during project construction. No pile driving is proposed.
9. Temporary fencing would be used to secure the project site. Access for construction would be from a temporary designated access gate and would include stormwater Best Management Practices (BMPs). Construction and materials staging would occur on-site. All work would comply with the Regional Water Quality Control Board (RWQCB) BMPs for stormwater management.

2.7 Required Discretionary Approvals

This Initial Study/Mitigated Negative Declaration (IS/MND) provides environmental information and analysis in compliance with the California Environmental Quality Act (CEQA), which is necessary for City decision makers to be able to adequately consider the effects of the project. The City, as the CEQA lead agency, has approval authority and responsibility for considering the environmental effects of the project as a whole. The City is responsible for authorizing and approving the project.

The project is requesting approval of the following actions and permits:

- Adoption of a Mitigated Negative Declaration
- Right-of-way abandonment and reconfiguration for Pine Avenue
- City building permit and Parks and Recreation Commission approval
- Grading permit
- Encroachment permit

3 ENVIRONMENTAL CHECKLIST AND ENVIRONMENTAL EVALUATION

Environmental Factors Potentially Affected

The proposed project could have a “Potentially Significant Impact" for environmental factors checked below. Please refer to the attached pages for discussion on mitigation measures or project revisions to either reduce these impacts to less than significant levels or require further study.

☐ Aesthetics	☐ Greenhouse Gas Emissions	☐ Public Services
☐ Agriculture and Forestry Resources	☐ Hazards and Hazardous Materials	☐ Recreation
☐ Air Quality	☐ Hydrology and Water Quality	☐ Transportation
☐ Biological Resources	☐ Land Use and Planning	☐ Tribal Cultural Resources
☐ Cultural Resources	☐ Mineral Resources	☐ Utilities and Service Systems
☐ Energy	☐ Noise	☐ Wildfire
☐ Geology and Soils	☐ Population and Housing	☐ Mandatory Findings of Significance

Environmental Determination

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☒ I find that although the proposed 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 proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed 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 measure 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 proposed 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 proposed project, nothing further is required.

Date: November 18, 2025 **Signed:** _____

I. Aesthetics

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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) In non-urbanized areas, 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?	☐	☐	☒	☐

Environmental Evaluation

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant. A scenic vista generally provides focal views of objects, settings, or features of visual interest, or panoramic views of large geographic areas of scenic quality, from a fixed vantage point or linear corridor, such as a roadway or trail. A significant impact would occur if a project introduced incompatible scenic elements within a field of view containing a scenic vista or substantially block views of an existing scenic vista.

The project site is located in the Downtown subarea between Lindenville and Sign Hill. The park site currently contains a parking lot and grassy field and is surrounded by residential and commercial areas (see Figure 1-2, *Project Vicinity*). The surrounding vicinity does not contain any designated historic buildings, rock outcroppings, or scenic highways. San Bruno Mountain State and County Park, approximately 0.5 mile northeast of the project site, is one of the most prominent features visible from the project site. It is a landmark of local and regional significance (although it is not designated as a scenic vista in the 2040 General Plan) and includes 2,416 acres of open space and 12 miles of hiking, riding, and jogging trails with views of the San Francisco Bay, Pacific Ocean, and San Francisco skyline.[14,15] San Bruno Mountain is visible from the project site approximately 0.5 mile northeast. Sign Hill is not visible from the project site due to intervening buildings and trees. The project site is visible from several viewing points on San Bruno Mountain, as well as from neighborhoods on Linden Avenue and surrounding public streets.

The proposed project would include the replacement of an existing parking lot and grassy field with new park facilities, including a plaza, lawns, picnic facilities, playground equipment, a potential restroom, and

[14] City of South San Francisco. 2022a. *City of South San Francisco 2040 General Plan.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/. Accessed May 1, 2025.

[15] County of San Mateo. 2025. County Parks: San Bruno Mountain State & County Park. Available at: https://www.smcgov.org/parks/san-bruno-mountain-state-county-park. Accessed May 1, 2025.

parking. The project would also replace the existing parking lot with new, smaller parking areas and plant trees throughout the new park (see Figure 2-1, *Project Site Plan*).

Due to the topography of the project site and the construction of low-level (single-story) structures and play structures on the project site compared with the surrounding urban development, view changes typically would occur at limited vantage points, as opposed to along extensive roadway segments or from entire large geographic areas. The project would include the removal of approximately nine existing trees and the planting of approximately 30 to 35 new trees throughout the project site. While the project would alter the existing visual character of the project site vicinity, as it would replace the grassy field and parking lot with a park and smaller parking areas, including trees and landscaping, the project would not adversely affect a scenic vista or obstruct views of visual resources. Therefore, this impact would be less than significant, and mitigation is not required.

While the project site could be visible within panoramic views from San Bruno Mountain, the proposed project would be visually compatible with the existing urban setting of the area and would be in keeping with the surrounding urban development. Implementation of the project would not have a substantial adverse effect on a scenic vista. Therefore, this impact would be less than significant, and mitigation is not required.

Construction impacts would include excavation, grading, and ground disturbance; heavy equipment operation and staging areas for equipment parking and material storage; and additional truck traffic on haul routes. Construction would last approximately 8 to 10 months. Therefore, short-term visual impacts due to construction would be temporary and less than significant, and mitigation is not 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 site is not within a scenic highway corridor. The nearest eligible scenic highway is Interstate Route (I-) 280, which is located approximately 2.2 miles southwest of the project site.[16] The project area includes a grassy field and parking lot; therefore, it does not have other scenic resources such as rock outcroppings or historic buildings. Although the project would include the removal of approximately nine existing trees and the planting of approximately 30 to 35 new trees throughout the park. Therefore, the project would not substantially damage scenic resources, including those within a designated scenic highway, and no impact would occur.

c) In non-urbanized areas, 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. The project is located on a parking lot and grassy field that both have a zoning designation of Parks and Recreation (PR) and General Plan Land Use designation of Parks and Recreation.[17] The project would include the replacement of the parking lot and grassy field with a new

[16] California Department of Transportation (Caltrans). 2025. California State Scenic Highways. Available at: https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways. Accessed May 1, 2025.

[17] City of South San Francisco. 2022a. *City of South San Francisco 2040 General Plan.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/. Accessed May 1, 2025.

neighborhood park. Therefore, it would not conflict with applicable zoning (Table 3-1, *Project Consistency with General Plan Policies*).

Table 3-1. Project Consistency with General Plan Policies

General Plan Policy	Consistency
Policy LU-8.4: Require street trees. Require new development to add street trees along streets and public spaces that provide shade, attractive landscaping, and contribute positively towards public health outcomes and climate mitigation and adaptation.	Consistent. The project would plant approximately 30 to 35 trees, including new street trees along Linden Avenue, 7th Lane, and 8th Lane.
Policy LU-8.8: Maintain and protect public views. Maintain and protect unique public views of the city, the bay, and local landmarks from major thoroughfares and hillside open spaces.	Consistent. The project would not impact public views. New recreational facilities at the new Park at Linden and Pine Avenues would integrate and harmonize with the surrounding urban development and would not be distinguishable from San Bruno Mountain. A visual landscape screen of trees and shrubs is proposed adjacent to all residential properties.
Policy LU-9.3: Require quality building materials. Require high-quality, long-lasting building materials on all new development projects in the city.	Consistent. The project includes quality building materials and infrastructure. If included as part of park construction, the ADA-accessible composite play structure will include durable and low-maintenance materials such as a steel structure, polyethylene play components, steel-reinforced cables that are vandal resistant, and latex-free rubber belting. The steel and polyethylene components will have a custom color selection to compliment and highlight the adjacent community. The ADA-accessible pre-manufactured restroom structure will be made of durable concrete blocks, non-absorbent concrete floors, and a utility chase, which will be housed opposite the restroom entrance.
Policy LU-9.4: Require walkable and inviting buildings and spaces. Require building design that creates walkable and inviting spaces, such as locating parking behind buildings, allowing for outdoor plazas and dining, and locating building frontages in close proximity to the sidewalk edge, where appropriate.	Consistent. The new park would add an outdoor plaza and event space and places for neighbors to gather. It would be easily accessible from surrounding streets and would include bicycle racks. The project would reduce the overall number of parking spaces but would provide ma van-accessible ADA parking space.

As shown in Table 3-1, the project would be consistent with all policies related to visual and aesthetic impacts in the 2040 General Plan. [18] The project would not conflict with applicable zoning and other regulations governing scenic quality. Therefore, this impact would be less than significant, and mitigation is not 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. The project would include street and access lighting as required by the City and meet all requirements of the City Zoning Code and applicable building codes. The project would retain existing double-acorn street lighting and refit the existing light fixtures with energy-efficient bulbs. New park lighting would complement the color of the existing light poles but would not be as traditional in style. As required by South San Francisco Municipal Code Section 20.300.009, *Lighting and Illumination*, all lighting fixtures would be fully shielded and located to avoid light spillover to adjacent properties. Further, light fixtures would not exceed 16 feet in height, and any light fixture located within 50 feet of a residence or public right-of-way would be further shielded to minimize light trespass onto adjacent properties. The project would not create a new source of substantial light or glare that would

[18] City of South San Francisco. 2022a. *City of South San Francisco 2040 General Plan.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/. Accessed May 1, 2025.

adversely affect day or nighttime views in the area. Therefore, this impact would be less than significant, and mitigation is not required.

II. Agriculture and Forestry Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

Environmental Evaluation

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?

No Impact. The project site is located in the city of South San Francisco on two urban lots surrounded by residential and commercial development. There is no agricultural or forest land in the vicinity of the project site. The project site has a land use designation of Parks and Recreation in the 2040 General Plan.[19] The areas surrounding the project site are designated as Medium Density Residential and Commercial; no parcels within the project vicinity are zoned for agricultural use.[20] Therefore, no impact would occur.

[19] City of South San Francisco. 2022a. *City of South San Francisco 2040 General Plan.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/. Accessed March 8, 2025.

[20] City of South San Francisco. 2025a. SSF Zoning Search App. Available at: https://zoning.ssf.net/. Accessed March 12, 2025.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The proposed project is located in a City park and is not under Williamson Act contract, and the surrounding area is not zoned for agricultural use or under Williamson Act contract. The project would not conflict with existing zoning for agricultural use or Williamson Act contracts. Therefore, no impact would occur.

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))?

No Impact. The proposed project is located in a City park and is not zoned for timberland or timberland production. The project vicinity is urban, and there are no areas zoned for timber or timber production in the city.[21] Therefore, no impact would occur.

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. There is no forest land in the vicinity of the project.[22] Therefore, no impact would occur.

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 is located on a parking lot and grassy field and the surrounding area includes urban uses. There is no farmland or forest land in the vicinity of the project. The project would not result in the conversion of farmland or forest land. Therefore, no impact would occur.

III. Air Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. 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 non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
(c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

[21] City of South San Francisco. 2025a. SSF Zoning Search App. Available at: https://zoning.ssf.net/. Accessed March 12, 2025.

[22] City of South San Francisco, 2025a.

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Environmental Evaluation

The proposed project is located within the San Francisco Bay Area Air Basin, which consists of the entirety of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara Counties; the western portion of Solano County; and the southern portion of Sonoma County. The air basin is characterized by complex terrain consisting of coastal mountain ranges, inland valleys, and bays. The regional climate of the air basin is characterized by mildly dry summers and moderately wet winters. The region experiences moderate humidity with wind patterns consisting of mild onshore breezes during the day. The location of a strong subtropical high-pressure cell located in the Pacific Ocean induces foggy mornings and moderate temperatures during the summer, as well as occasional rainstorms during the winter. The air pollutants for which national and state standards have been promulgated and that are most relevant to air quality planning and regulation in the Bay Area include ozone (O_3), nitrogen oxides (NO_X), nitrogen dioxide (NO_2), carbon monoxide (CO), and particulate matter, including dust, 10 microns or less in diameter (PM_{10}) and 2.5 micrometers or less in diameter ($PM_{2.5}$). In addition, toxic air contaminants (TACs) are of concern in the Bay Area. Each of these pollutants is briefly described below:

- O_3 is a strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. It is a secondary pollutant formed in the atmosphere by a photochemical process involving the sun's energy and O_3 precursors. These precursors are mainly NO_X and volatile organic compounds (VOCs). The maximum effects of precursor emissions on O_3 concentrations usually occur several hours after they are emitted and many miles from the source. Meteorology and terrain play major roles in O_3 formation, and ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O_3 exists in the upper atmosphere O_3 layer (stratospheric ozone) and at the Earth's surface in the troposphere (ozone).

  The O_3 that the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) regulates as a criteria air pollutant is produced close to the ground level, where people live, exercise, and breathe. Ground-level O_3 is a harmful air pollutant that causes numerous adverse health effects and is thus considered "bad" O_3. Stratospheric, or "good," O_3 occurs naturally in the upper atmosphere, where it reduces the amount of ultraviolet light (i.e., solar radiation) entering the Earth's atmosphere. Without the protection of the beneficial stratospheric O_3 layer, plant and animal life would be seriously harmed. O_3 in the troposphere causes numerous adverse health effects; short-term exposures (lasting for a few hours) can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.[23] These health problems are particularly acute in sensitive receptors such as the sick, the elderly, and young children.

[23] U.S. Environmental Protection Agency (EPA). 2024a. Health Effects of Ozone Pollution. Available at: https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution. Accessed July 2025.

- NO_2 is a brownish, highly reactive gas that is present in all urban atmospheres. The major mechanism for the formation of NO_2 in the atmosphere is the oxidation of the primary air pollutant nitric oxide, which is a colorless, odorless gas. NO_X plays a major role, together with VOCs, in the atmospheric reactions that produce O_3. NO_X is formed from fuel combustion under high temperature or pressure. In addition, NO_X is an important precursor to acid rain and may affect both terrestrial and aquatic ecosystems. The two major emissions sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers. NO_2 can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections.[24]
- CO is a colorless, odorless gas formed by the incomplete combustion of hydrocarbon, or fossil fuels that is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas, such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions—primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, which is a typical situation at dusk in urban areas from November to February. The highest levels of CO typically occur during the colder months of the year, when inversion conditions are more frequent. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions.[25]
- Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter.

  Coarse particulate matter (PM_{10}) is about 1/7 the thickness of a human hair, and major sources include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; smoke from wildfires and brush and waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

  Fine particulate matter ($PM_{2.5}$) is roughly 1/28 the diameter of a human hair and results from fuel combustion (e.g., from motor vehicles and power generation and industrial facilities), residential fireplaces, and woodstoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases such as sulfur oxides (SOx), NO_X, and VOCs.

  $PM_{2.5}$ and PM_{10} pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and PM_{10} can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances such as lead, sulfates, and nitrates can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport adsorbed gases such as chlorides or ammonium into the lungs, also causing injury. Whereas PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it can penetrate deeper into the lungs and damage lung

[24] U.S. Environmental Protection Agency (EPA). 2024b. Basic Information about NO_2. Available at: https://www.epa.gov/no2-pollution/basic-information-about-no2#Effects. Accessed July 2025.

[25] U.S. Environmental Protection Agency (EPA). 2024c. Basic Information about Carbon Monoxide Outdoor Air Pollution. Available at: https://www.epa.gov/indoor-air-quality-iaq/what-carbon-monoxide. Accessed July 2025.

tissue. Suspended particulates also damage and discolor surfaces on which they settle and produce haze and reduce regional visibility. People with influenza, people with chronic respiratory and cardiovascular diseases, and the elderly may suffer worsening illness and premature death as a result of breathing particulate matter. People with bronchitis can expect aggravated symptoms from breathing in particulate matter. Children may experience a decline in lung function due to breathing in $PM_{2.5}$ and PM_{10}.[26]

- TACs refer to a diverse group of "non-criteria" air pollutants that can affect human health but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above, but because their effects tend to be local rather than regional.

  TACs are identified by federal and state agencies based on a review of available scientific evidence. In the state of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act. This two-step process of risk identification and risk management and reduction was designed to protect residents from the health effects of toxic substances in the air. In addition, the California Air Toxics "Hot Spots" Information and Assessment Act, Assembly Bill (AB) 2588, was enacted by the state legislature in 1987 to address public concern over the release of TACs into the atmosphere. The law requires facilities emitting toxic substances to provide local air pollution control districts with information that will allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hot spots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

  The federal TACs are air pollutants that may cause or contribute to an increase in mortality or serious illness, or which may pose a hazard to human health, although there are no ambient standards established for TACs. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer or other acute (short-term) or chronic (long-term) health problems. For TACs that are known or suspected carcinogens, the CARB has consistently found that there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risks they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health effects, a similar factor, called a Hazard Index, is used to evaluate risk. TACs are identified and their toxicity is studied by the California Office of Environmental Health Hazard Assessment (OEHHA).

  Examples of TAC sources include industrial processes, dry cleaners, gasoline stations, paint and solvent operations, and fossil fuel combustion sources. The TAC that is relevant to the implementation of the project include diesel particulate matter (diesel PM). Diesel PM was identified as a TAC by the CARB in August 1998.[27] Diesel PM is emitted from both mobile and stationary sources. In California, on-road diesel-fueled vehicles contribute approximately 40% of the statewide total, with an additional 57% attributed to other mobile sources such as construction and mining equipment, agricultural equipment, and transport refrigeration units. Stationary sources, contributing about 3% of emissions, include shipyards, warehouses, heavy-equipment repair yards, and oil and gas production operations. Emissions from these sources are from diesel-

[26] U.S. Environmental Protection Agency (EPA). 2024d. Particulate Matter Basics. Available at: https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm. Accessed July 2025.

[27] California Air Resources Board (CARB). 1998. *Report to the Air Resources Board on the Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant, Part A Exposure Assessment*. As approved by the Scientific Review Panel on April 22, 1998. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/dieseltac/part_a.pdf?_ga=2.170343008.1594849109.1690912838-1957288001.1685472643. Accessed August 4, 2025.

fueled internal combustion engines. Stationary sources that report diesel PM emissions also include heavy construction, manufacturers of asphalt paving materials and blocks, and diesel-fueled electrical generation facilities.

Exposure to diesel PM can have immediate health effects. Diesel PM can have a range of health effects including irritation of eyes, throat, and lungs, causing headaches, lightheadedness, and nausea. Exposure to diesel PM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. Children, the elderly, and people with emphysema, asthma, and chronic heart and lung disease are especially sensitive to fine-particle pollution. In California, diesel PM has been identified as a carcinogen.

Other pollutants that are regulated but not considered an issue in the project area are sulfur dioxide, vinyl chloride, sulfates, hydrogen sulfide, and lead; the proposed project would not emit substantial quantities of those pollutants, so they are not discussed further in this section.

Construction and operation of the proposed project would be subject to applicable Bay Area Air District (BAAD; formerly the Bay Area Air Quality Management District [BAAQMD]) rules and requirements. The BAAD CEQA thresholds and guidelines were developed to assist local jurisdictions and lead agencies in complying with the requirements of CEQA regarding potentially adverse impacts to air quality. The screening criteria established by the *Bay Area Air Quality Management District California Environmental Quality Act Air Quality Guidelines*, dated April 2022 (BAAQMD 2022 CEQA Guidelines),[28] have been relied upon to make the following significance determinations.

a) Would the project conflict with or obstruct implementation of the applicable air quality plan?

No Impact. The *2017 Clean Air Plan*[29] is the current applicable regional air quality plan for the San Francisco Bay Area Air Basin. The primary goals of the *2017 Clean Air Plan* are to protect public health and protect the climate, and the plan acknowledges that the BAAD's two stated goals of protection are closely related. As such, the *2017 Clean Air Plan* identifies a wide range of control measures intended to decrease both criteria pollutants and greenhouse gas (GHG) emissions. The development of the project would demolish and rebuild an existing community park and provide a new public space for residents of the neighborhood to gather, connect, and play. The proposed project does not involve substantial employment growth (none anticipated). Determining consistency with the *2017 Clean Air Plan* involves assessing whether applicable control measures contained in the *2017 Clean Air Plan* are implemented and whether implementation of the proposed project would disrupt or hinder implementation of air quality plan control measures. The control measures are organized into five categories: 1) stationary and area source control measures; 2) mobile source measures; 3) transportation control measures; 4) land use and local impact measures; and 5) energy and climate measures. The control measures are geared toward traditional land uses (e.g., residential, commercial, industrial uses) and buildings. All control measures contained in the *2017 Clean Air Plan* applicable to the project will be implemented. In addition, all projects within BAAD's jurisdiction are required to implement the BAAD standard control measures or BMPs during construction activities. As discussed, the proposed project would implement all BMPs for construction activities and would be consistent with the assumptions in the air quality plan. Furthermore, the proposed project would not include any special features that would disrupt or hinder implementation

[28] Bay Area Air Quality Management District (BAAQMD). 2022. *California Environmental Quality Act Air Quality Guidelines*. April. Available at: https://www.baaqmd.gov/?sc_itemid=CDA5FAE5-BBDC-4337-A10C-5648BCD2D71F. Accessed May 2025.

[29] Bay Area Air Quality Management District (BAAQMD). 2017. *2017 Clean Air Plan: Spare the Air, Cool the Climate*. Adopted April 19. Available at: https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en. Accessed May 2025.

of the air quality plan control measures. Therefore, the proposed project would not obstruct implementation of the *2017 Clean Air Plan*.

Furthermore, the thresholds of significance, adopted by the BAAD, determine compliance with the goals of attainment plans in the region. As such, emissions below the BAAD significance thresholds would not conflict with or obstruct implementation of the applicable air quality plan. Estimated construction and operation air emissions were calculated for the project using the current version of the California Emissions Estimator Model (CalEEMod).[30] As shown in Table 3-2, *Estimated Average Daily Construction Criteria Air Pollutant Emissions*, and Table 3-4, *Unmitigated Operational Emissions Summary*, in *Impact Discussion III(b)*, the estimated emissions from project construction and operation are below the thresholds of significance. The project does not conflict with implementation of the BAAD applicable air quality plan. Therefore, no impact would occur.

b) Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant. The BAAD's thresholds of significance represent the allowable emissions a project can generate without generating a cumulatively considerable contribution to regional air quality impacts. Therefore, a project that would not exceed the BAAD thresholds of significance on a project level also would not be considered to result in a cumulatively considerable contribution to these regional air quality impacts. The region is non-attainment for the federal and state ozone standards, state PM_{10} standards, and federal and state $PM_{2.5}$ standards. Impacts related to construction and operation of the proposed project are addressed separately below.

Construction

Implementation of the project would generate emissions of criteria air pollutants during construction. The estimated mitigated and unmitigated emissions from construction of the project are summarized in Table 3-2, *Estimated Average Daily Construction Criteria Air Pollutant Emissions*. The CalEEMod outputs, which include detailed model assumptions, are provided in Appendix C.

Table 3-2. Estimated Average Daily Construction Criteria Air Pollutant Emissions

	Pounds per Day (Average)					
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**
Construction Emissions (Unmitigated)	1.07	9.22	10.95	5.40	1.05	0.025
Construction Emissions (Mitigated)	1.07	9.22	10.95	2.14	0.61	0.025
Bay Area Air District Threshold	54	54	N/A	82	54	N/A
Threshold Exceeded?	*No*	*No*	*N/A*	*No*	*No*	*No*

Source: California Air Pollution Control Officers Association (CAPCOA) (2022) (see Appendix C); BAAQMD (2022).[31]

Emissions from construction-related activities are generally short term in duration but may still cause adverse air quality impacts. The proposed project would generate emissions from construction equipment

[30] California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod). Version 2022.1.1.29. Available at: https://www.caleemod.com/. Accessed June 2025.

[31] Bay Area Air Quality Management District (BAAQMD). 2022. *California Environmental Quality Act Air Quality Guidelines*. April. Available at: https://www.baaqmd.gov/?sc_itemid=CDA5FAE5-BBDC-4337-A10C-5648BCD2D71F. Accessed May 2025.

exhaust, worker travel, and fugitive dust. These construction emissions include criteria air pollutants and precursors from the operation of heavy construction equipment. As discussed below, the proposed project's construction emissions would not exceed any significance threshold adopted for this project. Therefore, the proposed project would have a less-than-significant contribution to cumulative impacts during construction.

For all proposed projects, the BAAD recommends the implementation of BMPs, whether or not construction-related emissions exceed applicable thresholds of significance. As such, to ensure construction emission impacts are less than significant, the proposed project would apply the following BAAD BMPs during construction activities at the proposed project site:

- Exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, unpaved access roads) shall be watered with non-potable water two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All roadways, driveways, and sidewalks shall be paved as soon as possible.
- Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure in 13 California Code of Regulations [CCR] 2485). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours of a complaint or issue notification. The BAAD's phone number shall also be visible to ensure compliance with applicable regulations.

Construction emissions associated with the proposed project, including emissions associated with the operation of off-road equipment, haul-truck trips, on-road worker vehicle trips, vehicle travel on paved and unpaved surfaces, and fugitive dust from material handling activities, were calculated using the current version of CalEEMod.[32] CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify potential criteria pollutant and GHG emissions associated with both construction and operation of a variety of land use projects. Emissions modeling included emissions generated during the following project phases: demolition (including demolition of the existing parking lot), site preparation (including grading, grubbing, and utility trenching), building construction (including the new Pine Avenue alignment, hardscape, utilities, sidewalks, and pathways), paving (including the new parking lot), and architecture coating. Based on applicant-provided information, it is expected that construction activities associated with the proposed project would last 10 months. Table 3-3, *Estimated Construction Schedule, Equipment and Vehicle Trips*, shows the construction schedule, off-road construction equipment, worker and vendor trips, and on-site haul truck trips used to estimate emissions. Table 3-3 shows estimated air pollutant emissions. The exhaust emissions generated by construction equipment are based on the hours of operation, horsepower, and load factors of the equipment for which CalEEMod defaults were utilized. The CalEEMod outputs are provided in Appendix C.

[32] California Air Pollution Control Officers Association (CAPCOA). 2025. California Emissions Estimator Model (CalEEMod). Version 2022.1.1.30. Available at: https://www.caleemod.com/. Accessed June 2025.

Table 3-3. Estimated Construction Schedule, Equipment and Vehicle Trips

Phase (Duration)	Equipment Used			Daily Vehicle Trips
	Type	Number	Hours/ Day	
1. Demolition 03/01/2026–04/01/2026 (23 working days)	Tractors/Loaders/Backhoes	3	8	80 one-way worker trips 4 one-way vendor trips 40 one-way haul truck trips 5 trucks driving 1 mile of on-site truck travel
	Rubber Tired Dozers	1	8	
	Concrete/Industrial Saws	1	8	
2. Site Preparation 03/30/2026–04/01/2026 (2 working days)	Graders	1	8	0 one-way worker trips 0 one-way vendor trips 0 one-way haul truck trips 0 trucks driving 1 mile of on-site truck travel
	Rubber Tired Dozers	1	7	
	Tractors/Loaders/Backhoes	1	8	
3. Grading 03/01/2026–04/01/2026 (23 working days)	Graders	1	8	0 one-way worker trips 0 one-way vendor trips 0 one-way haul truck trips 0 trucks driving 1 mile of on-site truck travel
	Tractors/Loaders/Backhoes	2	7	
	Rubber Tired Dozers	1	8	
	Off-Highway Trucks	1	5	
4. Building Construction 04/02/2026–12/31/2026 (196 working days)	Cranes	1	6	80 one-way worker trips 4 one-way vendor trips 20 one-way haul truck trips 5 trucks driving 1 mile of on-site truck travel
	Forklifts	1	6	
	Generator Sets	1	8	
	Tractors/Loaders/Backhoes	1	6	
	Welders	3	8	
	Off-Highway Trucks	1	5	
5. Paving 12/04/2026–12/17/2026 (10 working days)	Tractors/Loaders/Backhoes	1	8	0 one-way worker trips 0 one-way vendor trips 0 one-way haul truck trips 0 trucks driving 1 mile of on-site truck travel
	Pavers	1	6	
	Paving Equipment	1	8	
	Rollers	1	7	
	Cement and Mortar Mixers	1	6	
6. Architectural Coating 12/04/2026–12/17/2026 (10 working days)	Air Compressors	1	6	0 one-way worker trips 0 one-way vendor trips 0 one-way haul truck trips 0 trucks driving 1 mile of on-site truck travel

Source: California Air Pollution Control Officers Association (CAPCOA) (2022)[33] (see Appendix C**);** BAAQMD (2022).[34]

Operation

Project operations would generate VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ emissions from mobile sources, including vehicle trips; area sources, including the use of consumer products, architectural coatings for repainting, and landscape maintenance equipment; water; waste; and energy sources. The estimated emissions from operation of the project are summarized in Table 3-4, *Unmitigated Operational Emissions Summary*. Complete details of the emissions calculations are provided in Appendix C.

[33] California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod). Version 2022.1.1.29. Available at: https://www.caleemod.com/. Accessed June 2025.

[34] Bay Area Air Quality Management District (BAAQMD). 2022. *California Environmental Quality Act Air Quality Guidelines*. April. Available at: https://www.baaqmd.gov/?sc_itemid=CDA5FAE5-BBDC-4337-A10C-5648BCD2D71F. Accessed May 2025.

Table 3-4. Unmitigated Operational Emissions Summary

Operation Year 2027	Unmitigated Operational Emissions Summary					
	ROG	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**
Pollutant Emission (average pounds per day)						
Mobile	0.54	0.42	4.56	1.32	0.34	0.013
Area	0.01	0	0	0	0	0
Energy	0	0	0	0	0	0
Total	**0.55**	**0.42**	**4.56**	**1.32**	**0.34**	**0.013**
Bay Area Air District Threshold	54	54	N/A	82	54	N/A
Threshold Exceeded?	*No*	*No*	*N/A*	*No*	*No*	*N/A*
Pollutant Emission (tons per year)						
Mobile	0.10	0.08	0.83	0.24	0.06	0.002
Area	0.002	0	0	0	0	0
Energy	0	0	0	0	0	0
Total	**0.10**	**0.08**	**0.83**	**0.24**	**0.06**	**0.002**
Bay Area Air District Threshold	10	10	N/A	15	10	N/A
Threshold Exceeded?	*No*	*No*	*N/A*	*No*	*No*	*N/A*

Source: Emissions were quantified using CalEEMod (California Air Pollution Control Officers Association [CAPCOA] 2022).[35]

Notes: N/A = Not applicable, no threshold. ROG = reactive organic gases. Model results (summer, winter, and annual) and assumptions are provided in Appendix C. Totals do not always equal the sum of individual numbers because of rounding.

As Table 3-4 shows, estimated unmitigated operational emissions for all pollutants are below BAAD significance thresholds. Also, project operations would meet the BAAD CO hotspot analysis screening criteria regarding traffic volumes at any affected intersection. Therefore, the proposed project would not need a CO hotspot analysis. Although the project would create visitors with the new city park, there will also be the removal of approximately 10 cubic yards of lead-contaminated soil, landscaping would include drought tolerant and native species with new efficient drip irrigation that meets state WELO requirements[36] and updated energy-efficient bulbs in light fixtures. Although the proposed project would result in a net increase in the number of vehicle trips due to City park events, it aligns with Goal 2 of the Parks and Recreation Master Plan, including that "every South San Francisco resident should be within a 5-minute walk of a park, trail or open space" and nearby residents would not have to travel to facilities in other cities. The project would comply with local requirements for waste management (e.g., recycling and composting services). Therefore, the project would be consistent with the Waste Management Control Measures of the *2017 Clean Air Plan*. The combined construction emissions and combined operational emissions from all components of the proposed project are below the recommended BAAD thresholds of significance and the project would not be anticipated to exceed any significance threshold. Therefore, the project have a less-than-significant contribution to cumulative impacts, and mitigation is not required.

[35] California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod). Version 2022.1.1.29. Available at: https://www.caleemod.com/. Accessed June 2025.

[36] County of San Mateo. 2025. Water Efficient Landscape Ordinance (WELO). County of San Mateo Planning and Building. Available at: https://www.smcgov.org/planning/water-efficient-landscape-ordinance-welo. Accessed April 10, 2025.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant. While criteria pollutants (such as particulate matter [PM_{10} and $PM_{2.5}$]) are a concern at the regional level, community risk impacts from TACs and annual $PM_{2.5}$ exposure to nearby sensitive receptors are also a localized concern. While *Impact Discussion III(b)* addressed particulate matter at the regional level, this impact addresses particulate matter at the localized level. Impacts related to increased community risk can occur either by introducing new sensitive receptors, such as residences, in proximity to existing sources of TACs or by introducing a new source of TACs with the potential to adversely affect existing sensitive receptors in the project vicinity.

The BAAD considers a sensitive receptor to be any facility or land use that includes members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. The sensitive receptors within 1,000 feet of the project include residences, Martin Elementary School (456 feet), and Spruce Elementary School (580 feet). However, implementation of the proposed project would not result in the long-term operation of any emission sources that would adversely affect nearby sensitive receptors. Use of park facilities—play and fitness equipment, picnic areas, and event spaces—would not produce air emissions. Short-term (10 months) construction activities could result in temporary increases in pollutant concentrations. The construction-related emissions would be short term and at different locations within the project site. The limited duration and limited quantities of construction emissions ensure that no individual receptor would be exposed to substantial pollutant concentrations. During construction, the BAAD BMPs would minimize construction impacts by reducing dust and exhaust emissions. The project would not affect operations of the adjacent residential units . Construction and operation of the project would not expose sensitive receptors to substantial pollutant concentrations. Therefore, this impact would be less than significant, and mitigation is not 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. The project would not be a source of any odors during operations. During construction, a limited number of diesel engines would be operated on the project site for limited durations. Diesel exhaust and VOCs from these diesel engines would be emitted during construction of the proposed project, which are objectionable to some; however, the duration of construction activities is expected to last approximately 10 months, emissions would disperse rapidly from the project site, and diesel exhaust odors would be consistent with existing vehicle odors in the area. Considering this information, construction and operation of the proposed project would not create other emissions or odors adversely affecting a substantial number of people. Therefore, this impact would be less than significant, and mitigation is not required.

IV. Biological Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
(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 Wildlife or US 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?	☐	☐	☐	☒

Environmental Evaluation

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 includes an active parking lot, a grassy field with a footpath, and nine trees (see Figure 2-1, *Project Site Plan*). Located in an urbanized area, the project site is surrounded by residential and commercial areas. The project topography is primarily level, with elevations from 24 to 29 feet above mean sea level.

The project does not include habitat for a candidate, sensitive, or special-status species in local or regional plans or regulations or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS). The project would not have a substantial effect on sensitive species either directly through habitat modification. Therefore, no impact would occur.

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, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

No Impact. The project is located on two empty lots in an urban area. There is no riparian or other sensitive habitat identified on or in the vicinity of the project site. The nearest waterbody is Colma Creek, approximately 0.6 mile south. The project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the CDFW or USFWS. Therefore, no impact would occur.

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?

Less than Significant. The project is located on two empty lots in an urban area. There are no wetlands identified on or in the vicinity of the project site. The nearest waterbody is Colma Creek, approximately 0.6 mile south. Therefore, the project would not have a substantial adverse effect on any wetland habitat identified in local or regional plans, policies, or regulations or by the CDFW or USFWS. Therefore, no impact would occur.

The project would disturb less than 1 acre (approximately 0.80 acre) of land; therefore, the City would not be required to implement a Stormwater Pollution Prevention Plan (SWPPP) for the project. Excavation and grading for the project would occur throughout the project site. Stormwater runoff from excavation and construction activities could impact water quality in the stormwater system if it were allowed to discharge from the project site. Standard conditions of approval for all construction projects in the city include all stormwater quality BMPs required by the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP) (see Section X, *Hydrology and Water Quality*). All construction activities would be required to implement BMPs to comply with the SMCWPPP, which would prevent sediment-laden runoff and/or pollutants from entering the stormwater system. Implementation of BMPs required by the SMCWPPP would prevent contaminated stormwater runoff from discharging into the stormwater system. Therefore, impacts to federally or state-protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.), through direct removal, filling, hydrological interruption, or other means, would be less than significant, and mitigation is not 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 with Mitigation Incorporated. Due to the fragmentation, development, and high level of disturbance and human activity in the project area, the project is not anticipated to adversely affect a wildlife movement corridor. The existing grassy field and parking lot with street trees is unlikely to provide migration habitat for wildlife. The surrounding area includes urban development and would not include any wildlife corridors. Therefore, the project is not expected to interfere substantially with the movement of any native resident or migratory wildlife. As a result, there would be no impacts to migration and wildlife corridors.

The project site may contain suitable nesting and foraging habitat for avian species protected under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3511 and 3513. Trees and shrubs on the project site may provide nesting habitat for migratory birds, but are unlikely to provide

habitat for raptors due to the size of the vegetation and high public use rates of the existing field and parking lot.

Implementation of the project has the potential to impact potential eggs or young of avian species covered under the MBTA and California Fish and Game Code. Potential nesting sites for migratory birds could be removed through removal of nine trees on the project site; however, trees in residential neighborhoods could provide similar suitable nesting and foraging habitat and would remain undisturbed by project construction. If work occurs during bird nesting season, implementation of Mitigation Measure BIO-1, which requires nesting bird surveys and construction modifications if active nests are identified, would ensure that potentially significant impacts to nesting birds would be less than significant.

Mitigation Measure BIO-1: The following measures shall be implemented to minimize impacts to nesting birds, as required by the Migratory Bird Treaty Act:

a. If project activities, including, but not limited to, tree removal or pruning, grubbing, and grading, are conducted during nesting bird season (February 15–September 15), the City of South San Francisco or its contractor shall conduct preconstruction nest surveys in and near the project site (within 500 feet for large raptors and 300 feet for all other birds) by a qualified biologist within 7 days of the start of construction. If nesting birds are identified during the preconstruction survey, then the City of South San Francisco shall modify the project as necessary (i.e., a no-work exclusion buffer of appropriate size [which, if implemented, shall be determined by a qualified project biologist] shall be erected around active nests) and/or delay the project as necessary to avoid impacts to the identified nests, eggs, and/or young. Disturbing active nests must be avoided until young birds have fledged.

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. The 2040 General Plan Environmental and Cultural Stewardship Element[37] includes policies to protect existing trees, expand the tree canopy cover, and enforce the Tree Preservation Ordinance.[38] Under the City's Tree Preservation Ordinance, protected trees may not be removed or pruned back by more than one-third without a permit. Protected trees include the following:

- Any tree of the following species with a circumference of 75 inches or more when measured 54 inches above natural grade:
    - Blue gum (*Eucalyptus globulus*)
    - Black acacia (*Acacia melanoxylon*)
    - Myoporum (*Myoporum laetum*)
    - Sweetgum (*Liquidambar styraciflua*)
    - Glossy privet (*Ligustrum lucidum*)
    - Lombardy poplar (*Populus nigra*)

[37] City of South San Francisco. 2022b. *City of South San Francisco 2040 General Plan: Environmental and Cultural Stewardship Element.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/environmental-cultural-stewardship/. Accessed May 2025.

[38] City of South San Francisco. 2023. *South San Francisco Code of Ordinances, Chapter 13.30. Tree Preservation.* Available at: https://ecode360.com/43447113. Accessed May 25, 2025.

- Any heritage tree of the following species with a circumference of 30 inches or more when measured at 54 inches above natural grade:
    - California bay (*Umbellaria californica*)
    - Oak (*Quercus* spp.)
    - Cedar (*Cedrus* spp.)
    - California buckeye (*Aesculus californica*)
    - Catalina ironwood (*Lyonothamnus floribundus* var. *asplenifolius*)
    - Strawberry tree (*Arbutus* spp.)
    - Mayten (*Maytenus boaria*)
    - Little Gem dwarf southern magnolia (*Magnolia grandiflora* 'Little Gem')
- Any tree other than the species listed above with a circumference of 48 inches or more when measured 54 inches above natural grade
- A tree or stand of trees so designated based upon findings that it is unique and of importance to the public due to its unusual appearance, location, or historical significance
- A stand of trees whereby each tree is dependent upon the others for survival.

The project would include the removal of nine existing trees, including seven red maples (*Acer rubrum*), three coast live oaks (*Quercus agrifolia*), and one crimson bottlebrush (*Callistemon citrinus*), none of which meet the requirements for heritage trees. Further, the project would plant up to 30 to 35 new trees to expand the City's tree canopy cover in compliance with the 2040 General Plan Environmental and Cultural Stewardship Element. New trees would include drought-tolerant and native species. Since the project would not remove any heritage trees and would replace the tree canopy by planting approximately 30 to 35 trees of varying species, no impacts to heritage trees would occur.

Policy CP-7.2 in the 2040 General Plan Climate Protection Element[39] prioritizes expansion of the canopy cover to increase environmental benefits, including sequestering carbon dioxide, mitigating the urban heat island, improving air quality, providing traffic calming, and reducing energy use. The project would include the removal of nine trees and the planting of approximately 30 to 35 new trees. Therefore, although existing trees would be removed, over time, the lost canopy cover would be replaced as the new trees mature. The project would include the replacement of removed trees and the project would not conflict with any local policies or ordinances protecting biological resources, such as general plan policies, tree preservation policy or ordinance. Therefore, the impact would be less than significant, and mitigation is not 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. There are no Habitat Conservation Plans or Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plan, that apply to the project. Therefore, no impact would occur.

[39] City of South San Francisco. 2022c. *City of South San Francisco 2040 General Plan: Climate Protection Element.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/climate-protection/. Accessed May 2025.

V. Cultural Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☐	☒
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
(c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Environmental Evaluation

The analysis is based on a cultural resources investigation and technical report[40] prepared by SWCA Environmental Consultants (SWCA) archaeologists that meet the Secretary of the Interior's Professional Qualification Standards. The cultural resources inventory included a California Historical Resources Inventory System (CHRIS) Northwest Information Center (NWIC) records search, a Sacred Lands File (SLF) search through the Native American Heritage Commission (NAHC) database, a review of historic aerials and relevant literature, and an intensive pedestrian survey for archaeological and historical resources.

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

No Impact. The investigation for the Cultural Resources Technical Memorandum did not identify any previously recorded historical resources on the project site. A review of historic maps and aerial photographs indicated that the project area has been the subject of intense development since the early nineteenth century. A review of soils data indicates the project area lies in an area of Urban land that includes a complex assortment of artificial cutting and filling. Historical topographic maps indicate the project area was located along the 60-foot elevation contour, but elevations currently range between about 55 and 48 feet above mean sea level, suggesting that roughly 5 to 12 feet of material may have been cut and removed from the former land surface. No cultural or historical resources were observed during an intensive survey of the project area conducted by an SWCA archaeologist in April 2025. Therefore, the project would have no impact on cultural or historical resources.

b) Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Less than Significant with Mitigation Incorporated. No archaeological resources, artifacts, or features were observed within the project area during the intensive survey. The disturbed nature of 616 Linden Avenue and the section of Pine Avenue, as well as the grading, remediation, and various periods of development, suggest that the overall archaeological sensitivity for this portion of the project area is low.

[40] SWCA Environmental Consultants (SWCA). *Cultural Resources Inventory Report for the South San Francisco Linden/Pine Avenues Park Project, South San Francisco, San Mateo County, California*. Prepared for City of South San Francisco. SWCA Environmental Consultants, Half Moon Bay, California. August.

However, prior testing for petroleum hydrocarbons and lead at 616 Linden Avenue revealed the presence of a buried concrete structure on the southern edge of the parcel, which was interpreted as a basement-level room of the former residence, and which may have served as a utility, furnace, or storage space. The City has indicated that while soil remediation will occur within the concrete structure, the structure will be left in place and not demolished or removed.

The grassy field at 700 Linden Avenue retains a higher level of sensitivity because it does not appear to have been impacted by development or grading activities. It is possible that unknown archaeological resources are extant within the project area, and these resources have the potential to be impacted during the construction of the project, particularly during ground-disturbing activities. However, any project impacts to unknown archaeological resources can be mitigated to a less-than-significant level with implementation of Mitigation Measures CUL-1, CUL-2, and CUL-3.

Mitigation Measure CUL-1: The following measure shall be implemented prior to construction to provide methods and protocols for archaeological monitoring:

a. Prior to the start of construction, a qualified archaeologist should prepare a brief Archaeological Monitoring Plan targeted at identifying any potential remaining subsurface. This report should include, at a minimum, a project description, regulatory context, monitoring areas, frequency of monitoring, procedures to follow if cultural resources are encountered when an archaeologist is on-site and when an archaeologist is not on-site, and procedures for reducing monitoring level of effort, if warranted.

Mitigation Measure CUL-2: The following measures shall be implemented in the event that unanticipated cultural resources are exposed during project construction:

a. In the event that unanticipated cultural resources are exposed during disturbance activities, the City of South San Francisco or its contractor shall stop work within 15 meters (50 feet) of the find and an archaeologist that meets the Secretary of the Interior's qualifications must be notified immediately. Work may not resume until a qualified archaeologist can evaluate the significance of the find. Disturbance activities may continue in other areas. If the discovery proves significant, additional work such as archaeological testing, data recovery, or consultation with stakeholdersas determined by the qualified archaeologist may be warranted.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant with Mitigation Incorporated. There are no known cemeteries or burial sites in the project area. There is a low potential to encounter intact buried human remains within the project area. It is possible that unanticipated human remains are extant within the project area, which have the potential to be impacted during the construction of the project, particularly during ground-disturbing activities. However, any project impacts to unknown human remains can be mitigated to a less-than-significant level by following the discovery of human remains procedures noted below in Mitigation Measure CUL-3.

Mitigation Measure CUL-3: The following measures shall be implemented in the event that human remains are exposed during project construction:

a. If human remains are encountered, the City of South San Francisco or its contractor shall follow the procedures outlined by the Native American Heritage Commission (NAHC), in accordance with California Health and Safety Code Section 7050.5 and Public Resources Code Section 5097.98, and an archaeologist that meets the Secretary of the Interior's qualifications must be notified immediately. If the archaeologist determines that a discovery includes human remains:

   1. All ground-disturbing work within the immediate vicinity (25 feet) of the find would halt.
   2. The archaeologist would contact the County of San Mateo (County) Coroner:

      County of San Mateo Coroner
      50 Tower Road
      San Mateo, California 94402
      Phone: (650) 312-5562
      Web: https://www.smcgov.org/coroner
   3. The County Coroner would also notify the NAHC:

      Native American Heritage Commission
      915 Capitol Mall, Room 364
      Sacramento, California 95814
      Phone: (916) 373-3710
      Email: nahc@nahc.ca.gov

      The County Coroner would have 2 working days to examine the remains after being notified in accordance with California Health and Safety Code Section 7050.5. If the County Coroner determines that the remains are Native American and are not subject to the County Coroner's authority, the County Coroner has 24 hours to notify the NAHC of the discovery.
   4. The NAHC would immediately designate and notify the Native American Most Likely Descendant (MLD), who will have 48 hours after being granted access to the location of the remains to inspect them and provide recommendations for the treatment of them.

VI. Energy

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) Result in a 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?	☐	☐	☒	☐

Environmental Evaluation

a) Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less than Significant. The City adopted the *City of South San Francisco Climate Action Plan* (CAP) in 2022.[41] The CAP identifies strategies and actions to reduce GHG emissions and achieve carbon neutrality by 2045. Through the CAP, the City implements GHG reduction measures at both City-owned facilities and at private developments, including, but not limited to, energy-efficient new construction, all-electric building design for new developments, installation of solar facilities at City buildings, implementation of landscape water requirements, use of high-efficiency water fixtures, expansion of the tree canopy, implementation of a Travel Demand Management (TDM) program, and installation of electric vehicle (EV) charging stations at City facilities.

The proposed project would involve the construction of a new park, including a plaza with a performance venue, play areas, lawns, and various landscaping and hardscape. During construction, energy consumption would be associated with primarily diesel and gasoline fuel consumption for the operation of construction equipment and for worker vehicle and haul trips. During operations, energy consumption would be limited to outdoor exterior and landscape lighting and landscape irrigation. No natural gas is planned for consumption. The consumption of energy resources during construction would be temporary and the installation of a new and energy-efficient lighting would meet City requirements for energy efficiency. Therefore, implementation of the project would not result in potentially short- or long-term significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. While construction activities would involve diesel and gasoline fuel use for equipment and haul and commuter trips, overall consumption would be minimal and temporary, lasting approximately 8 to 10 months. Therefore, this impact would be less than significant, and mitigation is not required.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Less than Significant. The proposed park is considered a new development. The City's CAP has goals for new development that include providing on-site solar and batteries when feasible; constructing all-electric buildings; exceeding mandatory energy efficiency requirements by 20% or more; providing EV

[41] City of South San Francisco. 2022d. *City of South San Francisco Climate Action Plan.* Adopted October 12. Available at: https://shapessf.com/wp-content/uploads/2022/03/SSFCAP_PublicDraft2022_02_Small.pdf. Accessed May 2, 2025.

charging stations at municipal facilities; enhancing bicycle, transit, and pedestrian connectivity; implementing mandatory organics and food waste diversion; using water-efficient landscaping and high-efficiency water fixtures; expanding tree canopy cover; requiring all new municipal buildings and facilities to meet minimum Leadership in Energy and Environmental Design (LEED) silver standards; and requiring municipal projects to achieve 75% waste diversion from landfill.

The proposed project is consistent with the City's CAP. The new restroom facility would meet or exceed energy efficiency requirements and would be all-electric. The project does not include an EV charging station but does include new bicycle racks, water-efficient landscaping, and high-efficiency water fixtures. Proposed building materials and mechanical equipment would include energy-efficient glazing, insulation, and energy-efficient models. At least 75% of asphalt or concrete removed during construction would be recycled. The project would also be consistent with all state plans for energy efficiency, including the *Scoping Plan for Achieving Carbon Neutrality* (2022 Scoping Plan Update),[42] State of California Energy Plan, California Renewables Portfolio Standard Program, Clean Energy and Pollution Reduction Act of 2015, State Alternative Fuels Plan, and California Green Building Standards Code (CALGreen; 24 CCR Part 11), the first-in-the-nation mandatory green building standards code. For these reasons, the project would not conflict with a state or local plan for renewable energy or energy efficiency. Therefore, this impact would be less than significant, and mitigation is not required.

VII. Geology and Soils

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☒	☐	☐

[42] California Air Resources Board (CARB). 2022. 2022 Scoping Plan Documents. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed June 2025.

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☒	☐	☐

Environmental Evaluation

a) Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

The analysis in this section is based on the geotechnical evaluation prepared for the project, which includes seismic hazards (liquefaction, lateral spreading, subsidence), compressible soils, expansive soils, and corrosive soils (Appendix D).[43]

a-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.

Less than Significant. The project site is located approximately 3 miles northeast of the San Andreas Fault Zone and is not located in a designated Alquist-Priolo Earthquake Fault Zone.[44] Therefore, while the project site is in a known seismic area and would likely be subject to earthquakes, the likelihood of surface faulting or ground rupture is considered low, and it would not be likely to be subject to surface rupture from a known earthquake fault. Therefore, potential impacts related to surface rupture from earthquake activity are less than significant, and mitigation is not required.

a-ii) Strong seismic ground shaking?

Less than Significant. The project site is located approximately 3 miles northeast of the San Andreas Fault Zone, 11 miles northeast of the Seal Cove Fault-San Gregorio Fault Zone, and 15 miles southwest of the Hayward Fault Zone, in one of the most seismically active regions in the state. The San Andreas Fault has produced earthquakes of an estimated magnitude between 7.7 and 8.3 in 1906 and 6.9 in

[43] Ninyo & Moore. 2023. *Geotechnical Evaluation, Linden Avenue Park, 616 Linden Avenue and 270 Pine Avenue, South San Francisco*. July.

[44] California Geological Survey. 2025. Earthquake Zones of Required Investigation. California Department of Conservation California Geological Survey. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/. Accessed March 6, 2025.

1989.[45,46] The 1908 quake produced shaking on the Modified Mercalli Intensity Scale of between VII and IX, which was strong enough to cause significant damage to structures around the peninsula.[47]

The design and construction of the project is required to comply with the building codes related to seismic risk such as the 2022 California Building Code (CBC) and the South San Francisco Municipal Code, which incorporates the International Building Code. The City would be required to submit a soils report in order to obtain a building permit from the City Economic and Community Development Department, Building Division, which would ensure that project plans and specifications comply with the CBC and local amendments to the code, where applicable.[48] Among many seismic requirements, the CBC requires foundations and structures to be designed and constructed to withstand the ground motions (i.e., peak ground accelerations [g]) that have a 10% chance of being exceeded in 50 years (equivalent to a 1/475 annual chance of being exceeded). Therefore, compliance with CBC requirements would result in a less-than-significant impact due to strong seismic ground shaking, and mitigation is not required.

a-iii) Seismic-related ground failure, including liquefaction?

Less than Significant with Mitigation Incorporated. The geotechnical evaluation analyzed the potential for liquefaction from a magnitude 7.81 earthquake producing a peak ground acceleration (PGA) of 0.99 gravity (g). Peak ground acceleration is a measure of how hard the ground shakes at a given point. A PGA of 0.99g is correlated to an intensity of IX on the Modified Mercalli Scale, which would produce violent perceived ground shaking and heavy damage to man-made structures. The project site is not in a liquefaction hazard zone identified by the State Geologist.[49]

The geotechnical evaluation included four borings 15 feet deep and did not encounter groundwater but assumed that groundwater may rise to a higher level due to seasonal precipitation. Soils identified in the borings were primarily moist, firm to very stiff lean clay and medium dense to dense, silty and clayey sand. Soils prone to liquefaction are generally loose sandy soils.

The project site is not located within a liquefaction-susceptible zone. Based on the results of the geotechnical evaluation, the project would have the potential for ground shaking; however, it would be unlikely to experience liquefaction-induced ground settlement and sand-boil-induced ground subsidence. However, because of the potential level of ground shaking, impacts related to ground failure would be potentially significant. Engineering recommendations include a review of plans and specifications by a geotechnical consultant and soil monitoring by a geotechnical engineer. Evaluations performed by the geotechnical consultant during grading and excavation may result in new recommendations than those provided in the geotechnical evaluation if different soil conditions are discovered, and proposed Mitigation Measure GEO-1 would minimize risks to life and property from seismic-related hazards. Therefore, this impact would be less than significant with mitigation incorporated.

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[45] U.S. Geological Survey (USGS). 2025. Earthquake Hazards Program: The Great San Francisco Earthquake. Available at: https://earthquake.usgs.gov/earthquakes/events/1906calif/18april/. Accessed June 2, 2025.

[46] U.S. Geological Survey (USGS). 2019. Earthquake Hazards Program: M6.9 October 17, 1989 Loma Prieta Earthquake. October 8. Available at: https://www.usgs.gov/programs/earthquake-hazards/science/m69-october-17-1989-loma-prieta-earthquake. Accessed June 2, 2025.

[47] USGS, 2025.

[48] City of South San Francisco. 2025b. Plan Submittal and Permit Requirements. City of South San Francisco Building Division. Available at: https://www.ssf.net/Departments/Economic-and-Community-Development/Divisions/Building-Division/Plan-Submittal-Permit-Requirements. Accessed June 2, 2025.

[49] California Geological Survey. 2025. Earthquake Zones of Required Investigation. California Department of Conservation California Geological Survey. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/. Accessed March 6, 2025.

Implementation of Mitigation Measure GEO-1, in addition to the requirements of the geotechnical evaluation, would reduce impacts related to liquefaction to less than significant.

Mitigation Measure GEO-1: All earthwork and construction activities shall be monitored by a licensed engineer or professional geologist. The purpose of the monitoring is to assess soil conditions and confirm the appropriate engineered support systems are incorporated into the project design and installed correctly.

a-iv) Landslides?

No Impact. The project site is relatively flat, with elevations varying from 46 to 54 feet above mean sea level. The project site is not located in an identified landslide hazard zone, and the project would not result in impacts related to landslide hazard. Therefore, no impact would occur.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant. A significant impact would occur if a project would expose large areas to the erosional effects of wind and water for a protracted period of time, resulting in substantial erosion and/or the loss of topsoil. The project site is underlain by alluvium consisting of very stiff clay, sandy clay, and medium dense to dense silty and clayey sand; much of it is paved over. The project site has a low-to-moderate erosion risk. Since the majority of the project work area is previously disturbed and essentially flat, clearing, excavation, and grading activities at the project site are unlikely to result in significant short-term erosion impacts. In addition, project construction would comply with the SMCWPPP, which would include BMPs to prevent stormwater erosion from leaving the project site. The project would also comply with the BAAD fugitive dust requirements, which would prevent dust from wind erosion from leaving the project site.

Excavation would be required for utilities, foundations, and the parking areas. The project would remove 10 cubic yards of lead contaminated soil, which would be replaced with clean soil, and would require an additional total of approximately 1,200 cubic yards of cut and 450 cubic yards of fill with 750 cubic yards of soil exported from the project site. A maximum of approximately 600 cubic yards of debris from demolition of the existing hardscape would be hauled off-site for disposal.

As required by the San Francisco RWQCB and the SMCWPPP, the project would implement BMPs to reduce erosion during construction. Since the total area of disturbance is less than 1 acre (approximately 0.80 acre), the City would not be required to implement a SWPPP for the project. However, the City would be required to comply with the SMCWPPP. The project would include BMPs to control erosion and sedimentation impacts and stabilize disturbed bare earth areas. Any bare earth areas would be reseeded prior to the end of construction. Section X, *Hydrology and Water Quality*, provides additional information about the SMCWPPP and RWQCB BMPs for stormwater management.

Implementation of the project would reduce the amount of impervious surface by approximately 2,750 square feet, from 19,150 to approximately 16,200 square feet. This would decrease the stormwater runoff volume and rate over existing conditions. As discussed in *Impact Discussion X(a)*, since the project replaces more than 5,000 square feet of impervious area, it is a C.3 regulated project and includes LID stormwater measures that meet City requirements to contain and treat stormwater flow. Stormwater from the project site would flow overland to two treatment and containment areas on the project site. Overflow would discharge to a storm drain on Linden Avenue and enter the City's stormwater collection system. Stormwater runoff would be directed into new vegetated bioretention planters and/or underground Silva Cells, which would provide biotreatment of stormwater before it enters the storm drain; this biotreatment would meet the requirements of the C.3 program. All disturbed areas would be reseeded and/or

landscaped prior to the end of construction. The new drainage and treatment system would be adequate to handle the volume of stormwater from approximately 0.37 acre of impervious surface area. Therefore, impacts resulting from water-related erosion would be less than significant, and mitigation is not 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 with Mitigation Incorporated. The project site is not located in an area subject to liquefaction or landslide.[50] As discussed above, the City has completed a geotechnical evaluation and would be required to submit a soils report that complies with the CBC. As stated above, 2022 CBC and standard geotechnical engineering practice requires identification of seismic design parameters to inform all earthwork requirements, foundation designs, and concrete/building material specifications. Design and construction of the project in accordance with the CBC and the recommendations in the geotechnical evaluation, along with implementation of Mitigation Measure GEO-1, would be sufficient to ensure public exposure to risks related to seismic-induced ground failure would remain minimal. Therefore, this impact would be less than significant with mitigation incorporated.

d) Would the project 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?

Less than Significant. The geotechnical evaluation determined that the expansion index of the soils on the project site had low expansion potential. There are no substantial direct or indirect risks to life or property as the expansion index of the soils on the project site had low expansion potential. The risk related to expansive soils is relatively low. Therefore, this impact would be less than significant, and mitigation is not required.

e) Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The project would not include septic systems or alternative wastewater disposal systems. Therefore, no impact would occur.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant with Mitigation Incorporated. While the majority of the project site has been previously disturbed as a street and parking lot, ground disturbance and excavation to approximately 5 feet below ground surface within the project area would occur during construction. Excavation could potentially uncover unique paleontological resources or geologic features. Based on the results of borings in other parts of the city, the likelihood of encountering unique paleontological resources or geologic features is low; however, the potential for uncovering such resources during excavation remains. Mitigation Measure CUL-1, CUL-2, and CUL-3 requires that if historic or cultural resources are encountered during site grading or excavation activities, all work shall be halted within 100 feet of the discovery area and the contractor shall notify the City. The implementation of this mitigation measure

[50] California Geological Survey. 2025. Earthquake Zones of Required Investigation. California Department of Conservation California Geological Survey. Available at: https://maps.conservation.ca.gov/cgs/informationwarehouse/eqzapp/. Accessed June 2, 2025.

also applies to paleontological resources and geologic features, thereby minimizing potential impacts to such resources. Therefore, impacts to unique paleontological resources or unique geologic features would be less than significant with mitigation incorporated.

VIII. Greenhouse Gas Emissions

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☒	☐

Environmental Evaluation

State CEQA Guidelines Section 15064.4 recommends that lead agencies quantify GHG emissions for projects and consider several other factors that may be used in the determination of significance of project-related GHG emissions, including the extent to which the project may increase or reduce GHG emissions, whether the project exceeds an applicable significant threshold, and the extent to which the project complies with the regulations or requirements adopted to implement a reduction or mitigation of GHG.

State CEQA Guidelines Section 15064.4 does not establish a threshold of significance. Lead agencies have the discretion to establish significance thresholds for their respective jurisdictions, and in establishing those thresholds, a lead agency may appropriately look at thresholds developed by other public agencies, or suggested by other experts, such as the California Air Pollution Control Officers Association (CAPCOA), as long as any threshold chosen is supported by substantial evidence (see State CEQA Guidelines Section 15064.7(c)). The State CEQA Guidelines also clarify that the events of GHG emissions are cumulative and should be analyzed in the context of CEQA's requirements for cumulative impact analysis (see Section 15130(f)). It is noted that the State CEQA Guidelines were amended in response to Senate Bill (SB) 97, in particular, to specify that compliance with the GHG emissions reduction plan renders a cumulative impact less than significant.

Per State CEQA Guidelines Section 15064(h)(3), a project's incremental contribution to a cumulative impact is not necessarily 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. To qualify, such plans or programs must be specified in law or adopted by the public agency with jurisdiction over the affected resources through a public review process to implement, interpret, or make specific the law enforced or administered by the public agency. Examples of such programs include "water quality control plan, air quality attainment or maintenance plan, integrated waste management plan, habitat conservation plan, natural community conservation plans [and] plans or regulations for the reduction of greenhouse gas emissions" (Section 15064(h)(3)). Put another way, State CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of less than significant for GHG emissions if a project complies with adopted programs, plans, policies, and/or other regulatory strategies to reduce GHG emissions.

Although GHG emissions can be quantified, the CARB, BAAD, and City have not adopted quantitative project-level significance thresholds for GHG emissions that would be applicable to the project. Per State CEQA Guidelines Section 15064.4(b), "in determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions." When determining the significance of GHG impacts, lead agencies should consider the project's impact as compared to the existing environmental setting, whether the project exceeds a threshold of significance, and compliance with relevant GHG-related plans (see, for example, Section 15064.4(b)). Regarding the latter criterion, lead agencies should consider "the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, for example, Section 15183.5(b)). Per State CEQA Guidelines Section 15064.4(b)(3), such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of GHG emissions.

For the project, no quantitative threshold has been adopted to evaluate significance for GHG emissions to address the State's more recent GHG-reduction target of achieving carbon neutrality by 2045, per Executive Order B-55-18 (2018). To achieve carbon neutrality by 2045, it is recommended that future development include measures to support building decarbonization, including the replacement of natural gas service with other alternatives, such as use of electrically-powered equipment.[51,52] Based on recent GHG threshold updates and supportive documentation prepared by the BAAD, it is recommended that future development prohibit the installation of natural gas infrastructure/use of natural-gas fired appliances, to the maximum extent possible, and incorporate electric-vehicle charging stations beyond what is required by current building standards in order to contribute its "fair share" of what would be required for the State to achieve its carbon neutrality goal.[53] As a result, project-generated GHG emissions would also be considered to have a potentially significant impact if the project would not prohibit the installation of natural gas-fired appliances/equipment, to the maximum extent possible, or encourage the installation of EV charging stations beyond what is required by current building standards. As an additional significance criterion, consistency with the applicable plans and policies to reduce GHG emissions, including the emissions reduction policies, strategies, and measures discussed within CARB's 2022 Scoping Plan Update,[54] was additionally evaluated.

GHGs—including carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O)—trap heat in the atmosphere and occur both naturally and from human activities such as fossil fuel combustion. Carbon is the most abundant GHG. Other GHGs are less abundant but have higher global warming potential than CO_2. Thus, emissions of other GHGs are frequently expressed in the equivalent mass of CO_2, denoted as carbon dioxide equivalent (CO_2e). While GHGs are not considered toxic or hazardous at typical ambient concentrations, they are subject to reporting and permitting thresholds under applicable federal regulations. There are currently no national ambient air quality standards (NAAQS) or specific ambient air quality standards for GHGs under the Clean Air Act.

[51] California Air Resources Board (CARB). 2022. 2022 Scoping Plan Documents. Available at: https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents. Accessed July 2025.

[52] California Energy Commission (CEC). 2021. California Building Decarbonization Assessment. Available at: https://www.energy.ca.gov/publications/2021/california-building-decarbonization-assessment. Accessed July 2025.

[53] Bay Area Air Quality Management District (BAAQMD). 2022. *California Environmental Quality Act Air Quality Guidelines*. April. Available at: https://www.baaqmd.gov/?sc_itemid=CDA5FAE5-BBDC-4337-A10C-5648BCD2D71F. Accessed May 2025.

[54] CARB, 2022.

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant. The proposed project is in the San Francisco Bay Area Air Basin, which is regulated by the BAAD. Projects generate GHG emissions during construction and operation (e.g., mobile emissions, emissions from generation of electricity for operations), and projects must be consistent with a local GHG reduction strategy that meets the criteria under State CEQA Guidelines Section 15183.5(b). On April 20, 2022, the BAAD adopted changes to its thresholds for evaluating the significance of climate impacts from land use projects and plans under CEQA. In place of numerical thresholds, the focus will be on the design of a project as well as building operations and transportation. At a minimum, building projects cannot include natural gas appliances or natural gas plumbing and cannot result in any wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under CEQA Section 21100(b)(3) and State CEQA Guidelines Section 15126.2(b). The project will not utilize natural gas or result in any wasteful, inefficient, or unnecessary energy usage.

The project operations must also achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the current version of CARB's 2022 Scoping Plan Update or meet a locally adopted VMT target. The project would place a neighborhood park within walking distance in this densely populated part of the city, decreasing the need for residents to drive to a park. Therefore, the project would not significantly increase parking in the neighborhood, as many park visitors will be within walking distance, and the project would be likely to decrease VMT. The project will be consistent with local GHG reduction strategies meeting the criteria under State CEQA Guidelines Section 15183.5(b). Therefore, construction- and operation-related GHG emissions would be less than significant, and mitigation is not required.

Construction of the project would result in GHG emissions, which are primarily associated with use of off-road construction equipment, on-road vendor trucks, and worker vehicles. The BAAD does not have current GHG significance thresholds; however, construction emissions were calculated and amortized over a 30-year project lifetime. CalEEMod was used to calculate the annual GHG emissions based on the construction scenario described. Construction of the project is anticipated to last a total of approximately 10 months. On-site sources of GHG emissions include off-road equipment, and off-site sources include vendor trucks and worker vehicles. Table 3-5, *Estimated Project Annual Construction Greenhouse Gas Emissions*, presents construction emissions for the project from on- and off-site emission sources.

Table 3-5. Estimated Project Annual Construction Greenhouse Gas Emissions

	Metric Tons per Year			
Construction Year	**CO_2**	**CH_4**	**N_2O**	**CO_2e**
2026	544.95	0.040	0.034	556.26
			Total	**556.26**
			Amortized construction emissions	19

Source: CAPCOA (2022)[55] (see Appendix C).

As shown in Table 3-5, the estimated total GHG emissions during construction would be approximately 556 metric tons of CO_2e ($MTCO_2e$) over the construction period. Estimated project-generated construction emissions amortized over 30 years would be approximately 19 $MTCO_2e$ per year. As with

[55] California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod). Version 2022.1.1.29. Available at: https://www.caleemod.com/. Accessed June 2025.

project-generated construction criteria air pollutant emissions, GHG emissions generated during construction of the project would only occur when construction is active, lasting only for the duration of the construction period, and would not represent a long-term source of GHG emissions.

Operation of the project would generate GHG emissions through motor vehicle trips to and from the project site, landscape maintenance equipment operation, energy use, solid waste disposal, and generation of electricity associated with water supply, treatment, and distribution and wastewater treatment. CalEEMod was used to calculate the annual GHG emissions based on the operational assumptions presented in Appendix C.

The estimated operational project-generated GHG emissions from area sources, energy usage, mobile sources, waste generation, water usage, wastewater generation, and vegetation are shown in Table 3-6, *Estimated Annual Operational Greenhouse Gas Emissions*.

Table 3-6. Estimated Annual Operational Greenhouse Gas Emissions

Emission Source	CO_2	CH_4	N_2O	CO_2e
	Metric Tons per Year			
Mobile	225.11	0.009	0.0081	228.02
Area	0	0	0	0
Energy	0.54	8.74E-05	0.00001	0.55
Water	1.514E-06	2.45	2.97	1.529E-06
Waste	6.60E-03	0.0007	0	0.02
Vegetation	-2.10	N/A	N/A	-2.10
Total	**223.55**	**0.0095**	**0.0081**	**226.48**
		Amortized construction emissions		19
	Total operational + amortized construction GHGs			***245.48***

Source: CAPCOA (2022)[56] (see Appendix C).

Note: N/A = not applicable. These emissions reflect operational year 2028. Totals do not always equal the sum of the individual numbers due to rounding.

As shown in Table 3-6, estimated annual project-generated GHG emissions would be approximately 226 $MTCO_2e$ per year as a result of project operations only. After summing up the amortized project construction emissions, total GHGs generated by the project would be approximately 245.48 $MTCO_2e$ per year. In summary, this impact would be less than significant, and mitigation is not required.

b) Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less than Significant. The *City of South San Francisco Climate Action Plan* (CAP) was approved and adopted as part of a comprehensive list of the Master Plans for the City.[57] The CAP lays out strategies and actions to achieve carbon neutrality by 2045 by increasing waste diversion, reducing energy and water use, and increasing resiliency across multiple sectors. The project is a City park with several water and energy efficiency features. In addition, The Parks and Recreation Master Plan*, South San Francisco Downtown Station Area Specific Plan,* and 2040 General Plan identify the neighborhoods surrounding the

[56] California Air Pollution Control Officers Association (CAPCOA). 2022. California Emissions Estimator Model (CalEEMod). Version 2022.1.1.29. Available at: https://www.caleemod.com/. Accessed June 2025.

[57] City of South San Francisco. 2022. *City of South San Francisco Climate Action Plan*. Available at: https://shapessf.com/wp-content/uploads/2022/03/SSFCAP_PublicDraft2022_02_Small.pdf. Accessed June 2025.

project site—the Downtown Subarea and Linden Neighborhood Center—as areas of concern for their lack of parks and open space with Goal 2 of the Parks and Recreation Master Plan, including that "every South San Francisco resident should be within a 5-minute walk of a park, trail or open space."[58] The project would be within 0.25 mile of neighborhoods that are not currently within a 5-minute walking distance, including neighborhoods on Hawthorne Place, Maple Avenue, and Spruce Avenue to the northwest and on Lux Avenue and Miller Avenue to the south. Therefore, the project would not conflict with the policies, regulations, or guidelines in the City's 2040 General Plan, the City's CAP, the BAAD's *2017 Clean Air Plan*, or any other applicable plans and/or regulations adopted for the purposes of reducing GHG emissions. Furthermore, GHG emissions from the project, as shown in Table 3-5, *Estimated Project Annual Construction Greenhouse Gas Emissions*; Table 3-6, *Estimated Annual Operational Greenhouse Gas Emissions*; and Appendix C, would not generate substantial GHG emissions during construction or operation. Therefore, this impact would be less than significant, and mitigation is not required.

IX. Hazards and Hazardous Materials

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

[58] City of South San Francisco. 2015b. *City of South San Francisco Parks and Recreation Master Plan.* Adopted July 22. Available at: https://www.ssf.net/Departments/Parks-Recreation/About-Us/Parks-and-Recreation-Master-Plan. Accessed June 12, 2025.

Environmental Evaluation

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 with Mitigation Incorporated. A significant impact may occur if a project would involve the use or disposal of hazardous materials as part of its routine operations or would have the potential to generate toxic or otherwise hazardous emissions that could adversely affect sensitive receptors.

The County Health Department Environmental Health Services Division is responsible for hazardous waste management, restaurant inspections, housing inspections, medical waste disposal, water protection, water quality monitoring, and pollution prevention in San Mateo County.[59] There are two divisions with jurisdiction over the project area.

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) was established in 1993 to protect public health and safety through an effective and efficient implementation of the Unified Program. County Environmental Health Services was designated by the State Secretary for Environmental Protection as the Certified Unified Program Agency (CUPA) for San Mateo County in 1996.[60]

The Groundwater Protection Program protects underground water supplies and surface waters, such as the creeks, streams, ocean, and Bay, from chemical pollution. This division oversees clean-up of pollution caused by leaking underground tanks and chemical spills and works with other agencies, such as the EPA and RWQCBs, to ensure the clean-up process follows state and local laws.[61]

Construction

Construction of the project would involve the transport, use, and disposal of potentially hazardous materials, including paints, adhesives, surface coatings, cleaning agents, fuels, and oils that are typically associated with development of any construction project. As described in Section 2, *Project Description*, construction activities would be temporary, lasting approximately 8 months. These temporary construction activities involving the use, transport, storage, and disposal of hazardous materials, would be conducted in compliance with all health and safety requirements, such as County and 2040 General Plan policies, CCR Sections 337 through 340, Chapter 6.95 of California Health and Safety Code Article 1, and 19 CCR Division 2 (if required). Because the City and contractor would comply with applicable regulations and laws pertaining to the transport, storage, use, and disposal of potentially hazardous materials, the exposure of the public, construction workers, and environment to hazardous materials would be less than significant.

The project vicinity includes urban residential and commercial areas. Part of the project site, at 616 Linden Avenue, included an automotive repair shop that operated from the 1940s through the early 2000s. In addition, a dry cleaners was in operation at 612 Linden Avenue between 1969 and 1974. Both businesses had underground storage tanks (UST) with the potential for leaking hydrocarbons. Extensive

[59] San Mateo County Health. 2025a. Environmental Health Services. Available at: https://www.smchealth.org/eh. Accessed July 10, 2025.

[60] San Mateo County Health. 2025b. *Certified Uniform Program Agency.* Available at: https://www.smchealth.org/hazardous-materials-cupa. Accessed July 10, 2025.

[61] San Mateo County Health. 2025c. *Groundwater Protection Program.* Available at: https://www.smchealth.org/gpp. Accessed July 10, 2025

environmental investigation work has been performed at 616 Linden Avenue, some of which was performed to meet regulatory requirements, and some was performed out of an abundance of caution.

A leaking UST cleanup case was opened under the oversight of the County's Groundwater Protection Program following removal of one gasoline UST and one waste oil UST from the project site in 1993 and the detection of petroleum hydrocarbons in the soil below the USTs. Approximately 440 tons of soil were excavated and disposed of off-site following removal of the USTs to remove the petroleum hydrocarbon-impacted soil from the property. Groundwater monitoring and sampling was then conducted through January 2001 to assess the shallow groundwater for the presence of petroleum hydrocarbons. The Groundwater Protection Program confirmed that the investigation and remedial action were satisfactorily completed and closed the case in September 2001 (Appendix B5).

In order to ensure that the project site was a safe location for a park, supplemental site investigations were conducted by Toeroek Associates and Tetra Tech 2020 and 2021 (Appendices B1 and B2) and by Ninyo and Moore in 2023 and 2024 (Appendices B3–B5). Shallow soil samples were collected and analyzed for petroleum hydrocarbons and lead. The State of California has established risk-based screening levels specifically for former UST cases. Lead is commonly detected in soil, and State regulatory agencies have established toxicologically-based screening levels to assess safe lead concentrations for different property uses. The supplemental testing and evaluation of the soil data confirms that both 616 Linden Avenue and 700 Linden Avenue are acceptable for use as a park (see Appendix B5).

The Phase II Environmental Site Assessment (ESA) in 2021 (Appendix B1) and Supplemental Site Investigations in 2023 (see Appendices B3–B4) analyzed soil and soil gas samples for petroleum hydrocarbons and lead. The 2023 investigation showed levels below the RWQCB environmental screening level for direct soil contact with residential land use in all samples with one exception. Lead was detected in soil samples collected at the 616 Linden Avenue property at concentrations ranging from 10.9 to 239 milligrams per kilogram (mg/kg). The only concentration that exceeded the RWQCB environmental screening level for direct soil contact with residential land use of 80 mg/kg was from soil within the buried concrete structure (Appendix B5) and is thought to be from metal objects left in the structure that leached into the soil. The amount of lead present in the other samples is common as background levels in Bay Area soils and is not likely to be from past uses.

As a result, the project would include the removal of the lead-impacted soil from within the buried concrete structure and replace it with clean fill. This work would be part of a Site Management Plan that would describe recommended steps necessary to ensure safety of workers, residents, and park users during removal and construction. It would also describe procedures that would be followed if petroleum hydrocarbon-impacted soils were encountered during construction, although this is not expected. Further, any soils planned for off-haul to a landfill would be tested and disposed of accordingly.

In addition, construction activities would be required to comply with applicable policies, standards, and regulations to ensure there are no hazards related to the routine use, disposal, transport, or accidental release of hazardous materials (California Occupational Safety and Health Administration [Cal/OSHA] requirements, CCR Titles 8 and 22). All excavated fill and native soil material would be disposed of in accordance with applicable codes and regulations and the transport and disposal of these materials is not expected to create a significant hazard to construction workers or the nearby community. Therefore, the proposed project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials and this impact would be less than significant. Implementation of Mitigation Measures HAZ-1, HAZ-2, and HAZ-3 would further reduce this less than significant impact.

Implementation of Mitigation Measures HAZ-1, HAZ-2, and HAZ-3 would reduce potentially significant impacts from exposure to soil contaminants, and elements of building debris to less-than-significant levels.

Mitigation Measure HAZ-1: The City of South San Francisco or its contractor must develop and implement a demolition debris management and disposal plan for the non-Resource Conservation and Recovery Act (RCRA) hazardous materials that are to be removed from the project site per compliance with City of South San Francisco waste diversion requirements in City of South San Francisco Code of Ordinances Sections 8.16.125 and 15.60 (100% of inert solids and at least 65% of the remaining construction and demolition debris tonnage). The plan must be designed to prevent releases of hazardous materials in quantities that could pose a risk to human health and the environment, as determined using appropriate Bay Area Air District, Regional Water Quality Control Board, California Department of Toxic Substances Control, and/or other appropriate agency screening thresholds.

Mitigation Measure HAZ-2: The construction contractor (as required by the contract specifications) shall develop a Hazardous Materials Contingency Plan (HMCP) to be approved by the City of South San Francisco that includes standard construction measures required by federal, state, and local policies for the handling of potential hazardous materials and removal of on-site debris. The HMCP shall include the implementation of a Waste Management Plan (WMP) for the management of all construction waste and a Safety Management Plan (SMP) to minimize construction worker's exposure to dust emissions and emissions that have the potential to contain hazardous concentrations of lead and petroleum hydrocarbons. At a minimum, this plan shall include the following requirements:

a. Soils at 616 Linden Avenue on the project site should be tested for lead and petroleum hydrocarbons prior to grading and excavation.
b. If contaminated soils or other hazardous materials are encountered during any soil-moving operation during construction, the HMCP shall be implemented.
c. Instruct workers on recognition and reporting of materials that may be hazardous.
d. Minimize delays by continuing performance of the work in areas not affected by hazardous materials operations.
e. Identify and contact subcontractors and licensed personnel qualified to undertake storage, removal, transportation, disposal, and other remedial work required by, and in accordance with, laws and regulations.
f. Forward copies of reports, permits, receipts, and other documentation related to remedial work to the engineer.
g. Notify such agencies as are required to be notified by laws and regulations within the time stipulated by such laws and regulations.

h. File requests for adjustments to contract time and contract price due to the finding of hazardous materials in the work site in accordance with conditions of contract.

Mitigation Measure HAZ-3: Prior to park construction, the City of South San Francisco or its contractor will prepare a Site Management Plan (SMP) and submit it to County of San Mateo Groundwater Protection Program for review. The SMP will include procedures to remove and dispose of lead-impacted soil and describe recommended steps necessary to ensure safety of workers, residents, and park users during construction. The SMP will also describe procedures that will be followed if petroleum hydrocarbon-impacted soils are encountered during construction, although this is not expected. Further, any soils planned for off-haul to a landfill will be tested and disposed of accordingly.

Operation

The City is considering both natural and artificial turf options for the lawn areas. The lawn areas would be approximately 5,000 total square feet, which is about 13% of the total project site. The City may install artificial turf for the purpose of reducing costs, water usage, and maintenance.

Artificial turf is a synthetic surface material engineered to mimic natural grass. It is made of plastic, blade-like fibers woven into a backing, And infill material between the blades provides cushioning. Other materials under the surface may aid drainage and provide padding. Existing types of artificial turf contain a variety of plastics and chemical additives, which may include, but are not limited to, polyfluoroalkyl substances (PFASs), ortho-phthalates, colorants (green copper metallic complexes or yellow azo compounds), antioxidants to reduce weathering (phenols and organic phosphites), light stabilizers (hindered amine light stabilizers), and ultraviolet light stabilizers (zinc tinuvins, hindered amine light stabilizers).[62] Some of these compounds are present on the California Department of Toxic Substances Control (DTSC) Candidate Chemicals List, an informational list of chemicals that exhibit "a hazard trait and/or an environmental or toxicological endpoint".[63]

Exposure to chemicals from artificial turf may occur through inhalation of airborn particles, ingestion of microplastics, and skin absorption of additives. Artificial turf contains chemicals and heavy metals, including polycyclic aromatic hydrocarbons (PAHs), PFASs, phthalates, silica polychlorinated biphelyls (PCBs), carbon black, and metals such as lead, mercury, cadmium, chromium, cobalt, and arsenic. Human health risks from PFAs can include endocrine disruption, adverse effects on the liver and thyroid, metabolic effects, developmental effects, neurotoxicity, and immunotoxicity. Crumb rubber infill is made from used tires and can contain PAHs, phthalates, arsenic, cadmium, lead, nickel, PAHs, and volatile organic carbons. Silica, which is another common infill material, can cause a chronic lung disease called silicosis when inhaled. Resistant staph infections have also been documented from artificial turf. In addition, pesticides and biocides are used on artificial fields to reduce bacteria, viruses, and weeds.

Some potential concerns related to existing artificial turf installation include human health concerns from potential exposure to hazardous chemicals, possible release of microplastics into the water and

[62] California Department of Toxic Substances Control (DTSC). 2024. *Background Document on Candidate Chemicals in Artificial Turf.* Available at: https://dtsc.ca.gov/wp-content/uploads/sites/31/2024/07/Background-Document-on-Candidate-Chemicals-in-Artificial-Turf.pdf. Accessed July 10, 2025.

[63] California Department of Toxic Substances Control (DTSC). 2025.Candidate Chemical Terms. Available at: https://dtsc.ca.gov/scp/candidate-chemical-terms/. Accessed July 10, 2025.

environment, increase in sports injuries and resistant bacterial infections, and local heat island effects.[64] While there is research and literature that highlight concerns about the potential impacts of long-term exposure to the existing synthetic turf options that are currently on the market, at this time, there is no definitive conclusion identifying health impacts from exposure levels to athletes and other users.[65]

Local heat island effects are an acknowledged risk with artificial turf use. Turf temperatures can be significantly higher, at times 40 to 60 degrees higher than natural grass and as much as 87 degrees higher than ambient temperatures, due to their solar absorption and lack of evaporative cooling that natural grass experiences.[66] This generally could result in less comfortable conditions for users, but would not result in any hazardous environmental impacts.

Although many of these compounds are known to cause human health issues, there has not been enough research to difinitively conclude significant public health and environmental impacts would result from prolongued exposure to artificial turf. Further, the area of artificial turf that could be installed is relatively small (13%) in comparison to the total project site; users of the park would also not be confined to just lawn or turf area. Therefore, health and hazard impacts related to the use and operation of artificial turf would be less than significant, and mitigation is not 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. A significant impact may occur if a project could create an upset or accident condition involving hazardous materials. The project is not located on a hazardous contamination site, and thus there is no reasonably foreseeable release of hazardous materials from existing hazardous contamination. Removal of the lead contaminated soil at 616 Linden Avenue would further reduce potential hazards. Construction of the project would use small amounts of hazardous materials, such as diesel fuel. The BMPs implemented for the SMCWPPP (discussed further in Section X, *Hydrology and Water Quality*) would contain minor spills during construction. The project would not 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. Therefore, this impact would be less than significant, and mitigation is not 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. A project-related significant adverse effect may occur if a project site is within 0.25 mile of an existing or proposed school site, and the project is projected to release hazardous emissions that would exceed regulatory thresholds and would pose a health hazard. The closest school is Martin Elementary School, located approximately 0.25 mile northwest of the project site. Other schools in the vicinity include All Souls Catholic School and Spruce Elementary School, which are 0.31 mile west and 0.35 mile west, respectively. As discussed under *Impact Discussions IX(a) and IX(b)*, the project would comply with applicable regulations and laws pertaining to the transport, storage, use, and disposal

[64] Santa Clara County Medical Association. 2024. *Recommendation to Use Natural Turf Grass on Santa Clara County Fairgrounds.* March 12. Available at: https://www.sccma.org/LinkClick.aspx?fileticket=C0f6wf5p9uY%3D&portalid=19. Accessed July 10, 2025.

[65] California Department of Toxic Substances Control (DTSC). 2024. *Background Document on Candidate Chemicals in Artificial Turf.* August. Available at: https://dtsc.ca.gov/wp-content/uploads/sites/31/2024/07/Background-Document-on-Candidate-Chemicals-in-Artificial-Turf.pdf. Accessed March 4, 2025.

[66] Santa Clara County Medical Association, 2024.

of potentially hazardous materials, and would not create a significant hazard to the public or the environment related to hazardous materials. The project would not handle hazardous materials in a way that would emit hazardous emissions. Therefore, this impact would be less than significant, and mitigation is not 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?

Less than Significant with Mitigation Incorporated. California Government Code Section 65962.5 requires various state agencies to compile lists of hazardous waste disposal facilities, unauthorized release from USTs, contaminated drinking water wells, and solid waste facilities from which there is known migration of hazardous waste, and to submit such information to the Secretary for Environmental Protection on at least an annual basis. In meeting the provisions in California Government Code Section 65962.5, commonly referred to as the "Cortese List," database resources such as EnviroStor and GeoTracker provide information regarding identified facilities.[67,68]

As discussed under *Impact Discussion IX(a)*, 616 Linden Avenue has undergone cleanup for lead and petroleum hydrocarbon contamination. The project site has undergone cleanup and been certified as below the RWQCB environmental screening level for direct soil contact with residential land use and therefore safe for park use. As discussed in *Impact Discussion IX(a)*, out of an excess of caution, the City will remove the soil with higher lead concentration inside the buried concrete structure.

Construction would involve excavation, grading, and the movement of soils and dust emissions from these activities, which could cause a temporary impact to the public or the environment. Short-term soil exposure would potentially affect construction workers due to the potential presence of low levels of lead and petroleum hydrocarbons. All construction activities would be required to comply with applicable policies, standards, and regulations to ensure there are no hazards related to the routine use, disposal, transport, or accidental release of hazardous materials (Cal/OSHA requirements, CCR Titles 8 and 22). All excavated fill and native soil material would be disposed of in accordance with applicable codes and regulations, and the transport and disposal of these materials is not expected to create a significant hazard to construction workers or the nearby community. Compliance with federal and state requirements and implementation of Mitigation Measures HAZ-1, HAZ-2, and HAZ-3 would reduce potentially significant impacts from exposure to soil contaminants and elements of building debris to less-than-significant impacts on the public or the environment related to disposal of hazardous materials. Therefore, this impact would be less than significant with mitigation incorporated.

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 project site is located approximately 2 miles northeast of SFO and is within the jurisdiction of the SFO Airport Land Use Compatibility Plan (ALUCP). The project site is also located within the boundary of one subarea of Airport Influence Area B—the 14 Code of Federal Regulation

[67] California Department of Toxic Substances Control (DTSC). 2025. EnviroStor. Available at: https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=south+san+francisco. Accessed June 3, 2025.

[68] State Water Resources Control Board (State Water Board). 2025. GeoTracker. Available at: https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=south+san+francisco. Accessed June 3, 2025.

(CFR) Part 77 Conical Surface Area (Figure 3-1, *San Francisco International Airport, Airport Influence Areas*)..[69]

The 14 CFR Part 77 Subpart C. Conical Surface zone establishes obstruction standards for the airspace around airports, including approach zones, conical zones, transitional zones, and horizontal zones known as "imaginary surfaces." The Federal Aviation Administration (FAA) considers objects penetrating these surfaces as obstructions to navigation and requires marking and lighting them for avoidance. The project site is located in an area that would require clearance measures of structures between 100 and 150 feet above ground surface.[70] Project structures would have a maximum height of less than 20 feet above ground surface and would not impact the conical surface zone. Therefore, no impact would occur.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant. A significant impact may occur if a project were to interfere with roadway operations used in conjunction with an emergency response plan or emergency evacuation plan or would generate sufficient traffic to create traffic congestion that would interfere with the execution of such a plan. During short-term construction activities, including the associated roadway improvements, partial or complete road closures may be required along both Linden Avenue, Pine Avenue, 7th Lane, and 8th Lane to accommodate utility trenching for installation of storm drains, domestic water, and fire water lines, as well as road improvements and striping. Closures would not impact individual access to other properties. The 2040 General Plan does not identify emergency evacuation routes. Linden Avenue is identified as a collector street. During the construction phase, the City would require an encroachment permit for any temporary activities that would affect the public right-of-way. Encroachment permit conditions would include a traffic control plan with temporary procedures for emergency access. Additionally, in the event of complete or partial lane closures, sufficient alternative routes exist near the facility and the project would not interfere or result in inadequate emergency access. The project would not impair the implementation of or physically interfere with an emergency response plan or emergency evacuation plan. Therefore, this impact would be less than significant, and mitigation is not required.

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. A significant impact may occur if a project is located in proximity to wildland areas and would pose a potential fire hazard, which could affect persons or structures in the area in the event of a fire. California Department of Forestry and Fire Protection (CAL FIRE) maps Fire Hazard Severity Zones (FHSZs) in State Responsibility Areas (SRAs), as well as Very High FHSZs in Local Responsibility Areas (LRAs). The project site is in an LRA and is under the jurisdiction of the South San Francisco Fire Department (SSFFD). There are no Very High FHSZs mapped in South San Francisco.[71] San Bruno Mountain and the adjacent neighborhood, 0.4 mile north of the project site, is in a Moderate FHSZ in an SRA.[72]

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[69] City and County Association of Governments of San Mateo County (C/CAG). 2012. *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*. November. Available at: https://ccag.ca.gov/wp-content/uploads/2014/10/Consolidated_CCAG_ALUCP_November-20121.pdf. Accessed June 5, 2025.

[70] C/CAG, 2012.

[71] California Department of Forestry and Fire Protection (CAL FIRE). 2025. Local Responsibility Area Fire Hazard Severity Zones: City of South San Francisco – San Mateo County. Updated February 23. Available at: https://calfire.app.box.com/s/wahuw9ny7cgn89xpxh7092ur50r1pwvj/file/1785859153686. Accessed June 3, 2025.

[72] California Department of Forestry and Fire Protection (CAL FIRE). 2024. Fire Hazard Severity Zones in State Responsibility Area. Effective April 1. Available at: https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008. accessed June 3, 2025.



Figure 3-1. San Francisco International Airport, Airport Influence Areas.

The project site is regularly maintained by City Parks and Recreation staff and generally lacks combustible native vegetation. The project would construct a new park, which would be landscaped, irrigated, and maintained by the City. It would not draw additional people to an area subject to wildland fires. Therefore, no impact would occur.

X. Hydrology and Water Quality

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 ground water 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 off-site;	☐	☐	☒	☐
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) Impede or redirect flood 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?	☐	☐	☒	☐

Environmental Evaluation

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. Activities associated with construction of the project could have a significant impact if they resulted in violation of waste discharge requirements under the San Francisco Bay Region RWQCB's Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES)

Permit[73] from contaminated runoff entering the stormwater system. Although the project site is not adjacent to any waterbodies, the closest waterbody is Colma Creek, approximately 0.6 mile southwest of the project site.

The SMCWPPP, or Flows to Bay, is a partnership of the County, the City and County Association of Governments of San Mateo County (C/CAG), and each incorporated City and Town in San Mateo County, which share a common NPDES permit. The Municipal Regional Stormwater NPDES Permit was issued by the San Francisco Bay Region RWQCB in compliance with the *Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin* (Basin Plan) and the NPDES Program.[74,75] Participating agencies (including the County and City) must comply with the provisions of the countywide permit by ensuring that new development and redevelopment mitigate, to the maximum extent practicable, water quality impacts from stormwater runoff during both construction and operational periods of projects.[76] In addition, the City is subject to the *San Francisco Bay Nutrients Watershed Permit for Municipal Wastewater Discharges*, which requires dischargers to reduce nitrogen and phosphorus loads in wastewater by 40% within 10 years.[77]

Construction

The proposed project would disturb less than 1 acre of land (approximately 0.80 acre); therefore, the City would not be required to implement a SWPPP for the project. The project would include the implementation of BMPs to prevent erosion and sedimentation of soil, as well as cement wash, asphalt, oil, and other hazardous debris from leaving the project site. A drainage control plan with site-specific BMPs that are designed to prevent runoff from construction areas would be implemented to reduce potential impacts to surface water quality during project construction. The plan would also include design elements and BMPs for construction areas, such as fueling and equipment washing areas and trash and hazardous material storage areas. No construction would occur during major rain events, minimizing any chance of runoff from the project site. Major rain events would be considered as a prediction of 0.25 inch or more in 24 hours.

As described in Section 2.6, *Construction*, construction would require demolition of the existing parking lot and a section of Pine Avenue; clearing and grading activities; construction of the plaza and other park facilities, a potential restroom, and a parking area; and trenching for utilities. The project would result in temporary disturbance of approximately 0.80 acre on-site, including an area for temporary staging, and would include the permanent development of approximately 0.80 acres.

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[73] Regional Water Quality Control Board (RWQCB). 2022. *Municipal Regional Stormwater NPDES Permit*. Order No. R2-2022-0018. NPDES Permit No. CAS612008. California Regional Water Quality Control Board, San Francisco Bay Region. May 11. Available at: https://www.waterboards.ca.gov/rwqcb2/board_decisions/adopted_orders/2022/R2-2022-0018.pdf. Accessed June 3, 2025.

[74] Regional Water Quality Control Board (RWQCB). 2024a. *Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin.* California Regional Water Quality Control Board, San Francisco Bay Region. March 7. Available at: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html. Accessed June 3, 2025

[75] RWQCB, 2022.

[76] County of San Mateo. 2023. San Mateo Countywide Water Pollution Prevention Program: Construction Best Practices. Available at: https://flowstobay.org/preventing-stormwater-pollution/with-new-redevelopment/construction-best-practices/. Accessed June 3, 2025.

[77] Regional Water Quality Control Board (RWQCB). 2024b. *San Francisco Bay Nutrients Watershed Permit for Municipal Wastewater Discharges*. Order No. R2-2024-0013. NPDES Permit No. CA0038873. California Regional Water Quality Control Board, San Francisco Bay Region. July 10. Available at: https://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2024/R2-2024-0013.pdf. Accessed June 3, 2025.

Construction activities associated with the park would require the presence of construction vehicles, heavy equipment and materials, and construction crews. Construction activity, including demolition, site grading, excavation, and construction of the new park, would result in temporary soil erosion that could temporarily affect water quality. In addition to stormwater runoff and potential resulting water quality and sedimentation impacts, there is the potential for hazardous materials, including petroleum products associated with diesel vehicle and equipment use and contaminants from paving materials, concrete mixing, pouring and washout, and sanitary facilities, to leave the project site.

Operation

Following construction, the project site would be restored and landscaped surrounding the new park, including stormwater retention and treatment areas, thereby reducing any future water quality impacts. Approximately 807 square feet of LID treatment areas would be constructed on-site, to include biorentential planters on Linden Avenue for filtering stormwater and water runoff from the project site. Stormwater would be directed to the existing bioretention planters on Linden Avenue before discharging to the existing storm drain in Linden Avenue (see Appendix A4). The project would be required to comply with all stormwater requirements of the State Water Resources Control Board (State Water Board) and the County and include bioretention basins and treatment areas adequate to treat runoff from the project.

The project would include installation of either natural or artificial turf in the two lawn areas, totaling approximately 5,022.5 square feet. Environmental pollutants and microplastics from both natural and synthetic turf may result in stormwater runoff impacts if not filtered and treated. Further, artificial turf breaks down over time from sunlight, heat, rain, and consistent use. Runoff from artificial turf may contain pollutants such as heavy metals, PFASs, microplastics, and other chemicals that can reach surface water and groundwater.[78] The bioretention basins proposed for the project are designed to filter out most water contaminants, which would also filter out microplastics and other pollutants related to the use of natural or synthetic turf. Therefore, water quality impacts associated with the new park would be less than significant, and mitigation is not 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. California Water Service Company (CalWater) provides water service to the City. CalWater obtains the majority of its water from the San Francisco Water Department and supplies approximately 1,534 acre-feet[79] per year (AFY) to the City from local groundwater wells. The project overlays the Westside Groundwater Basin (California Department of Water Resources [DWR] Basin 2-35). Municipal and agricultural groundwater wells in the basin range from depths of 130 to 825 feet.[80] CalWater operates groundwater wells in the basin that serve its South San Francisco District.[81] The

[78] Benjamin, Chelsea. 2022. *Is Artificial Turf a Beneficial Water Conservation Tool in the West?* Prepared by Western Resource Advocates (WRA). December. Available at: https://westernresourceadvocates.org/wp-content/uploads/2023/01/2022_WRA_Artifical_Turf_Report.pdf. Accessed July 10, 2025.

[79] An acre-foot is a volume of water equal to a sheet of water 1 acre in area and 1 foot thick, or 43,560 cubic feet of water.

[80] California Department of Water Resources (DWR). 2006. *San Francisco Bay Hydrologic Region: Westside Groundwater Basin.* California's Groundwater Bulletin 118. January 20. Available at: https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/2_035_Westside.pdf. Accessed March 21, 2025.

[81] California Water Service (CalWater). 2021. *2020 Urban Water Management Plan, South San Francisco District*. June. Available at: https://www.calwater.com/docs/uwmp2020/SSF_2020_UWMP_FINAL.pdf. Accessed March 21, 2025.

basin is not adjudicated and DWR has determined the Basin is not in a state of critical overdraft and is a low priority for adjudication.[82]

A potentially significant impact would occur if a project includes deep excavations resulting in the potential to interfere with groundwater movement, the withdrawal of groundwater, or paving of existing permeable surfaces important to groundwater recharge. The project would include excavation to a depth of 5 feet, which would not be likely to significantly impact the groundwater table or groundwater movement. Excavations for the park footings and utilities would be limited in scope but may encounter shallow groundwater, which would require dewatering during construction. However, dewatering for construction would be short term and temporary, and construction would not include excavation to depths that could affect groundwater movement or well production. Construction of the project would be unlikely to significantly impact groundwater movement. Therefore, this impact would be less than significant, and mitigation is not 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:

c-i) Result in substantial erosion or siltation on- or off-site?

Less than Significant. Planned earthwork and grading activities on the project site would involve a maximum total cut and fill of approximately 300 cubic yards—approximately 300 cubic yards of cut would be either used as fill or removed from the project site, and no fill is expected to be imported. The project site is essentially flat, and all project components would be required to implement erosion control measures, as discussed under *Impact Discussion X(a)*. Construction of the project would include implementation of BMPs under the State Water Board General Construction Permit and SMCWPPP. Implementation of SMCWPPP requirements would reduce potential erosion and sedimentation from project construction to less-than-significant levels.

Assuming the use of natural turf for the lawn areas, implementation of the project would reduce the amount of impervious surface by approximately 2,950 square feet, from 19,150 to approximately 16,200 square feet. With the use of synthetic turf for the lawn areas, implementation would slightly increase the impervious surface area. In either case, the project would qualify as a C.3 regulated project under the SMCWPPP. Under the C.3 program, the project is required to incorporate controls to reduce pollutant runoff in stormwater. Most controls are required to be LID measures, which include biotreatment areas, flowthrough planters, rain barrels or cisterns, green roofs, pervious pavement, or other stormwater treatment measures designed to infiltrate or detain stormwater runoff, so that all of the runoff required to be treated per the stormwater permit soaks into the ground, is stored for irrigation or in-building use, evaporates, or is taken up by plants. These requirements apply to most projects that create and/or replace 5,000 square feet or more of impervious surface area.[83]

The new park would drain to two new LID treatment areas on-site, including some combination of vegetated bioretention areas, below-grade bioretention planters, and underground Silva cells (see Appendix A4 for the stormwater retention plan assuming natural turf lawn areas). The project will include the installation of a new connection to the existing bioretention basins and storm drain main on Linden

[82] California Water Service (CalWater). 2021. *2020 Urban Water Management Plan, South San Francisco District*. June. Available at: https://www.calwater.com/docs/uwmp2020/SSF_2020_UWMP_FINAL.pdf. Accessed March 21, 2025.

[83] County of San Mateo. 2023. *San Mateo Countywide Stormwater Pollution Prevention Program: Stormwater Quality Control Requirements, Information for Developers, Builders and Project Applicants.* Updated January. Available at: https://www.flowstobay.org/wp-content/uploads/2023/04/SMCWPPP-MRP-3.0-C.3-Flyer_final.pdf. Accessed June 3, 2025.

Avenue, which ultimately outfalls to Colma Creek; therefore, the project would not substantially alter the existing drainage pattern in a manner that would cause erosion. Compliance with the Municipal Regional Stormwater Permit and City Planning Division requirements will reduce drainage and stormwater impacts to a less-than-significant level. The project would not substantially alter the existing drainage pattern of the project site resulting in substantial erosion or siltation. Therefore, this impact would be less than significant, and mitigation is not required.

c-ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less than Significant. A significant impact may occur if a project results in increased runoff volumes during construction or operation of the project that would result in flooding conditions affecting the project site or nearby properties. As described in *Impact Discussions X(a) and X(b)*, with the use of natural turf, the project would result in a decrease in impervious surface area of approximately 2,750 square feet and the construction of new vegetated stormwater basins and/or Silva cells, which would capture runoff from a 10-year, 2-hour storm event.[84] If artificial turf is used, the amount of impervious surface would slightly increase on the project site, and the stormwater retention plan would be designed and constructed to accommodate the amount of runoff. Compliance with the Municipal Regional Stormwater Permit and City Planning Division requirements would reduce drainage and stormwater impacts to a less-than-significant level. The project would not substantially alter the existing drainage pattern of the project site resulting in a substantial increase in the rate or amount of surface runoff in a manner that would result in flooding on- or off-site. Therefore, this impact would be less than significant, and mitigation is not required.

c-iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant. As described in *Impact Discussions X(a) and X(b)*, the project would result in a decrease in impervious surface area of approximately 2,750 square feet and the construction of new vegetated stormwater bioretention basins and/or Silva cells that would have adequate capacity to contain runoff from the resulting square footage. The LID treatment areas would discharge to the stormwater system in Linden Avenue, which discharges to Colma Creek. Compliance with the Municipal Regional Stormwater Permit and City Planning Division requirements would reduce drainage and stormwater impacts to a less-than-significant level. The project would not exceed the capacity of the existing and/or planned stormwater drain system or provide substantial additional sources of polluted runoff. Therefore, this impact would be less than significant, and mitigation is not required.

c-iv) Impede or redirect flood flows?

No Impact. A significant impact may occur if a project were located in a flood hazard area and would impede or redirect flood flows. According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map, the project site is located in an area of minimal flood hazard.[85] The project would not impede or redirect flood flows. Therefore, no impact would occur.

[84] A 10-year, 2-hour storm means a storm of 2 hours duration that is capable of producing a volume of rainfall expected to be equaled or exceeded on the average of once in 10 years.

[85] Federal Emergency Management Agency (FEMA). 2012. FEMA's National Flood Hazard Layer Viewer, South San Francisco. Available at: https://www.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed June 3, 2025.

d) In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

No Impact. According to the FEMA Flood Insurance Rate Map, the project site is located in an area of minimal flood hazard.[86] A seiche is a standing wave that oscillates back and forth in an enclosed or partially enclosed waterbody. Seiche waves may be caused by earthquakes, and the project site is in an area with high seismic activity. The project is not located in either a seiche or a tsunami zone. Therefore, no impact from flood hazard, seiche, or tsunami inundation would occur.[87]

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant. The proposed project will abide by all requirements of the San Mateo Countywide Water Pollution Prevention Program and the Municipal Regional Permit issued by the San Francisco Bay RWQCB. The project would not conflict with the Basin Plan[88] because it would comply with all applicable requirements of the MRP. The project site is not located in a groundwater basin and would not directly use groundwater; therefore, it would not conflict with or obstruct the implementation of a sustainable groundwater management plan. Therefore, this impact would be less than significant, and mitigation is not required.

XI. Land Use and Planning

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☒	☐

Environmental Evaluation

a) Would the project physically divide an established community?

Less than Significant. The project site is located on a parking lot and grassy field that are zoned Parks and Recreation (PR) under the 2040 General Plan and zoning code. Surrounding land uses are

[86] Federal Emergency Management Agency (FEMA). 2012. FEMA's National Flood Hazard Layer Viewer, South San Francisco. Available at: https://www.arcgis.com/apps/webappviewer/index.html?id=8b0adb51996444d4879338b5529aa9cd. Accessed June 3, 2025.

[87] California Geological Survey. 2022. San Mateo County Tsunami Hazard Areas. California Department of Conservation California Geological Survey. Available at: https://www.conservation.ca.gov/cgs/tsunami/maps/san-mateo. Accessed June 3, 2025.

[88] Regional Water Quality Control Board (RWQCB). 2024. *Water Quality Control Plan (Basin Plan) for the San Francisco Bay Basin.* California Regional Water Quality Control Board, San Francisco Bay Region. March 7. Available at: https://www.waterboards.ca.gov/sanfranciscobay/basin_planning.html. Accessed June 3, 2025

predominantly zoned Downtown Residential – High (DRH) and Linden Neighborhood Center (LNC) and have General Plan designations of Medium High Density Residential and Linden Neighborhood Center.[89]

The project would include construction of a new community park on land zoned for Parks and Recreation (PR). The project would not change the intended nature of land uses or physically divide an established community. Therefore, this impact would be less than significant, and mitigation is not 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. The project would not conflict with any land use plan, policy, or regulation. The project would include the construction of a park with an event space in the Downtown subarea, which has limited park areas. This project fulfills the 2040 General Plan performance metric to ensure that all residents are within a 10-minute walk (0.5 mile) of a park, trail, or open space. The project also fulfills the following 2040 General Plan policies from the Land Use and Community Design and Abundant and Accessible Parks and Recreation Elements:[90,91]

- Policy LU-1.4: Maintain and expand public facilities and services;
- Policy LU-1.5: Create places and opportunities for neighborhood events;
- Policy LU-8.1: Expand arts and cultural programming in public spaces;
- Policy LU-8.5: Provide plazas and gathering places;
- Policy PR-1.4: Ensure equitable distribution of park and recreation opportunities; and
- Policy PR-1.9: Support community events.

The project would include the addition of improved sidewalks, bicycle racks, and an ADA-compliant parking space, which would fulfill the following policies:

- Policy LU-7.5: Foster pedestrian and bicycle access in neighborhood commercial development;
- Policy LU-8.3: Improve pedestrian connections and sidewalks; and
- Policy LU-8.9: Ensure ADA accessibility.

The project would include the removal of nine existing trees and the planting of approximately 30 to 35 new trees, which fulfills Policy LU-8.4 to require new development to add trees to streets and public

[89] City of South San Francisco. 2025a. SSF Zoning Search App. Available at: https://zoning.ssf.net/. Accessed June 3, 2025.

[90] City of South San Francisco. 2022e. *City of South San Francisco 2040 General Plan Land Use and Community Design Element.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/land_use_and_community_design/. Accessed May 2025.

[91] City of South San Francisco. 2022f. *City of South San Francisco 2040 General Plan Abundant and Accessible Parks and Recreation Element*. Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/abundant-accesible-parks-recreation/. Accessed May 2025.

places and integrates sustainable landscape strategies and Policy PR-7.8, including using low-water landscaping and green infrastructure for stormwater capture. [92,93]

The project is located in the Airport Influence Area of SFO, in the Outer Boundary for Terminal Instrument Procedures (TERPS) approach and One Engine Inoperative (OEI) surfaces (see Figure 3-1, *San Francisco International Airport, Airport Influence Areas*). As discussed in *Impact Discussion IX(e)*, this area defines the safe height of structures in the zone. The safe height is more than 150 feet above ground surface.[94] The new park equipment, including the potential restroom, would be single-story, not exceeding 11 feet in height; therefore, the project would be well below the imaginary airspace surface. The project would not conflict with any plans, policies, or regulations. Therefore, this impact would be less than significant, and mitigation is not required.

XII. Mineral Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

Environmental Evaluation

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?

No Impact. A significant impact may occur if a project site were located in an area used or available for extraction of a regionally important mineral resource, if a project would convert an existing or future regionally important mineral extraction use to another use, or if a project would affect access to a site used or potentially available for regionally important mineral resource extraction.

The project site is not located in a mineral resource zone identified by the state.[95] Therefore, no impacts to mineral resources of statewide or regional significance would occur.

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[92] City of South San Francisco. 2022e. *City of South San Francisco 2040 General Plan Land Use and Community Design Element.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/land_use_and_community_design/. Accessed May 2025.

[93] City of South San Francisco. 2022f. *City of South San Francisco 2040 General Plan Abundant and Accessible Parks and Recreation Element*. Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/abundant-accesible-parks-recreation/. Accessed May 2025.

[94] City and County Association of Governments of San Mateo County (C/CAG). 2012. *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport.* Available at: https://ccag.ca.gov/plansreportslibrary-2/airport-land-use/. Accessed June 3, 2025.

[95] Stinson, M. C., M. W. Manson, J. J. Plappert, and others. 1982. *Mineral Land Classification: Aggregate Materials in the San Francisco-Monterey Bay Area, Part II, Classification of Aggregate Resource Areas South San Francisco Bay Production-Consumption Region*. California Division of Mines and Geology Special Report 146.

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. A significant impact would occur if a project site were located in an area used or available for extraction of a locally important mineral resource and the project converted an existing or potential future locally important mineral extraction use to another use, or if a project affected access to a site in use or potentially available for locally important mineral resource extraction.

The project site is located in the middle of an urban area. Neither the project site nor the surrounding area is identified as an area containing mineral deposits of local significance in the 2040 General Plan.[96] Therefore, no impacts to mineral resources of local significance would occur.

XIII. Noise

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☒	☐

Environmental Evaluation

South San Francisco Municipal Code Chapter 8.32 sets regulations for exterior noise levels (Section 8.32.030, *Maximum Permissible Sound Levels*). Maximum permissible sound levels in Table 3-7, *Noise Level Standards*, are the standards for a cumulative period of 30 minutes in any hour. The maximum allowable noise level is determined by the land use category of the nearest sensitive receptor properties. The Noise Ordinance limits noise levels in single-family or multiple-family residential areas to 60 decibels (dB) between 7:00 a.m. and 10:00 p.m. Section 8.32.030(a) states it is unlawful for any person to operate any source of sound at any location within the city that causes the noise level when measured on any other property to exceed:

1. The noise level standard for the specified land use for a cumulative period of more than 30 minutes in any hour;
2. The noise level standard plus 5 dB for a cumulative period of more than 15 minutes in any hour;

[96] City of South San Francisco. 2022a. *City of South San Francisco 2040 General Plan.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/. Accessed January 2, 2025.

3. The noise level standard plus 10 dB for a cumulative period of more than 5 minutes in any hour;
4. The noise level standard plus 15 dB for a cumulative period of more than 1 minute in any hour; or
5. The noise level standard or the maximum measured ambient level, plus 20 dB for any period of time.

Table 3-7. Noise Level Standards

Land Use Category	Time Period	Noise Level (dB)
Single-family or duplex residential	10:00 p.m.–7:00 a.m.	50
	7:00 a.m.–10:00 p.m.	60
Multiple-family residential or mixed residential/commercial	10:00 p.m.–7:00 a.m.	55
	7:00 a.m.–10:00 p.m.	60
Commercial districts	10:00 p.m.–7:00 a.m.	60
	7:00 a.m.–10:00 p.m.	65
Parks districts	10:00 p.m.–7:00 a.m.	70
	7:00 a.m.–10:00 p.m.	70

Source: South San Francisco Municipal Code Section 8.32.030 (2023).

South San Francisco Municipal Code Section 8.32.040, *Interior Noise Limits*, regulates interior noise limits for multi-family residential property. Section 8.32.040 indicates that a noise level more than 10 dB above the level allowed by Section 8.32.030 measured 3 feet from any wall, floor, or ceiling inside any unit on the same property when the windows and doors of the unit are closed is unallowable.

South San Francisco Municipal Code Section 8.32.050, *Special Provisions*, allows construction activities that are authorized by a valid City permit between 8:00 a.m. and 8:00 p.m. on weekdays, 9:00 a.m. and 8:00 p.m. on Saturdays, and 10:00 a.m. and 6:00 p.m. on Sundays and holidays. Other hours may be authorized by the construction permit if the project meets one of the following criteria:

(1) No individual piece of equipment shall produce a noise level exceeding 90 dB at a distance of 25 feet. If the device is housed within a structure or trailer on the property, the measurement shall be made outside the structure at a distance as close to twenty-five feet from the equipment as possible; or

(2) The noise level at any point outside of the property plane of the project shall not exceed 90 dB.

According to South San Francisco Municipal Code Section 8.32.060, *Exception Permits,* if the applicant can show to the City Manager, or the Manager's designee, that a diligent investigation of available noise abatement techniques indicates that immediate compliance with the requirements of this chapter would be impracticable or unreasonable, a permit to allow exception from the provisions contained in this chapter may be issued, with appropriate conditions to minimize the public determinant caused by such exceptions. Any such permit shall be as short a duration as possible, but in no case for longer than 6 months. These permits are renewable upon a showing of good cause, and shall be conditioned by a schedule for compliance and details of compliance methods in appropriate cases.

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?

Less than Significant with Mitigation Incorporated. The project would result in a significant impact if it would:

1. Allow construction to occur outside of hours specified in the permit;
2. Produce construction noise in excess of 90 dB at a distance of 25 feet or exceed 90 dB at any point outside the property plane of the project; or
3. Produce operational noise in excess of 60 dB at neighboring residential properties.

Residences, schools, hotels, childcare facilities, and convalescent facilities are typically considered noise-sensitive land uses. The nearest potential residential receptors to the project site are single-family homes and duplexes located adjacent to the southeastern border on Pine Avenue and 7th Lane and 20 feet northeast on 8th Lane. Primary noise sources within the vicinity of the project site include vehicle traffic from Linden Avenue and local street traffic from Pine Avenue, 7th Lane, 8th Lane, and surrounding roadways. Secondary noise sources include aircraft overflights from SFO, distant train noise from Caltrain (0.27 mile southeast), and distant traffic noise from U.S. Route (US) 101 (approximately 800 feet east).

Construction

Project construction would include use of standard construction equipment, including excavators, graders, tractors, loaders, pavers, jackhammers, hoe rams, and cement trucks (Table 3-8, *Typical Construction Equipment Noise Levels*);[97] no pile driving is proposed.

Table 3-8. Typical Construction Equipment Noise Levels

Construction Equipment	Noise Level (dB Lmax* at 50 feet)
Air compressor	78
Backhoe	78
Chain saw	84
Compactor	84
Concrete grinder	90
Concrete mixer truck	79
Concrete saw	90
Crane	81
Dozer	82
Dump truck	76
Flatbed truck	74
Front end loader	79

[97] Federal Highway Administration (FHWA). 2006. *FHWA Highway Construction Noise Handbook*. Final Report. U.S. Department of Transportation, Federal Highway Administration. August.

Construction Equipment	Noise Level (dB Lmax* at 50 feet)
Generator	81
Grader	85
Hoe ram	90
Jackhammer	89
Paver	77
Roller	80
Scraper	84

Source: Federal Highway Administration (FHWA) (2006).

* Lmax is the instantaneous maximum noise level for a specified period of time.

Noise from project construction would come from two general sources. Vehicles carrying the construction crew commuting to the project site, as well as truck transport of construction equipment and materials to the project site, would incrementally increase noise levels on roads leading to the project site. In addition, use of heavy construction equipment and hand tools during construction would incrementally increase noise levels on the project site. Worker commute and truck trips would result in intermittent noise increases on local roads but would not affect long-term ambient noise levels.

The second type of short-term noise impact is related to noise generated during demolition, excavation, grading, and construction on the project site. Construction is performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on-site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase. Louder types of construction equipment include graders, scrapers, and auger drill rigs as well as concrete saws, concrete grinders, and hoe rams (see Table 3-8, *Typical Construction Equipment Noise Levels*).[98] The loudest phase of construction would likely be the demolition of the parking lot, followed by the excavation and grading.

For the proposed project, the combined loudest pieces of equipment during demolition and grading could reach 90 A-weighted decibels (dBA)[99] outside the property plane of the construction activity, which is the noise limit defined in the South San Francisco Municipal Code.[100] These higher noise levels could be generated during (1) the use of concrete saws, jackhammers, and/or hoe ram during demolition of the parking lot, and (2) the use of earth-moving equipment and excavation activities and grading. If a valid City permit is obtained, construction activities would comply with the South San Francisco Noise Regulations, as long as no individual piece of equipment produces noise levels that exceed the construction noise limit of 90 dBA at the property line.

With implementation of Mitigation Measure NOI-1, the project would result in a less-than-significant impact related to generation of a substantial temporary increase in ambient noise levels that are in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies.

[98] Federal Highway Administration (FHWA). 2006. *FHWA Highway Construction Noise Handbook*. Final Report. U.S. Department of Transportation, Federal Highway Administration. August.

[99] A-weighted decibels are a unit used to measure sound levels while approximating the human ear's sensitivity to different frequencies.

[100] FHWA, 2006.

Operation

Existing ambient noise sources in the vicinity of the project site include automobile and truck traffic, commercial activities, surface parking lot activities, aircraft from SFO, and other miscellaneous noise sources associated with typical urban activities. The park would be open daily from dawn until dusk, with the exception of permitted special events. Under South San Francisco Municipal Code Section 10.36.180, *Loitering During Certain Hours*, park use between 9:00 p.m. and 6:00 a.m. would be prohibited. The new park would generate noise from daytime use of park facilities. Noise sources from the proposed park would include the picnic areas, playground, fitness area, active lawn areas, and vehicle trips generated by the project. General park recreational activities (e.g., picnics, exercise, small gatherings) that do not require the use of amplified sound systems would not be expected to substantially contribute to the existing ambient noise environment outside of the project site, which is dominated by traffic-generated noise. Playground use by children would likely generate the loudest sounds but would be unlikely to raise the ambient noise levels beyond 60 dB at adjacent residences during daytime hours. In addition, the park facilities would be buffered on the east side adjacent to the nearest residences by a privacy fence and new planting areas, which will buffer sound. Overall, general park operations associated with the project would not substantially contribute to the existing ambient noise environment at nearby sensitive receptors, and noise impacts from typical park operations would be less than significant.

The project would create a new City park, which would be equipped to host public events with amplification, such as concerts, dance performances, festivals, and movie nights. South San Francisco Municipal Code Section 8.32.050, *Special Provisions*, states that sound performances and special events not exceeding 80 dB measured at a distance of 50 feet from the loudest source are exempt from this chapter with City approval and Section 8.32.070, *Amplified Sound—Permit Required*, requires a permit from the chief of police for all events with amplified sound. Section 8.32.080, *Amplified Sound—Regulations*, permits amplified sound of music and human speech between 8:00 a.m. and 8:00 p.m., Monday through Saturday, and 10:00 a.m. and 8:00 p.m. on Sundays and holidays. For R-3, D-C, multiple-family, or mixed residential/commercial zones operational noise in excess of 60 dB at neighboring residential properties is prohibited between 7:00 a.m. and 10:00 p.m. and 50 dB is prohibited between 10:00 p.m. and 7:00 a.m. (see Table 3-7, *Noise Level Standards*). For R-3 and D-C zones a noise level in excess of 55 dB between 10:00 p.m. and 7:00 a.m. is not allowed (South San Francisco Municipal Code Table 8.32.030)

The City's Special Event Permit process allows the City to assess potential impacts of any proposed event on the surrounding neighborhood and to ensure compliance with noise restrictions. All special events would be required to obtain permits from the City. Concerts and festivals would be required to end by 8:00 p.m. Movie nights would occur no more than four times per year and may have amplified noise audible up to 10:00 p.m., as outdoor movies can only be shown after sundown. This time surpasses the City's noise ordinance and would only take place with City approval as well as a notice to neighbors within 500 feet of the park.Compliance with South San Francisco Municipal Code Chapter 8.32, *Noise Regulations*, and City Special Event Permit limitations would reduce impacts related to operational noise from the new park to less than significant.

Mitigation Measure NOI-1: The following measures shall be implemented to reduce construction noise impacts:

a. Secure a valid City of South San Francisco (City) permit for construction noise levels that could potentially temporarily exceed 90 decibels (dB) at the park's property line in order to comply with the South San Francisco Municipal Code Chapter 8.32, *Noise Regulations*.

b. Construction equipment and haul trucks shall use the best available noise control techniques, including improved mufflers, use of intake silencers, ducts, engine enclosures and acoustically attenuating barriers, curtains, and shields.

c. Site stationary noise sources, such as air compressors and generators, as far from adjacent sensitive receptors as possible. These sources shall be muffled and enclosed within temporary sheds or incorporate insulation barriers, shields, or other attenuating measures.

d. If impact equipment and machinery are used, such as jack hammers, pavement breakers, and rock drills, they shall be hydraulically or electrically powered to avoid noise associated with air compressors or pneumatically powered tools. If the use of pneumatically powered tools is necessary, an exhaust muffler shall be installed on the air compressor. Such a muffler can lower noise levels from the exhaust by up to 10 A-weighted decibels (dBA). Similarly, the installation of external jackets on the tools can reduce noise levels by 5 dBA.

e. Material stockpiles and mobile equipment, staging, and parking areas shall be located as far as possible from noise-sensitive receptors (e.g., adjacent residences).

f. Notify all adjacent landowners and occupants of the properties adjacent to the project site of the anticipated construction schedule at least 2 weeks prior to ground-disturbing activities.

g. Hold a preconstruction meeting with the Contractor Superintendent, General Contractor, and City inspectors to confirm that all noise mitigation measures (including signage on construction hours, valid City exception permit, and liaison contact information) are completed.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant. Groundborne vibration is the perceptible movement of building floors, rattling of windows and doors, shaking of items on shelves or walls, and generation of low-frequency rumbling sounds. For groundborne vibration, according to the Federal Transit Administration (FTA) guidelines, a vibration level of 65 vibration decibels (VdB) is the threshold of perceptibility for humans.[101] For a significant impact to occur, vibration levels must exceed 80 VdB during infrequent events.[102] Construction activities (e.g., ground-disturbing activities, including movement of heavy construction equipment and hauling of demolition debris and soil from the project site) may generate localized groundborne vibration and noise. Blasting or pile-driving activities would not occur during construction of the project. A hoe ram, jackhammers, and concrete saws would be used during demolition of the street and existing parking lot. A vibratory roller would be used for street and parking lot construction.

[101] VdB is the vibration velocity level expressed in decibels relative to 1 micro-inch per second (1×10^{-6} inch per second).

[102] Federal Highway Administration (FHWA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. U.S. Department of Transportation, Federal Highway Administration. Available at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed June 11, 2025.

Generally, construction-related groundborne vibration is not expected to extend beyond 25 feet from the generating source.

Construction equipment for demolition of the existing street and parking lot could include jackhammers, concrete saws, and a compactor machine (vibratory pad or drum roller). The closest sensitive receptors are residences on Pine Avenue and 7th Lane approximately 10 feet from the southwestern edge of the project area. The activities closest to the adjacent residences include the demolition of the parking lot and approximately 100 feet of Pine Street, rerouting and construction of Pine Avenue within the project envelope, and movement of haul trucks. Hauling of soils and debris could generate vibrations along local haul routes. The project is anticipated to require a total of approximately 140 round-trip truck trips to off-haul soil and demolition debris over the 10-month construction period. Parking lot and street demolition would take approximately 4 weeks. The maximum haul trips per day would likely be 20 one-way trips per day during the street and parking lot demolition phase. The movement of up to 20 haul trucks per day would not generate significant amounts of groundborne vibration. Therefore, this impact would be less than significant, and mitigation is not required.

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?

Less than Significant. The nearest airport to the project site is SFO, located approximately 2 miles southeast. According to the 2040 General Plan Environmental Impact Report (EIR),[103] aircraft noise from SFO is the primary source of transportation noise in the city. The project site is located within SFO ALUCP Airport Influence Area B (see Figure 3-1, *San Francisco International Airport, Airport Influence Areas*), which is based on a combination of the outer boundaries of the noise compatibility and airport safety zones.[104] However, the project site is located outside the aircraft noise exposure contour (Community Noise Equivalent Level [CNEL] Contour; see Figure 3-1, *San Francisco International Airport, Airport Influence Areas*). Therefore, because the project site is outside the airport noise exposure contour and would not introduce residents or employees to the area, the project would not expose people residing or working in the area to excessive noise levels associated with the nearby airport and airport noise impacts. Therefore, this impact would be less than significant, and mitigation is not required.

[103] FirstCarbon Solutions. 2022. *Final Environmental Impact Report for the General Plan Update, Zoning Code Amendments, and Climate Action Plan, City of South San Francisco, San Mateo County, California*. State Clearinghouse Number 2021020064. Prepared for City of South San Francisco. September 6. Available at: https://shapessf.com/wp-content/uploads/2022/09/SSF-GPU-Final-EIR_Combined.pdf. Accessed May 2025.

[104] City and County Association of Governments of San Mateo County (C/CAG). 2012. *Comprehensive Airport Land Use Compatibility Plan for the Environs of San Francisco International Airport*. November. Available at: https://ccag.ca.gov/wp-content/uploads/2014/10/Consolidated_CCAG_ALUCP_November-20121.pdf. Accessed June 5, 2025.

XIV. Population and Housing

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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 extension of roads or other infrastructure)?	☐	☐	☒	☐
(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Environmental Evaluation

a) Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Less than Significant. City and County General Plans develop growth plans and projections for the areas in their jurisdictions. A significant impact would occur if a project included a General Plan amendment that could result in an increase in population over that projected in the adopted General Plan, or if a project would induce substantial growth on the project site or surrounding area.

Construction job opportunities created as a result of the project are not expected to result in any substantial population growth in the area. The work requirements of most construction projects are highly specialized so that construction workers remain at a job site only for the time frame during which their specific skills are needed. Additionally, the construction workers would likely be supplied from the region's labor pool. Construction workers would not be likely to relocate their household as a consequence of working on the project, and as such, significant housing or population impacts would not result from construction of the project. There would be no construction-related population growth impacts. Therefore, no impact would occur.

Performance Metric 2 of the 2040 General Plan requires the City to have a park, trail, or open space within a 10-minute walk (0.5 mile) of all South San Francisco residents. The project would create a new neighborhood park in an area of the city with limited park space. The project would not create new housing or jobs, is not likely to attract more people to the surrounding area or cause people to move to the area, and would not introduce new persons to the population. Therefore, this impact would be less than significant, and mitigation is not 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 create a new neighborhood park on an existing vacant lot and parking lot and would not displace people or housing. Therefore, no impact would occur.

XV. Public Services

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
(a) 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:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☐	☒

Environmental Evaluation

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:

Fire protection?

Less than Significant. The project would create a new neighborhood park. It would not increase the population in the area or introduce a hazard; therefore, it would not create a need for new or altered government facilities. A significant impact may occur if the SSFFD could not adequately serve a project, and a new or physically altered fire station would be necessary. The project area receives fire protection services from the SSFFD, which has three fire stations. The project site is in the response area for Fire Station 61, located at 480 North Canal Street, approximately 0.65 mile southwest of the project site. In addition, Fire Station 65 is located at 1151 South San Francisco Drive, approximately 0.85 mile northwest of the project site.[105]

The project would not increase population. The neighborhood park would be a place for recreational users to gather, but would draw primarily from residents in the Downtown neighborhood, and the majority of users are expected to walk to the park. The project would not cause a marked increase in recreational users. Therefore, a less-than-significant impact to fire protection services would occur, and mitigation is not required.

[105] City of South San Francisco. 2025c. Fire Stations. Available at: https://www.ssf.net/departments/fire/fire-stations. Accessed March 21, 2025.

Police protection?

Less than Significant. A significant impact may occur if the South San Francisco Police Department (SSFPD) could not adequately serve a project, and a new or physically altered police station would be necessary. The project area receives law enforcement services from the Patrol Division of the SSFPD. The Patrol Division consists of 40 officers and four patrol beats covering 11 square miles of the city. The Police Station located at 1 Chestnut Avenue is located approximately 1.4 miles west of the project site.[106]

The new neighborhood park would be a place for recreational users to gather, but would draw primarily from residents in the Downtown neighborhood, and the majority of users are expected to walk to the park. The project would not increase the population in the area or introduce a hazard; therefore, it would not create a need for new or altered government facilities. The project would not bring new recreational users to the area or increase the demand for public services, including police protection. Therefore, a less-than-significant impact to police protection services would occur, and mitigation is not required.

Schools?

No impact. The project area is served by the South San Francisco Unified School District (SSFUSD). A significant impact may occur if the SSFUSD could not adequately serve a project, and a new or physically altered school or schools would be necessary. The SSFUSD has nine elementary schools, three middle schools, three high schools, and an adult education program. Between 2011 and 2021, the enrollment declined by 1,306 students. Enrollment projections between 2021 and 2030 show an expected decrease in student population from 8,006 students to 6,759 students, a decrease of 1,247 or approximately 15.6%.[107]

The project would create a new neighborhood park. The project would not increase the population in the area or the demand for public services, including schools. Therefore, no impact would occur.

Parks?

Less than Significant. A significant impact may occur if the project would result in the need for new or improved parks. The project would create a new neighborhood park in an underserved area of the city for park space. It would help the City meet requirements in the 2040 General Plan and Parks and Recreation Master Plan to provide access within walking distance to developed parks, trails, or open space for Linden neighborhood residents.[108,109]. The Downtown subarea is recognized as having extremely limited park space. Both the 2040 General Plan and Parks and Recreation Master Plan identify the lots at Linden Avenue and Pine Avenue for a park that would serve a densely populated area of the city. In addition, the *South San Francisco Downtown Station Area Specific Plan* recommends developing a neighborhood plaza on Linden Avenue between Pine Avenue and Aspen Avenue that could provide a gathering space

[106] City of South San Francisco. 2025d. Police Stations. Available at: https://www.ssf.net/departments/police. Accessed March 21, 2025.

[107] South San Francisco Unified School District (SSFUSD). 2022. *South San Francisco Unified School District Long-Range Facilities Master Plan.* August. Available at: https://4.files.edl.io/5a24/08/25/22/194515-5cce5154-3bcb-4222-9cc6-9fff606d1143.pdf. Accessed March 21, 2025.

[108] City of South San Francisco. 2022a. *City of South San Francisco 2040 General Plan.* Final Plan. Resolution #178-2022. Adopted October 12. Available at: https://shapessf.com/. Accessed June 9, 2025.

[109] City of South San Francisco. 2015b. *City of South San Francisco Parks and Recreation Master Plan.* Adopted July 22. Available at: https://www.ssf.net/Departments/Parks-Recreation/About-Us/Parks-and-Recreation-Master-Plan. Accessed June 9, 2025.

for special events such as farmers' markets, food trucks, or art, music, or cultural festivals, ideally adjacent to an outdoor usable green space and pocket park.[110]

The new facility would provide a plaza suitable for public gatherings and special events, as well as public green space for picnics and barbeques, art installations, a playground, and outdoor fitness area, and would enable the City to provide offerings of neighborhood events and activities. The proposed project would improve opportunities and access to park facilities in the underserved Linden neighborhood and would not create a need for new or improved parks. Adverse impacts from the project would be mitigated though adherence to required measures (e.g., Stormwater BMPs, dust control, etc.), City standard measures and mitigation measures. Therefore, this impact would be less than significant, and further mitigation is not required.

Other public facilities?

No impact. A significant impact may occur if the project would result in the need for other new or improved public facilities. Other public facilities include the Community Civic Campus, which includes a new Police Operations and 911 Dispatch Center, South San Francisco Main Library, Community Theater/Council Chamber, and Parks and Recreation facilities.

The project would create a new neighborhood park. The project would not increase the population in the area or the demand for public services, including libraries, theaters, or other uses. Therefore, no impact would occur.

XVI. Recreation

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☒	☐

Environmental Evaluation

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?

No Impact. A project would result in a significant impact to parks and recreation services if it would result in a significant increase in population from adding residential units. The project would create a new park in an underserved neighborhood of the city. It would not increase the population in the area. The majority of park users would be from the surrounding neighborhood and are expected to walk to the park.

[110] City of South San Francisco. 2015a. *South San Francisco Downtown Station Area Specific Plan.* Adopted February. Available at: https://shapessf.com/wp-content/uploads/2022/09/Adopted-DSASP-February-20.pdf.

The park would serve the underserved Downtown neighborhood and provide a public space for neighborhood events and assist the City in achieving the Parks and Recreation Master Plan Goal 2 of having every resident within a 5-minute walk of a park or open space.[111]

The Downtown neighborhood was identified as having limited park space in both the 2040 General Plan and Parks and Recreation Master Plan. Both plans identified the project area as a viable space for a new park. The project would provide park and event space to the Downtown neighborhood. The project would not introduce more people to the Downtown neighborhood or result in substantial physical deterioration of an existing park. Therefore, no impact would occur.

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. The project would construct a new park on an urban site that currently contains a parking lot and grassy field. The project would include the removal of nine existing trees and the planting of approximately 30 to 35 new trees and landscaping. Although the project would create a new recreational facility, it would not have a significant, adverse physical effect on the environment. As discussed in Section IV, *Biological Resources*; Section V, *Cultural Resources*; Section VII, *Geology and Soils*; Section X, *Hydrology and Water Quality*; and Section XVIII, *Tribal Cultural Resources*, all potentially significant impacts would be reduced to a less-than-significant level by mitigation incorporated into the project.

The project would create a neighborhood park in the Downtown subarea, which has limited park space, and would assist the City in achieving the Parks and Recreation Master Plan Goal 2 of having every resident within a 5-minute walk of a park or open space. Therefore, this impact would be less than significant, and mitigation is not required.

XVII. Transportation

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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) Would the project 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?	☐	☒	☐	☐

[111] City of South San Francisco. 2015b. *City of South San Francisco Parks and Recreation Master Plan.* Adopted July 22. Available at: https://www.ssf.net/Departments/Parks-Recreation/About-Us/Parks-and-Recreation-Master-Plan. Accessed June 9, 2025.

Environmental Evaluation

REGULATORY SETTING

Federal Laws, Regulations, and Policies

No federal regulations are applicable to transportation in relation to the project.

State Laws, Regulations, and Policies

California Government Code Section 65402. California Government Code Section 65402 is applicable for roadway abandonment that is part of the project. California Government Code section 65402(a) states that a planning agency must review the conformity of certain actions with a general plan before those actions can be taken. This includes the acquisition or disposition of real property, street vacation or abandonment, and construction of public buildings. In addition, Government Code Section 65402 requires a street abandonment to first be reviewed at a public hearing before the Planning Commission, including a CEQA determination and a determination as to the proposal's conformance with the General Plan.

California Streets and Highway Code. Division 9, Part 3 – Public Streets, Highways and Service Vacation Laws, Sections 8300-8363, includes procedures to apply for roadway abandonment, such as would become part of the project. Specifically, California Vehicle Code Sections 8320-8325 pertain to the "General Vacation Procedure," which outlines the process for a local agency to vacate (essentially close off) a public street, highway, or service easement, including requirements for initiating the process, public notice, hearings, and final resolution to vacate the area. This process essentially allows for the removal of a public right-of-way from a piece of land.

***California Complete Streets Act of 2008 (Assembly Bill 1358*)**. Originally passed in 2008, California's Complete Streets Act took effect in 2011 and requires local jurisdictions to plan for land use transportation policies that reflect a "complete streets" approach to mobility. "Complete streets" comprises a suite of policies and street design guidelines that provide for the needs of all road users, including pedestrians, bicyclists, transit operators and riders, children, older people, and people with mobility issues.

Senate Bill 743. On September 27, 2013, SB 743 was signed into law. The California State Legislature found that, with the adoption of the Sustainable Communities and Climate Protection Act of 2008 (SB 375), the State had signaled its commitment to encourage land use and transportation planning decisions and investments that reduce vehicle miles traveled (VMT) and thereby contribute to the reduction of greenhouse gas (GHG) emissions, as required by the California Global Warming Solutions Act of 2006 (AB 32). Additionally, AB 1358 (described above) requires local governments to plan for a balanced, multimodal transportation network that meets the needs of all users. To further the State's commitment to the goals of SB 375, AB 32, and AB 1358, SB 743 added Chapter 2.7, Modernization of Transportation Analysis for Transit-Oriented Infill Projects, to Division 13 (Section 21099) of the Public Resources Code.

On September 27, 2013, Governor Jerry Brown signed SB 743 into law and started a process intended to fundamentally change transportation impact analysis as part of CEQA compliance. Specifically, SB 743 removes the use of automobile delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion for determining transportation impacts in environmental review. According to the legislative intent contained in SB 743, the move away from LOS is necessary to balance the needs of congestion management more appropriately with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG emissions.

The legislation also directed the State of California Governor's Office of Planning and Research (OPR) to look at different metrics for identifying transportation impacts and make corresponding revisions to CEQA and the State CEQA Guidelines. OPR selected VMT as the preferred metric for assessing passenger vehicle-related impacts. In December 2018, OPR issued revised CEQA Statute & Guidelines, along with a *Technical Advisory on Evaluating Transportation Impacts in CEQA*[112] to assist practitioners in implementing the CEQA Statute & Guidelines revisions to use VMT as the new metric.

City of South San Francisco approved VMT Guidelines to replace LOS with VMT as the City's performance measure for CEQA analysis of transportation impacts and thresholds of significance for land use projects. The VMT Guidelines are included in a memo on *Proposed VMT Threshold and Analysis Methods* by Fehr & Peers, dated May 11, 2020.

Local Laws, Regulations, and Policies

The City of South San Francisco includes goals, policies, and implementation measures related to transportation.

South San Francisco General Plan. The Shape SSF 2040 General Plan provides a roadmap for the City to implement policies and actions that create a resilient community. The plan was adopted by the City Council in the summer of 2022. The Mobility Element includes goals, policies, and actions for ensuring safe, efficient movement of all transportation users to achieve the equity, environment, and quality of life outcomes in the City. Key ideas include:

- Transit is the first choice for regional travel. South San Francisco's BART and Caltrain stations, and ferry terminal are all critical hubs of local and regional travel in the Bay Area.
- South San Francisco is a city where daily activities and functions can be performed without the need or desire for a single occupancy vehicle.
- Plans and development activity emphasize transportation modes and strategies that ensure healthy air quality, reduce greenhouse gas emissions, and reduce the need to devote additional lands to transportation uses.

REGIONAL AND LOCAL ACCESS

Regional access is provided by US 101, I-280, Airport Boulevard, Miller Avenue, El Camino Real, Cypress Avenue, and Grand Avenue. Local access is provided by Linden Avenue, Pine Avenue, 7th Lane, and 8th Lane.

The project site is located on the east side of Linden Avenue, between 8th Lane to the north and 7th Lane to the south. The site is comprised of two parcels (616 Linden Avenue and 700 Linden Avenue) and an approximately 100-foot long section of Pine Avenue that bisects the project site. 616 Linden Avenue is currently an active parking lot and 700 Linden Avenue is a vacant grass lot. The two parcels are proposed to be redeveloped into a park with a children's play area, a space for recreation, a sports court, spaces for community gathering and public art. A detailed transportation analysis has been conducted for the proposed project and included as Appendix E.

As described in the detailed transportation study in Appendix E and the Design review in Appendix A3, the preferred concept plan for the park is proposing to reconfigure the intersection of Linden Avenue and

[112] California Governor's Office of Planning and Research (OPR). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. April. Available at: https://lci.ca.gov/docs/20180416-743_Technical_Advisory_4.16.18.pdf. Accessed July 2025.

Pine Avenue to operate as a three-legged intersection without the east leg. Pine Avenue, east of Linden Avenue would be closed off to vehicular traffic and be replaced with a one-way alley along the eastern boundary of the park that would connect to 7th Lane. Westbound vehicles on Pine Avenue would be able to make a left turn onto the new alley and a right turn onto 7th Lane to connect to Linden Avenue. The one-way alley would be designed to accommodate trucks, including fire apparatus.

Access to the proposed park would be provided primarily via Pine Avenue and Linden Avenue. The project will not construct any driveways. In addition to the existing on-street parking on Linden Avenue, new on-street parking will be provided along the project frontage on the one-way alley, 8th Lane, and 7th Lane. A new crosswalk with stop-control will be installed at the junction between Pine Avenue and the new one-way alley that extends to 7th Lane. The width of the one-way alley, which measures 20 feet, and the dimensions of the adjacent parallel parking spaces (8.5 feet by 20 feet), meet fire truck access and City Code standards. The dimensions of the angled parking spaces (8.5 feet by 19.5 feet) along the project frontage on 8th Lane and 7th Lane also meet City Code standards.

The conceptual site plan shows pedestrian pathways from the on-street parking interconnected to all areas of the park, as well as to the existing sidewalks along the project frontages (see Figure 2-1, *Project Site Plan*).

PUBLIC TRANSIT

The project site is served by San Mateo County Transit District (SamTrans) Bus Routes 37, 130, and 141, which all have a stop at the corner of Linden and California Avenues, one block south of the project site. The bus routes offer connections to Daly City, San Bruno, Alta Loma School via Route 37; Daly City Bay Area Rapid Transit (BART) via Route 130; and San Bruno, Pacifica, and Skyline College via Route 141.[113] In addition, the Free South City Shuttle, which stops at the corners of Linden and California Avenues and Linden and Aspen Avenues, provides a circular route within the city connecting schools, parks, the Municipal Services Building, the downtown area, Kaiser Hospital, and senior centers, as well as connecting transportation to SamTrans stops and the South San Francisco BART station.[114] The South San Francisco Caltrain station is located approximately 0.25 mile southeast of the project site.

PEDESTRIAN/BICYCLE TRANSIT

The conceptual site plan shows pedestrian pathways from the on-street parking interconnected to all areas of the park, as well as to the existing sidewalks along the project frontages (see Figure 2-1, *Project Site Plan*).

ADA/EV PARKING

One ADA parking space is provided on the north side of the new park via a diagonal stall on 8th Lane. No ADA parking is proposed on the south side of the park at 7th Lane. No EV parking is currently provided.

[113] San Mateo County Transit District (SamTrans). 2025. Schedules and Maps. Available at: https://www.samtrans.com/schedulesmaps?active_tab=route_explorer_tab. Accessed July 21, 2025.

[114] City of South San Francisco. 2025. Free South City Shuttle. Available at: https://www.ssf.net/Services/Free-South-City-Shuttle. Accessed July 21, 2025.

a) Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Construction

Less Than Significant with Mitigation. The Proposed Project would involve construction of a new park by combining two vacant parcels and addition of a new one-way street to access 7th Lane. This would require closure and demolition of the east leg of the Pine Avenue and Linden Avenue intersection. Activities taking place during the demolition/construction phase would likely have short-term impacts on the surrounding transportation circulation system. While construction is considered short term, the duration of the construction phase will be identified by the construction management plan. Construction may include additional truck traffic, temporary street closures, partial lane closures, and/or traffic detours. The transportation system, including day-to-day vehicular traffic, emergency response vehicles, pedestrians, bicycles, and transit, may experience temporary delays or detours. While construction will likely be phased to minimize road closures, residents on Pine Avenue will need to access and exit to the east at Cypress Road until the one-way lane to 7th Lane is fully operational. During construction, access will be maintained for surrounding land uses. Therefore, this impact would be considered potentially significant. In response, the City will implement Mitigation Measure TR-1 that would ensure less-than-significant impacts related to access to surrounding land uses would be maintained during construction activities and avoid potential conflicts with the City's circulation plans and policies.

Operations

Less than Significant. Following final design review of the project plans and completion of construction, the Project would not conflict with the South San Francisco General Plan or with established City Code standards. As described in the detailed transportation study in Appendix E and the design review in Appendix A3, the preferred concept plan for the park is proposing to reconfigure the intersection of Linden Avenue and Pine Avenue to operate as a three-legged intersection without the east leg. Pine Avenue, east of Linden Avenue would be closed off to vehicular traffic and be replaced with a one-way alley along the eastern boundary of the park that would connect to 7th Lane. Westbound vehicles on Pine Avenue would be able to make a left turn onto the new alley and a right turn onto 7th Lane to connect to Linden Avenue. The one-way alley would be designed to accommodate trucks, including fire apparatus. The transportation study described how traffic will be rerouted around the road closure and can be adequately accommodated within the existing circulation network without additional operational deficiencies.

Access to the proposed park would be primarily provided via Linden Avenue and Pine Avenue. The project will not construct any driveways. Additional access to the project frontage will be provided via 7th Lane and 8th Lane. In addition to the existing on-street parking on Linden Avenue, new on-street parking will be provided along the project frontage on the one-way alley, 8th Lane, and 7th Lane. A new crosswalk with stop-control will be installed at the junction between Pine Avenue and the new one-way alley that extends to 7th Lane. The width of the one-way alley, which measures 20 feet, and the dimensions of the adjacent parallel parking spaces (8.5 feet × 20 feet), meet fire truck access and City Code standards. The dimensions of the angled parking spaces (8.5 feet × 19.5 feet) along the project frontage on 8th Lane and 7th Lane also meet City Code standards.

The conceptual site plan shows pedestrian pathways from the on-street parking interconnected to all areas of the park, as well as to the existing sidewalks along the project frontages (Figure 2-1, *Project Site Plan*). The Site Plan Review conducted by Hexagon Transportation Consultants, shown in Appendix A3, provides recommendations to improve the traffic flow and safety to accommodate all users, including

pedestrians and park users. If the project is implemented based on the site plan and design review, the project would not conflict with any program plans, ordinances or policy addressing circulation. With implementation of the project as identified in the transportation study (see Appendix E) and the design review (see Appendix A3), the proposed project's circulation plan would have a less-than-significant impact, and mitigation is not required.

b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Less than Significant. In accordance with Senate Bill (SB) 743 and the City's Transportation Analysis Guidelines, vehicle miles traveled (VMT) has replaced level of service (LOS) for use in transportation analyses pursuant to the California Environmental Quality Act (CEQA).[115] As a result, traffic volumes on the surrounding network and LOS and delay impacts are not evaluated per SB 743. These effects are described in the detailed transportation study in Appendix E as non-CEQA effects and were further addressed above in *Impact Discussion XVII(a)*.

According to the City's *Transportation Analysis Guidelines*, dated October 2022, some projects may be screened out, or assumed to have a less-than-significant impact on VMT, if they fall within the following categories:

1. Projects located within ½-mile walkshed around major transit stops.
2. 50% affordable housing projects.
3. Small projects that generate less than 100 new trips per day.
4. Locally serving public facilities that encompass government, civic, cultural, health, and
5. infrastructure uses and activity which contribute to and support community needs.
6. Neighborhood-serving retail projects that are less than 50,000 square feet.
7. Hotels designed to serve business travelers or individuals flying in or out of SFO
8. Residential and office projects in low VMT areas.[116]

The daily vehicle trips generated by the project were estimated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual*[117] for Land Use 411, Public Parks. Table 3-9, *Trip Generation*, shows the daily trips that would be generated by the proposed project. The ITE trip rates are conservative as they are based on surveys for parks located primarily in suburban areas where a majority of trips are made by vehicles. Given the location of the proposed park and its accessibility to the surrounding residential neighborhoods, it was assumed that approximately 50% of these trips would be either walk or bike trips. Based on this assumption, it is anticipated that the proposed park would generate 45 vehicle trips daily. Therefore, the proposed project is considered a small project with less than 100 new trips per day.

[115] City of South San Francisco. 2022a. *South San Francisco General Plan Update: Transportation Analysis Guidelines.* Available at: https://www.ssf.net/files/assets/public/v/1/economic-amp-community-development/documents/transportation-analysis-gu.pdf. Accessed July 21, 2025.

[116] City of South San Francisco. 2022a. *South San Francisco General Plan Update: Transportation Analysis Guidelines.* Available at: https://www.ssf.net/files/assets/public/v/1/economic-amp-community-development/documents/transportation-analysis-gu.pdf. Accessed July 21, 2025.

[117] Institute of Transportation Engineers (ITE). 2021. *Trip Generation Manual*. Eleventh Edition. September.

Table 3-9. Trip Generation

Land Use	Size	Daily Rate	Daily Trips
Public Park[1]	0.68	130.73	89
Estimated Vehicle Trips[2] (Assumed 50% of the total trips are non-auto trips			**45**

Source: ITE (2021).

[1] Fitted curve equation for daily and PM peak hour and average rates for AM peak hour for Public Park (ITE Land Use 411). Daily and PM peak hour trips based on the fitted curve equations represent a conservative analysis as the park would generate fewer than 10 daily trips using the average trip rate.

[2] Given the location of the proposed park and its accessibility to the surrounding residential neighborhoods, it was assumed that approximately 50% of these trips would be either walk or bike trips.

According to the State of California Governor's Office of Land Use and Climate Innovation (LCI; formerly OPR) *Technical Advisory on Evaluating Transportation Impacts in CEQA*[118] and the City's *Transportation Analysis Guidelines*,[119] neighborhood parks are classified as locally serving public facilities. Such facilities typically redistribute existing trips within the community rather than generating new trips, as they are intended to provide amenities close to where residents live. In this case, the proposed park would reduce the need for residents to travel outside the neighborhood to access recreational facilities, thereby shortening trip lengths and supporting local access. Consistent with LCI and City guidance, locally serving public facilities such as parks are eligible for VMT screening and are not required to undergo detailed VMT analysis.

Given the proposed project is considered a small project with less than 100 new trips per day, and is a locally serving public facility, it is assumed to screen out for VMT. The project would not conflict or be inconsistent with State CEQA Guidelines Section 15064.3(b) regarding VMT. Therefore, impacts would be less than significant, and mitigation is not 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. The preferred option is proposing to close Pine Avenue at Linden Avenue and instead convert the west end of Pine Avenue to a westbound one-way alley terminating at 7th Lane. The Site Plan Review conducted by Hexagon Transportation Consultants, and shown in Appendix A3, provides recommendations to improve the traffic flow and safety to accommodate all users, including pedestrians and park users. The alley exit to 7th Lane will include curb channelizing, right turn only road striping, a stop bar and stop signage, a pedestrian crossing, and signs for do not enter and no right turn from 7th Lane to the alley. With the proposed recommendations incorporated into the project design, the geometric design does not create any sharp curves or hazards, and is able to accommodate pedestrians and one-way traffic to access 7th Lane and reduce potential hazards to less than significant; mitigation is not required.

[118] California Governor's Office of Planning and Research (OPR). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. April. Available at: https://lci.ca.gov/docs/20180416-743_Technical_Advisory_4.16.18.pdf. Accessed July 2025.

[119] City of South San Francisco. 2022a. *South San Francisco General Plan Update: Transportation Analysis Guidelines.* Available at: https://www.ssf.net/files/assets/public/v/1/economic-amp-community-development/documents/transportation-analysis-gu.pdf. Accessed July 21, 2025.

d) Would the project result in inadequate emergency access?

Construction

Less than Significant with Mitigation. The Proposed Project would involve demolition of the east leg of the Pine Avenue and Linden Avenue intersection, combine the two vacant parcels into a new park and construct a new one-way alley extension of Pine Avenue to access 7th Lane. Activities taking place during the demolition/construction phase would likely have short-term impacts on the surrounding transportation system. This would include additional truck traffic, temporary street closures, partial lane closures, and/or traffic detours. While construction is considered short term, the duration of the construction phase will be identified by the construction management plan. The transportation system, including emergency response vehicles, may experience temporary delays or detours. While construction will likely be phased to minimize road closures, emergency access to residents on Pine Avenue will need to be maintained to access the residential areas via Cypress Avenue until the one-way lane to 7th Lane alley is fully operational.

During short-term construction activities including the associated roadway improvements, partial or complete road closures may be required along Linden Avenue, 7th Lane, and 8th Lane to accommodate roadway and parking improvements. Closures would not impact individual access to other properties. The City's General Plan does not identify emergency evacuation routes. Linden Avenue is identified as a connector and 7th Lane, 8th Lane, and Pine Avenue are identified as neighborhood streets.[120]

During the construction phase, the City would require an encroachment permit for any temporary activities that would affect the public right-of-way. Encroachment permit conditions would include a traffic control plan with temporary procedures for emergency access. Additionally, in the event of partial lane closures, sufficient alternative routes exist near the project site and the project would not interfere with or result in inadequate emergency access.

Therefore, this impact would be considered potentially significant without mitigation. In response, the City will implement Mitigation Measure TR-1 that would ensure access to surrounding land uses would be maintained during construction activities and avoid potential conflicts with the City's circulation plans and policies.

Mitigation Measure TR-1 would reduce the potential for such conflict to a less-than-significant level. As a result, impacts to emergency access related to construction would be less than significant with mitigation.

Operations

Less Than Significant. Emergency access to properties along the park frontage would be maintained via Pine Avenue and Linden Avenue (north and south of the temporary street closure). With the preferred option proposing to convert the west end of Pine Avenue to a westbound one-way alley terminating at 7th Lane, emergency access to residences along Pine Avenue would require entry via Cypress Avenue.

The closure of Pine Avenue is expected to result in minimal traffic diversion, with an estimated 57 vehicles during the AM peak hour and 45 vehicles during the PM peak hour. As documented in the transportation study provided in Appendix E, nearby intersections are anticipated to continue operating at LOS C or better during both peak periods. Furthermore, due to the grid street network in the project area, circulation impacts will be limited, as the project site could be accessed via Cypress Avenue. This

[120] City of South San Francisco. 2022b. *South San Francisco General Plan 2040, Chapter 9. Mobility and Access. Figure 14.* Available at: https://shapessf.com/. Accessed July 21, 2025.

modification is not anticipated to result in inadequate emergency access to the park or to the existing residents along Pine Avenue, and is therefore determined to be less than significant.

During special events, temporary barricades would be used to close Linden Avenue and could be moved or adjusted as needed to accommodate emergency vehicles. Therefore, emergency access would not be impeded during event-related closures.

Mitigation Measures

Mitigation Measure TR-1 **Develop and Implement a Construction Traffic Management Plan.** The City of South San Francisco shall require that the construction contractor develop and implement a construction traffic management plan for the Proposed Project site. The plan will clearly identify how construction will be phased and access for emergency vehicles will be maintained to and around the site during construction. The plan will also describe how access and circulation for pedestrians, cars, cyclists, and transit will be maintained around the site during construction.

XVIII. Tribal Cultural Resources

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(a) 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:				
(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 Section 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

Environmental Evaluation

At the time of the initial European contact with the Indigenous population of the San Francisco Bay area, Costanoans (from the Spanish costaños, or "coast people"), members of the Penutian linguistic family, inhabited the area from the Carquinez Strait and the northern tip of the San Francisco Peninsula to the region south of Monterey Bay and east to the Diablo Range. These Indigenous peoples, called Ohlone, entered the Bay Area approximately 1,500 years ago. They came from the Delta region and displaced earlier Hokan speakers. An estimated 7,000 to 10,000 Indigenous peoples lived near San Francisco Bay

by the time of European contact in the eighteenth century. According to the 2040 General Plan EIR and consistent with the City's historic context as an Ohlone settlement location, there are Indigenous village and archaeological sites scattered around the city of South San Francisco. Known resources occur along the El Camino Real corridor, in the San Bruno Mountains, and adjacent to portions of Colma Creek.

AB 52 establishes a formal consultation process for California Tribes in the CEQA process, requiring the lead agency to initiate consultation with California Native American groups when a decision to undertake a project or determination that a project is complete (e.g., prior to the release of a negative declaration, MND, or EIR), lead agencies are required to notify Tribes who previously requested placement on the notification list.

On April 23, 2025, the City provided formal notification in writing to eight separate Native American groups and received one initial request for consultation. The request for consultation was followed up by the City on 12 separate documented instances, including by phone, email, and text, but was ultimately not reciprocated by the representative originally requesting consultation. The below Tribal Cultural Resources discussion is based on results of the NAHC Sacred Lands File Search and the *Cultural Resources Inventory Report for the South San Francisco Linden/Pine Avenues Park Project* (August 2025),[121] and the existing disturbed environment of the project site, and best managing practices conducted by the City.

a) 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-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 Section 5020.1(k)?

Less than Significant with Mitigation Incorporated. The proposed project would not cause substantial adverse change in the significance of a tribal cultural resource that is listed or eligible for listing in the California Register of Historical Resources (CRHR) or in another local register. The project site vicinity was traditionally occupied by the Muwekma Ramaytush Ohlone people, who historically occupied the San Francisco Peninsula from Mountain View to the Golden Gate, including Alcatraz Island. The Muwekma Raymatush Ohlone people consisted of eight or more separate tribes at the time of European contact. According to the NAHC Sacred Lands File (SLF) no known tribal cultural resources are located within the project area. There are no Native American tribal heritage sites recorded within the proposed project site or vicinity.

A review of soils data indicates the project area lies in an area of Urban land that includes a complex assortment of artificial cutting and filling. Historical topographic maps indicate the project area was located along the 60-foot elevation contour, but elevations currently range between about 55 and 48 feet above mean sea level. This suggests that roughly 5 to 12 feet of material may have been cut and removed from the former land surface.

Given the negative results of the NAHC Sacred Lands File Search and the *Cultural Resources Inventory Report for the South San Francisco Linden/Pine Avenues Park Project* (August 2025), and the existing

[121] SWCA Environmental Consultants (SWCA). *Cultural Resources Inventory Report for the South San Francisco Linden/Pine Avenues Park Project, South San Francisco, San Mateo County, California*. Prepared for City of South San Francisco. SWCA Environmental Consultants, Half Moon Bay, California. August.

disturbed environment of the Project site, it was concluded that the proposed project would have a less-than-significant impact on tribal cultural resources with implementation of Mitigation Measure TCR-1, which would be implemented in the event that unanticipated prehistoric cultural resources (or tribal cultural resources) are exposed during project construction.

Mitigation Measure TCR-1: The following measures shall be implemented prior to project implementation and in the event that unanticipated prehistoric cultural resources or tribal cultural resources are exposed during project construction:

a. All construction staff must receive worker environment awareness training (WEAP) that identifies the identification and proper treatment of tribal cultural resources.

b. In the event that unanticipated prehistoric cultural resources are exposed during disturbance activities, work within 15 meters (50 feet) of the find (Find Site) must stop and the California Native American Heritage Commission must be contacted to identify a local Native American Tribal member to provide monitoring inspection of any further construction work at the Find Site. Work may not resume at the Find Site until a Tribal member is present to provide monitoring inspection.

a-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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource 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 Incorporated. The City of has considered the significance of potential tribal cultural resources on the project site and vicinity to Indigenous Tribes. Based on the reasons that the results of the NAHC SLF search were negative and with implementation of Mitigation Measure TCR-1, as summarized above, impacts on tribal cultural resources would be less than significant with mitigation incorporated.

XIX. Utilities and Service Systems

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☒	☐

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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?	☐	☐	☐	☒

Environmental Evaluation

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?

Water

Less than Significant. The California Water Service (CalWater), South San Francisco Division, supplies water for project construction and operation, and the majority of their supply (80%) is purchased from the San Francisco Regional Water System (SF RWS). The remaining water is drawn from local groundwater wells. CalWater serves 64,146 people in an 11.2-square-mile area, which has an average demand of 5.64 million gallons per day (mgd).[122] CalWater has an Individual Supply Guarantee of 35.68 mgd (approximately 39,993 acre-feet per year [AFY]), which is shared among its Bear Gulch, Mid-Peninsula, and South San Francisco Districts, from the San Francisco Public Utilities Commission (SFPUC). In addition to the water from the SFPUC, CalWater obtains a maximum of approximately 1.37 mgd (1,534 AFY) from local sources in the Westside Groundwater Basin during a non-drought year. The Westside Groundwater Basin is categorized by the DWR as a very low-priority basin and is actively managed to prevent significant overdraft.[123] Between 2016 and 2020, CalWater supplied an average of 6,837 AFY of potable water.[124] The Downtown neighborhood is served by all public utilities. The new park would tie into existing water lines in Pine Avenue and no new water distribution infrastructure would be needed.

[122] Bay Area Water Supply and Conservation Agency (BAWSCA). 2025. California Water Service - South San Francisco District. Available at: https://bawsca.org/members/profiles/cws-san-francisco. Accessed June 11, 2025.

[123] California Water Service (CalWater). 2021. *2020 Urban Water Management Plan, South San Francisco District*. June. Available at: https://www.calwater.com/docs/uwmp2020/SSF_2020_UWMP_FINAL.pdf. Accessed March 21, 2025

[124] CalWater, 2021.

Construction activities would require a minimal amount of water for dust control and cement mixing, and water would be delivered to the project site by water truck. Project operation would use water for landscape irrigation and the potential new restroom. Landscaping would include drought-tolerant plants with low water requirements and the landscape irrigation system would use a high-efficiency system with smart controls. The public restroom would include water efficient (1.6 gallons/flush) toilets. Overall, restroom water use would likely be between 130 and 326 gallons per day, or less than 0.01% of the 5.64 mgd average daily demand.[125] The project would not result in the relocation or construction of new or expanded water treatment facilities. Therefore, this impact would be less than significant, and mitigation is not required.

Wastewater

Less than Significant. Wastewater treatment is provided by South San Francisco/San Bruno Water Quality Control Plant (SSWQCP), which is located along Colma Creek near San Francisco Bay. The SSWQCP receives an average dry weather flow of approximately 9 mgd and has capacity to treat up to 13 mgd in average dry weather flow. Peak wet weather flows can exceed 60 mgd.[126] The SSWQCP last experienced flows that exceeded maximum peak wet weather capacity on December 31, 2022.[127]

Construction of the project would produce minimal wastewater from construction crew use of portable toilets. The project may add a new restroom facility at the park. Operation of the project would produce a minimal permanent change in wastewater production. The new park would tie into existing sewer lines in Pine Avenue and no new sewer collection infrastructure would be needed. The project would not result in the relocation or construction of new wastewater treatment facilities. Therefore, this impact would be less than significant, and mitigation is not required.

Stormwater

Less than Significant. The project would decrease the existing impervious surface area and include a total of approximately 16,200 square feet of new impervious surface area, which would drain to new LID stormwater treatment and retention facilities on-site. Overflow would drain to the existing bioretention basins and storm drain in Linden Avenue and eventually to Colma Creek. The project would include drainage improvements that meet the requirements of the SMCWPPP to prevent sediment-laden runoff to the stormwater system and Colma Creek. Therefore, project operation would not create a need for new stormwater facilities, and this impact would be less than significant.

As discussed in *Impact Discussion X(a)*, the project would disturb less than 1 acre of land (approximately 0.80 acre); therefore, the City would be required to implement stormwater BMPs under the SMCWPPP during project construction. A drainage control plan with site-specific BMPs that meet the requirements of the SMCWPPP and are designed to prevent runoff from construction areas would be implemented to reduce potential impacts to surface water quality during project construction. The plan would also include design elements and BMPs for construction areas, such as fueling and equipment washing areas, and trash and hazardous material storage areas. [128] Therefore, impacts related to stormwater runoff during construction would be less than significant, and mitigation is not required.

[125] Daily water demand: toilets = 80–200 gallons per day (gpd); sinks = 25–63 gpd; drinking water/bottle refill = 25–62 gpd.

[126] City of South San Francisco. 2025e. Water Quality Control PlantDivision: Treatment Process. Available at: https://www.ssf.net/departments/public-works/water-quality-control-plant/treatment-process. Accessed March 21, 2025.

[127] City of South San Francisco, 2025e.

[128] County of San Mateo. 2023. San Mateo Countywide Water Pollution Prevention Program: Construction Best Practices. Available at: https://www.flowstobay.org/construction. Accessed June 3, 2025.

Gas and Electricity

Less than Significant. Electric power services are provided by Peninsula Clean Energy (PCE) and PG&E. The City entered a Joint Powers Agreement with PCE in 2016. As a member of PCE, residents and businesses are automatically enrolled in PCE in an effort to reduce GHG emissions and combat global warming, and offers the option to remain using PG&E as an energy provider. PCE purchases electricity directly from renewable energy sources, and PG&E delivers the electricity to homes and businesses using its existing transmission and distribution lines.[129] PG&E additionally provides the City's natural gas.

The project would have new electrical demands associated with new park lighting and provision for sound systems for concerts and other gatherings. The project would be all-electric and would result in a small increase in existing electricity use. Therefore, this impact would be less than significant, and mitigation is not required.

The project would be all electric and would not extend gas infrastructure; therefore, no impact related to natural gas use would occur.

Telecommunications

No Impact. The project would create a new neighborhood park and would not appreciably change existing telecommunications use. Therefore, no impact related to telecommunications infrastructure would occur.

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. The project area is served by CalWater, South San Francisco District. As discussed in *Impact Discussion XIX(a)*, 80% of CalWater's supply for their South San Francisco District is purchased from the SFRWS and originates in the Hetch Hetchy Reservoir, and the remaining 20% is drawn from local groundwater wells. In 2019 the State Water Board adopted amendments to the *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan) that increase flows in the Tuolumne River in order to protect Bay-Delta water quality.[130] The Bay-Delta Plan Amendment is still under review but would reduce projected water availability in dry years from 257 mgd to 152 mgd. As a result, the SFPUC, which oversees the SFRWS, has developed the *Alternative Water Supply Plan* to fill the water supply gap of 92 mgd to 122 mgd, which could occur in dry years. There are six water supply projects under consideration that could augment supply by 22 mgd to 48 mgd in dry years. The SFPUC is currently working on a Voluntary Settlement Agreement with the state, as well as pursuing the *Alternative Water Supply Plan*, which could provide additional water to meet current and future obligations. In the meantime, supply and demand projections are based on the currently adopted amendment.[131]

[129] City of South San Francisco. 2025f. Community Choice Energy. Available at: https://www.ssf.net/Departments/City-Manager/Sustainability/Community-Choice-Energy. Accessed June 11, 2025.

[130] State Water Resources Control Board (State Water Board). 2025. Bay-Delta Plan Update and Implementation: Lower San Joaquin River and Southern Delta. Available at: https://www.waterboards.ca.gov/bay_delta/bay_delta_plan/water_quality_control_planning/. Accessed June 11, 2025.

[131] San Francisco Public Utilities Commission (SFPUC). 2024. *San Francisco Public Utilities Commission Alternative Water Supply Plan*. February. Available at: https://www.sfpuc.gov/sites/default/files/about-us/policies-reports/AWS%20Report%20Feb2024_web.pdf. Accessed June 11, 2025.

As required by the DWR, CalWater has analyzed the long-term reliability and vulnerability of its water supplies and developed a combination of supply alternatives and conservation planning efforts to meet the water supply needs of its customers in the South San Francisco District. CalWater has developed water supply estimates for normal year, single dry year, and multiple dry year scenarios based on the existing Bay-Delta Plan.[132] Table 3-11, *Water Supply and Demand Estimates for Normal Water Years*, shows the projected water balance for a normal dry year through 2045. Table 3-12, *CalWater Water Supply and Demand Estimates for Multiple Dry Years*, shows the water balance for the first 5 years of a multiple dry year sequence under the *2020 Urban Water Management Plan, South San Francisco District*.[133] As shown in Table 3-11, CalWater has adequate water supplies to meet a normal year demand.

Table 3-10. Water Supply and Demand Estimates for Normal Water Years

Drought Year	Supply/Demand Totals*	2025	2030	2035	2040	2045
First Year	Supply Totals	7,543	7,483	7,635	8,000	8,423
	Demand Totals[2]	7,543	7,483	7,635	8,000	8,423
	Difference	*0*	*0*	*0*	*0*	*0*

Source: CalWater (2021); DWR Table 7-2, Table 7-3. Normal Year Supply and Demand Comparison.

* All numbers are in acre feet per year (AFY).

As shown in Table 3-12, CalWater's multiple dry year supplies are not adequate to meet projected multiple dry year demands. Significant supply shortfalls, ranging from 29% to 38% in the first year of the 5-year dry period to 36% to 45% in the fifth year of the 5-year dry period, are projected. The water supply projections presented above likely represent a worst-case scenario in which the Bay-Delta Plan Amendment is implemented without the SFPUC and the State Water Board reaching a Voluntary Agreement and does not account for implementation of SFPUC's Alternative Water Supply Program.

Table 3-11. CalWater Water Supply and Demand Estimates for Multiple Dry Years

Drought Year	Supply/Demand Totals*	2025	2030	2035	2040	2045
First Year	Supply Totals	5,678	5,636	5,739	5,917	5,534
	Demand Totals	8,009	7,943	8,104	8,429	8,940
	Difference	*-2,331*	*-2,307*	*-2,365*	*-2,574*	*-3,406*
Second Year	Supply Totals	5,095	5,059	5,082	5,291	5,534
	Demand Totals	8,009	7,943	8,104	8,429	8,940
	Difference	*-2,914*	*-2,884*	*-3,022*	*-3,138*	*-3,406*
Third Year	Supply Totals	5,095	5,059	5,082	5,291	5,534
	Demand Totals	8,009	7,943	8,104	8,429	8,940
	Difference	*-2,914*	*-2,884*	*-3,022*	*-3,138*	*-3,406*
Fourth Year	Supply Totals	5,095	5,059	5,082	4,874	4,941

[132] State Water Resources Control Board (State Water Board). 2018. *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*. December 12. Available at: https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf. Accessed June 2025.

[133] California Water Service (CalWater). 2021. *2020 Urban Water Management Plan, South San Francisco District*. June. Available at: https://www.calwater.com/docs/uwmp2020/SSF_2020_UWMP_FINAL.pdf. Accessed March 21, 2025.

Drought Year	Supply/Demand Totals*	2025	2030	2035	2040	2045
	Demand Totals	8,009	7,943	8,104	8,429	8,940
	Difference	*-2,914*	*-2,884*	*-3,022*	*-3,555*	*-3,999*
Fifth Year	Supply Totals	5,095	5,059	5,082	4,874	4,941
	Demand Totals	8,009	7,943	8,104	8,429	8,940
	Difference	*-2,914*	*-2,884*	*-3,022*	*-3,555*	*-3,999*

Source: CalWater (2021); DWR Table 7-4, Table 7-5. Multiple Dry Year Supply and Demand Comparison.
* All numbers are in AFY.

The new park would have minimal water use for landscaping irrigation and the potential new restroom. The potential restroom would use a maximum of 500 gpd (0.18 mgd), which is less than 0.01% of the City's total water demand per day. Landscaping would include native and low-water plants to reduce irrigation demand. The new park would represent a minor increase in water demand. Therefore, this impact would be less than significant, and mitigation is not required.

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. As discussed *Impact Discussion XIX(a)*, SSWQCP receives average dry weather flow of approximately 9 mgd and has a wastewater treatment plant capacity of up to 13 mgd in average dry weather flow.[134] If the potential restroom is included, the project would result in a relatively minor increase in wastewater production. However, the project would not result in an increase in residences or employment that would bring more people to the area, and wastewater production increases related to the park would be small. Therefore, this impact related to increased wastewater production would be less than significant, and mitigation is not 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. Solid waste pickup is provided to the project area and the City by South San Francisco Scavenger Company (Scavenger), which provides pickup of residential and commercial garbage, recyclable material, organic waste, and food waste and diverts construction and demolition debris, wood waste, plastics, commercial food waste, and other materials for recycling.[135] Scavenger also operates a state-of-the-art transfer station and materials recovery facility as well as an anaerobic digestor facility that processes organic waste to compressed renewable natural gas for use in the company's collection trucks.[136,137]

[134] City of South San Francisco. 2025. Water Quality Control Plant Division. Available at: https://www.ssf.net/Departments/Public-Works/Divisions/Water-Quality-Control-Plant-Division. Accessed July 11, 2025.

[135] South San Francisco Scavenger Company. 2025. About Us. Available at: https://ssfscavenger.com/about-us/. Accessed June 11, 2025.

[136] South San Francisco Scavenger Company. 2025. History. Available at: https://ssfscavenger.com/about-us/history/. Accessed June 11, 2025.

[137] Goldstein, Nora. 2018. *Facilitating Food Waste Digestion*. Published in BioCycle. May. Available at: https://www.biocycle.net/facilitating-food-waste-digestion/. Accessed June 11, 2025.

Solid waste is transported to the Corinda Los Trancos Ox Mountain Sanitary Landfill for recycling, composting, and disposal.[138] The landfill is permitted to receive 3,598 tons of waste per day and has an anticipated closure date of 2034.[139] As of 2021, the landfill had a remaining capacity of 17,240,000 tons.

The project would be required to adhere to South San Francisco Municipal Code Section 15.60.030, *Diversion Requirements*, which requires contractors to divert construction and demolition debris in a manner that complies with CALGreen. In particular, the project must submit and follow a Waste Management Plan that includes the following:

> (1) Deconstructing and salvaging all or part of the structure as practicable; and
>
> (2) Directing one hundred percent of inert solids to reuse or recycling facilities approved by the city; and
>
> (3) Either:
>
> (a) Taking all mixed construction and demolition debris to mixed construction and demolition debris recycling facilities approved by the city and taking all sorted or crushed construction and demolition debris to approved facilities, or
>
> (b) Source separating noninert materials such as cardboard and paper, wood, metals, green waste, new gypsum wallboard, tile, porcelain fixtures, and other easily recycled materials, and directing them to recycling facilities approved by the city and taking the remainder to a facility for disposal. In this option, calculations must be provided to show that the minimum amount of debris as specified by Section 4.408 of Chapter 4 of CALGreen has been diverted. (Ord. 1532 § 1, 2017)[140]

The landfill has a remaining capacity of approximately 45 million cubic yards and is expected to operate until 2034. The project would divert construction and demolition debris as required, and the landfill would have adequate capacity to receive the remainder during the construction phase of the project because the construction phase of the project would be temporary and would generate a limited amount of solid waste. Development of the required Waste Management Plan would ensure this impact is less than significant. Operation of the project would generate a minimal amount solid waste from trash and recycling facilities located on-site for park users. This would not generate 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. Therefore, this impact would be less than significant, and mitigation is not required.

[138] Everything South City. 2021. Must Read Tips from our South City San Francisco Scavenger Company. Available at: https://everythingsouthcity.com/2021/06/must-read-tips-from-our-south-san-francisco-scavenger-company/. Accessed June 11, 2025.

[139] California Department of Resources Recycling and Recovery (CalRecycle). 2025. SWIS Facility Detail. Corinda Los Trancos (Ox Mtn) (41-AA-0002). Available at: https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1561?siteID=3223. Accessed June 11, 2025.

[140] City of South San Francisco. 2017. *City of South San Francisco Construction and Demolition Waste Management Plan.* Available at: https://www.ssf.net/files/assets/public/v/1/economic-amp-community-development/documents/construction-and-demolitio.pdf. Accessed July 10, 2025.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The project would adhere to all federal, state, and local management and reduction statutes and regulations related to solid waste. The applicant would require the contractor to adhere to the City's Waste Management Plan for disposal of construction debris, including recycling at least 75% of clean asphalt and concrete. During operation, the new park would install recycling and composting waste containers to promote waste diversion from landfills, and water bottle refill stations to promote reusable water bottles. Therefore, the project would meet all City requirements for recycling during operation, and no impact would occur.

XX. Wildfire

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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?	☐	☐	☐	☒

Environmental Evaluation

a) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

No Impact. A significant impact may occur if a project is located in proximity to wildland areas and would pose a potential fire hazard, or affect an adopted emergency response plan or emergency evacuation plan in the event of a fire. CAL FIRE maps FHSZs in SRAs, as well as Very High FHSZs in LRAs. The project site is in an LRA and is under the jurisdiction of the SSFFD. There are no Very High FHSZs mapped in South San Francisco.[141] San Bruno Mountain, 0.4 mile northwest of the project site, is

[141] California Department of Forestry and Fire Protection (CAL FIRE). 2025. Local Responsibility Area Fire Hazard Severity Zones: City of South San Francisco – San Mateo County. Updated February 23. Available at: https://calfire.app.box.com/s/wahuw9ny7cgn89xpxh7092ur50r1pwvj/file/1785859153686. Accessed June 3, 2025.

in a Moderate FHSZ in an SRA.[142] The project would construct a new neighborhood park with irrigated landscaping and would not draw additional people to an area subject to wildland fires. Therefore, no impact would occur and the project would not result in an impact to emergency response or an evacuation plan.

Project construction would include street and/or lane closures on Pine Avenue, 7th Lane, and 8th Lane and may require street or lane closures on Linden Avenue. However, the project would obtain an encroachment permit for road or lane closures and would abide by all City policies, including development of a Traffic Control Plan. The project would not interfere with an adopted emergency response or evacuation response plan. Therefore, no impact would occur.

b) Due to slope, prevailing winds, and other factors, if located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

No Impact. The project is not located in or near SRAs or lands classified as Very High FHSZs. The project would create a new neighborhood park and would not include elements that would exacerbate wildfire risks. Therefore, no impact would occur.

c) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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?

No Impact. The project is not located in or near SRAs or lands classified as Very High FHSZs. The project would create a new neighborhood park and would not extend facilities that would exacerbate wildfire risks. Therefore, no impact would occur.

d) If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project 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. The project is not located in or near SRAs or lands classified as Very High FHSZs. The project would create a new neighborhood park and would not expose people or structures to significant post-fire risks. Therefore, no impact would occur.

[142] California Department of Forestry and Fire Protection (CAL FIRE). 2024. Fire Hazard Severity Zones in State Responsibility Area. Effective April 1. Available at: https://calfire-forestry.maps.arcgis.com/apps/webappviewer/index.html?id=988d431a42b242b29d89597ab693d008. accessed June 3, 2025.

XXI. Mandatory Findings of Significance

Environmental Issues	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
(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 will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

Environmental Evaluation

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 Incorporated. The project would construct a new neighborhood park in an urban setting. The city of South San Francisco is located within the South Bay of San Mateo County and is highly urbanized. Accordingly, the potential for candidate, sensitive, or special-status species or habitats is low within the City limits. As described in Section IV, *Biological Resources*; Section V, *Cultural Resources*; and the preceding analyses, no significant unmitigable impacts to the environment would result. The implementation of Mitigation Measure BIO-1; Mitigation Measures CUL-1, CUL-2, and CUL-3; Mitigation Measure GEO-1; Mitigation Measures HAZ-1, HAZ-2, and HAZ-3; Mitigation Measure NOI-1; and Mitigation Measure TCR-1 would minimize impacts to nesting birds; undiscovered cultural, archaeological, and paleontological resources; geology and soils related to ground failure; hazards and hazardous materials related to soil contaminants (lead); construction noise; and tribal cultural resources to less-than-significant levels. The project does not include significant fish or wildlife habitat or known cultural resources. Based on these findings, the City hereby finds that impacts related to degradation of the environment, biological resources, and cultural resources would be less than significant with mitigation measures incorporated.

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 Incorporated. Cumulative environmental impacts are multiple individual impacts that, when considered together, would be considerable, or would compound other environmental impacts. Individual impacts would potentially result from a single project or multiple separate projects that would potentially occur at the same place and point in time or at different locations and over extended periods of time. The proposed project would not result in individually limited or contribute to cumulatively considerable significant impacts. As discussed in Sections I through XX, all short-term environmental issues would result in either no impacts, less-than-significant impacts, or less-than-significant impacts with mitigation measures incorporated with the implementation of the project. Construction of the proposed project could result in some short-term temporary impacts such as impacts to air quality from dust and engine exhaust, nesting birds, and previously undiscovered cultural, archaeological, paleontological, and tribal cultural resources and impacts related to seismic-related ground failure, construction noise, and hazards related to soil contaminants (lead), but those would be temporary and/or less than significant with mitigation measures incorporated. In summary, the project's contribution to potential cumulative impacts related to these other issues would be less than cumulatively considerable.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant with Mitigation Incorporated. Based on the nature and scope of the project and the analysis of the project's impacts, as summarized in Sections I through XX, no environmental effects have been identified in this IS/MND that would cause substantial adverse effects, either directly or indirectly, on human beings. There would be a variety of other potential effects during construction, including:

- Impacts to nesting birds associated with construction activities and minor tree removal (discussed in Section IV, *Biological Resources*)
- Adverse impacts to prehistoric cultural resources and potential unknown human remains (discussed in Section V, *Cultural Resources*);
- Earthwork and construction-related impacts due to the potential for seismic ground shaking (discussed in Section VII, *Geology and Soils*)
- Construction noise-related impacts (discussed in Section XIII, *Noise*)
- Impacts related to disposal of hazardous materials (discussed in Section IX, *Hazards and Hazardous Materials*);
- Impacts related to the disruption of emergency response from construction traffic discussed in Section XVII, *Transporation*; and
- Adverse impacts from construction activities to tribal cultural resources (discussed in Section XVIII, *Tribal Cultural Resources*).

In addition, the project could result in exposure of nearby single-family and multi-family residences to increases in ambient noise levels and nuisances associated with temporary construction-related noise

(discussed in Section XIII, *Noise*), which would be considered less than significant with incorporation of mitigation measures and compliance with local noise ordinances.

Most of these impacts would be temporary and intermittent, and all of these impacts would be less than significant based on compliance with applicable federal, state, and local regulatory requirements and established impact thresholds, as well as the implementation of mitigation measures. And while the proposed project could involve the handling of hazardous materials in a manner that poses unusual risks, and any hazardous impacts associated with exposure of construction workers to potential harmful contaminants in soils or demolition debris, impacts would be mitigated through the implementation of mitigation measures. The proposed project would not result in long-term air quality or traffic hazards. Based on the analysis in this IS/MND, the City finds that direct and indirect impacts to human beings would be less than significant with mitigation incorporated.

APPENDIX A

Site Design Plans and Final Concept Plan

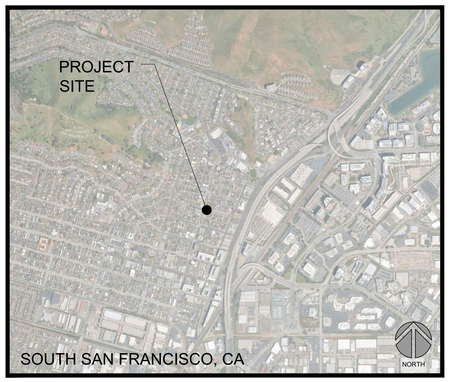
NEW PARK AT LINDEN AND PINE AVE

SCHEMATIC DESIGN

ISSUED: MAY 21, 2025

AREA MAP

Not to Scale



VICINITY MAP

Not to Scale



DRAWING INDEX

SHEET NO.	SHEET NAME
GENERAL	
G0.0	COVER SHEET
LANDSCAPE	
L1.1	MATERIALS AND DETAIL REFERENCE PLAN
L4.1	IRRIGATION PLAN
CIVIL	
C1.1	EXISTING CONDITIONS
C2.1	DEMOLITION PLAN
C3.1	SITE PLAN
C4.1	GRADING AND DRAINAGE PLAN
C5.1	UTILITY PLAN
C6.1	STORMWATER MANAGEMENT PLAN

PROJECT TEAM

LANDSCAPE ARCHITECT	MOORE IACOFANO GOLTSMAN, INC. 800 HEARST AVENUE BERKELEY, CA 94710 TEL: 510/845-7549 FAX: 510/845-8750
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LIGHTING ELECTRICAL ENGINEERING	INTERFACE ENGINEERING 49 STEVENSON ST, SUITE 660 SAN FRANCISCO, CA 94105 TEL: 415/489-7240
STRUCTURAL ENGINEER	DAEDALUS STRUCTURAL ENGINEERING 3031 TISCH WAY, TISCH TOWER SUITE 110 SAN JOSE, CA 95128 TEL: 408/517-0373
TRAFFIC ENGINEER	HEXAGON TRANSPORTATION CONSULTANTS, INC. 100 CENTURY CENTER COURT, SUITE 501 SAN JOSE, CA 95112 TEL: 408/971-6100
COST ESTIMATOR	MACK5 1000 BROADWAY, SUITE 260 OAKLAND, CA 94607 TEL: 510/595-3020

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CIVIL
BKF ENGINEERS

STRUCTURAL
DAEDALUS

TRAFFIC
HEXAGON

ELECTRICAL
INTERFACE

COST ESTIMATION
MACK5

NEW PARK AT LINDEN AND PINE AVE

616 & 700 LINDEN AVE,
SOUTH SAN FRANCISCO, CA
94080

DATE	REVISION
5/21/2025	SD

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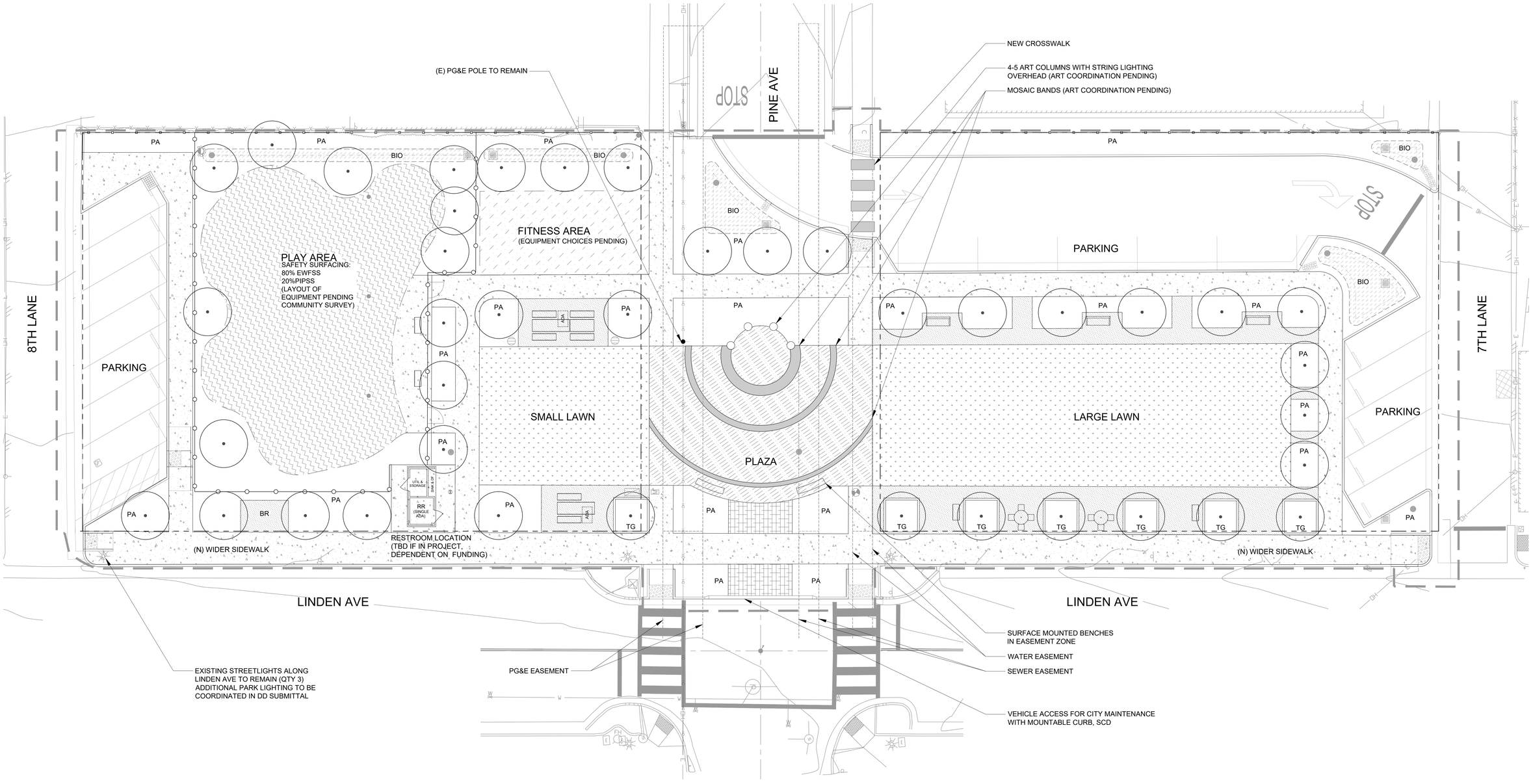
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TM	30923

SHEET TITLE

COVER SHEET

SHEET

G0.0



LEGEND

- VEHICULAR CONCRETE, COLORED AT PLAZA
- VEHICULAR CONCRETE, GRAY
- PEDESTRIAN CONCRETE, GRAY
- DECOMPOSED GRANITE
- SAFETY SURFACING: ENGINEERED WOOD FIBER (EWFSS)
- SAFETY SURFACING: POURED-IN-PLACE RUBBER (PIPSS)
- TURF
- NEW TREE
- PA — PLANTING AREA
- BIO — BIORETENTION PLANTING AREA
- BR — BIKE RACKS
- CAFE TABLES & CHAIRS
- PICNIC TABLES
- 6' BENCH
- 4' BENCH
- TG — 8'x8' TREE GRATE
- PLAY AREA DECORATIVE FENCING (4' HT.)
- METAL FENCING AT PROP. LINE (6' HT)
- LIMIT OF WORK
- PROPERTY LINE

0 5' 10' 20'

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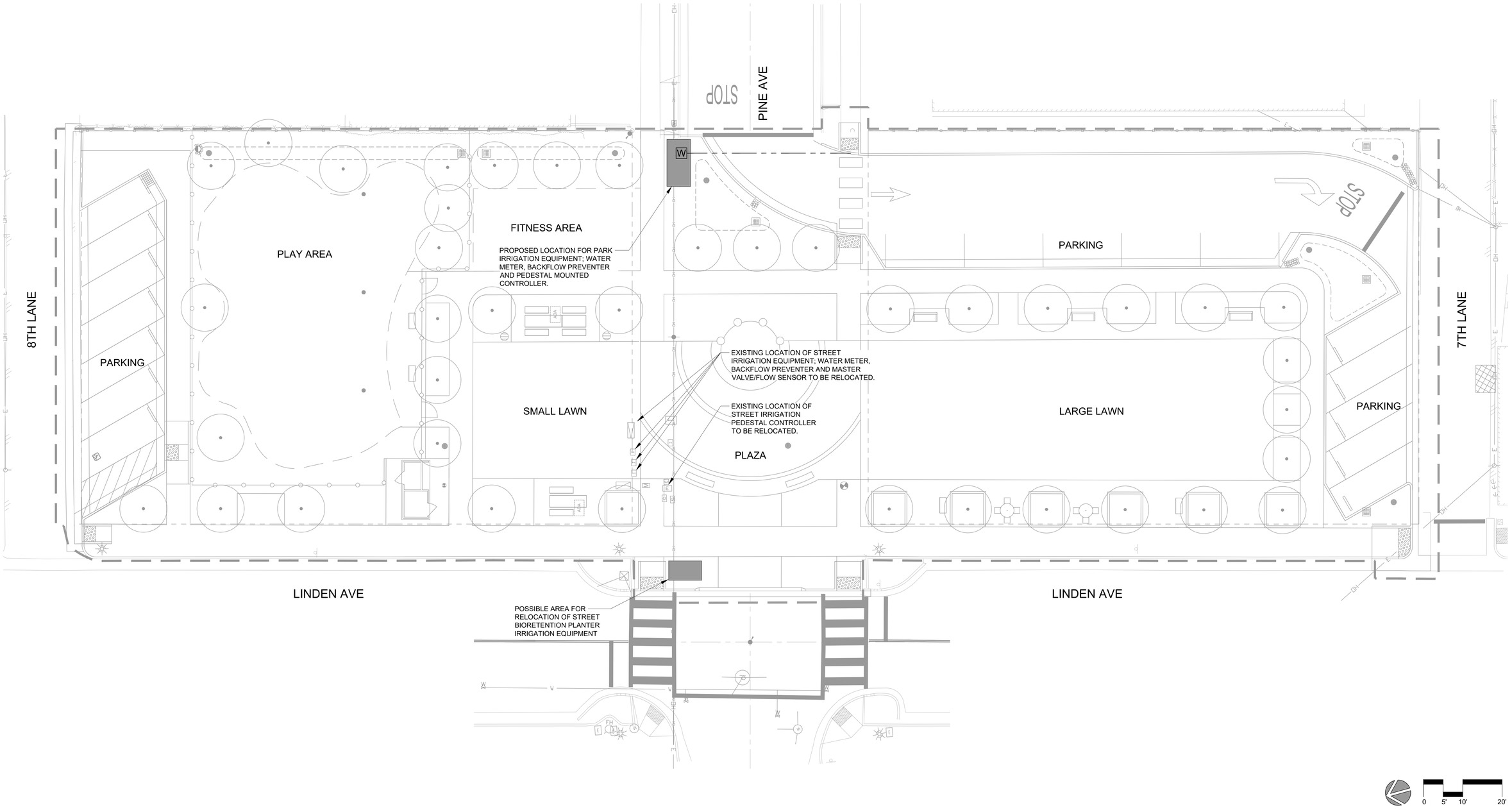
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SHEET TITLE

MATERIALS AND DETAIL REFERENCE PLAN

SHEET

L1.1



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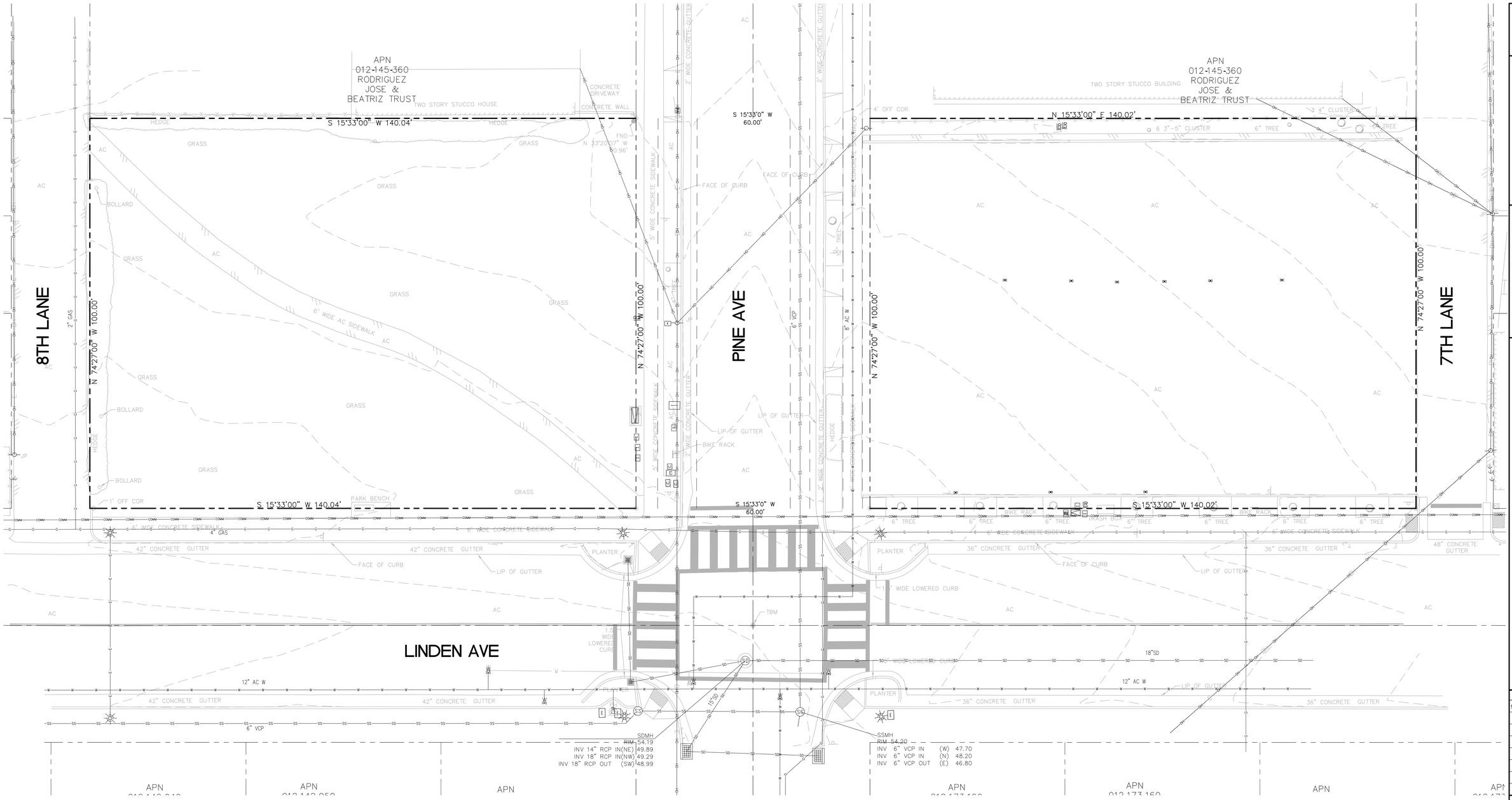
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SHEET TITLE

IRRIGATION PLAN

SHEET

L4.1



LEGEND

BOUNDARY LINE		COMMUNICATION BOX	COM
LOT LINE		ELECTRIC BOX	E
EASEMENT LINE		FIRE HYDRANT	
ROADWAY CENTER LINE		GAS METER	G
BUILDING WALL LINE		GUY WIRE	
FENCE LINE	X X	JOINT POLE	
DRIVEWAY	EXISTING DRIVEWAY	SANITARY SEWER CLEANOUT	SSCO
SIDEWALK	CC SW	SANITARY SEWER MANHOLE	SS
		STORM DRAIN CATCH BASIN	
OVERHEAD LINE	OH OH	STORM DRAIN DROP INLET	
COMMUNICATION LINE	COMM COMM	STORM DRAIN MANHOLE	SD
ELECTRICAL LINE	E E	STREET LIGHT BOX	SLB
GAS LINE	G G	SURVEY IRON PIPE	
STORM DRAIN LINE	SD SD	SURVEY STREET MONUMENT	
SANITARY SEWER LINE	SS SS	WATER METER	W
WATER LINE	W W	WATER VALVE	WV
ELEVATION	(TC XX.Xx)	IRRIGATION BOX	I IR
PARKING METER			

SURVEY NOTES

BASIS OF BEARINGS:

THE BEARING N74°27'00"W OF THE LINE OF GRAND AVENUE AS SHOWN ON THAT CERTAIN MAP ENTITLED "SOUTH SAN FRANCISCO, SAN MATEO CO. CAL, PLAT NO. 1" FILED MARCH 1, 1892 IN THE OFFICE OF THE COUNTY RECORDER OF THE COUNTY OF SAN MATEO, STATE OF CALIFORNIA, IN BOOK 2 OF MAPS AT PAGE 52, WAS TAKEN AS THE BASIS OF BEARINGS FOR THIS SURVEY.

BASIS OF ELEVATION:

THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM, NAVD88, ZONE 3, US SURVEY FEET.
TBM: TOP BRASS DISC IN MONUMENT WELL.

ELEVATION = 53.53 FEET

GENERAL NOTES:

DATE OF FIELD SURVEY: JUNE 2023

1. ALL DISTANCES AND DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.

2. THE TYPES, LOCATIONS, AND SIZES OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THIS TOPOGRAPHIC SURVEY ARE BASED ON AS-BUILT MAPS, GIS MAPS, AND OTHER UTILITY INFORMATION FROM DIFFERENT SOURCES. ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO DELINEATE ALL KNOWN UNDERGROUND UTILITIES. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ALL EXISTING UTILITIES NOT SHOWN ON THESE DRAWINGS.

GRAPHIC SCALE
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PLOT DATE: 05-22-25
PLOTTED BY: canzelde

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CITY OF SOUTH SAN FRANCISCO CALIFORNIA

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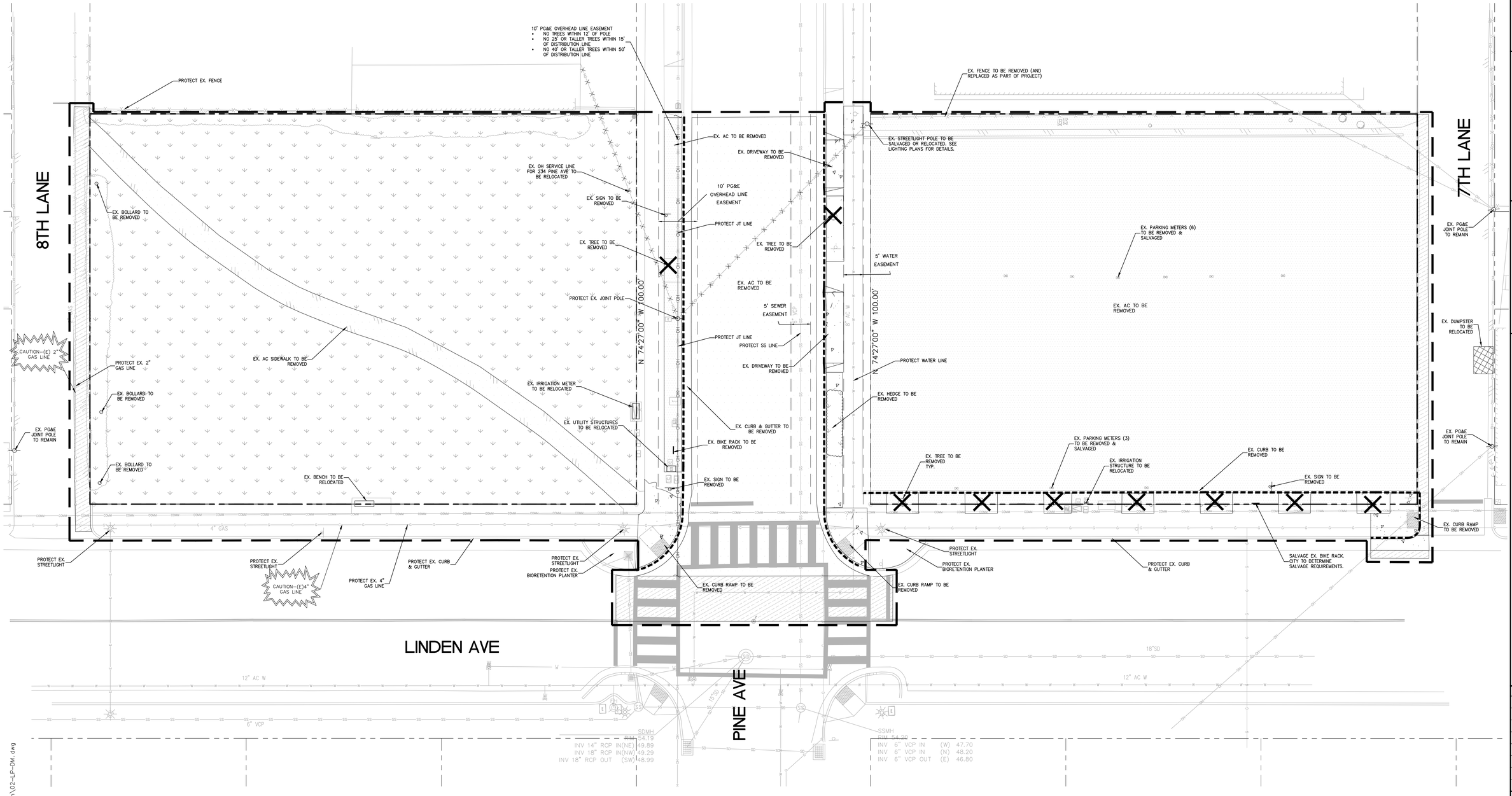
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C.A/J.H.	30923

SHEET TITLE

EXISTING CONDITIONS

SHEET

C1.1



LEGEND

- PROPERTY LINE
- EASEMENT LINE
- LIMIT OF DEMOLITION
- CLEAR AND GRUB EXISTING LANDSCAPE AREA
- REMOVE CONCRETE AND BASE MATERIALS
- REMOVE AC PAVING, SEE SHEET C4.01
- REMOVE EX. UTILITY LINE
- ABANDON EX. UTILITY
- REMOVE EX. CURB AND GUTTER, SIDEWALK AND BASEROCK
- 2-3" GRIND AND OVERLAY
- TREE TO BE PRESERVED. COORDINATE WITH ARBORIST, LANDSCAPE ARCHITECT, OWNER AND ADJACENT PROPERTY OWNER, PROVIDE TREE PROTECTION FENCE PER ARBORIST REPORT.
- TREE TO BE REMOVED INCLUDING ALL ROOT MASSES. COORDINATE WITH LANDSCAPE ARCHITECT AND ARBORIST PRIOR TO REMOVAL OF TREES.

KEYNOTE

NOTES

1. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO BIDDING TO DETERMINE THE EXACT EXTENT OF ALL SITE DEMOLITION ITEMS.
2. CONTRACTOR TO PROVIDE AN APPROXIMATE NEARBY AREA FOR MOBILZATION AND EQUIPMENT STORAGE TO THE CITY AND PARK STAFF PRIOR TO PRE-CONSTRUCTION MEETING.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION OF ALL EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION. LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY. THE CONTRACTOR SHALL BECOME FAMILIAR WITH ALL UNDERGROUND CONDITIONS PRIOR TO COMMENCEMENT OF WORK.
4. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, STANDARD DETAILS AND SUBSEQUENT ADDENDA AS ADOPTED BY THE CITY COUNCIL, WHERE APPLICABLE AND ALSO THE SPECIAL PROVISIONS FOR THIS PROJECT.
5. THE CONTRACTOR SHALL PERFORM ALL CLEARING, DEMOLITION, REMOVAL OF OBSTRUCTIONS AND SITE PREPARATIONS NECESSARY FOR THE PROPER EXECUTION OF ALL WORK SHOWN ON THESE PLANS AND AS DESCRIBED IN THE SPECIFICATIONS.
6. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION ON THE PROJECT (U.S.A. AT 811). THE CONTRACTOR SHALL REMOVE ALL USA MARKINGS, AS SOON AS THEY ARE NO LONGER NEEDED, BY USING A HIGH PRESSURE WATER METHOD ONLY. THE CITY ENCOURAGES THE USE OF CHALK PAINT WHENEVER POSSIBLE.
7. THE CONTRACTOR SHALL BE RESPONSIBLE UNDER THIS CONTRACT FOR REPAIRING/REPLACING AT THE CONTRACTORS OWN EXPENSE, ANY STRUCTURES, FENCES, WALLS, OR PLANT LIFE DAMAGED OR DESTROYED BY THE CONTRACTORS OPERATION. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING OR REPLACING ANY AND ALL DAMAGES OCCURRING BY THEIR OPERATION, ON ADJACENT PROPERTIES AND ANYWHERE OUTSIDE THE CONTRACT LIMIT LINES. THE DAMAGED ITEMS WILL BE RESTORED TO THEIR ORIGINAL CONDITION AND TO THE SATISFACTION OF THE ENGINEER.
8. KEEP ALL PLANTING, PAVING AND CURB AREAS FREE FROM WEEDS, DEBRIS AND TRASH DURING THE ENTIRE DURATION OF THE CONTRACT. WEED CONTROL HERBICIDES SHALL BE APPLIED IF THE ENGINEER DEEMS IT NECESSARY. TYPE OF HERBICIDE TO BE USED AND METHOD OF APPLICATION SHALL BE APPROVED BY THE ENGINEER.
9. CARE SHOULD BE TAKEN WITH EXISTING TREES TO REMAIN. GRADES WITHIN THE DRIP LINE OF THE TREE SHALL NOT BE CHANGED UNLESS OTHERWISE SPECIFIED ON THE PLANS. ANY COMPACTION OF THE AREA WITHIN THE DRIP LINE SHALL BE AVOIDED.
10. ALL ITEMS INDICATED TO BE REMOVED SHALL BE DISPOSED OF FROM THE PROJECT SITE, EXCEPT ITEMS INDICATED TO BE SALVAGED.

GRAPHIC SCALE
10 0 10 20

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NEW PARK AT LINDEN AND PINE AVE

616 & 700 LINDEN AVE, SOUTH SAN FRANCISCO, 94080

DATE	REVISION
5/21/2025	SD

STAMP

CHECKED BY	DATE
C.A.	05/22/2025
DRAWN BY	JOB NO.
C.A/J.H.	30923

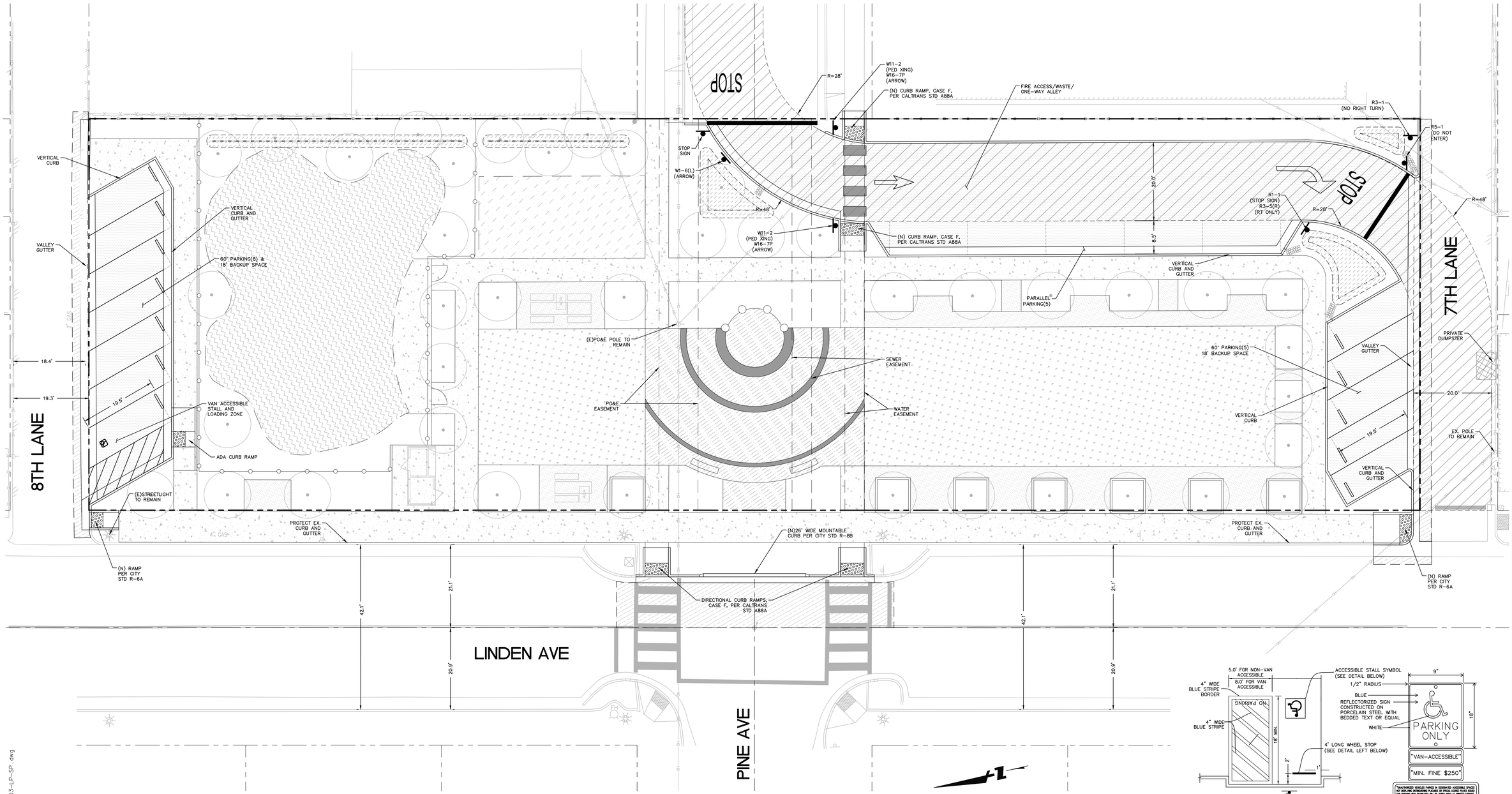
SHEET TITLE

DEMOLITION PLAN

SHEET

C2.1

DRAWING NAME: K:\2023\231554_SSF_Linden_Avenue_Park\ENG-L\Sheets\Schematic Design\02-LP-DM.dwg
PLOT DATE: 05-22-25
PLOTTED BY: conzelde



GRAPHIC SCALE
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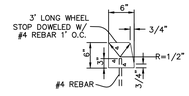
LEGEND

- BOUNDARY LINE
- LOT LINE
- EASEMENT LINE
- ROADWAY CENTER LINE
- BIORETENTION BASIN
- DECOMPOSED GRANITE PAVING S.L.D.
- CONCRETE SIDEWALK S.L.D.
- 2-3" GRIND AND OVERLAY
- LAWN AREA, S.L.D.
- TRUNCATED DOMES
- VERTICAL CURB
- VERTICAL CURB & GUTTER
- ADA PARKING STALL PAINT
- ADA PARKING STALL SIGN
- PARKING WHEEL STOP
- STOP MARKING & SIGN
- TURN ARROW
- SAFETY SURFACING, ENGINEERED WOOD FIBER (EWF), S.L.D.
- SAFETY SURFACING, POUR-IN-PLACE FIBER, S.L.D.
- VEHICULAR CONCRETE S.L.D.
- VEHICULAR ASPHALT
- EMERGENCY VEHICLE ACCESS
- COMMUNITY TABLE WITH ADA SEATING S.L.D.
- PLAY AREA DECORATIVE FENCING, S.L.D.

KEYNOTE

NOTES

1. THE EXISTING ASPHALT ON 8TH AND 7TH LANE IS IN POOR CONDITION. ADD ALTERNATE TO 2" GRIND AND OVERLAY EXISTING ROADS FOR THE BENEFIT OF PROJECT.

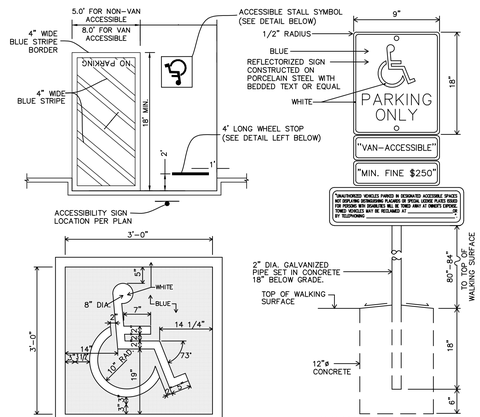


WHEEL STOP SECTION

NOTE:
1. ALL WHEEL STOPS ON SITE SHALL BE 4' WIDTH

N.T.S.

WHEEL STOP



N.T.S.

ACCESSIBLE PARKING STALL

DRAWING NAME: K:\2023\231554_SSF_Linden_Avenue_Park\ENG-L\Sheets\Schematic Design\03-LP-SP.dwg
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CITY OF SOUTH SAN FRANCISCO CALIFORNIA

NEW PARK AT LINDEN AND PINE AVE

616 & 700 LINDEN AVE, SOUTH SAN FRANCISCO, 94080

DATE	REVISION
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STAMP

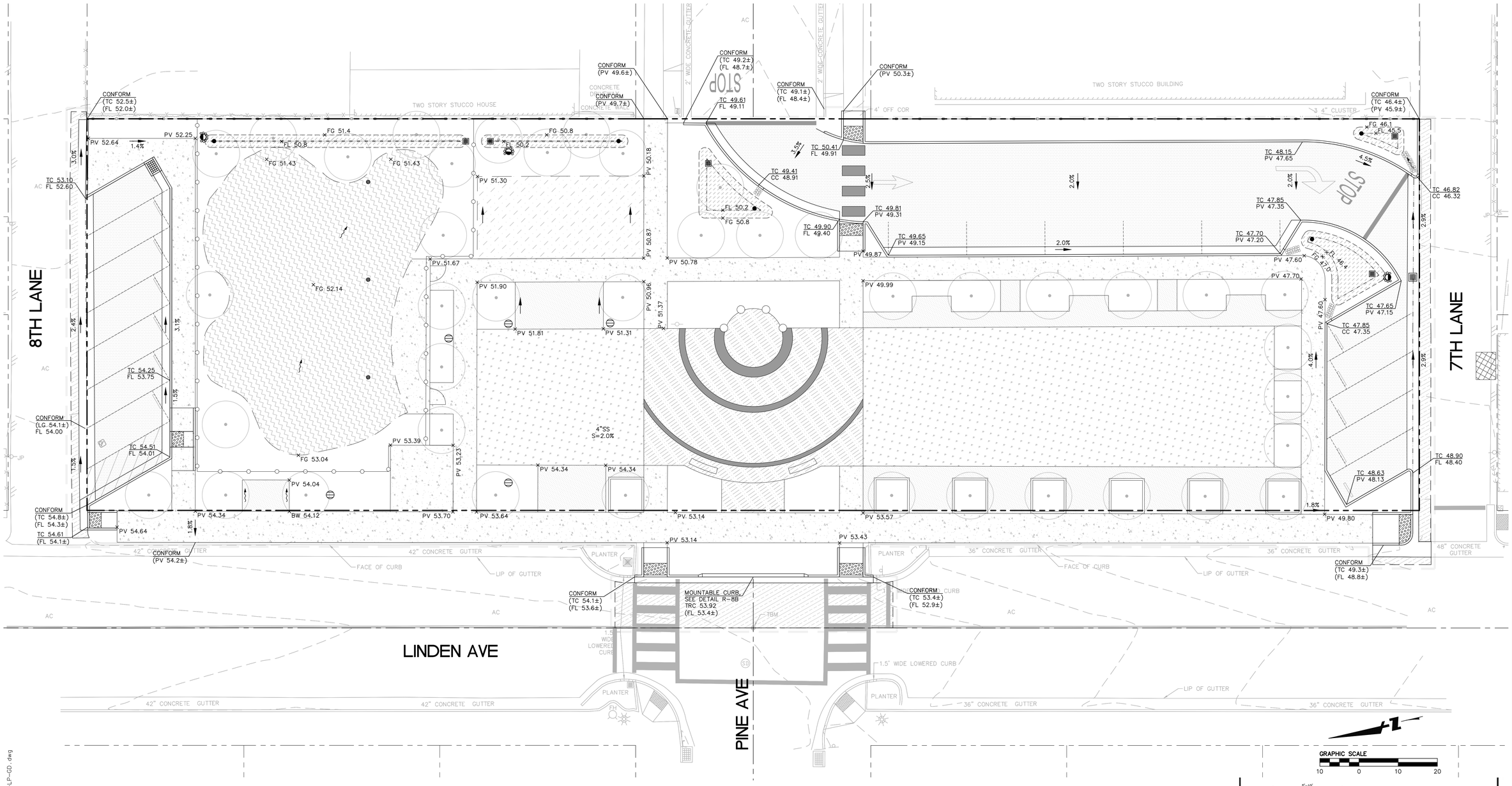
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C.A/J.H.	30923

SHEET TITLE

SITE PLAN

SHEET

C3.1



LEGEND

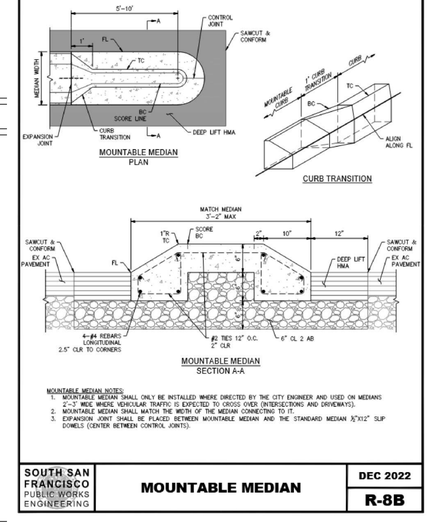
- BOUNDARY LINE
- LIMIT OF WORK
- ADA PATH OF TRAVEL
- METAL FENCE S.L.D.
- PLAY AREA DECORATIVE FENCING, S.L.D.
- BIORETENTION BASIN
- DECOMPOSED GRANITE PAVING S.L.D.
- CONCRETE SIDEWALK S.L.D.
- SAFETY SURFACING, ENGINEERED WOOD FIBER (EWF)S.L.D.
- SAFETY SURFACING, POUR-IN-PLACE FIBER S.L.D.
- VEHICULAR CONCRETE S.L.D.
- VEHICULAR ASPHALT

- ELEVATION (PROPOSED) — TC XXX.XX / FL XXX.XX
- ELEVATION (EXISTING) — (TC XXX.XX±) / (FL XXX.XX±)
- FINISHED FLOOR ELEVATION — FF XX.XX
- SPOT ELEVATION (PROPOSED) — ×100.00
- SPOT ELEVATION (EXISTING) — ×(100.00±)
- GRADE BREAK
- OVERLAND RELEASE
- SLOPE TO GRADE (LANDSCAPE)
- SLOPE TO GRADE (HARDSCAPE) — X.X%
- ADA PARKING STALL, SIGN, & WHEEL STOP

KEYNOTE

NOTES

1. DISTANCES BETWEEN BIORETENTION AREAS AND HARDSCAPE ARE SHOWN ON THESE PLANS. ALL BIORETENTION AREAS MUST BE 2' MINIMUM AWAY FROM ALL HARDSCAPE.
2. COORDINATE THE PLACEMENT OF ALL SLEEVES FOR LANDSCAPE IRRIGATION PRIOR TO PLACEMENT OF ANY FLATWORK. SEE SITE LANDSCAPING DRAWINGS.
3. ACCESSIBLE PATH OF TRAVEL SHALL BE PROVIDED ON ALL WALKWAYS, TO PUBLIC SIDEWALK AND ACCESSIBLE PARKING.
   – ACCESSIBLE PATH SLOPE REQUIREMENTS: 5% MAXIMUM LONGITUDINAL SLOPE, 2% MAXIMUM CROSS-SLOPE. MUST BE IN COMPLIANCE WITH CBC 11B FOR ACCESSIBLE PATHS.
4. FOR GRADING RECOMMENDATIONS CONTRACTOR SHALL REFER TO PROJECT "GEOTECHNICAL INVESTIGATION XXX" PREPARED BY XXX DATED XXX.
5. DO NOT ADJUST GRADES ON THIS PLAN WITHOUT APPROVAL OF THE ENGINEER/ARCHITECT.
6. CONTRACTOR SHALL CONTACT PROJECT'S CIVIL ENGINEER AND PUBLIC WORKS INSPECTOR FOR INSTALLATION AND INSPECTION OF ON-SITE GRADING & DRAINAGE FACILITIES. A LETTER FROM THE CIVIL ENGINEER WILL BE REQUIRED TO CERTIFY THAT GRADING AND DRAINAGE SYSTEMS ARE INSTALLED PER DESIGN PRIOR TO PROJECT ACCEPTANCE.
7. 2"–4" COBBLE STONE ENERGY DISSIPATERS SHALL BE MINIMUM 24"X24" AREA AS DEPICTED PER PLAN AND TO BE PLACED AT CURB CUTS AND AROUND OVERFLOW DRAINS (OFD) AND BUBBLER BOXES (BB).
8. ALL SIGNING AND STRIPING SHALL CONFORM TO THE LATEST PROVISIONS OF CA MUTCD, CALTRANS STANDARD PLANS AND SPECIFICATIONS, AND THE CITY OF SAN JOSE STANDARD DETAILS.
9. ALL PAVEMENT STRIPING AND MARKINGS SHALL BE THERMOPLASTIC. THERMOPLASTIC THICKNESS SHALL BE 0.150'.
10. ACCESSIBLE PARKING SIGNS SHALL CONFORM WITH CURRENT ADA AND CALIFORNIA ACCESSIBLE TITLE-24 CODES AND REGULATIONS CBC 11B–502.6.



SOUTH SAN FRANCISCO PUBLIC WORKS ENGINEERING | MOUNTABLE MEDIAN | DEC 2022 | R-8B

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NEW PARK AT LINDEN AND PINE AVE

616 & 700 LINDEN AVE, SOUTH SAN FRANCISCO, 94080

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5/21/2025	SD

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C.A.	05/22/2025
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C.A/J.H.	30923

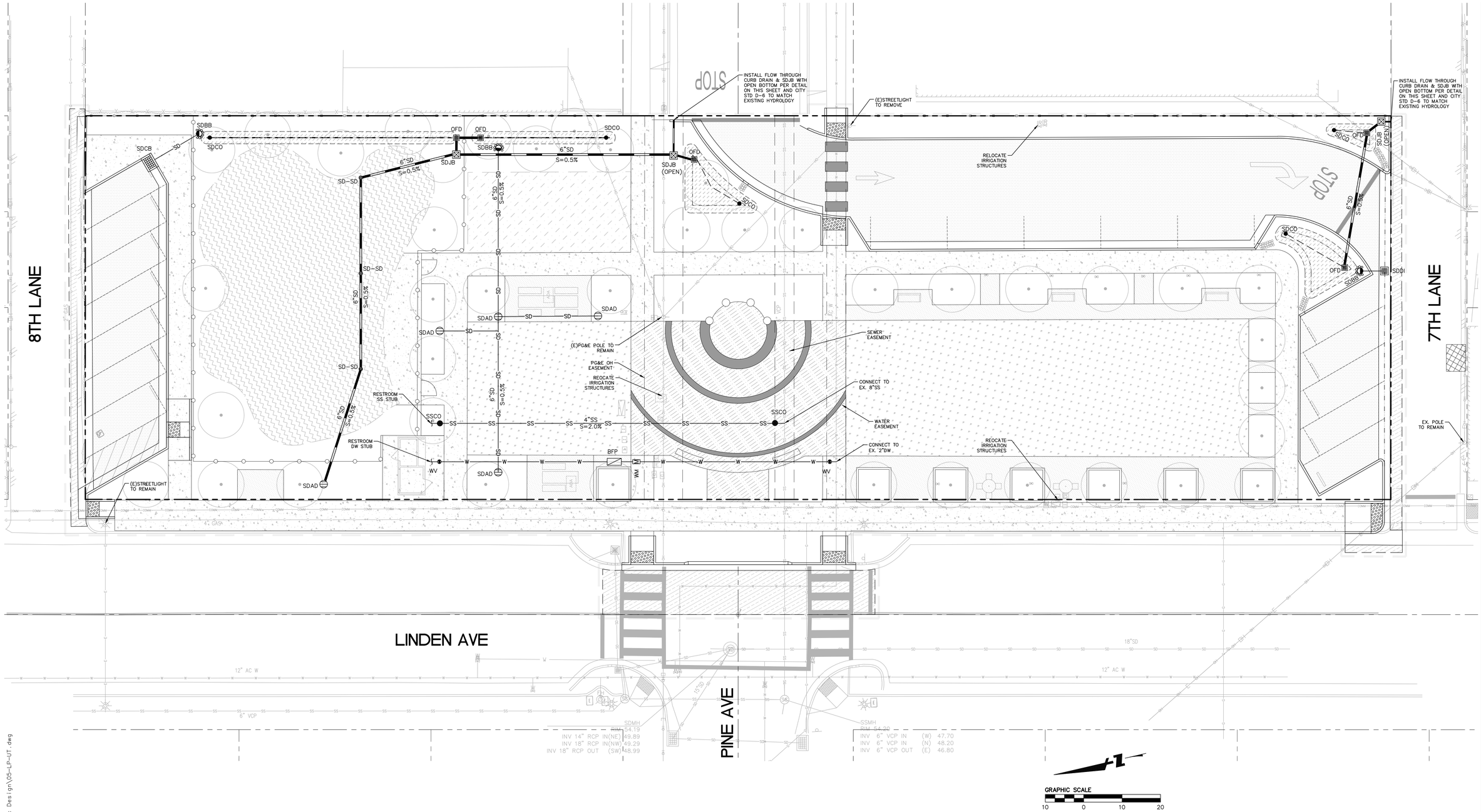
SHEET TITLE

GRADING AND DRAINAGE PLAN

SHEET

C4.1

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PLOT DATE: 05-22-25
PLOTTED BY: conzelde

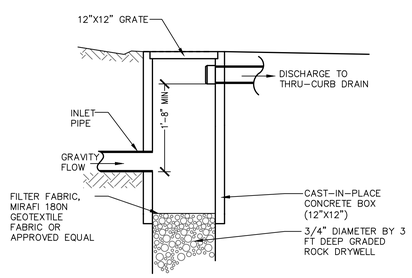


GRAPHIC SCALE
10 0 10 20

LEGEND

- BOUNDARY LINE
- LIMIT OF WORK
- BIORETENTION BASIN
- SELF RETAINING BASIN
- DOMESTIC WATER LINE — W —
- ELECTRIC LINE — E —
- SANITARY SEWER LINE — XX'-X" S=X.X% — SS —
- STORM DRAIN (DIRECTION) — SD →
- STORM DRAIN (PERFORATED) — XX'-X" S=X.X% — XX'-X"
- STORM DRAIN (TREATED) — S=X.X%
- STORM DRAIN (UNTREATED) — XX'-X" S=X.X% SD
- STORM DRAIN AREA DRAIN — SDAD
- STORM DRAIN BUBBLER BOX — SDBB
- STORM DRAIN CLEANOUT — SDCO
- STORM DRAIN JUNCTION BOX — SDJB
- STORM DRAIN DROP INLET — SDDI

KEYNOTE



1 STORM DRAIN JUNCTION BOX W/ OPEN BOTTOM

NOTES

1. SEE LANDSCAPE DRAWINGS FOR IRRIGATION AND PLANTING INFORMATION.
2. FOR GRAVITY FLOW SYSTEMS, CONTRACTOR SHALL VERIFY (POTHOLE IF NECESSARY) SIZE, MATERIAL, LOCATION AND DEPTH OF ALL SYSTEMS THAT ARE TO BE CONNECTED TO OR CROSSED PRIOR TO THE TRENCHING OR INSTALLATION OF ANY GRAVITY FLOW SYSTEM.
3. COMPLETE SYSTEM: ALL UTILITY SYSTEMS ARE DELINEATED IN A SCHEMATIC MANNER ON THESE PLANS. CONTRACTOR IS TO PROVIDE ALL FITTINGS, ACCESSORIES, AND WORK NECESSARY TO COMPLETE THE UTILITY SYSTEM SO THAT IT IS FULLY FUNCTIONING FOR THE PURPOSE INTENDED.
4. CONTRACTOR SHALL MAINTAIN 12" VERTICAL CLEARANCE ABOVE OR BELOW EXISTING AND NEW UTILITY CROSSING.
5. HORIZONTAL DIMENSIONS ARE TAKEN FROM CENTER OF PIPE TO CENTER OF PIPE.
6. SANITARY SEWER AND STORM DRAIN SHALL BE CONSTRUCTED FROM THE DOWNSTREAM UP.

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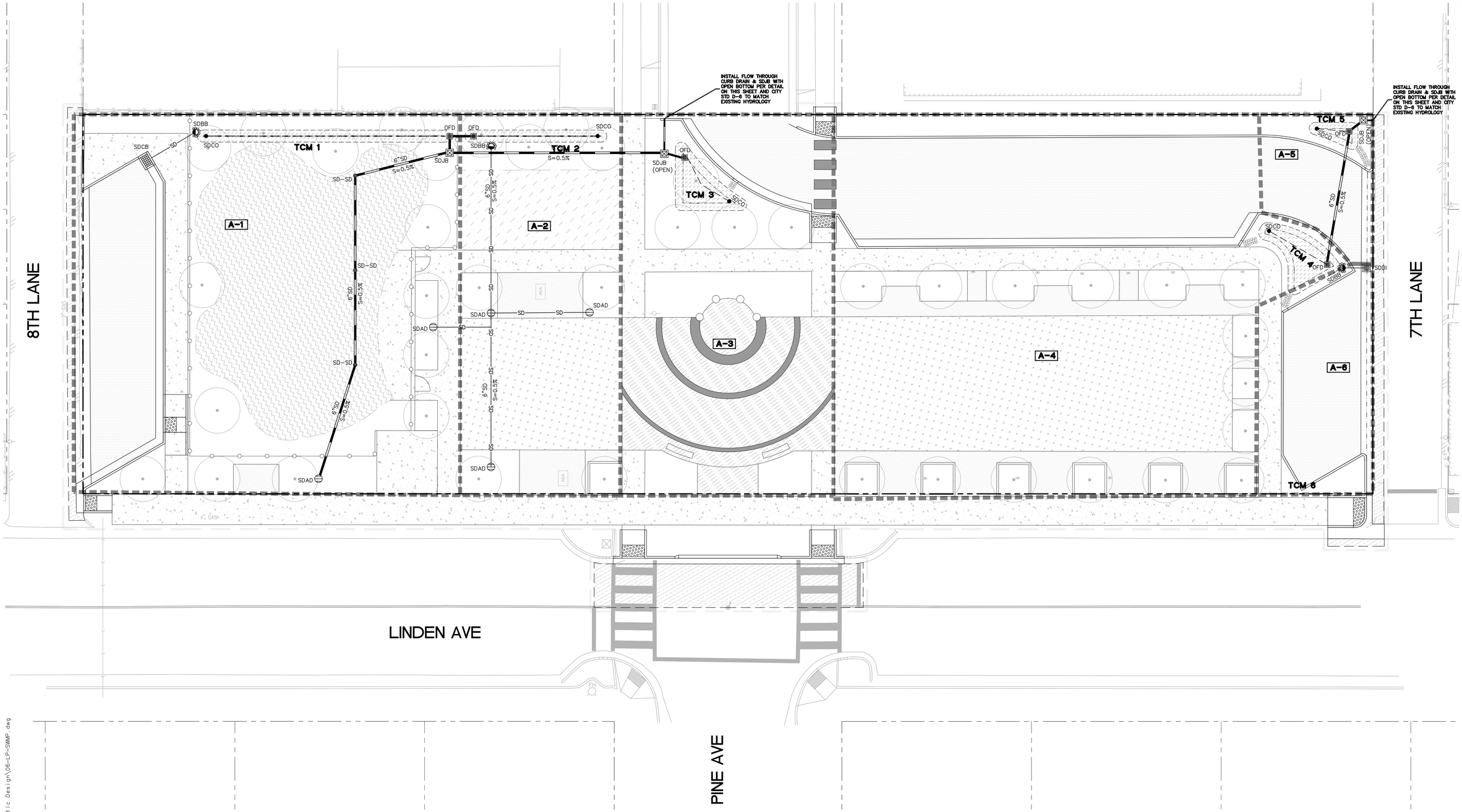
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C.A.	05/22/2025
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C.A/J.H.	30923

SHEET TITLE
UTILITY PLAN

SHEET
C5.1

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PLOT DATE: 05-22-25
PLOTTED BY: conzelde



LEGEND

- BOUNDARY LINE
- LIMIT OF WORK
- PCC CONCRETE
- PLANTING AREA
- DRAINAGE MANAGEMENT AREA (A-1)
- STORM DRAIN (PERFORATED)
- STORM DRAIN (TREATED)
- STORM DRAIN (UNTREATED) (SD)
- STORM DRAIN AREA DRAIN
- STORM DRAIN BUBBLER BOX
- STORM DRAIN DROP INLET
- STORM DRAIN JUNCTION BOX
- FLOW DIRECTION (PLANTING AREA)
- FLOW DIRECTION (PAVEMENT AREA)
- OVERLAND RELEASE DIRECTION

GRAPHIC SCALE
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PLOTTED BY: conzelde

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SHEET TITLE

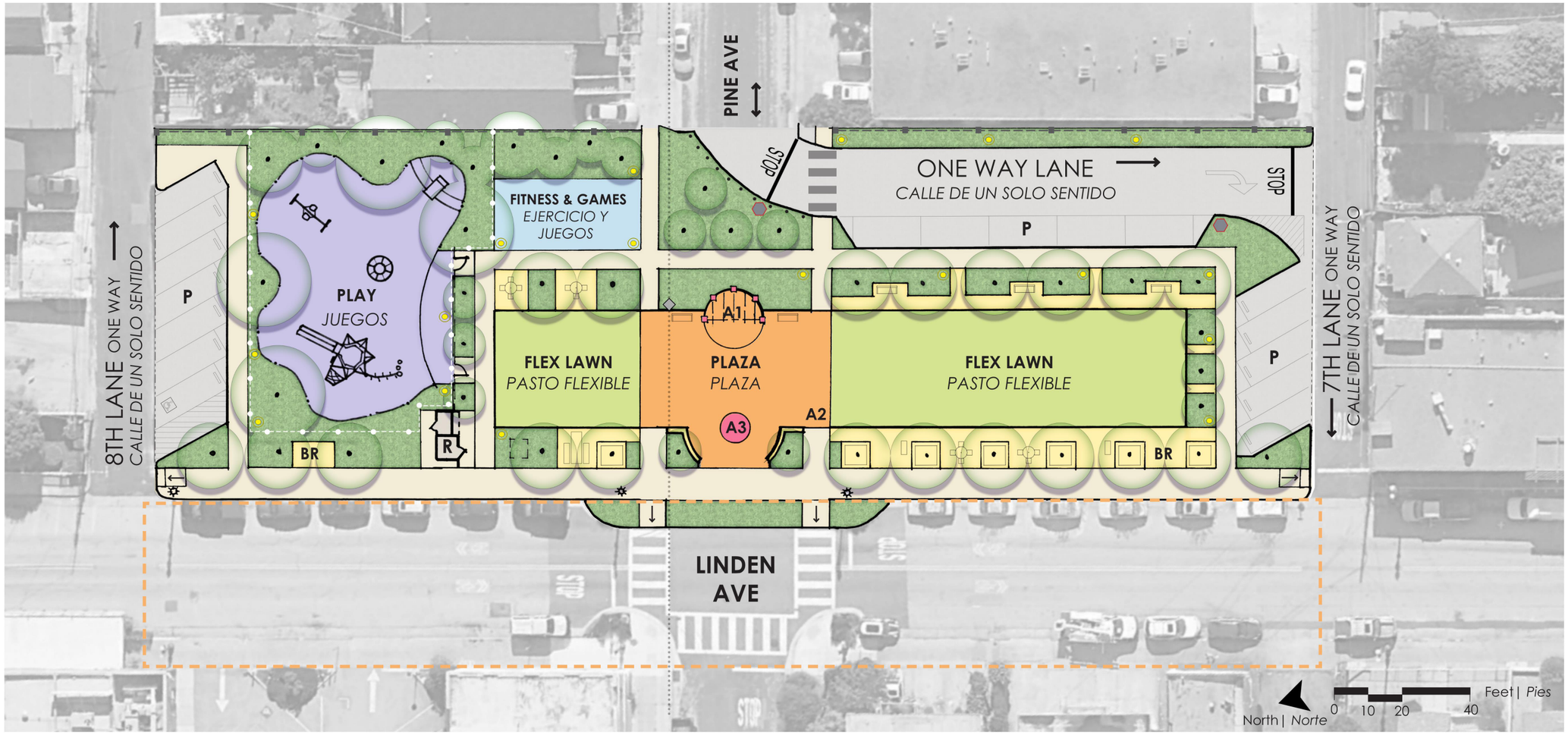
STORMWATER MANAGEMENT PLAN

SHEET

C6.1

FINAL CONCEPT | *CONCEPTO FINAL*

NEW PARK AT LINDEN & PINE
PARQUE NUEVO EN LINDEN Y PINE



GATHERING
REUNIONES

PLAZA (200 People)
PLAZA (200 Personas)

LARGE EVENT OVERFLOW
ESPACIO GRANDE PARA EVENTOS

SMALL GATHERING (BENCHES, TABLES)
PEQUEÑA ÁREA DE REUNIÓN (BANCAS, MESAS)

RECREATION & PLAY
RECREACIÓN Y JUEGO

FLEX LAWN (320 PP- LARGE LAWN)
PASTO FLEXIBLE (320 PP ÁREA DE PASTO GRANDE)

FITNESS & GAMES
EJERCICIO Y JUEGOS

PLAY
JUEGOS

ART OPTIONS
OPCIONES DE ARTE

A1 **ART COLUMNS WITH LIGHTING**
COLUMNAS DE ARTE CON ILUMINACIÓN

A2 **GROUND MURAL AT PLAZA**
MURAL EN EL SUELO DE LA PLAZA

A3 **INTERACTIVE ART**
ARTE INTERACTIVO

SITE FEATURES
CARACTERÍSTICAS DEL SITIO

TREE | *ÁRBOL*

POWER POLE & OVERHEAD WIRES
POSTE DE LUZ Y CABLES AÉREOS

EXISTING LIGHTING
ILUMINACIÓN EXISTENTE

PROPOSED LIGHTING
ILUMINACIÓN PROPUESTA

PRIVACY FENCE
CERCA DE PRIVACIDAD

PLAY AREA FENCE (4' HT)
CERCA DE ÁREA DE JUEGOS (4')

STOP SIGN
ALTO

PLANTING AREA
ÁREA DE PLANTAS

BR **BIKE RACKS**
BICICLETERO

R **PROPOSED RESTROOM**
BAÑO

P **PARKING**
ESTACIONAMIENTO

27 PARKING EXISTING (includes lot and Pine Ave.)
17 PARKING PROPOSED
(16 standard, 1 ADA Van accessible)

27 ESPACIOS DE ESTACIONAMIENTO EXISTENTE (incluye lote y Pine Ave.)
17 ESPACIOS DE ESTACIONAMIENTOS PROPUESTOS (16 estándar, 1 accesibles de ADA)

FINAL CONCEPT DESCRIPTION | New Park at Linden & Pine, South San Francisco, CA

In Spring 2024, the City of SSF and MIG design team launched a community design process to envision and design a new park at Linden and Pine Avenues. Through a series of public events, a community vision was developed, followed by input on two concept alternatives. During this process, we learned about park priorities from neighbors and local businesses, followed the guidance of technical experts, and checked in with city leaders. We are excited to share the final community-driven concept plan and take the next steps to make this park a reality!

CONCEPT OVERVIEW

Inspired by traditional plazas around the world that are the heart of their communities, the park concept seeks to create a contemporary new plaza and active park for the Old Town Neighborhood of South San Francisco. The new park will provide spaces for large and small gatherings, offer recreation and play, and incorporate distinct art features reflective of the park's community.

GATHERING

The **Central Plaza** is the heart of the park, providing a community space for **Medium-to-Large Gathering**, such as a music or dance performance, outdoor exercise class, or other community events. Crowd space can grow with the use of the adjacent lawns and expand to an extra-large event occasionally with a temporary closure of Linden Ave. **Small Gathering** spots are also provided at benches and tables spread throughout the park.

RECREATION & PLAY

A **Large Flex Lawn** south of the plaza is sized to host a variety of activities—casual sports play, movie nights, plaza overflow—with a **Small Flex Lawn** north of the plaza for picnics or spillover activity from the play area, fitness, or plaza. A small **Fitness Area** will offer outdoor exercise equipment, and the park provides space for **Games** at the tables, lawn, or plaza. The fenced **Play Area** is designed to offer fun for all ages within a compact footprint, and includes the top elements desired by the community—climbing/sliding structure, group play features (spinner and facing "friendship" swing), tot slide and nature play (logs & boulders) at the edges.

ART ELEMENTS

Three art options are shown at the plaza, based on the community's preferences for which types of art to include. The final budget for each piece will determine how many elements can be included. A public art process will follow in design development to select artists and artwork reflective of the community's identity and heritage.

MORE PARK FEATURES

Circulation: The community desired a safe, connected park with slower traffic, and were split on whether to make Pine Ave. a dead-end street or create a one-way connector. The final concept includes the one-way lane with two stop signs. This will slow down traffic and provide more parking access, while also allowing Pine Ave. vehicles to travel through to Linden Ave.

Parking: Parking spots are provided at the edge of the park for park users, local residents and to support local businesses. As design development moves forward, the City will be reviewing allowable parking times, use of meters, and loading zones.

Safety: New lighting within the park will build upon the existing street lighting along Linden Ave. Sight lines will be maintained between tree canopies and lower ground plane plantings to ensure visibility into the park. The new one-way lane connecting Pine Ave. to 7th Lane is narrow with stop signs to help slow traffic. Vehicular bollards at the curve and street parking spaces offer further separation from park uses.

Restroom: A public restroom (and its utility costs) was not in the initial park budget, but we learned it was an important feature for park visitors' comfort and to reduce reliance on adjacent businesses. Space for a porta potty will be provided at a minimum, and the project team is exploring additional options for funding a permanent single-user restroom to be included in the final construction drawings.

Planting & Stormwater: New trees and drought-tolerant/native plants with water-efficient irrigation will provide shade and offer a comfortable, green backdrop for the park. Stormwater will be directed to bioretention areas to slow and filter runoff.

DESCRIPCIÓN DEL CONCEPTO FINAL | Nuevo parque en Linden & Pine, South San Francisco, CA

En la primavera de 2024, el equipo de diseño de la ciudad de South San Francisco y MIG lanzó un proceso de diseño comunitario para imaginar y diseñar un nuevo parque en las avenidas Linden y Pine. A través de una serie de eventos públicos, se desarrolló una visión comunitaria, seguida de aportes sobre dos alternativas conceptuales. Durante este proceso, aprendimos sobre las prioridades del parque de los vecinos y las empresas locales, seguimos la orientación de los expertos técnicos y nos comunicamos con los líderes de la ciudad. ¡Estamos emocionados de compartir el plan conceptual final impulsado por la comunidad y dar los próximos pasos para hacer de este parque una realidad!

DESCRIPCIÓN GENERAL DEL CONCEPTO

Inspirado en las plazas tradicionales a través del mundo que son el corazón de sus comunidades, el concepto del parque busca crear una nueva plaza contemporánea y un parque activo para Old Town de South San Francisco. El nuevo parque proporcionará espacios para reuniones grandes y pequeñas, ofrecerá recreación y juego, e incorporará características artísticas distintivas que reflejan la comunidad del parque.

ESPACIOS DE RUNION

La **Plaza Central** es el corazón del parque, proporcionando un espacio comunitario para **reuniones medianas a grandes**, como un espectáculo de música o danza, una clase de ejercicios al aire libre u otros eventos comunitarios. El espacio para multitudes puede crecer con el uso del área de pasto al lado y expandirse a un evento extragrande ocasionalmente con un cierre temporal de Linden Ave. **También** se proporcionan pequeños lugares de reunión por medio de bancos y mesas repartidos por todo el parque.

RECREACIÓN Y JUEGO

Un **Área de Pasto Flexible** al sur de la plaza tiene el tamaño adecuado para albergar una variedad de actividades: deportes informales, noches de cine, desbordamiento de la plaza, con un **Área de Pasto Flexible Pequeña** al norte de la plaza para picnics o actividades indirectas del área de juegos, el gimnasio o la plaza. Una pequeña **Área de Fitness** ofrecerá equipos de ejercicio al aire libre, y el parque ofrece espacio para **Juegos** en las mesas, en el pasto o la plaza. El **Área de Juegos** vallada está diseñada para ofrecer diversión para todas las edades dentro de un espacio compacto, e incluye los principales elementos deseados por la comunidad: estructura de escalada / resbaladilla, características de juego grupal (giratorio y columpio de la "amistad"), tobogán para niños pequeños y juegos en la naturaleza (troncos y rocas) en los bordes.

ELEMENTOS ARTÍSTICOS

En la plaza se muestran tres opciones de arte, según las preferencias de la comunidad sobre qué tipos de arte incluir. El presupuesto final de cada pieza determinará cuántos elementos se pueden incluir. Un proceso de arte público seguirá en el desarrollo del diseño para seleccionar artistas y obras de arte que reflejen la identidad y el patrimonio de la comunidad.

MÁS CARACTERÍSTICAS DEL PARQUE

Circulación: La comunidad deseaba un parque seguro y conectado con tráfico más lento, y estaban divididos sobre si hacer de Pine Ave. una calle sin salida o crear una vía conectora de un solo sentido. El concepto final incluye el carril de un solo sentido con dos señales de alto. Esto reducirá la velocidad del tráfico y proporcionará más acceso al estacionamiento, al mismo tiempo que permitirá que los vehículos de Pine Ave. viajen hasta Linden Ave.

Estacionamiento: Se proporcionan lugares de estacionamiento en el borde del parque para los usuarios del parque, los residentes locales y para apoyar a las empresas locales. A medida que avanza el desarrollo del diseño, la Ciudad revisará los tiempos de estacionamiento permitidos, el uso de parquímetros y las zonas de carga.

Seguridad: La nueva iluminación dentro del parque se basará en el alumbrado público existente a lo largo de Linden Ave. Se mantendrán líneas de visión entre las copas de los árboles y las plantaciones del suelo más bajos para garantizar la visibilidad del parque. El nuevo carril de un solo sentido que conecta Pine Ave. con 7th Lane es estrecho y tiene señales de alto para ayudar a reducir la velocidad del tráfico. Los bolardos vehiculares en la curva y los espacios de estacionamiento en la calle ofrecen una mayor separación de los usos del parque.

Baño: Un baño público (y sus costos de servicios públicos) no estaba en el presupuesto inicial del parque, pero aprendimos que era una característica importante para la comodidad de los visitantes del parque y para reducir la dependencia de los negocios adyacentes. Por lo mínimo, se proporcionará un espacio para un baño portátil, y el equipo del proyecto está explorando opciones adicionales para financiar un baño permanente para un solo usuario que se incluirá en los planos finales de construcción.

Plantación y aguas pluviales: Nuevos árboles y plantas nativas / tolerantes a la sequía con riego eficiente en el uso del agua proporcionarán sombra y proporcionarán un sentido verde y cómodo para el parque. Las aguas pluviales se dirigirán a áreas de biorretención para desacelerar y filtrar agua de lluvia.

YOUR VISION FOR THE PARK | *TU VISIÓN PARA EL PARQUE*

NEW PARK AT LINDEN & PINE
PARQUE NUEVO EN LINDEN Y PINE

GATHERING | *REUNIONES*

Large Gathering Spaces | *Grandes Espacios de Reunión*






Central plaza & overflow space on Linden Ave.
Plaza central y espacio adicional en Linden Ave.

Small Gathering Spaces | *Pequeños Espacios de Reunión*

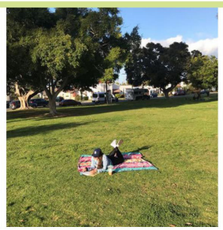





Colorful benches & tables
Bancas y mesas de colores

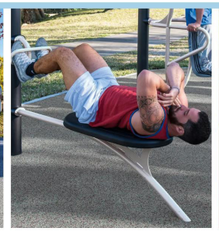
RECREATION & PLAY | *RECREACIÓN Y JUEGO*

Flex Lawn | *Área de Pasto Flexible*



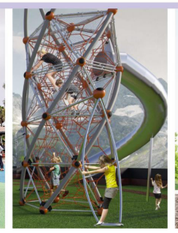
Fitness Station/Game Space | *Estación de Fitness/Espacio de Juegos*




Play Area | *Área de Juegos*





Climbing/sliding structure customized to space
Estructura trepante/resbaladilla adaptada al espacio



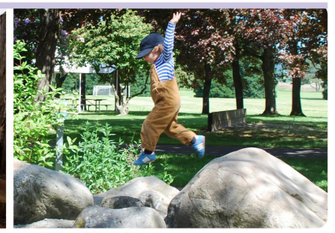
Group Spinner
Girador Grupal



Group Swing
Columpio Grupal



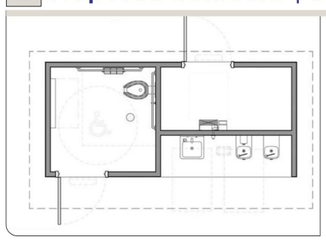
Tot Slide
Resbaladilla para pequeños



Nature Play Edges
Orillas de juego en naturaleza

SITE FEATURES | *ELEMENTOS DEL SITIO*

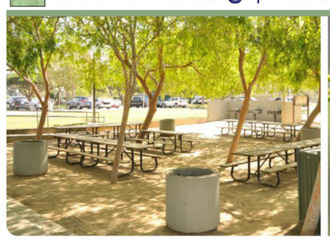
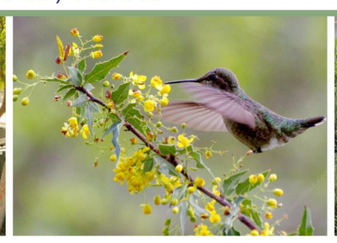
R **Proposed Restroom** | *Baño Propuesto*




BR **Bike Racks** | *Portabicicletas*



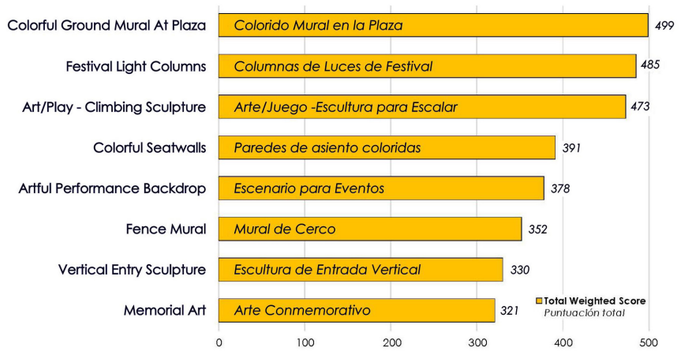
Trees & Planting | *Arboles y Plantas*


ART FEATURES | *ELEMENTOS DE ARTE*

In reviewing the two plan alternatives at our last events, the community preferred:

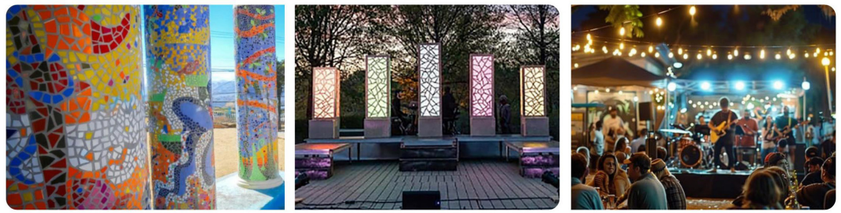
Al revisar las dos alternativas del plan en nuestros últimos eventos, la comunidad prefirió lo siguiente:



The above input, along with the plan updates, resulted in three POTENTIAL ART OPTIONS:

Los aportes anteriores, junto con las actualizaciones del plan, dieron como resultado tres OPCIONES DE ARTE POTENCIALES:

A1 Art Columns with Lighting | *Columnas de Arte con Iluminación*



A2 Ground Mural | *Mural de Suelo*

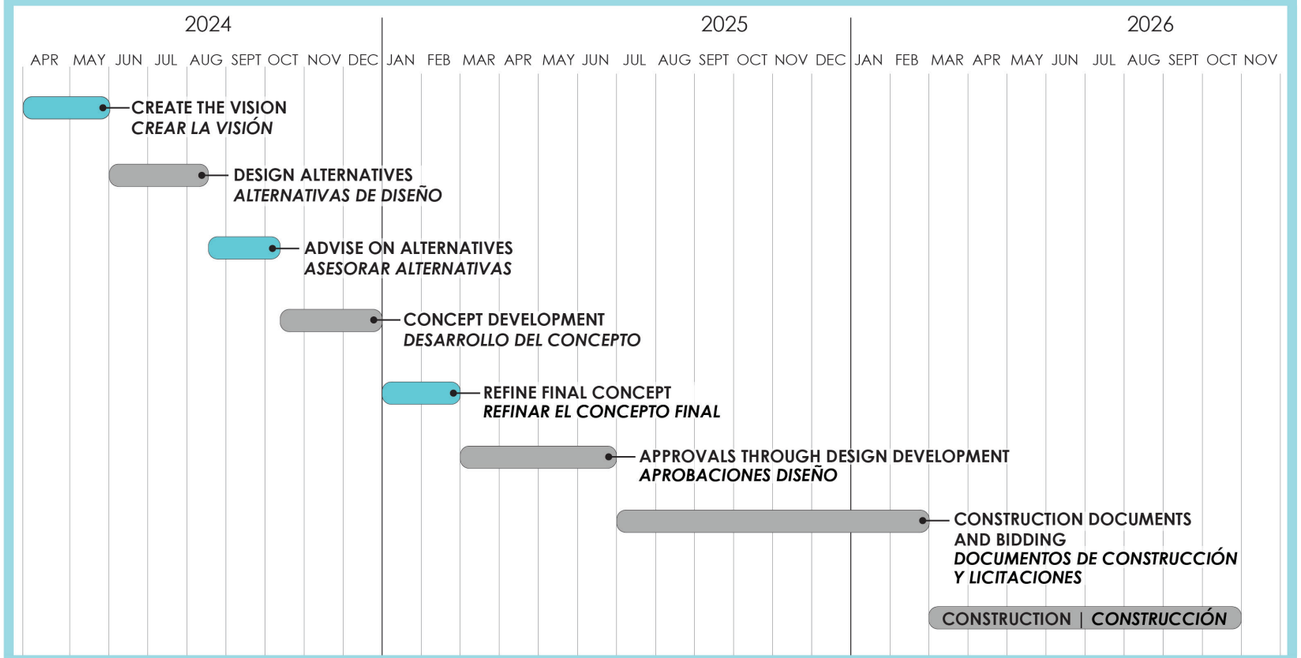


A3 Interactive Art | *Arte Interactivo*



NEW PARK AT LINDEN & PINE | PROJECT TIMELINE
PARQUE NUEVO EN LINDEN Y PINE | CRONOGRAMA DEL PROYECTO

CITY OF SOUTH SAN FRANCISCO
CUIDAD DE SUR SAN FRANCISCO



SCAN HERE FOR MORE INFORMATION
¡ESCANEA AQUÍ PARA OBTENER MÁS INFORMACIÓN!

LEGEND: Community Feedback | *Comentarios Comunitarios*
Work Period | *Periodo De Trabajo*

STAY INFORMED ON DESIGN & CONSTRUCTION PROGRESS

SCAN THE QR CODE

MANTÉNGASE INFORMADO SOBRE EL PROGRESO DEL DISEÑO Y LA CONSTRUCCIÓN

ESCANEE EL CÓDIGO QR A CONTINUACIÓN

www.ssf.net/parkprojects

Hexagon Transportation Consultants, Inc.

Memorandum

Date: March 10, 2025

To: Mr. Philip Vitale, Jr., City of South San Francisco

From: Gary Black, Tim Chang

Subject: Site Plan Review for Linden Park in South San Francisco, California

Hexagon Transportation Consultants, Inc. has completed a site plan review for the proposed Linden Park in South San Francisco, California. The project site is located on the east side of Linden Avenue, between 8th Lane to the north and 7th Lane to the south. The site is comprised of two parcels (616 Linden Avenue and 700 Linden Avenue) and a section of Pine Avenue that bisects the project site. 616 Linden Avenue is currently an active parking lot and 700 Linden Avenue is a vacant grass lot. The two parcels are proposed to be redeveloped into a park with a children's play area, a space for recreation, a sports court, spaces for community gathering and public art.

Hexagon reviewed the proposed Linden Park site plan and provided the following recommendations for design elements. The site plan with markup is shown in Appendix A.

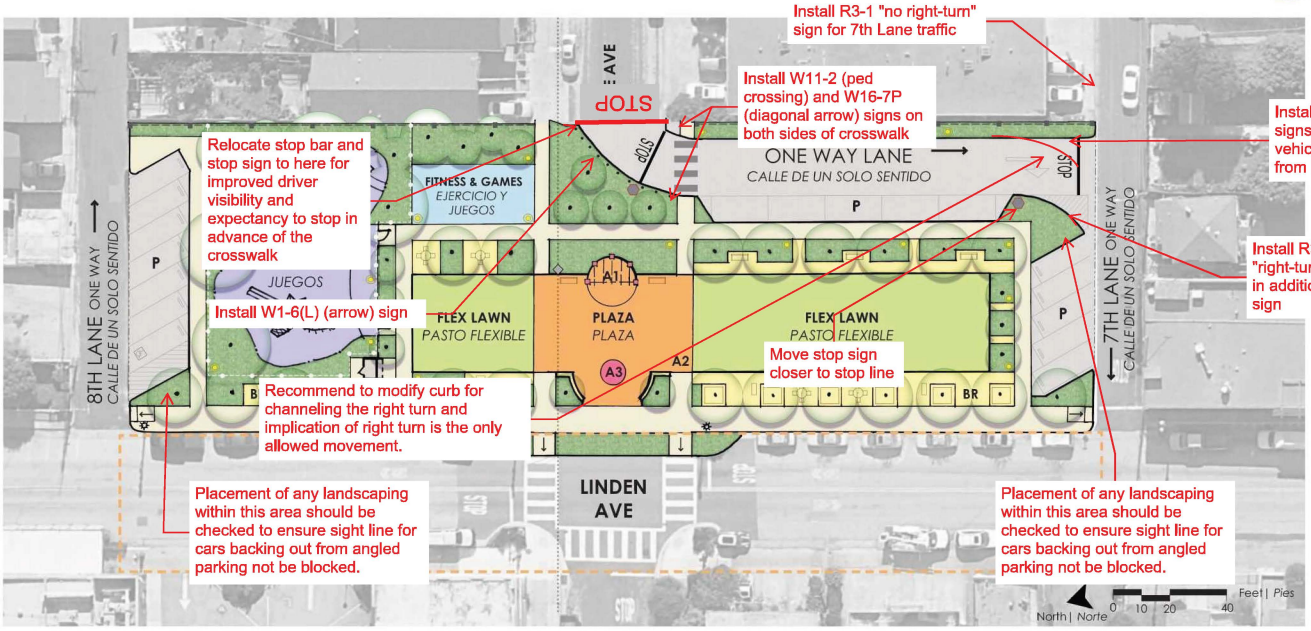
1. Relocate the stop bar and stop sign at the park entrance from Pine Avenue to the start of the curve for improved driver visibility and expectancy to stop in advance of the crosswalk.
2. Install W1-6(L) (arrow) sign along the outside of the curve at Pine Avenue.
3. Install W11-2 (ped crossing) and W16-7P (diagonal arrow) signs on both sides of the crosswalk adjacent to Pine Avenue.
4. Recommend modifying the curb for channeling the right turn and implication that right turn is the only allowed movement at 7th Lane.
5. Move stop sign closer to stop line at the 7th Lane/One Way Lane intersection.
6. Install R3-5(R) "right-turn only" sign in addition to stop sign at the 7th Lane/One Way Lane intersection.
7. Install "do not enter" signs at the northeast corner of the 7th Lane/One Way Lane intersection to prevent vehicles from entering from 7th Lane.
8. Install R3-1 "no right-turn" sign for westbound 7th Lane traffic.
9. Placement of any landscaping at the northwest corner of the 7th Lane/One Way Lane intersection should be checked to ensure sight line for cars backing out from angled parking are not blocked.
10. Placement of any landscaping at the southeast corner of the Linden Avenue/8th Lane intersection should be checked to ensure sight line for cars backing out from angled parking are not blocked.

Appendix A

Site Plan Recommandations

FINAL CONCEPT | *CONCEPTO FINAL*

NEW PARK AT LINDEN & PINE
PARQUE NUEVO EN LINDEN Y PINE



GATHERING
REUNIONES

- **PLAZA** (200 People) *PLAZA (200 Personas)*
- **LARGE EVENT OVERFLOW** *ESPACIO GRANDE PARA EVENTOS*
- **SMALL GATHERING (BENCHES, TABLES)** *PEQUEÑA ÁREA DE REUNIÓN (BANCAS, MESAS)*

RECREATION & PLAY
RECREACIÓN Y JUEGO

- **FLEX LAWN** (320 PP- LARGE LAWN) *PASTO FLEXIBLE (320 PP ÁREA DE PASTO GRANDE)*
- **FITNESS & GAMES** *EJERCICIO Y JUEGOS*
- **PLAY** *JUEGOS*

ART OPTIONS
OPCIONES DE ARTE

- **A1** **ART COLUMNS WITH LIGHTING** *COLUMNAS DE ARTE CON ILUMINACIÓN*
- **A2** **GROUND MURAL AT PLAZA** *MURAL EN EL SUELO DE LA PLAZA*
- **A3** **INTERACTIVE ART** *ARTE INTERACTIVO*

SITE FEATURES
CARACTERÍSTICAS DEL SITIO

- **TREE** | *ÁRBOL*
- **POWER POLE & OVERHEAD WIRES** *POSTE DE LUZ Y CABLES AÉREOS*
- **EXISTING LIGHTING** *ILUMINACIÓN EXISTENTE*
- **PROPOSED LIGHTING** *ILUMINACIÓN PROPUESTA*
- **PRIVACY FENCE** *CERCA DE PRIVACIDAD*
- **PLAY AREA FENCE (4' HT)** *CERCA DE ÁREA DE JUEGOS (4')*
- **STOP SIGN** *ALTO*
- **PLANTING AREA** *ÁREA DE PLANTAS*
- **BR** **BIKE RACKS** *BICICLETERO*
- **R** **PROPOSED RESTROOM** *BAÑO*
- **P** **PARKING** *ESTACIONAMIENTO*

27 PARKING EXISTING (includes lot and Pine Ave.)
17 PARKING PROPOSED
(16 standard, 1 ADA Van accessible)

27 ESPACIOS DE ESTACIONAMIENTO EXISTENTE (incluye lote y Pine Ave.)
17 ESPACIOS DE ESTACIONAMIENTOS PROPUESTOS (16 estándar, 1 accesibles de ADA)

© BKF Engineers

EIGHTH LANE

PINE AVENUE

SEVENTH LANE

A-1
Bioretention Area

A-2
Below Grade
Bioretention Planter

A-3
Bioretention Area

ONE WAY LANE
CALLE DE UN SOLO SENTIDO

FITNESS & GAMES
EJERCICIO Y JUEGOS

PLAY
JUEGOS

FLEX LAWN
PASTO FLEXIBLE

PLAZA
PLAZA

FLEX LAWN
PASTO FLEXIBLE

LINDEN AVENUE

SDMH
RIM 54.19
INV 14" RCP IN(NE) 49.89
INV 18" RCP IN(NW) 49.29
INV 18" RCP OUT (SW) 48.99

SSMH
RIM 54.20
INV 6" VCP IN (W) 47.70
INV 6" VCP IN (N) 48.20
INV 6" VCP OUT (E) 46.80

GRAPHIC SCALE
30 0 30 60

BKF ENGINEERS
1730 N. FIRST STREET
SUITE 600
SAN JOSE, CA 95112
(408) 467-9100
www.bkf.com

CIVIL ALTERNATIVE A - BIO
LINDEN AVENUE PARK
STORMWATER ALTERNATIVES
SOUTH SAN FRANCISCO
SAN MATEO COUNTY
CALIFORNIA

Revisions
No.

Date 3/12/25
Scale AS SHOWN
Design JH
Drawn JH
Approved CA
Job No 2231554

Sheet Number:
1 OF 3

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PLOT DATE: 03-11-25
PLOTTED BY: conzelde

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EIGHTH LANE

PINE AVENUE

SEVENTH LANE

B-1
Below Grade Silva Cells

B-2
Below Grade Silva Cells

B-3
Below Grade Silva Cells

B-1

B-2

B-3

FITNESS & GAMES
EJERCICIO Y JUEGOS

FLEX LAWN
PASTO FLEXIBLE

PLAZA
PLAZA

ONE WAY LANE
CALLE DE UN SOLO SENTIDO

FLEX LAWN
PASTO FLEXIBLE

LINDEN AVENUE

SDMH
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INV 18" RCP IN(NW) 49.29
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INV 6" VCP IN (W) 47.70
INV 6" VCP IN (N) 48.20
INV 6" VCP OUT (E) 46.80

GRAPHIC SCALE
30 0 30 60

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SUITE 600
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(408) 467-9100
www.bkf.com

CIVIL ALTERNATIVE B - SILVA

LINDEN AVENUE PARK

STORMWATER ALTERNATIVES

SAN MATEO COUNTY

SOUTH SAN FRANCISCO

CALIFORNIA

Revisions

No.

Date 3/12/25
Scale AS SHOWN
Design JH
Drawn JH
Approved CA
Job No 2231554

Sheet Number:
2 OF 3

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PLOT DATE: 03-11-25
PLOTTED BY: conzelde

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EIGHTH LANE

PINE AVENUE

SEVENTH LANE

LINDEN AVENUE

ONE WAY LANE
CALLE DE UN SOLO SENTIDO

FITNESS & GAMES
EJERCICIO Y JUEGOS

FLEX LAWN
PASTO FLEXIBLE

PLAZA
PLAZA

FLEX LAWN
PASTO FLEXIBLE

A-2
Below Grade Bioretention Planter

B-1
Below Grade Silva Cells

B-3
Below Grade Silva Cells

SDMH
RIM 54.19
INV 14" RCP IN(NE) 49.89
INV 18" RCP IN(NW) 49.29
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SSMH
RIM 54.20
INV 6" VCP IN (W) 47.70
INV 6" VCP IN (N) 48.20
INV 6" VCP OUT (E) 46.80

GRAPHIC SCALE
30 0 30 60

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CIVIL ALTERNATIVE C - COMBINED
LINDEN AVENUE PARK
STORMWATER ALTERNATIVES
SOUTH SAN FRANCISCO SAN MATEO COUNTY CALIFORNIA

No.	Revisions
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Scale	AS SHOWN
Design	JH
Drawn	JH
Approved	CA
Job No	2231554

Sheet Number:
3 OF 3

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PLOT DATE: 03-11-25
PLOTTED BY: canzelde

APPENDIX B

Environmental Site Assessments

B1. Final Phase 1/Phase II Environmental Site Assessment (Toeroek Associates, Inc. 2021)

July 2, 2021

Dr. Kelly Garbach
EPA TBA Project Manager
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Subject: **Final Phase I/Phase II Environmental Site Assessment Targeted Brownfields Assessment Report**
South San Francisco - Linden & Cypress Aves, South San Francisco, CA
U.S. EPA Region 9, Resource Conservation and Recovery Act (RCRA) Enforcement, Permitting, and Assistance (REPA) Contract No. 68HERH19D0018,
Task Order No. 68HE0920F0007

Dear Dr. Garbach:

Toeroek Associates, Inc. (Toeroek) and Tetra Tech, Inc. (Tetra Tech) (hereafter "Toeroek Team") submit the attached Final Phase I/Phase II Environmental Site Assessment (ESA) Targeted Brownfields Assessment (TBA) Report regarding a TBA at the South San Francisco - Linden & Cypress Aves site.

This deliverable has been reviewed internally as part of Tetra Tech's quality assurance program, as well as Toeroek's quality assurance program, and is consistent with Toeroek's Quality Management Plan for the REPA contract. Documentation of this review is retained in the Toeroek Team's project files.

If you have any questions or comments, please contact Greg Hanna at (720) 898-4102 or Dayna Aragon at (510) 302-6242.

Sincerely,

Greg Hanna
Toeroek Team Program Manager

Dayna Aragon
Toeroek Team Project Manager

Enclosure: Final Phase I/Phase II ESA TBA Report

cc: Lisa Hanusiak, EPA Region 9 TOCOR
Jinky Callado, EPA Region 9 Alternate TOCOR
Toeroek Team files

PHASE I/PHASE II ENVIRONMENTAL SITE ASSESSMENT
TARGETED BROWNFIELDS ASSESSMENT REPORT

SOUTH SAN FRANCISCO - LINDEN & CYPRESS AVES
SOUTH SAN FRANCISCO, CALIFORNIA
TARGETED BROWNFIELDS ASSESSMENT (TBA)

**RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)
ENFORCEMENT, PERMITTING, AND ASSISTANCE (REPA)
CONTRACT**

CONTRACT NO. 68HERH19D0018; TASK ORDER NO. 68HE0920F0007

Prepared for:

**EPA REGION 9
TBA SUPPORT PROGRAM
75 HAWTHORNE STREET
SAN FRANCISCO, CALIFORNIA 94105**

July 2, 2021

Final

Prepared by:

Toeroek Associates, Inc.
300 Union Blvd., Suite 520
Lakewood, Colorado 80228
303-420-7735

and

Tetra Tech, Inc.
1999 Harrison Street, Suite 500
Oakland, California 94612
510-302-6300

PHASE I/PHASE II ENVIRONMENTAL SITE ASSESSMENT
TARGETED BROWNFIELDS ASSESSMENT REPORT

SOUTH SAN FRANCISCO - LINDEN & CYPRESS AVES
SOUTH SAN FRANCISCO, CALIFORNIA

CONTRACT NO. 68HERH19D0018;
TASK ORDER NO. 68HE0920F0007

APPROVAL PAGE

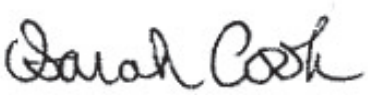
Prepared by:



Date: 7/2/2021

Dayna Aragon, Project Manager
Tetra Tech, Inc.

Reviewed by:



Date: 7/2/2021

Sarah Cook, Quality Assurance Manager
Toeroek Associates, Inc.

Approved by:

Hanusiak, Lisa Digitally signed by Hanusiak, Lisa
Date: 2021.07.06 07:36:07 -07'00'

Date: _____

Lisa Hanusiak, Contracting Officer's Representative
U. S. Environmental Protection Agency, Region 9

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Appendix H: Updated EPA VISL Inputs and Outputs

Appendix I: Analytical Data Packages and Data Validation Reports

Appendix J: Non-Hazardous Waste Manifests

ACRONYMS AND ABBREVIATIONS

µg/L	Micrograms per liter
AAI	All Appropriate Inquiries
ABCA	Analysis of Brownfields Cleanup Alternatives
amsl	Above mean sea level
Applicant	City of South San Francisco and Friends of Parks
ASTM	ASTM International
Atlas	Atlas Technical Consultants, LLC
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and xylene
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
CSM	Conceptual site model
DCE	Dichloroethene
DTSC	California Department of Toxic Substances Control
DPT	Direct-push technology
EDB	1,2-Dibromoethane
EDC	1,2-Dichloroethane
EDR	Environmental Data Resources, Inc.
EDR Report	EDR Radius Map Report
EM	Electromagnetic
EPA	U.S. Environmental Protection Agency
ESA	Environmental site assessment
ESL	Environmental screening level
GPS	Global positioning system
GPR	Ground-penetrating radar
IDW	Investigation-derived waste
LUST	Leaking underground storage tank
mg/kg	Milligrams per kilogram
MS	Matrix spike
MSD	Matrix spike duplicate
MTBE	Methyl tertiary-butyl ether
NRCS	Natural Resources Conservation Service
PAH	Polycyclic aromatic hydrocarbon
PCE	Tetrachloroethene
PID	Photoionization detector
ppm	Parts per million

ACRONYMS AND ABBREVIATIONS (CONTINUED)

QA	Quality assurance
QAPP	Quality assurance project plan
QC	Quality control
QMP	Quality management plan
RBSL	Risk-based screening level
RCRA	Resource Conservation and Recovery Act
REC	Recognized environmental condition
REPA	RCRA Enforcement, Permitting, and Assistance
RSL	Regional screening level
RWQCB	San Francisco Bay Regional Water Quality Control Board
SAP	Sampling and analysis plan
Site	South San Francisco – Linden and Cypress Aves
SL	Screening level
SMCGPP	San Mateo County Groundwater Protection Program
STLC	Soluble threshold limit concentration
TBA	Targeted brownfields assessment
TCE	Trichloroethene
TCLP	Toxicity characteristic leaching procedure
Toeroek Team	Toeroek Associates, Inc. and Tetra Tech, Inc.
TPH	Total petroleum hydrocarbons
TPH-d	Total petroleum hydrocarbons as diesel
TPH-g	Total petroleum hydrocarbons as gasoline
TPH-mo	Total petroleum hydrocarbons as motor oil
TTLC	Total threshold limit concentration
USDA	U.S. Department of Agriculture
USGS	U.S. Geological Survey
UST	Underground storage tank
VEC	Vapor encroachment concern
VISL	Vapor intrusion screening level
VOC	Volatile organic compound
wear metals	Cadmium, chromium, lead, nickel, and zinc

EXECUTIVE SUMMARY

The U.S. Environmental Protection Agency (EPA) Region 9 Targeted Brownfields Assessment Program tasked Toeroek Associates, Inc. and Tetra Tech, Inc. (Toeroek Team) to conduct a Targeted Brownfields Assessment (TBA) Phase I/II Environmental Site Assessment (ESA) of the South San Francisco – Linden & Cypress Avenues (Aves) site (the Site) located at 616 Linden Avenue (616 Linden), 700 Linden Avenue (700 Linden), 905 Linden Avenue (905 Linden), and 705 Cypress Avenue (705 Cypress) located in South San Francisco, San Mateo County, California (Figure 1). The Toeroek Team conducted this TBA Phase I/II ESA in accordance with the ASTM International (ASTM) Standards E1527-13 and E1903-19 for Phase I and Phase I/Phase II ESAs, respectively, and otherwise in compliance with EPA's "All Appropriate Inquiries" Rule (AAI Rule) (40 *Code of Federal Regulations* [CFR] Part 312) (ASTM 2013, 2019).

The Toeroek Team's Phase I ESA report, which recommended further investigation of the Site, is in Appendix A to this report.

The purposes of the Phase I/Phase II ESAs were to: (1) confirm the presence or absence of recognized environmental conditions (RECs) identified during the Phase I ESA; (2) acquire information regarding the nature of contamination (if present) and risks posed by that contamination that would support informed business decisions about the property; and (3) where applicable, satisfy the innocent purchaser defense under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (ASTM 2019).

The Phase I ESA identified the following RECs:

- The potential for vapor intrusion associated with previous automotive repair shop activities, former underground storage tanks (USTs) at 616 Linden, and documented contamination left on the site.
- There may be five USTs not yet located at 616 Linden.
- The potential for vapor intrusion associated with previous gas station activities, former USTs at 905 Linden, and documented contamination left on the site.
- A former dry-cleaning facility at 612 Linden Avenue is located 27 feet south and across the street from the site, which is upgradient and has the potential to migrate onto the site.
- A property approximately 350 feet downgradient to 930 Linden is currently being investigated for a trichloroethene release that has the potential to migrate onto the site.

The Phase I ESA identified the following environmental concerns:

- Aerial deposition of lead from exhaust fumes from vehicles and aircraft, which is highest in urban areas near freeways and highways, may be a potential source of contamination at 700 Linden and 705 Cypress.

- Organochlorine pesticides may have been used by former residents around yards and building foundations at 705 Cypress.

- Because of the subsurface chemical breakdown of petroleum hydrocarbons, arsenic is a potential concern to have mobilized into groundwater at 616 Linden and 905 Linden and to off-site properties. The proposed land use does not include future use of groundwater; so groundwater is only a concern for this ESA for its influence on soil gas and potential vapor intrusion. Arsenic is not volatile and not a potential contaminant of concern in soil gas.

During the Phase II ESA, geophysical surveys, soil gas, groundwater, and soil sampling were conducted. The geophysical survey results identified an electromagnetic anomaly at 616 Linden as an additional potential environmental concern. The anomaly, which was determined to be a subsurface concrete structure with a piece of metal in it, was investigated during the Phase II ESA.

Review of analytical data from the Phase II ESA led to the following noteworthy findings (also shown in Figure 10 and Figure 11):

- **616 Linden:** 1,2-dichloroethane (EDC), benzene, ethylbenzene, m,p-xylene, o-xylene, and toluene concentrations in soil gas samples exceeded applicable screening levels (SLs) for soil gas. Concentrations of total petroleum hydrocarbons as diesel (TPH-d) in soil exceeded applicable SLs.

- **616 Linden (subsurface concrete structure contents):** Lead concentrations in soil within the subsurface concrete structure exceeded applicable SLs and are likely not consistent with background concentrations. Additional analytical results indicated soil may safely remain on site; however, if excavated, the soil would be considered non-Resource Conservation and Recovery Act (RCRA) Class I California hazardous waste because of leachable lead. Soils within the subsurface concrete structure are likely not representative of the other on-site soils as they were collected around the metal debris.

- **905 Linden:** Concentration of total petroleum hydrocarbons as gasoline (TPH-g) in soil and groundwater exceeded applicable SLs.

- **700 Linden and 705 Cypress:** Results from these properties did not exceed applicable SLs in any samples.

Sampling results from this Phase II ESA confirmed the presence of contaminants in soil gas and soil at 616 Linden and in soil and groundwater at 905 Linden. No contamination was observed at 700 Linden or 705 Cypress.

Recommendations

The following recommendations are suggested to mitigate potential impacts on human health if the Site is designated for residential or commercial use.

- **616 Linden:** Soil gas exceedances of SLs may require installing vapor mitigation system(s) in any future buildings, conducting further investigation to determine the source of the soil gas contamination and treatment of the source, or land use controls.

- **905 Linden:** Groundwater exceedances of SLs could require treatment or institutional controls to prevent exposure or release. Soil exceedances of SLs could require removal, land use controls, treatment, or capping to prevent exposure or release.

An Analysis of Brownfields Cleanup Alternatives should be prepared to evaluate cleanup alternatives to address the constituents reported above SLs in soil gas, groundwater, and soil.

1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) Region 9 has conducted a Targeted Brownfields Assessment (TBA) Phase I/II Environmental Site Assessment (ESA) for the City of South San Francisco and Friends of Parks (the Applicants) of four parcels of land located at 616 Linden Avenue (hereinafter 616 Linden), 700 Linden Avenue (hereinafter 700 Linden), 905 Linden Avenue (hereinafter 905 Linden), and 705 Cypress Avenue (hereinafter 705 Cypress), in South San Francisco, San Mateo County, California, hereinafter referred to as the Site (Figure 1). The City of South San Francisco and Friends of Parks has an interest in redeveloping the Site for a neighborhood park, a cultural center, affordable housing, mixed-use ground-floor commercial buildings, or some combination of these. The TBA will evaluate the Site for potential environmental concerns. Results of the TBA, presented in this Phase I/ Phase I/Phase II ESA report, and preparation of an associated Analysis of Brownfields Cleanup Alternatives (ABCA), if necessary, will facilitate a more informed decision on the suitability of the Site for the proposed uses.

EPA tasked Toeroek Associates, Inc. and Tetra Tech, Inc. (Toeroek Team) to conduct the TBA under Contract Number 68HERH19D0018, Task Order Number 68HE0920F0007. The Toeroek Team performed this TBA Phase I/Phase II ESA in accordance with the ASTM International (ASTM) Standard E1527-13 for Phase I ESAs and E1903-19 for Phase I/Phase II ESAs, and otherwise in compliance with EPA's "All Appropriate Inquiries" Rule (AAI Rule) (40 *Code of Federal Regulations* [CFR] Part 312) (ASTM 2013, 2019).

1.1 PURPOSE

The purposes of this TBA Phase I/II ESA were as follows: (1) identify recognized environmental conditions (RECs) during the Phase I ESA (the Phase I ESA Report is provided in Appendix A); (2) during the Phase I/Phase II ESA, confirm or eliminate RECs identified during the Phase I ESA; (3) during the Phase II ESA, acquire information regarding the nature of contamination (if present) and risks posed by that contamination, which would support informed business decisions about the property; and (4) where applicable, satisfy the innocent purchaser defense under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (ASTM 2019). The ASTM standard specifies procedures of the scientific method to characterize property conditions in an objective, representative, reproducible, and defensible manner.

Findings of this TBA Phase I/II ESA Report are limited to areas accessible to Toeroek Team personnel during the Site reconnaissance and subsequent sampling. The TBA Phase I/II ESA was conducted by personnel experienced in recognizing conditions indicative of releases or threatened releases of contamination, as well as both potential short- and long-term environmental hazards and liabilities.

1.2 SCOPE OF WORK

The scope of work for the TBA Phase I/II ESA Report includes the following tasks:

- Review previous assessments of the Site and surrounding properties, if any, to assist with identification of RECs, and to gain a more detailed understanding of the area.
- Perform a Phase I ESA (report is included as Appendix A).
- Conduct a Site reconnaissance to observe current conditions.
- During the Phase II ESA, conduct soil gas, groundwater, and soil sampling to determine whether areas of impacted soil or groundwater exist at the Site. Sampling was to be consistent with the Programmatic Quality Assurance Project Plan (QAPP) approved by EPA on October 8, 2020 (Toeroek Team 2020a), and the site-specific Sampling and Analysis Plan (SAP)/QAPP Addendum approved by EPA on January 22, 2021 (Toeroek Team 2020b).
- Perform a geophysical survey at 616 Linden and 905 Linden to determine if any additional underground storage tanks (USTs) or other hazards remain on the sites that were not identified during the Phase I.
- Prepare this TBA Report to summarize findings and conclusions regarding the assessment of the Site and sampling activities in accordance with Phase I/II ESA requirements.

1.3 SPECIAL TERMS AND CONDITIONS

The Toeroek Team has prepared this document solely for the use and benefit of EPA, City of South San Francisco, and Friends of Parks. Any use of this document or information herein by persons or entities other than EPA, City of South San Francisco, and Friends of Parks without the express written consent of the Toeroek Team will be at the sole risk and liability of said person or entity. The Toeroek Team will not be liable to EPA, City of South San Francisco, and Friends of Parks or such persons or entities for any damages resulting therefrom. It is understood that this document may not include all information pertaining to the Site.

1.4 PERSONNEL PERFORMING TBA

The following Toeroek Team personnel performed this TBA Phase I/II ESA:

- Dayna Aragon, Project Manager — Ms. Aragon was responsible for the overall performance of all tasks assigned to the Toeroek Team by EPA and for working with the EPA Quality Assurance (QA) Officer, City of South San Francisco, and Friends of Parks to ensure achievement of the project's QA goals. Ms. Aragon assisted in the development of this Phase I/II ESA TBA Report.

- Christine Phillips, Field Manager — Ms. Phillips was responsible for making site observations, implementing the sampling design, and collecting, handling, and generating field documentation of sampling activities. Ms. Phillips also performed the Phase I ESA and wrote the Phase I ESA report. Ms. Phillips wrote this Phase I/II ESA TBA Report.

- Sarah Cook, Toeroek QA Manager — Ms. Cook was responsible for ensuring that the work performed under the contract is in compliance with Toeroek's Quality Management Plan (QMP) and EPA quality requirements.

1.5 LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

ASTM E1903-19 acknowledges that "No Phase II ESA can eliminate all uncertainty. Professional judgment and interpretation are inherent in the process, and even when exercised in accordance with the objective scientific principles, uncertainty is inevitable." Furthermore, ASTM E1903-19 states that "[t]here is a point at which the cost of information obtained, or the time required to gather it outweighs the usefulness of the information and, in fact, may be a material detriment to the orderly completion of transactions."

This TBA Phase I/II ESA Report presents results of the reconnaissance at the Site and surrounding properties, and of sampling activities conducted March 1 through 5, 12, and 15, 2021; and a review of property, government, and historical records. Information used to complete this Report was reasonably ascertainable, and visually and physically observable. Any data gaps identified during Phase II ESA activities are discussed in Section 7.0.

2.0 PROJECT AREA DESCRIPTION

The Site is located at 616 Linden, 700 Linden, 905 Linden, and 705 Cypress in South San Francisco, San Mateo County, California (Figure 1), and occupies 0.32 acre, 0.34 acre, 0.27 acre, and 0.29 acre parcels of land, respectively, in an urban area. The Site is surrounded by residential properties, commercial businesses, and undeveloped land. The Site includes an active parking lot at 616 Linden (Figure 2); vegetated and undeveloped land at 700 Linden and 905 Linden (Figure 3 and Figure 4, respectively); and a public neighborhood park with basketball courts and a play area at 705 Cypress (Figure 5). The City of South San Francisco, one of the Applicants, owns the Site.

The U.S. Geological Survey (USGS) 7.5-minute series San Francisco South and USGS 15-minute series San Mateo topographic quadrangle maps (USGS 2020) depict the Site. Coordinates at the approximate center of 616 Linden are 37° 39' 31.30" north latitude and -122° 24' 30.99" west longitude. Coordinates at the approximate center of 700 Linden are 37° 39' 33.22" north latitude and -122° 24' 30.44" west longitude. Coordinates at the approximate center of 905 Linden are 37° 39' 43.32" north latitude and -122° 24' 28.18" west longitude. Coordinates at the approximate center of 705 Cypress are 37° 39' 31.77" north latitude and -122° 24' 24.49" west longitude.

3.0 SITE CONDITIONS

The Toeroek Team evaluated physical characteristics of the Site and surrounding areas during Site reconnaissance. The Toeroek Team reviewed historical documents (including topographic maps and aerial photographs) to gather information about the Site. In addition, the Toeroek Team reviewed published documents, maps, and observations of the Site to gain information about topography, geology, hydrogeology, soils, flood zones, and presence of waters of the United States at the Site.

3.1 HISTORICAL BACKGROUND AND PREVIOUS INVESTIGATIONS

Based on a review of aerial photographs, Sanborn maps, and previous investigation reports, 616 Linden was undeveloped until between 1910 and 1925 when a single-family home and garage were built on the southern end of the property. Between 1943 and 1946, the home and garage were torn down and an automotive shop (Volante Automotive) was built along with a used car lot and a parking lot. Volante Automotive ceased operations in the early 2000s. The current parking lot on the property was built between 1998 and 2006 (Environmental Data Resources, Inc. [EDR] 2020a; EDR 2020c; EDR 2020d; San Mateo County Groundwater Protection Program [SMCGPP] 2001).

Linden Cleaners was previously located 27 feet from the Site at 612 Linden Avenue (across the street from 616 Linden [Figure 2]). The facility operated from 1969 to 1974. Because of the proximity of the historical dry cleaner to 616 Linden, this facility is a potential off-site source of contamination and a REC to the Site.

At 616 Linden, environmental investigations and remediation activities associated with Volante Automotive were conducted between July 1993 and February 2001. On July 13, 1993, one 1,000-gallon gasoline UST and one 250-gallon waste oil UST were excavated from the property following detection of a leak. Soil samples were collected at the time of the UST excavations within excavation pits and soil stockpiles. Because elevated concentrations of hydrocarbons were present in the former UST pits, the pits were excavated again on August 25 and October 21, 1993, and additional confirmation samples were collected. Monitoring wells were installed in 1994 and 1996 to facilitate groundwater monitoring, which occurred until January 2001. The case closure memorandum states that 616 Linden qualified for closure under the RWQCB 1995 Interim Guidance on Required Cleanup at Low Risk Fuel Sites (RWQCB 1996). However, the qualification for closure did not include the requirement to assess the potential for vapor intrusion. Therefore, the potential for vapor intrusion of petroleum-related VOCs at the site is a REC to the subject property that should be investigated further (SMCGPP 2001). See Appendix A for more details on remediation activities at 616 Linden.

On August 4, 2020, during a Phase I ESA site visit, no RECs were identified at 616 Linden. *De minimis* staining was observed throughout the parking lot and appears to be fluid drips from parked cars. Based on information provided by the Applicant and findings from the Phase I ESA (Appendix A), residual petroleum compounds were suspected to be present at 616 Linden.

Based on a review of aerial photographs and Sanborn maps, 700 Linden has remained undeveloped (Figure 3). No environmental investigations have been conducted, and no contaminants are suspected aside from the possibility of historical aerial deposition of lead from exhaust fumes from vehicles and aircraft, which is highest in urban areas near freeways and highways (California Department of Toxic Substances Control [DTSC] 2016). On August 4, 2020, during a Phase I ESA site visit, no RECs or environmental issues were identified aside from potential historical aerial deposition of lead (EDR 2020a; EDR 2020c; EDR 2020d).

Based on a review of aerial photographs, and previous investigation reports, 905 Linden (Figure 4) was undeveloped until a gas station was built between 1946 and 1956. Four USTs formerly present at 905 Linden were removed by November 1998, at which time the property became a vegetated lot. 905 Linden currently hosts a vegetated lot with sod, a sprinkler system, a sign, a fence to the south and west, ornamental vegetation to the south and west, and ornamental boulders to the north and east (EDR 2020a; EDR 2020c; EDR 2020d; SMCGPP 2003).

Environmental investigations, remediation activities, and monitoring were conducted between December 1985, when a LUST was discovered, and October 2003. A monitoring well was installed and sampled from 1990 through 1998 (SWRCB 2020). Multiple site features were removed, over-excavated, and investigated, including a 4,000-gallon diesel UST, a 8,000-gallon gasoline UST, a 6,000-gallon gasoline UST, a 1,000-gallon waste oil tank, a dispenser island, a pipeline from the USTs to the dispenser island, inlets from the service bays to the waste oil tank, hoists, a water collection sump, and an oil-water separator. Six additional monitoring wells were established, and groundwater sampling occurred from February 1999 through November 2003. The well locations were surveyed in April 2002, and a well survey and conduit study (preferential pathway investigation) occurred on January 30, 2003 (EDR 2020c). The wells were destroyed on August 7, 2003. The property was deemed clean by the County of San Mateo Health Services Agency through the SMCGPP, and the case was closed on November 17, 2003 (SWRCB 2020; County of San Mateo Health Services Agency 2003). Overall, 720.93 tons of soil and two truckloads with an unknown quantity of soil were removed from the property and sent for disposal between 1998 and 1999 (County of San Mateo Health Services Agency 2003). The case closure memorandum concluded that 905 Linden qualified for closure despite exceedances of soil Tier 2 risk-based screening levels (RBSLs) for TPH-g and benzene in soil samples

collected between 5 and 8 feet below ground surface (bgs). According to the case closure memorandum, because groundwater at the site is shallow and most of the soil samples appeared to be either from the capillary fringe or the saturated zone, the presence of TPH-g and benzene above their RBSLs for ceiling value and indoor air exposure criteria in a sandy clayed silt soil was not a concern for potential health impacts (SMCGPP 2003). Furthermore, the TPH-g exceedances were also not deemed a concern because the groundwater RBSLs for TPH-g and TPH-d were based on a general nuisance and odor threshold for TPH. However, the vapor intrusion pathway was not evaluated; therefore, the potential for vapor intrusion of petroleum-related VOCs at the site is a REC to the subject property and should be investigated (SMCGPP 2003). See Appendix A for more details on remediation activities at 905 Linden.

Rollin J. Lobaugh, Inc., a machine shop, was previously located to the east of 905 Linden at 930 Linden Avenue. The facility is listed as having a leaking underground storage tank (LUST), which was closed in March 2021 (RWQCB 2021). Additionally, an investigation for a trichloroethene (TCE) release on the property is ongoing and remediation is pending. Because of the potential contamination at the site and the distance from 950 Linden, this facility is considered a REC to the Site.

On August 4, 2020, during a Phase I ESA site visit, no RECs or environmental issues were identified for 905 Linden. However, based on the application for the TBA and the Phase I ESA (Appendix A) document review, residual gasoline and diesel compounds could be present at 905 Linden, which is a REC to the Site.

Based on a review of aerial photographs and Sanborn maps, 705 Cypress was undeveloped until between 1910 and 1925 when two residential buildings and a residential garage were built on the western end of the property. Between 1998 and 2006, the park was built (Figure 5). No environmental investigations of the property have been conducted. On August 4, 2020, during a Phase I ESA site visit, no RECs or environmental concerns were identified. Environmental concerns include the possibility of aerial deposition of lead within the ornamental planters at 705 Cypress, and the potential for pesticide use around the footprints of former buildings and within yards (EDR 2020a; EDR 2020c; EDR 2020d).

3.2 PHYSICAL SETTING

616 Linden is a 0.32-acre commercial property, located approximately 40 feet above mean sea level (amsl), in an urban area of South San Francisco, California. The property is bounded to the northeast, east, southeast, and west by residential developments; to the north by a vacant vegetated lot (700 Linden); and to the south, southwest, and northwest by small businesses. Uses of surrounding properties include residential, commercial, and vacant land. Figure 2 illustrates the location and boundaries of 616 Linden.

700 Linden is a 0.34-acre undeveloped lot, located approximately 40 feet amsl, in an urban area of South San Francisco, California. The property is bounded to the north and east by residential developments, south by an active parking lot (616 Linden), and west by commercial buildings and a parking lot. Uses of surrounding properties include residential and commercial. Figure 3 illustrates the location and boundaries of 700 Linden.

905 Linden is a 0.27-acre undeveloped lot, located approximately 40 feet amsl, in an urban area of South San Francisco, California. The property is bounded to the north, east, and west by commercial and industrial buildings, and south and partially west by residential developments. Uses of surrounding properties include residential and commercial. Figure 4 illustrates the location and boundaries of 905 Linden.

705 Cypress is a 0.29-acre commercial property, located approximately 30 feet amsl, in an urban area of South San Francisco, California. The property is bounded to the north, south, and west by residential developments, and east by commercial buildings. Uses of surrounding properties include residential and commercial. Figure 5 illustrates the location and boundaries of 705 Cypress.

3.2.1 Geologic Setting

San Mateo County lies in the Pacific Border physiographic province of California. The San Francisco Bay region is made up of three complexes. First, the Great Valley complex, which is made up of the Jurassic Coast Range ophiolite, consisting mostly of serpentinite, gabbro, diabase, basalt, and keratophyre. Second, the Great Valley sequence, consisting of sandstone, conglomerate, and shale of Jurassic and Cretaceous age, originally deposited on top of the ophiolite. Then finally, the Franciscan Complex, consisting of graywacke, argillite, basalt, serpentinite, chert, limestone, and other rocks, including sedimentary-matrix mélange, sheared graywacke and argillite matrix containing small- to hill-sized blocks of sedimentary, volcanic, and metamorphic rocks. The three complexes are mostly derived from Jurassic to Cretaceous oceanic crust and pelagic deposits overlain by late Jurassic to late Cretaceous turbidites (Graymer, Jones, and Brabb 2002). Rock stratigraphic unit of the Site is classified in the Mesozoic era, Cretaceous system, and upper Mesozoic series. The geologic age identification is categorized as eugeosynclinal deposits (EDR 2020c).

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil survey, soil at the Site is Urban land-Orthents, cut and fill complex (0 to 5 percent slopes). The Urban land-Orthents, cut and fill complex is well drained with very slow infiltration rates, and soils are clayey, have a high water table, or are shallow to an impervious layer (USDA NRCS 2020; EDR 2020c). During the Phase II ESA investigation, soils were observed to be a mixture of silts, clays, sand, and loam with varying colors of brown, orange, and grey.

3.2.2 Hydrogeology

Regionally, the Site is within the Santa Clara Valley groundwater basin, which is grouped into three hydrogeologic units: a recharge area, an upper aquifer zone, and a lower aquifer zone that hosts the primary drinking water. The recharge area comprises the upper alluvial fan areas where the sediments are highly permeable although intervening leaky aquitards of small lateral extent are common. The central portion of the basin becomes distinctively divided into discrete aquifers within a predominantly clayey section. The "upper aquifer zone" is the term used to group aquifers that occur within 150 feet from the surface. In contrast, the "lower aquifer zone" is the collective name given to aquifers that are deeper than 150 feet. The aquifers are separated by an extensive, thick, compacted aquitard that is essentially impermeable. The aquitard pinches out toward the medial portion of the alluvial fan apron, which enables recharge of both aquifer zones through lateral flow from the common recharge area in the upper reaches of the alluvial fans. Return irrigation, infiltration of areal precipitation, and artificial recharge through the ponds operated by the Santa Clara Valley Water District are significant contributors to the inflow balance of the basin. Outflow is mainly by pumping withdrawal (Ferriz 2001).

A search of the USGS, Federal Reporting Data System Public Water Supply, and state databases did not identify any water wells near the Site (EDR 2020c).

The Site is in the San Francisco Bay Delta Watershed (EPA 2020b). Surface water on the Site likely infiltrates the ground or drain to the San Francisco Bay via storm drains. During the Phase II ESA investigation, shallow groundwater was encountered between 3.65 and 5 feet bgs at 905 Linden at the four locations where groundwater was encountered; groundwater did not infiltrate into the southernmost boring at 5 feet bgs. Groundwater was not encountered at the other three properties.

4.0 PHASE I/PHASE II ENVIRONMENTAL SITE ASSESSMENT ACTIVITIES

The following subsections describe the scope, field exploration, and methods implemented during the Phase I/Phase II ESA. On October 13 and 14, 2020, Toeroek Team member Christine Phillips oversaw Atlas Technical Consultants, LLC (Atlas) perform geophysical surveys at 616 Linden, 905 Linden, and 705 Cypress; the investigation identified the presence of an anomaly (Anomaly 4) at 616 Linden that warranted further investigation. On March 1 through 5, 12, and 15, 2021, Toeroek Team members Dayna Aragon and Christine Phillips conducted soil gas sampling, groundwater sampling, soil sampling, and an investigation of Anomaly 4. Photographs taken to document Phase I/Phase II ESA field activities are in Appendix B. Phase I/Phase II ESA activities were documented in a site logbook, a copy of which is in Appendix C.

Field activities were conducted at the Site on March 1 through 5, 12, and 15, 2021. Samples were submitted to EMAX Laboratories in Torrance, California, on March 2, 4, 6, and 16, 2021, and to Eurofins Air Toxics LLC in Folsom, California, on March 5 and 15, 2021. The following sections summarize the geophysical evaluation and associated anomaly investigation, and sampling of soil gas, groundwater, and soil. Sampling locations are depicted on Figure 6 through Figure 9. Samples collected for analyses are summarized in Table 1. All work was conducted in accordance with the SAP/QAPP Addendum (Toeroek Team 2020b), except as noted in Section 4.7.

4.1 GEOPHYSICAL EVALUATION

Data gaps were identified during the Phase I ESA with respect to the locations and presence of the USTs at 616 Linden and 905 Linden. To evaluate if USTs or other former underground storage features are still present on site at 616 Linden or 905 Linden, geophysical surveys were conducted at both properties. In addition, a geophysical survey was conducted at 705 Cypress in the vicinity of planned sampling locations to locate utilities in advance of intrusive field work. The full geophysical evaluation report can be found in Appendix F.

On October 14, 2020, Atlas performed a geophysical survey that did not conclusively reveal the presence of a UST at 616 Linden; however, one electromagnetic (EM) anomaly (Anomaly 4), four ground-penetrating radar (GPR) anomalies (Anomalies 1 through 4), and three unidentified lines were detected (Figure 6). Anomaly 4, an irregularly shaped area of 12 feet by 4 feet, was detected in the southwest portion of 616 Linden. Based on the EM and GPR responses, the cause of the anomaly was unknown, but the anomaly was thought to contain metal. The three other GPR anomalies and unidentified lines were centrally located and appeared to have been associated with backfilled excavations related to historical UST removals. Anomalies 1 and 2 are related to the former excavations of a 1,000 gallon UST and 250 gallon waste oil tank; the former feature at

Anomaly 3 is unknown and may have been service bays within the former automotive service building. The linear features may be abandoned piping. Since Anomaly 4 contained metal and did not appear to be associated with a backfilled excavation, the anomaly was identified as an additional potential environmental concern; Anomaly 4 was further investigated during the Phase II ESA to either identify it as a UST or other REC or rule it out as a potential source of contamination. The investigation is described in Section 4.2.

On October 13, 2020, Atlas conducted a geophysical survey at 905 Linden that did not reveal the presence of a UST; however, a GPR anomaly indicative of disturbed soil and multiple small EM anomalies indicative of buried metal were detected (Figure 8). The GPR anomaly was detected in the central portion of 905 Linden and likely was related to historical excavations. The other smaller EM anomalies were likely caused by buried debris given the size and distribution of the anomalies. None of the findings pose an environmental concern at 905 Linden (Atlas 2020).

4.2 ANOMALY INVESTIGATION

Anomaly 4 at 616 Linden was identified as a potential environmental concern and investigated to determine whether it presents a REC to the Site. A small excavator was employed to remove the surface asphalt and investigate the source of the geophysical anomaly. The Toeroek Team uncovered a partial concrete structure with vertical walls extending to three inches bgs. The Toeroek Team excavated until the bottom surface of the structure was found at 34 to 36 inches bgs and removed all the soil from the structure with a broom to investigate the structure's floor. Soil within the concrete structure was excavated and temporarily stockpiled on plastic sheeting adjacent to the excavation. A metal horseshoe and a 20-inch-by-20-inch metal plate were present in the soil excavated from the concrete structure, which were likely the source of the EM signal during the geophysical survey.

The partial subsurface structure contained a floor, five walls, and a small entrance with steps, thus ruling out the possibility of its use as a sump. All walls were approximately 8- to 10-inches thick and made of an aggregate concrete with gravel. The subsurface portion of a fencepost (metal post surrounded by concrete) was observed just outside the entranceway. Ash was present within soil in the northwestern corner of the structure. No oil stains on the concrete were observed. Based on these observations, the structure may have been a basement-level utility, furnace, or storage room for the former residence and is not considered a REC or environmental concern to the Site. The structure did not appear to be affiliated with fuel or waste oil containment as originally suspected. A full sketch of the anomaly with further details can be found in Appendix G; Appendix B includes photographs of the anomaly. The locations of the anomaly and subsurface concrete structure are shown on Figure 6. The SAP/QAPP Addendum indicated that if the anomaly was a

tank, sump, or empty tank filled with concrete, soil and groundwater samples would be collected and analyzed for analytes common to petroleum sites (TPHs, wear metals, PAHs, and VOCs) (Toeroek Team 2020b). Since the structure was concrete with no apparent contamination, samples were not collected for analysis of analytes common to petroleum sites.

Soil from multiple locations within the temporarily stockpiled soil was screened for volatile organic compounds (VOCs) using a photoionization detection (PID); no readings exceeded 10 parts per million (ppm). At the direction of EPA Region 9 while in the field, one 5-point composite sample (sample ID 616-EC-03012021) was collected from the stockpile and analyzed for Title 22 metals to assist the City of South San Francisco with characterizing the soil for potential future disposal because of debris found within the soil; however, the stockpiled soil was ultimately placed back into the excavation as discussed below. In addition, the Toeroek Team advanced a boring at approximately the center of the subsurface structure using a hand auger at the location of a thin crack in the structure floor and collected one discrete soil sample (sample ID 616-SB-7-03012021) between 0 and 4 inches below the slab at approximately 36 to 40 inches bgs (Figure 6). The Toeroek Team placed the samples into 8-ounce glass jars with a Teflon-lined caps. The samples were collected using plastic scoops and homogenized in a clean resealable Ziploc bag. Sample jars were labelled and stored on ice in an insulated cooler before delivery to the EMAX Laboratory for waste characterization. The stockpiled soil was returned to the subsurface concrete structure, compacted using a sheepsfoot compactor, and the parking lot surface was restored with asphalt.

4.3 SOIL GAS SAMPLING

Soil gas samples were collected at five locations at 616 Linden and one location at 905 Linden to determine if any contamination present at the properties could affect redevelopment as a residence, park, or business. Based on the historical use of the two properties, biased sampling was selected as the most appropriate sampling approach to assess potential soil gas contamination. The Toeroek Team collected soil gas samples at locations downgradient of former USTs, former dry cleaners, and former automotive shop and gas station amenities. Soil gas samples were collected at five locations at 616 Linden to assess impacts on soil gas from historical and current site activities (Table 1, Figure 6). A soil gas sample and a duplicate were collected at 905 Linden from location GW-5 because groundwater could not be collected at that location (see Section 4.7) (Table 1, Figure 8). Results are discussed in Section 5.2. Soil borings and temporary soil gas well installations were documented in the soil boring and well installation and visual classification logs, copies are provided in Appendix D. All soil gas sampling observations were recorded in the soil gas sampling sheets, copies are provided in Appendix E.

4.3.1 616 Linden

To determine whether contaminants from the former dry cleaners, former USTs, and former automotive shop amenities have migrated into the neighboring environment, discrete soil gas samples were collected downgradient of each potential source of contamination (Figure 6). Using a hand auger and concrete corer, the Toeroek Team advanced five borings to 5 feet bgs on March 2, 2021. A temporary soil gas well was installed at each soil boring location. Helium served as a tracer gas during soil gas sampling. Oxygen data was also collected to assess whether soils are aerobic. The soil gas samples were collected on March 4 and 12, 2021, using helium shroud methods in a SUMMA® canister, which were then labeled and delivered to the laboratory. Soil gas sampling locations were determined by use of a global positioning system (GPS) unit and recorded in the field logbook. All soil gas samples were analyzed for VOCs (benzene, toluene, ethylbenzene, and xylene [BTEX], methyl tertiary-butyl ether [MTBE], naphthalene, 1,2-dibromoethane [EDB], and 1,2-dichloroethane [EDC]), helium, and oxygen. Additionally, a sample from sampling location SG-6, which is downgradient of a former dry cleaner at an adjacent property, was also analyzed for the following potential dry cleaner-related contaminants: dichloroethenes (DCEs) (1,1-DCE, cis-1,2-DCE, and trans-1,2-DCE), tetrachloroethene (PCE), TCE, and vinyl chloride.

Sampling location SG-5 was not sampled because Anomaly 4 was not considered a REC and an upgradient investigation of the area was not needed. Following sampling, the temporary soil gas well tubing was removed and the parking lot surface was restored. Table 1 summarizes the soil gas samples collected during this Phase II ESA.

4.3.2 905 Linden

The Toeroek Team advanced a boring to 5 feet bgs using a direct-push technology (DPT) rig at sampling location GW-5. The boring was left to fill with groundwater overnight; however, no groundwater entered the boring. Since groundwater could not be sampled per the SAP/QAPP Addendum, a temporary soil gas well was installed on March 4, 2021. A discrete soil gas sample and duplicate (905-SG-5-03042021, 905-SG-5-03122021-D) were collected on March 12, 2021, using the same methods as discussed above for 616 Linden, to determine whether contaminants from the former gas station pose a vapor intrusion risk (Figure 8). The soil gas sampling location was determined by use of a GPS unit and coordinates were recorded in the field logbook. The soil gas sample was analyzed for VOCs (BTEX, MTBE, naphthalene, EDB, and EDC). Following sampling, the temporary soil gas well tubing was removed and the soil surface was restored. Table 1 summarizes the soil gas samples collected during this Phase II ESA.

4.4 GROUNDWATER SAMPLING

Four groundwater samples and one duplicate were collected at 905 Linden to determine if any contamination present at this property could affect redevelopment as a park, residence, or business. Based on the historical use of the property, biased sampling was selected as the most appropriate sampling approach to assess potential groundwater contamination. The Toeroek Team collected groundwater samples at four of the five planned locations near the former gas station amenities (Table 1, Figure 8); groundwater did not enter the boring at sampling location GW-5 and could not be collected as described in Section 4.3.2. Results are discussed in Section 5.3. Soil borings and well installations were documented in the soil boring and well installation and visual classification logs in Appendix D.

Using a hand auger (sampling locations GW-1, GW-2, and GW-3) and a DPT rig (sampling locations GW-4 and GW-5), the Toeroek Team advanced five borings to 5 feet bgs. Using a peristaltic pump, the Toeroek Team collected two grab groundwater samples from water that infiltrated the 5-foot soil borings at sampling locations GW-1 and GW-3. Water quality parameters were measured by use of a water quality meter to facilitate calculation of the final groundwater vapor intrusion screening values. Samples were collected in appropriate jars, labeled, put on ice within an insulated cooler, and sent to the laboratory. Groundwater sampling locations were determined by use of a GPS unit and coordinates were recorded in the field logbook. Groundwater samples from GW-1 and GW-3 were analyzed for VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, and chlorinated VOCs) and TPH (TPH-g, TPH-d, and total petroleum hydrocarbons as motor oil [TPH-mo]).

The remaining three borings (GW-2, GW-4, and GW-5) were left to fill with groundwater overnight; however, no groundwater entered the borings and temporary soil gas wells were installed within the borings instead. When the Toeroek Team attempted to sample soil gas through the temporary wells at GW-2 and GW-4, water entered the soil gas tubing, so a peristaltic pump was used to collect a water sample through the soil gas well materials. At these locations, only a limited volume of water was available; therefore, sufficient volume for TPH-mo, TPH-d, and water quality parameters could not be collected. Groundwater samples from GW-2 and GW-4 were analyzed for VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, and chlorinated VOCs) and TPH-g. As described above in Section 4.3.2, at sampling location GW-5, no groundwater entered the boring and a soil gas sample was collected instead. Following sampling, the surface soil was restored to original conditions. Table 1 summarizes the groundwater samples collected during this Phase II ESA.

4.5 SOIL SAMPLING

Surface soil samples were collected at 700 Linden and 705 Cypress and subsurface soil samples were collected at 616 Linden and 905 Linden to determine if any contamination present at the Site could affect redevelopment as a residence, park, or business. Based on the historical use of the Site, biased sampling was selected as the most appropriate sampling approach to assess potential soil contamination. The Toeroek Team collected one discrete subsurface soil sample each at 616 Linden and 905 Linden where PID readings exceeded 100 ppm during soil boring and temporary well installation. The Toeroek Team collected four 5-point composite surface soil samples throughout 700 Linden where land had remained undisturbed. The Toeroek Team collected one 5-point composite surface soil sample at 705 Cypress within an area of decorative vegetation and four discrete surface soil samples in the footprint of the former buildings. Soil samples were collected at a total of 11 locations throughout the Site to assess impacts on soil from historical and current Site activities (Table 1, Figure 6 through Figure 9). Results are discussed in Section 5.4. Soil borings and well installations were documented in the soil boring and well installation and visual classification logs in Appendix D.

4.5.1 616 Linden

During the temporary soil gas well installation and soil classification at sampling location SG-4, located downgradient of a former excavation, an elevated PID reading of 244.5 ppm between 4 and 5 feet bgs and a strong petroleum odor were observed. To determine whether contaminants from the former dry cleaners, former USTs, and/or former automotive shop amenities have migrated into the soil, a discrete soil sample was collected (Figure 6). The Toeroek Team collected a sample from the 4 to 5 feet bgs depth interval, where the highest PID reading was observed, placed the discrete sample and the duplicate (616-SB-4-03022021, 616-SB-4-03022021-D) into an 8-ounce glass jar with a Teflon-lined cap and Terra Core vials for VOC analysis, and recorded the soil sample in the field logbook. Sample jars were labelled and stored on ice in an insulated cooler before delivery to the laboratory. The soil sample was analyzed for VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, and chlorinated VOCs); 16 priority pollutant polycyclic aromatic hydrocarbons (PAHs); cadmium, chromium, lead, nickel, and zinc (wear metals); and TPH (TPH-g, TPH-d, and TPH-mo). Following sampling, the parking lot surface was restored.

Soil from soil borings was drummed as investigation-derived waste (IDW) in a 55-gallon drum and stored on the property until waste characterization was complete; the minimal decontamination water produced was poured over the soil. The IDW soil was profiled, removed from the property on April 26, 2021, and disposed of as non-hazardous soil.

As discussed in Section 4.2, two pre-characterization samples (sample IDs 616-EC-03012021 and 616-SB-7-03012021) were collected at the direction of EPA Region 9 while in the field from soil associated with the subsurface concrete structure and analyzed for Title 22 metals to assist the City of South San Francisco with characterizing the soil for potential future disposal because of debris found within the soil.

Copies of analytical data packages are included in Appendix I, and waste manifests are included in Appendix J. Table 1 summarizes the soil samples collected during this Phase II ESA from 616 Linden.

4.5.2 700 Linden

To determine whether aerial deposition of lead from automobiles and aircraft have migrated into the soil, four 5-point composite surface soil samples were collected from 0 to 0.5 feet bgs throughout the property using a shovel and plastic scoops (Figure 7). The five aliquots were placed in a clean gallon-sized resealable bag and homogenized. Each sample was then placed in an 8-ounce glass jar with a Teflon-lined cap. Sample jars were labelled and stored on ice in an insulated cooler before delivery to the laboratory. Soil sampling locations were determined by use of a GPS unit, and soil sampling activities were recorded in the field logbook. All surface soil samples were analyzed for lead. Following sampling, the surface soil was restored to original conditions. Table 1 summarizes the soil samples collected during this Phase II ESA.

4.5.3 905 Linden

During the temporary groundwater boring installation and soil classification at sampling location GW-4, located downgradient of the former gasoline station service bays and office building, elevated PID readings of 382.4 ppm between 3 and 4 feet bgs and 662.4 ppm between 4 and 5 feet bgs coupled with a strong petroleum odor were observed. To determine whether contaminants from the former gas station have migrated into the soil, a discrete soil sample was collected at this location (Figure 8). The Toeroek Team collected a sample from the 4- to 5-feet-bgs depth interval, where the highest reading was observed. The Toeroek Team placed the discrete sample into an 8-ounce glass jar with a Teflon-lined cap and Terra Core vial for VOCs. Sample jars were labelled and stored on ice in an insulated cooler before delivery to the laboratory. The soil sample was recorded in the field logbook and analyzed for VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, and chlorinated VOCs), 16 priority pollutant PAHs, wear metals, and TPH (TPH-g, TPH-d, and TPH-mo). Following sampling, the surface soil was restored to original conditions.

Soil from soil borings and decontamination water was drummed as IDW in 55-gallon drums and stored on the property until waste characterization was complete. The soil and decontamination water was profiled, removed from the property on April 26, 2021, and disposed of as non-hazardous soil and water.

Copies of analytical data packages are included in Appendix I, and waste manifests are included at Appendix J. Table 1 summarizes the soil samples collected during this Phase II ESA.

4.5.4 705 Cypress

To determine whether pesticide contaminants from former residential activities and current landscaping practices have migrated into the surface soil or if aerial deposition of lead from automobiles and aircraft have migrated into the surface soil within the ornamental planter, four discrete surface soil samples were collected near the footprint of the former residential buildings and one 5-point composite surface soil sample was collected along the ornamental planter (Figure 7). The Toeroek Team used a concrete corer to remove concrete and asphalt from three sample locations; the other locations were collected from exposed soil. Using plastic scoops, the Toeroek Team collected four discrete soil samples from 0 to 0.5 feet bgs. The Toeroek Team also collected one 5-point composite sample from 0 to 0.5 feet bgs within the planter. The five aliquots were placed in a clean gallon-sized resealable bag and homogenized. Each sample was then placed in an 8-ounce glass jar with a Teflon-lined cap and labelled and stored on ice in an insulated cooler before delivery to the laboratory. Surface soil sampling locations were determined by use of a GPS unit. The four discrete surface soil samples were analyzed for lead, and the one composite soil sample was analyzed for lead and pesticides. Following sampling, the surfaces were restored. Table 1 summarizes the soil samples collected during this Phase II ESA.

4.6 QUALITY CONTROL SAMPLES

Field quality control (QC) sampling for this investigation included one subsurface soil, one surface soil, one groundwater, and one soil gas field duplicate; and one subsurface soil, one surface soil, and one groundwater matrix spike (MS)/matrix spike duplicate (MSD) sample. The field duplicates and MS/MSD for soil and groundwater samples were analyzed for VOCs, TPH, PAHs, wear metals, lead, and pesticides, depending on the location and type of sampling conducted. The field duplicates for soil gas samples were analyzed for VOCs, helium, and oxygen. Field duplicate samples were collected to evaluate total method precision.

4.7 DEVIATIONS FROM THE SAP/QAPP ADDENDUM

The following deviations from the SAP/QAPP Addendum occurred during Phase I/Phase II ESA activities:

- Sample ID and Media Alterations:
    - Soil gas sample location IDs were changed in some cases to reflect sampling medium. For 616 Linden, IDs were changed from "SB" as identified in Worksheet #8 of the SAP/QAPP

Addendum to "SG" to reflect the primary medium of concern for the site; the single soil sample location was designated SB-4 and is collocated with SG-4.

- As described in Section 4.3.2, groundwater was not reached at sampling location GW-5 at 905 Linden. Because groundwater was not encountered, a temporary soil gas well was installed and a soil gas sample was collected in lieu of a groundwater sample. This deviation does not have an impact on the assessment for potential vapor intrusion at 905 Linden because a soil gas sample was collected at the same location.

- As described in Section 4.4, water did not enter three of the borings at 905 Linden (GW-2, GW-4, and GW-5) as expected, so temporary soil gas wells were installed within the borings. Two of the temporary soil gas wells (GW-2 and GW-4) subsequently filled with groundwater after installation, so groundwater samples were collected using a peristaltic pump through the temporary soil gas well materials. At these locations, only a small volume of water was available, so water quality parameters and samples for TPH-mo and TPH-d could not be collected. This deviation does not impact the assessment for potential vapor intrusion at 905 Linden because a sample for VOCs and TPH-g was collected. Although neither TPH-g nor TPH-d could be collected at sampling location GW-5, neither petroleum compound was detected in any other groundwater sample at the property, and the soil results did not exceed screening levels (SLs).

- Anomaly Investigation:

  - As described in Section 4.2, the anomaly investigation revealed a partial subsurface concrete structure at 616 Linden that does not seem to be affiliated with fuel or waste oil containment as originally suspected. The subsurface structure does not appear to pose a REC or any other environmental concern to the Site.

- Planned Samples Not Collected:

  - As described in Section 4.3.1, the sampling location SG-5 at 616 Linden was not sampled because Anomaly 4 was not considered a REC and an upgradient sample was determined to not be needed. This deviation does not have an impact on site characterization.

- Additional Samples:
    - As described in Section 4.2, after exposing the subsurface concrete structure at 616 Linden and discussing observations with EPA Region 9, one 5-point composite sample (sample ID 616-EC-03012021) was collected from the temporary stockpile and one discrete sample was collected at approximately the center of the subsurface structure at the location of a thin crack in the structure floor (sample ID 616-SB-7-03012021) between 0 and 4 inches below the slab at approximately 36 to 40 inches bgs. This deviation will assist the City of South San Francisco with waste characterization of the soil for potential future disposal in the area of Anomaly 4; these results are likely not representative of soils in other areas of the Site.
    - As described in Section 4.5.1 and Section 4.5.3, a soil sample was collected at sampling location SG-4 at 616 Linden and at location GW-4 at 905 Linden because of PID readings over 100 ppm. The additional samples were analyzed for TPHs, wear metals, PAHs, and VOCs, and improved site characterization at 616 Linden and 905 Linden.
- Modifications to SLs:
    - Additional SLs (EPA vapor intrusion screening levels [VISLs] for a target groundwater concentration with a target hazard quotient of 1 for both residential and commercial use [EPA 2021]) were identified for TPH-g and TPH-d and used to evaluate the vapor intrusion pathway. EPA's VISLs are risk-based screening values that assist in identifying sites or buildings unlikely to pose a health concern through the soil gas intrusion pathway. Generally, when subsurface concentrations of vapor-forming chemicals, such as those in groundwater or "near source" soil gas, fall below the recommended screening levels (i.e., VISLs), no further action or study is warranted. No VISL is available for TPH-mo because it is not volatile. This deviation supports the assessment of risk for the potential vapor intrusion pathway at 905 Linden.

5.0 PHASE I/PHASE II ASSESSMENT RESULTS

The following sections present analytical data from the soil gas, groundwater, and soil investigations, and the QC samples collected during the Phase II ESA.

5.1 SOIL GAS SAMPLING RESULTS

Soil gas sample results from this ESA were compared to EPA VISLs for residential and commercial soil gas (EPA 2021) and RWQCB environmental screening levels (ESLs) for residential and commercial soil gas (RWQCB 2019).

Comparisons of analytical data to applicable screening values appear in Table 2 and Table 3, and results for analytes exceeding the screening values are reported in Figure 10. Copies of analytical data packages and a data validation report are included in Appendix I.

Seven soil gas samples (including one duplicate) were collected from six soil gas sampling locations (five locations at 616 Linden and one location at 905 Linden). Soil gas sample locations, sample depths, and analyses are summarized in Table 1, and soil gas sample locations are shown on Figure 6 and Figure 8. Soil gas samples were submitted to Eurofins Air Toxics LLC for VOCs, helium (tracer gas), and oxygen analyses. Table 2 and Table 3 list the analytical results from all soil gas samples collected during this Phase II ESA. Copies of analytical data packages and a data validation report are included in Appendix I.

5.1.1 VOCs

At 616 Linden, EDC, benzene, ethylbenzene, and xylenes were detected at concentrations above SLs at sampling location SG-1, which is north of the former automotive repair station. EDC and BTEX were detected at concentrations above SLs at sampling location SG-2. The source of contamination for this sample location is likely from the former 1,000-gallon gasoline UST that was previously excavated. Benzene was detected at concentrations above the SLs at sampling location SG-4. The source of contamination for this sample location is likely from the apparent backfilled excavation detected with GPR; however, no further information is known about that excavation. There were low concentrations of BTEX and PCE (a dry cleaning solvent) detected in the sample collected from SG-6, but only benzene exceeded the SL. The source of contamination at this sample location is likely from former dry cleaner or historical automotive repair activities. PCE, EDC, ethylbenzene, m,p-xylene, toluene, o-xylene, and benzene were detected in various samples collected at 616 Linden; however, none of the detections were above SLs. Table 2 summarizes the analytical results for VOCs in soil gas.

At 905 Linden, the low concentrations of ethylbenzene, m,p-xylene, toluene, o-xylene, and benzene were detected in the soil gas sample; however, none of the detections were above SLs. The duplicate (905-SG-5-03122021-D) was nondetect for all analytes. Table 13 and Figure 10 summarize the soil gas VOC results that were above SLs at 616 Linden.

5.1.2 Additional Analytes

Helium was employed as a tracer gas and analyzed to confirm that ambient air did not intrude into the six soil gas samples collected. Helium was not detected in any of the samples collected; therefore, the samples were not diluted by ambient air. Oxygen data was also collected to assess whether soils are aerobic. Oxygen concentrations at 616 Linden varied from 1.2 percent at sampling location SG-4 to 15 percent at sampling location SG-3 (located adjacent to an ornamental planter). Samples with low oxygen results (sampling locations SG-1, SG-2, and SG-3) generally correlated with higher concentrations of petroleum-related compounds (for example, BTEX), indicating that biodegradation of hydrocarbons is likely occurring under the surface and depleting the soil of oxygen. The oxygen concentration at 905 Linden was relatively high at 13 percent and located in an area with no exceedances of VOC or TPH SLs. Table 3 summarizes the analytical results for helium and oxygen in soil gas.

5.2 GROUNDWATER SAMPLING RESULTS

Groundwater sample results from this ESA were compared to EPA VISLs for residential and commercial groundwater (EPA 2021) and RWQCB ESLs for residential and commercial groundwater (RWQCB 2019).

Comparisons of groundwater analytical data to applicable screening values appear in Table 4 and Table 5. Copies of analytical data packages and a data validation report are included in Appendix I.

Four groundwater samples were collected at four locations at 905 Linden to assess impacts on the groundwater from historical and current site activities. Groundwater sample locations, sample depths, and analyses are summarized in Table 1, and sample locations are shown on Figure 8. Groundwater samples were submitted to the EMAX Laboratory for analyses of VOCs and TPH; at two of the sample locations (GW-2 and GW-4), sufficient water was not available to analyze for TPH-mo and TPH-d. Table 4 and Table 5 list the detected analytical results for all groundwater samples collected during this Phase II ESA.

5.2.1 VOCs

At 905 Linden, ethylbenzene, toluene, and naphthalene were detected at one of the four sampling locations, and MTBE, o-xylene, and m,p-xylene were detected at two of the four sampling locations. No other analytes were detected at any of the four sampling locations. Sampling location GW-3 and its duplicate (905-GW-3-03032021-D) were nondetect for all analytes. VOCs were not detected at or above SLs at any of the four sampling locations. Table 4 summarizes the analytical results for VOCs in groundwater at 905 Linden.

5.2.2 TPH

At 905 Linden, TPH-g was detected at concentrations above the residential EPA VISL (10.4 micrograms per liter (µg/L) in all samples with detected results (locations GW-1, GW-3, GW-4, and GW-5). At sampling location GW-4 adjacent to the former location of the gasoline station service bays, TPH-g was detected at 480 µg/L, which also exceeds the commercial EPA VISL (43.7 µg/L) and the RWQCB Tier 1 ESL for groundwater (100 µg/L for the residential scenario assuming groundwater is a source of drinking water). The source of contamination at 905 Linden is likely from the former gasoline station service bays and other gasoline station activities. TPH-d and TPH-mo were not detected in samples collected at sampling locations GW-1 and GW-3; at two of the sample locations (GW-2 and GW-4), sufficient water was not available to analyze for TPH-mo and TPH-d. Table 5 summarizes the analytical results for TPH in groundwater. Table 14 and Figure 11 present the groundwater TPH results that were above the SLs at 905 Linden.

5.3 SOIL SAMPLING RESULTS

Soil sample results from this ESA were compared to EPA RSLs for residential and commercial soil (EPA 2020a) and DTSC SLs for residential and commercial soil (DTSC 2020) for metals, VOCs, and PAHs, and Tier 1 ESLs for TPH (RWQCB 2019).

Comparisons of analytical data to applicable SLs appear in Table 6 through Table 12. Copies of analytical data packages and a data validation report are included in Appendix I.

Two discrete subsurface soil samples were collected at one location at 616 Linden and one location at 905 Linden; four 5-point composite surface soil samples were collected at 700 Linden and one 5-point composite surface soil sample was collected at 705 Cypress; and four discrete surface soil samples were collected at four locations at 705 Cypress to assess potential impacts on the soil from historical and current site activities. In addition, one 5-point composite sample and one discrete sample were collected at 616 Linden to assist the City of South San Francisco with characterizing the soil for potential future disposal. Soil sample locations, sample depths, and analyses are summarized in Table 1. Sample locations are shown on

Figure 6 through Figure 9. Soil samples were submitted to the EMAX Laboratory for VOCs, PAHs, metals, TPH, lead, and pesticides analyses. Table 6 through Table 12 list the analytical results for all soil samples collected during this Phase II ESA.

5.3.1 VOCs

Soil samples collected from 616 Linden and 905 Linden were analyzed for VOCs. Benzene, ethylbenzene, m,p-xylene, and o-xylene were only detected in samples collected from 905 Linden. Toluene was detected in samples collected from both 616 Linden and 905 Linden. All other analytes were nondetect in samples collected at both 616 Linden and 905 Linden. The sampling location SB-4 duplicate (616-SB-4-03022021-D) was analyzed for the same VOCs, and all results were nondetect. No VOCs were detected above SLs in samples collected from 616 Linden or 905 Linden. Table 6 summarizes the analytical results for VOCs in soil.

5.3.2 PAHs

Soil samples collected from 616 Linden and 905 Linden were analyzed for PAHs. Benzo(a)anthracene, phenanthrene, and pyrene were only detected in samples collected from 616 Linden. All other analytes were nondetect in samples collected at both 616 Linden and 905 Linden. The sampling location SB-4 duplicate (616-SB-4-03022021-D) had similar results to the original sample. No PAHs were detected above SLs. Table 7 summarizes the analytical results for PAHs in soil.

5.3.3 Metals

Soil samples collected from 616 Linden and 905 Linden were analyzed for wear metals (cadmium, chromium, lead, nickel, and zinc). All five wear metals were detected at concentrations below SLs in samples collected from 616 Linden and 905 Linden. The sampling location SB-4 duplicate (616-SB-4-03022021-D) had similar results to the original sample. Table 8 summarizes the analytical results for wear metals in soil.

Soil samples were collected to evaluate the near-surface lead concentration in soil at 700 Linden (four locations) and 705 Cypress (five locations). Lead was detected at all nine sampling locations below SLs, including in the duplicate sample (705-SS-5-03042021-D). Table 8 summarizes the analytical results for lead in soil.

Due to the presence of debris in soil, soil samples were collected from the subsurface concrete structure contents at 616 Linden at the direction of EPA Region 9 and analyzed for metals to characterize the soil for potential future waste disposal. A 5-point composite sample was collected from the temporarily stockpiled soil (616-EC-03012021) that was ultimately placed back into the structure. Additionally, a discrete soil sample

was collected from 3 to 4 inches below the partial concrete structure (616-SB-7-03012021). Both the 5-point composite sample and the discrete soil sample were analyzed for California Title 22 metals via EPA Method 6010 and 7471 and compared to California and federal hazardous waste and leachable waste characterization criteria (Table 9 and Table 10). Because the soil remains on site and metals data is available, the soil results were also compared to EPA regional screening levels (RSLs) for residential and commercial soil (EPA 2020a) and DTSC SLs for residential and commercial soil (DTSC 2020), collectively referred to as SLs below (Table 9).

Metals were detected in both the 5-point composite and discrete samples associated with the subsurface concrete structure located at 616 Linden. Arsenic and lead were detected at concentrations above SLs at sampling location 616-EC-03012021 and arsenic was detected at concentrations above SLs at sampling location 616-SB-7-03012021. Table 9 summarizes the analytical results for metals in soil at these locations.

Arsenic concentrations in both the 5-point composite and discrete samples (8.29 and 8.56 mg/kg, respectively) associated with the subsurface concrete structure located at 616 Linden were above all residential and commercial SLs, and the average USGS background concentration; however, the concentrations were within the USGS San Mateo County background concentration range, and are likely naturally occurring. Background concentrations of arsenic in soil in San Mateo County range from 1.6 to 10 milligrams per kilogram (mg/kg) with a mean of 4.4 mg/kg and a standard deviation of 1.4 mg/kg (USGS 2021). Arsenic concentrations did not exceed the California total threshold limit concentration (TTLC), indicating that the soil is not a California hazardous waste. Arsenic also did not exceed the California soluble threshold limit concentration (STLC) trigger (based on a 10-fold dilution) or the Resource Conservation and Recovery Act (RCRA) toxicity characteristic leaching procedure (TCLP) trigger (based on a 20-fold dilution), indicating that arsenic would not leach from soil above regulated limits (Table 9).

Chromium has no applicable EPA or DTSC SLs, and results in both the 5-point composite and discrete samples associated with the subsurface concrete structure located at 616 Linden did not exceed the California TTLC. However, chromium concentrations exceed the California STLC trigger (based on a 10-fold dilution) in both samples, so the California Waste Extraction Test (WET) test was used to determine whether chromium leaches from soil at concentrations above regulated limits (Table 9).

The lead concentration (239 mg/kg) in the 5-point composite sample associated with the subsurface concrete structure located at 616 Linden was above the residential DTSC SL and below the commercial DTSC SL, residential EPA RSL, and commercial EPA RSL. The lead concentration is within the USGS San Mateo County background range of 4.1 to 659 mg/kg with a mean of 193 mg/kg and a standard deviation of

181 mg/kg (USGS 2021) but is substantially higher than lead concentrations detected in soil at the other sample location at 616 Linden (47.4 mg/kg) and the other Site properties, 700 Linden, 905 Linden, and 705 Cypress, which range from 11.8 to 75.7 mg/kg. Therefore, the lead concentration of 239 mg/kg in soil within the concrete structure is likely not consistent with background concentrations in the area of the Site. The lead concentration within the stockpiled soil was likely impacted by debris discovered in the concrete structure. Lead concentrations in both the composite and discrete samples did not exceed California TTLC; however, both lead concentrations exceeded the California STLC trigger (based on a 10-fold dilution) and the lead concentration in the composite sample exceeded the RCRA TCLP trigger (based on a 20-fold dilution), so the California WET and TCLP test were used to determine whether lead leaches from soil at concentrations above regulated limits (Table 9).

5.3.4 Leachable Chromium and Lead

The 5-point composite sample from the temporarily stockpiled soil (616-EC-03012021) that was ultimately placed back into the structure located at 616 Linden was analyzed for leachable lead and chromium using the California WET with citrate buffer, and for leachable lead using TCLP. The California WET with citrate buffer and TCLP analysis are required to characterize soil for disposal. Based on analytical results for lead exceeding SLs, the composite sample (616-EC-03012021) and the discrete sample (616-SB-7-03012021) collected from immediately below the subsurface concrete structure were also analyzed for leachable lead using the California WET with deionized (DI) water buffer. The California WET with DI water buffer is a less aggressive test using a buffer that is more representative of natural conditions; water percolating through soil that would remain in place. The discrete sample was also analyzed for leachable chromium using the California WET with DI water buffer.

For the composite sample of soil excavated from the concrete structure located at 616 Linden (616-EC-03012021), the leachable lead WET result using the citrate buffer for off-site disposal exceeded the California STLC limit; however, the WET result using the DI water buffer for in situ soil did not exceed the California STLC limit (Table 10). The leachable lead TCLP result for off-site disposal for the composite sample was below the TCLP limit. The leachable lead WET results using the citrate buffer indicate that if soil is excavated for off-site disposal in the future, it should be treated or disposed of as a non-RCRA Class I California hazardous waste because of the potential for lead to leach under typically acidic landfill conditions. However, the WET results using the DI water buffer indicate that lead would not leach from in situ soil and threaten water quality, and soil may be left on site without a cap. A cap (such as the pavement currently in place) would be necessary to address direct exposure to in situ soil.

The chromium WET result using the citrate buffer for the composite sample collected from 616 Linden (616-EC-03012021) was below the California STLC limit and would not limit future on-site activities or off-site soil disposal options.

For the discrete sample of soil beneath the concrete structure located at 616 Linden (616-SB-7-03012021), the WET result using the DI water buffer was nondetect for chromium and lead and did not exceed the California STLC limit (Table 10). The WET result using the DI water buffer indicates that chromium and lead would not leach from soil and threaten water quality, and would not limit future on-site activities.

5.3.5 TPH

Soil samples collected from 616 Linden and 905 Linden were analyzed for TPH. At 616 Linden, TPH-d was detected at concentrations above SLs at sampling location SB-4. The source of contamination at this sample location is likely from the apparent backfilled excavation detected with GPR; however, no further information is known about that excavation. At 905 Linden, TPH-g was detected at concentrations above SLs at sampling location GW-4. The source of contamination for this sample location is likely from the former gasoline station service bays. TPH-g was also detected at a concentration eight times above the RWQCB Tier 1 ESL for soil in the sample collected at sampling location GW-4, where an elevated PID measurement was recorded (see Section 4.5.3) and TPH-g exceeded SLs for groundwater (see Section 5.2.2). TPH-d, TPH-g, and TPH-mo were detected below SLs in samples collected from 616 Linden and 905 Linden. The duplicate (616-SB-4-03022021-D) had similar results to the original sample. The TPH detections in soil were not collocated with high VOC concentrations, which may indicate a high degree of degradation. Table 11 summarizes the analytical results for TPH in soil. Table 15 summarizes the soil TPH results that were above SLs at 616 Linden (Figure 10) and 905 Linden (Figure 11).

5.3.6 Pesticides

At 705 Cypress, soil samples were collected and analyzed for organochlorine pesticides from five locations. 4,4'-Dichlorodiphenyldichloroethylene and cis-chlordane were detected at one of the five sampling locations, and 4,4'-dichlorodiphenyltrichloroethylene was detected at four of the five sampling locations. The sampling location SS-5 duplicate (705-SS-5-03042021-D) had similar results to the original sample. The laboratory did not detect pesticides at concentrations above SLs at any of the five sampling locations. Table 12 summarizes the analytical results for pesticides in soil.

5.4 QUALITY CONTROL SAMPLING RESULTS

QA/QC procedures per the Final Programmatic QAPP (Toeroek Team 2020a) were followed, and no issues were encountered. No equipment rinsate blanks were collected during the Phase II ESA because single-use disposable sample collectors were used. Field duplicate samples were collected (616-SB-4-03022021-D, 705-SS-5-03042021-D, 905-GW-3-03032021-D, and 905-SG-5-03122021-D). Results from the field duplicates are conveyed in Section 5.2, Section 5.3, and Section 5.4.

The Toeroek Team's data validation reports regarding the EMAX Laboratory and Eurofins Air Toxics LLC analytical data packages are included in Appendix I. Data quality was acceptable for data from all samples. All data (including qualified data) from all analyses were determined to be usable.

6.0 VAPOR ENCROACHMENT SCREENING

The objective of a vapor encroachment screening is to conduct an initial evaluation to determine whether current or historical practices associated with the Site or surrounding properties could pose a vapor encroachment concern (VEC). ASTM E2600-15 (ASTM 2015) defines a VEC as "presence or likely presence of chemicals of concern vapors in the subsurface of the target property caused by the release of vapors from contaminated soil and/or groundwater on or near the target property as identified by Tier 1 or Tier 2 procedures."

Tier 1 VEC screening consists of a three-step process to evaluate the Site and surrounding properties according to the following screening process: (1) a search distance test; (2) a chemical of concern test; and (3) a critical distance test. Three possible conclusions result from the Tier 1 screening process:

- A VEC exists.
- A VEC cannot be ruled out.
- A VEC can be ruled out because a VEC does not or is not likely to exist.

The following sections describe the findings of the Tier 1 screening evaluation. Potential VECs were identified in the Tier 1 screening evaluation, so a Tier 2 screening was conducted.

6.1 TIER 1 SEARCH DISTANCE TEST

The Toeroek Team completed an initial vapor encroachment screening to determine if a VEC exists in the subsurface below any proposed site structures from hazardous substances, petroleum, and petroleum products that can include VOCs, semivolatile organic compounds, and inorganic volatile compounds. The Tier 1 non-invasive vapor encroachment screening assessed presence of the chemicals of concern within the approximate recommended minimum search distances specified in ASTM E2600-15 *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions* (ASTM 2015). Table 16 summarizes these minimum search distances.

Based on results of the initial vapor encroachment screening, six facilities with chemicals of concern were identified in the EDR report (Appendix A) within the minimum search distances:

- 616 Linden – Contamination present on site. The closure letter dated February 16, 2001, indicated that TPH-g contamination on site was not an environmental or human health risk unless excavation

or development of the property is proposed that may encounter impacted soil or groundwater (SMCGPP 2001). Investigation is recommended. See Section 3.1 for more details.

- 905 Linden – Contamination present on site. The closure letter dated November 17, 2003, indicated that TPH-g, TPH-d, and benzene contamination on site was not an environmental or human health risk unless excavation or development of the property is proposed that may encounter impacted soil or groundwater (SMCGPP 2003). Investigation is recommended. See Section 3.1 for more details.

- 900 Linden Avenue – Contamination present on site. During remediation, one 250-gallon waste oil UST, one 4,000-gallon gasoline tank, and one 8,000-gallon gasoline tank was removed April 1987; and one 1,000-gallon "never used" UST was removed July 1991 associated with Lonati Proprties. To assess contamination on site, five groundwater monitoring wells were installed with 5-15 ft bgs screening levels and monitored between September 16, 2003 through March 26, 2003. Soil samples were also taken March 26, 2003 and April 1, 2003. The closure letter dated December 1, 2004, indicated that hydrocarbon contamination on site was not an environmental or human health risk unless excavation or development of the property is proposed that may encounter impacted soil or groundwater (County of San Mateo Health Services Agency 2004). This site is not part of the area proposed for redevelopment; however, investigation is recommended due to proximity to target sites.

- 720 Cypress Avenue – Contamination present on site, but potential contaminants of concern are not mentioned (EDR 2020c). A closure letter was issued but unavailable for review. This site is not part of the area proposed for redevelopment; however, investigation is recommended.

- 521 Linden Avenue – Site was listed as a historic dry cleaner and is a VEC to the subject property. It is located approximately 400 feet south of the subject property. (EDR 2020c).

- 612 Linden Avenue – Site was listed as a historic dry cleaner and is a VEC to the subject property. It is located approximately 200 feet south of the subject property. (EDR 2020c).

6.2 TIER 1 CHEMICAL OF CONCERN TEST

Tier 1 chemical of concern tests were completed at identified properties at the Site to assess the presence of a chemical of concern. Six facilities hosting a chemical of concern were identified by the Tier 1 chemical of concern tests.

6.3 TIER 1 CRITICAL DISTANCE TEST

A critical distance test is completed to determine the distance of potential chemical(s) of concern from a site. The critical distance is defined as the distance from the nearest edge of a contaminant plume to the nearest site boundary—100 feet for VOC chemicals of concern, 30 feet for dissolved volatile petroleum hydrocarbons, and 100 feet for petroleum light non-aqueous phase liquids accumulating above the water table. Based on the historical uses of the Site and neighboring properties, VOCs are likely present within the critical distance from the Site.

6.4 TIER 2 EVALUATION OF SOIL-GAS DATA TEST

Based on the historical uses of the Site and surrounding operations of concern, soil gas, groundwater, and soil sampling were recommended at the Site. Six soil gas samples, four groundwater samples, and 11 soil samples were collected (not including duplicates). Laboratory data from the soil gas samples at 616 Linden indicate the presence of EDC and BTEX above screening levels.

6.5 VAPOR ENCROACHMENT CONDITION SCREENING CONCLUSIONS

Based on the results of the vapor encroachment screening and results obtained in the field, a VEC currently exists at 616 Linden. See Table 2 (soil gas results), and Table 6, Table 7, and Table 11 (soil results) for a comparison of all results against SLs.

Based on the results of the vapor encroachment screening and results obtained in the field, a VEC currently exists at 905 Linden. Although VOCs in soil gas and soil were lower than SLs, TPH-g in groundwater exceeds SLs. See Table 2 (soil gas results), Table 4 and Table 5 (groundwater results), and Table 6, Table 7, and Table 11 (soil results) for a comparison of all results against SLs.

7.0 EXCEPTIONS, DELETIONS, AND DATA GAPS

The Phase I/Phase II ESA of the Site conformed generally to the scope and limitations of ASTM E1903-19. Exceptions to, or deletions from, this practice include the following:

- Interviews with past owners and operators at the Site did not occur.
- Based upon discussion of the Site with the City of South San Francisco, current owner, and information from the Phase I report (Appendix A), additional interviews with operators at the Site were not deemed necessary. This exception is not thought to have materially affected findings and conclusions of the ESA.

Information was available in monitoring reports and case closure memoranda (SMCGPP 2001, 2003). Based on discussion of the Site with the City of South San Francisco and current owner and on the information from the Phase I ESA report (Appendix A), additional interviews with operators at the Site were not deemed necessary. This exception is not thought to have materially affected the findings and conclusions of this Phase II ESA.

8.0 CONCLUSIONS, OPINIONS, AND RECOMMENDATIONS

This section summarizes significant findings and conclusions, presents the conceptual site model (CSM), and offers recommendations regarding Phase II ESA field activities.

8.1 FINDINGS AND CONCLUSIONS

The purposes of the Phase II ESA were to: (1) confirm the presence or absence of RECs identified during the Phase I ESA; (2) acquire information regarding the nature of contamination (if present) and risks posed by that contamination that would support informed business decisions about the property; and (3) where applicable, satisfy the innocent purchaser defense under CERCLA (ASTM 2019).

The Phase I ESA identified the following RECs to the Site:

- The potential for vapor intrusion associated with previous automotive repair shop (Volante Automotive/Dante-Volante Trust) activities and former USTs at 616 Linden and documented contamination left on the site is a REC to the subject property.

- There may be 5 USTs not yet located at 616 Linden, which are a REC to the subject property.

- The potential for vapor intrusion associated with previous gas station (Texaco/South City Texaco) activities and former USTs at 905 Linden and documented contamination left on the site is a REC to the subject property.

- Linden Cleaners was identified in the EDR report as Map ID A31 and is a former dry-cleaning facility. The facility was previously located 27 feet south and across the street from the subject property at 612 Linden Avenue. Because of the proximity and upgradient location to 616 Linden, this facility is a potential off-site source of contamination and a REC to the subject property.

- Rollin J Lobaugh, Inc. was identified in the EDR report as Map ID F38, F39, F40, and F41 and is currently being investigated for a TCE release at 930 Linden Avenue. The investigation is ongoing, and remediation is pending. Because of the distance from 905 Linden (approximately 350 feet downgradient of the site), this facility is considered a REC to the subject property.

The Phase I ESA identified the following environmental concerns:

- Aerial deposition of lead from exhaust fumes from vehicles and aircraft, which is highest in urban areas near freeways and highways, may be a potential source of contamination at 700 Linden and 705 Cypress and should be investigated further.

- Organochlorine pesticides may have been used by former residents around yards and building foundations at 705 Cypress and should be investigated further.

- Changes in geochemistry from the natural breakdown of subsurface petroleum hydrocarbons can promote mobilization of naturally occurring arsenic into groundwater; therefore, mobilization of arsenic is a potential concern at 616 Linden and 905 Linden and to off-site properties. The proposed land use does not include planned future use of groundwater; therefore, the groundwater medium is not part of the assessment of possible human health risk at the subject property. Groundwater is a concern for this ESA only in terms of its influence on soil gas and potential vapor intrusion; however, arsenic is not a potential contaminant of concern in soil gas as it is not volatile.

During the Phase II ESA, soil gas, groundwater, and soil sampling were conducted. Additionally, geophysical surveys were conducted at 616 Linden and 905 Linden to attempt to locate any remaining USTs, and at 705 Cypress to locate utilities. The geophysical survey results identified an electromagnetic anomaly at 616 Linden as an additional potential environmental concern, and the anomaly, which was determined to be two pieces of metal within a subsurface concrete structure filled with soil, was investigated during the Phase II ESA.

Review of analytical data from the Phase II ESA led to the following noteworthy findings summarized below, and presented on Figure 10 and Figure 11, and in Table 17.

- **616 Linden:** Soil gas sampling was conducted for VOCs (BTEX, MTBE, naphthalene, EDB, and EDC), helium, and oxygen analyses at all locations, and for dry cleaner solvents (DCE, PCE, TCE, and vinyl chloride) at sampling location SG-6 only. Soil sampling was conducted for VOCs, PAHs, wear metals, and TPH analyses at a location that exhibited an elevated PID measurement. At the direction of the EPA Region 9 while in the field, a 5-point composite sample was collected from soil temporarily excavated from the subsurface concrete structure (616-EC-03012021) uncovered during the anomaly investigation, and a discrete soil sample was collected immediately below the subsurface concrete structure (616-SB-7-03012021); both samples were analyzed for metals to characterize the

soil for potential future disposal because of the presence of debris within the soil. A geophysical investigation conducted as part of the Phase II ESA verified that no additional USTs are present on site. The following exceedances were noted in soil gas and soil:

- EDC soil gas concentrations exceeded all four SLs at sampling locations SG-1 and SG-2.
- Benzene soil gas concentrations exceeded all four SLs at sampling locations SG-1, SG-2, and SG-4; whereas at sampling location SG-6, benzene concentrations exceeded the EPA VISL for residential soil gas and RWQCB ESLs for both residential and commercial soil gas.
- Ethylbenzene soil gas concentrations exceeded all four SLs at sampling locations SG-1 and SG-2. M,p-xylene concentrations exceeded all four SLs at sampling locations SG-1 and SG-2.
- O-xylene soil gas concentrations exceeded all four SLs at sampling location SG-2.
- Toluene soil gas concentrations exceeded RWQCB ESLs for both residential and commercial soil gas at sampling location SG-2.
- The TPH-d soil concentration exceeded the RWQCB Tier 1 ESL at sampling location SB-4 (collocated with sampling location SG-4).
- Based on sampling results, the former dry cleaners (Linden Cleaners at 612 Linden Avenue) can be removed as a potential REC to the Site.
- The EM anomaly (Anomaly 4) was determined to be caused by two pieces of metal within a subsurface concrete structure filled with soil and can be removed as an environmental concern to the Site.
- Arsenic was detected at a concentration above residential and commercial SLs at the 5-point composite and discrete soil sampling locations associated with soil within and below the subsurface concrete structure (616-EC-03012021 and 616-SB-7-03012021). All detected concentrations of arsenic were within the USGS-reported background range for arsenic and lead concentrations in San Mateo County; therefore, arsenic concentrations in soil are likely naturally occurring.
- Lead was detected at a concentration above the residential DTSC SL at the 5-point composite location associated with soil within the subsurface concrete structure (616-EC-03012021).

Although the lead concentration is within the USGS San Mateo County background range, it is substantially higher than lead concentrations detected in soil at the other sample location at 616 Linden and the other Site properties, and is likely not representative of background concentrations in South San Francisco. The lead concentration within the stockpiled soil was likely impacted by debris discovered within the soil in the concrete structure. At the same location, leachable lead in soil is above the California STLC limit based on the WET using the citrate buffer, which indicates that if soil is excavated for off-site disposal in the future, the soil should be treated or disposed of as a non-RCRA Class I California hazardous waste because of the potential for lead to leach under typically acidic landfill conditions. However, the WET result using DI water buffer indicates that lead would not leach from in situ soil and threaten water quality, and soil may be left on site without a cap. A cap (such as the pavement currently in place) would be necessary to address direct exposure to in situ soil based on exceedance of the residential DTSC SL.

- **700 Linden and 705 Cypress**: Surface soil sampling was conducted for lead analysis at 700 Linden and lead and pesticide analyses at 705 Cypress. No exceedances were observed in surface soil at these locations.

- **905 Linden:** Groundwater sampling was conducted for VOCs and TPH-g analyses at all locations, and for TPH-mo and TPH-d analyses at sampling locations GW-1 and GW-3. Soil sampling was conducted for VOCs, PAHs, wear metals, and TPH analyses at a location that exhibited an elevated PID measurement. A geophysical investigation conducted as part of the Phase II ESA verified that no additional USTs are present on site. The following exceedances were noted in groundwater and soil:

    - The TPH-g groundwater and soil concentrations exceeded the EPA VISL for residential groundwater at sampling locations GW-1, GW-3, and GW-4, and the EPA VISL for commercial groundwater and RWQCB Tier 1 ESL at sampling location GW-4.

    - Based on sampling results, the machine shop (Rollin J. Lobaugh at 930 Linden Avenue) can be removed as a potential REC to the Site.

8.2 CONCEPTUAL SITE MODEL

This Phase II ESA was conducted to gain an understanding of contaminants at the Site and to aid in understanding potential exposure routes that may be present at the Site. This section describes the CSM, which incorporates information from the Phase II ESA.

Based on laboratory analytical results from samples collected, concentrations of EDC and BTEX in soil gas, and TPH-d, arsenic, and lead in soil at 616 Linden were detected above Site SLs (Figure 10).

Based on laboratory analytical results from samples collected, concentrations of TPH-g in groundwater and soil at 905 Linden were detected above Site SLs (Figure 11).

To aid a thorough understanding of the environmental concerns at 616 Linden and 905 Linden, Figure 12 (616 Linden) and Figure 13 (905 Linden) show a graphical presentation of identified contaminants of concern and migration pathways to potential receptors at each respective location.

Exposure pathways are potential routes through which human or environmental receptors could encounter contaminants possibly present at a site.

Exposure pathways presented in the CSM for soil gas and subsurface soil at 616 Linden include the following:

- **Inhalation** – This pathway is applicable—exposure of receptors to TPH and VOCs from petroleum products via inhalation.
- **Dermal absorption** – This pathway is applicable—exposure of receptors to TPH and VOCs from petroleum products through direct contact with the skin.
- **Incidental ingestion** – This pathway is applicable—exposure of receptors to TPH and VOCs from petroleum products through active ingestion.

Exposure pathways presented in the CSM for groundwater and subsurface soil at 905 Linden include the following:

- **Inhalation** – This pathway is applicable—exposure of receptors to TPH from petroleum products via inhalation.
- **Dermal absorption** – This pathway is applicable—exposure of receptors to TPH from petroleum products through direct contact with the skin.

- **Incidental ingestion** – This pathway is not applicable as the groundwater on site is not for human consumption—exposure of receptors to TPH from petroleum products through active ingestion.

Potential receptors are categorized by duration of exposure and types of activities they are expected to perform at the Site. The redevelopment plan for the Site is to build a neighborhood park, a cultural center, affordable housing, mixed-use ground-floor commercial buildings, or some combination of these. The receptor categories indicated in this CSM represent reuse of the property and include the following:

- **Residents** – Redevelopment plans may include living quarters. Residents would be present at the Site for long durations of time and be potentially exposed to soil, groundwater, and soil gas.

- **Commercial / Construction Workers** – Commercial workers for potential future redevelopment of the Site would be present at any parcel for a relatively short period of time and would be potentially exposed to soil, groundwater, and soil gas.

8.3 RECOMMENDATIONS

A VEC remains at 616 Linden. Subsurface soil gas sample locations at this property contained EDC and BTEX at concentrations above SLs (listed in Table 2). If the Site is used for residential or commercial purposes this could require installing vapor mitigation system(s) in any future buildings; conducting further investigation to determine the source of the soil gas contamination and treatment of the source; or land use controls to prevent exposure or release and mitigate potential impacts on human health.

At 616 Linden, subsurface soil contains TPH at concentrations above the Tier 1 ESL, which is based on a generic site model of residential use where groundwater is used as drinking water (listed in Table 11). Soil could require treatment, removal, or capping to prevent exposure or release and mitigate potential impacts on human health if the Site is used for residential purposes where groundwater is used as drinking water. Because of its shallow depth, location in an urban environment, and proximity to the San Francisco Bay, groundwater is unlikely to be used as potable water at the Site.

At 616 Linden, soil within the subsurface concrete structure uncovered during the anomaly investigation contains lead above the residential DTSC SL. The WET results using the DI water buffer indicate that lead would not leach from soil or threaten water quality, and soil may be left on site without a cap. However, a cap (such as the pavement currently in place) would be necessary to address direct exposure to in situ soil. If soil within the subsurface concrete structure is excavated for off-site disposal in the future, the soil should be

treated or disposed of as a non-RCRA Class I California hazardous waste because of the potential for leachable lead in landfill conditions.

A VEC remains at 905 Linden. Groundwater at sampling locations GW-1, GW-3, and GW-4 contains TPH-g at a concentration above SLs (listed in Table 5). If the Site is used for residential or commercial purposes, this could require treatment to prevent exposure or release and to mitigate potential impacts on human health. No VOCs in groundwater were detected above residential or commercial SLs at 905 Linden.

At 905 Linden, subsurface soil at sampling location GW-4 contains TPH-g at a concentration above the Tier 1 ESL, which is based on a generic site model of residential use where groundwater is used as drinking water (listed in Table 11). Soil could require treatment, removal, or capping to prevent exposure or release and mitigate potential impacts on human health if the Site is used for residential purposes where groundwater is used as drinking water. Groundwater is unlikely to be used as potable water at the Site.

An ABCA should be prepared to evaluate cleanup alternatives required to address the constituents reported above SLs in subsurface soil gas at 616 Linden, soil within the subsurface concrete structure at 616 Linden, and in groundwater and subsurface soil at 905 Linden.

8.4 ENVIRONMENTAL PROFESSIONAL STATEMENT

I declare that, to the best of my professional knowledge and belief, I meet the definition of an Environmental Professional, as defined in 40 CFR Part 312.10.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Site. I have developed and performed all appropriate inquiries in conformance to the standards and practices set forth in 40 CFR Part 312.



Dayna Aragon
Environmental Professional
Tetra Tech, Inc.

9.0 DISCLAIMERS

This TBA is based on the conditions existing at the Site on the dates of the Site reconnaissance and Site investigation. Past conditions were considered based on readily available records and recollections. Contamination may possibly be present at the Site that has not been discovered.

The conclusions presented herein are based on information provided to the Toeroek Team, or reasonably available to the Toeroek Team.

The Toeroek Team does not warrant or guarantee the Site suitable for any particular purpose or certify the Site as "clean."

Future regulatory modifications, agency interpretations, and/or policy changes may affect the compliance status of the Site.

Detailed indoor air quality, vapor intrusion, occupational health and safety, radon, and wetland surveys were neither requested nor included as part of this project.

The Toeroek Team does not warrant or guarantee that information conveyed in the environmental record sources used for this TBA is correct, complete, and/or current. Such information is the product of independent investigation by parties other than the Toeroek Team and/or information maintained by federal, state, and local government agencies.

10.0 QUALIFICATIONS

Qualified professional staff trained in performance of the scope of work conducted the Phase II ESA and prepared this TBA Report. The team included a QA Manager and a Project Manager/Environmental Professional. Their roles and experience are as follows:

- Sarah Cook, QA Manager – As QA Manager, Ms. Cook is responsible for ensuring that the work performed under the contract is in compliance with Toeroek's QMP and EPA quality requirements. She has 20 years of experience in the environmental field.

- Dayna Aragon, Project Manager, Environmental Professional – Ms. Aragon was responsible for the overall performance of all tasks assigned to the Toeroek Team by EPA and for working with the EPA QA Officer, City of South San Francisco, and Friends of Parks to ensure achievement of the project's QA goals. She was also responsible for implementing the sampling design; collecting, handling, documenting, and transporting samples; and generating field documentation of sampling activities. Ms. Aragon assisted in the development of this TBA Report. She has over 20 years of experience in the environmental field.

- Christine Phillips, Field Team Leader, Environmental Professional – Ms. Phillips was responsible for implementing the sampling design; collecting, handling, documenting, and transporting samples; and generating field documentation of sampling activities. Ms. Phillips wrote this TBA Report. She has 3 years of experience in the environmental field.

11.0 REFERENCES

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FIGURES



Legend

Approximate Site Boundary

N

0 1,000 2,000

Feet

Source: ESRI, ArcGIS Online, Open Streets Map Basemap, 2019

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 1

Site Locations

TETRA TECH

Date: 8/18/2020 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Legend

Approximate Site Boundary

N

0 25 50

Feet

Source: ESRI, ArcGIS Online, World Imagery, 2018

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 2

Current Site Features - 616 Linden Avenue

TETRA TECH

Date: 9/3/2020 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Legend

Approximate Site Boundary

N

0 25 50

Feet

Source: ESRI, ArcGIS Online, World Imagery, 2018

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 3

Current Site Features – 700 Linden Avenue

TETRA TECH

Date: 12/18/2020 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Legend

Approximate Site Boundary

N

0 40 80

Feet

Source: ESRI, ArcGIS Online, World Imagery, 2018

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 4

Current Site Features - 905 Linden Avenue

TETRA TECH

Date: 12/18/2020 Drawn By: Elaia McDonald Project No: 103Z65210007M

P:\EPA_REPA6_Brownfields\PROJECT MANAGEMENT\GIS\GIS\MapFiles\TO13_Fig4_SouthSF_905_SiteFeatures.mxd



Legend

- Current Site Features
- Former Building Footprint
- Approximate Site Boundary

N

0 25 50

Feet

Source: ESRI, ArcGIS Online, World Imagery, 2018

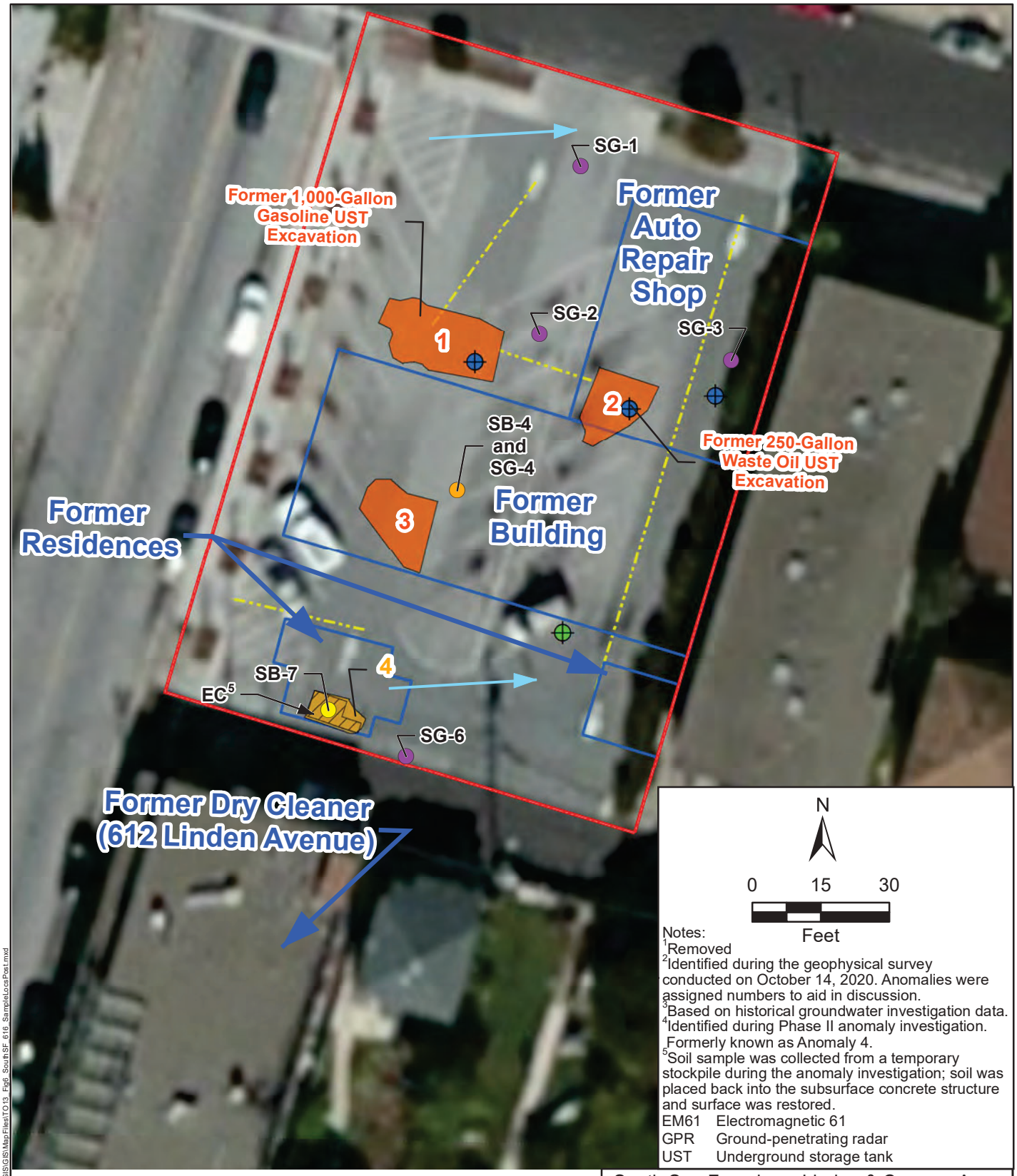
South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 5
Current and Historical Site Features
- 705 Cypress Avenue

TETRA TECH

Date: 12/18/2020 Drawn By: Elaia McDonald Project No: 103Z65210007M

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N

0 15 30

Feet

Notes:
[1]Removed
[2]Identified during the geophysical survey conducted on October 14, 2020. Anomalies were assigned numbers to aid in discussion.
[3]Based on historical groundwater investigation data.
[4]Identified during Phase II anomaly investigation. Formerly known as Anomaly 4.
[5]Soil sample was collected from a temporary stockpile during the anomaly investigation; soil was placed back into the subsurface concrete structure and surface was restored.

EM61 Electromagnetic 61
GPR Ground-penetrating radar
UST Underground storage tank

Legend

- Soil Gas Sample
- Soil and Soil Gas Sample
- Soil Sample
- Former Monitoring Well[1]
- Former Piezometer[1]
- Unidentified Utility Lines[2]
- Groundwater Flow Direction[3]
- Concrete Subsurface Structure [4]
- Apparent Backfilled Excavation Detected with GPR[2]
- EM61- GPR Anomaly[2]
- Approximate Site Boundary
- Former Buildings

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 6
Sample Locations - 616 Linden Avenue

TETRA TECH

Date: 6/11/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Source: ESRI, ArcGIS Online, World Imagery, 2018



Legend

Approximate Site Boundary

5-Point Composite Soil Sampling Location

N

0 25 50

Feet

Source: ESRI, ArcGIS Online, World Imagery, 2018

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 7

Sample Locations – 700 Linden Avenue

TETRA TECH

Date: 5/21/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

P:\EPA_REPA6_Brownfields\PROJECT MANAGEMENT\GIS\GIS\MapFiles\TO13_Fig7_SouthSF_700_SampleLoc.mxd



Legend

- Grab Groundwater Sample
- Soil Gas Sample
- Soil and Grab Groundwater Sample
- Former Groundwater Wells[1]
- Former Hoist
- Former UST Fill Covers
- Electric Vault
- Former Inlet Pipe
- Groundwater Flow Direction[2]
- Former Oil Water Separator Excavation (Depth 8 ft bgs)
- Former Piping Location and Pump Island Excavation (1998) (Depth 7 ft bgs)
- UST Excavation (1998) (Depth 12 ft bgs)
- Former Hoist Excavation (Depth 8 ft bgs)
- Apparent Backfilled Excavation Detected with GPR
- Former Waste Oil UST Excavation (Depth 6 ft bgs)
- Former 4,000-Gallon UST - Diesel
- Former 6,000-Gallon UST - Leaded Gasoline
- Former 8,000-Gallon UST - Unleaded Gasoline
- Former Buildings
- Approximate Site Boundary

Notes:
[1]Removed
[2]Based on historical groundwater investigation data. Site locations are approximate except for monitoring wells MW-1 through MW-6 and the backfilled excavation, which were surveyed.
ft bgs Feet below ground surface
GPR Ground-penetrating radar
UST Underground storage tank

N

0 20 40

Feet

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 8
Sample Locations - 905 Linden Avenue

TETRA TECH

Date: 5/21/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Source: ESRI, ArcGIS Online, World Imagery, 2018



Legend

- Discrete Soil Boring Sample
- 5-Point Composite Soil Sample Location
- Former Buildings
- Approximate Site Boundary

N

0 25 50

Feet

Source: ESRI, ArcGIS Online, World Imagery, 2018

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

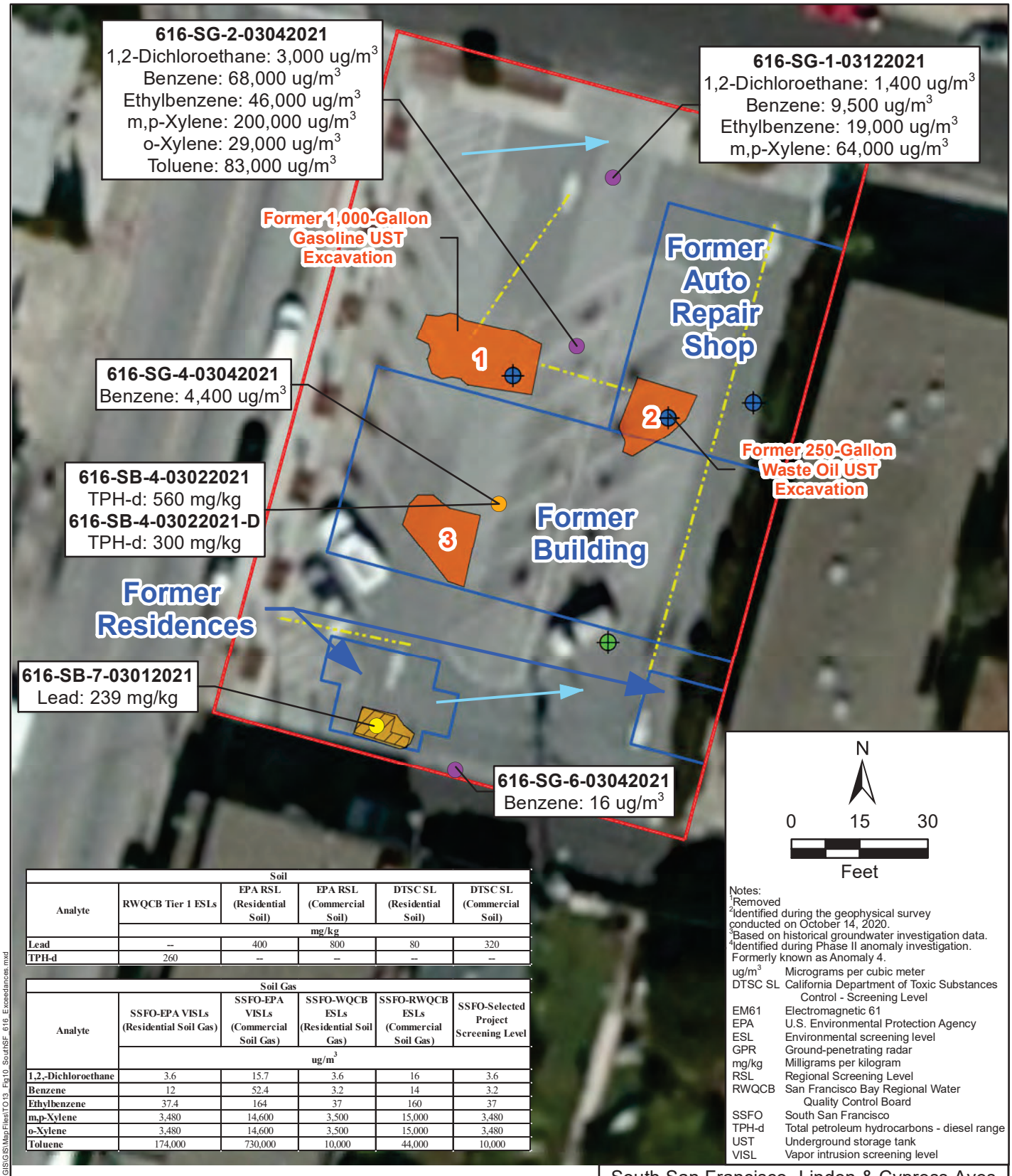
Figure 9

Sample Locations - 705 Cypress Avenue

TETRA TECH

Date: 5/21/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Soil					
Analyte	RWQCB Tier 1 ESLs	EPA RSL (Residential Soil)	EPA RSL (Commercial Soil)	DTSC SL (Residential Soil)	DTSC SL (Commercial Soil)
	mg/kg				
Lead	--	400	800	80	320
TPH-d	260	--	--	--	--

Soil Gas					
Analyte	SSFO-EPA VISLs (Residential Soil Gas)	SSFO-EPA VISLs (Commercial Soil Gas)	SSFO-WQCB ESLs (Residential Soil Gas)	SSFO-RWQCB ESLs (Commercial Soil Gas)	SSFO-Selected Project Screening Level
	ug/m3				
1,2,-Dichloroethane	3.6	15.7	3.6	16	3.6
Benzene	12	52.4	3.2	14	3.2
Ethylbenzene	37.4	164	37	160	37
m,p-Xylene	3,480	14,600	3,500	15,000	3,480
o-Xylene	3,480	14,600	3,500	15,000	3,480
Toluene	174,000	730,000	10,000	44,000	10,000

N

0 15 30

Feet

Notes:
[1]Removed
[2]Identified during the geophysical survey conducted on October 14, 2020.
[3]Based on historical groundwater investigation data.
[4]Identified during Phase II anomaly investigation. Formerly known as Anomaly 4.

ug/m3	Micrograms per cubic meter
DTSC SL	California Department of Toxic Substances Control - Screening Level
EM61	Electromagnetic 61
EPA	U.S. Environmental Protection Agency
ESL	Environmental screening level
GPR	Ground-penetrating radar
mg/kg	Milligrams per kilogram
RSL	Regional Screening Level
RWQCB	San Francisco Bay Regional Water Quality Control Board
SSFO	South San Francisco
TPH-d	Total petroleum hydrocarbons - diesel range
UST	Underground storage tank
VISL	Vapor intrusion screening level

Legend

- Soil Gas Sample
- Soil and Soil Gas Sample
- Soil Sample
- Former Monitoring Well[1]
- Former Piezometer[1]
- Unidentified Utility Lines[2]
- Groundwater Flow Direction[3]
- Concrete Subsurface Structure [4]
- Apparent Backfilled Excavation Detected with GPR[2]
- EM61- GPR Anomaly [2]
- Former Buildings
- Approximate Site Boundary

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

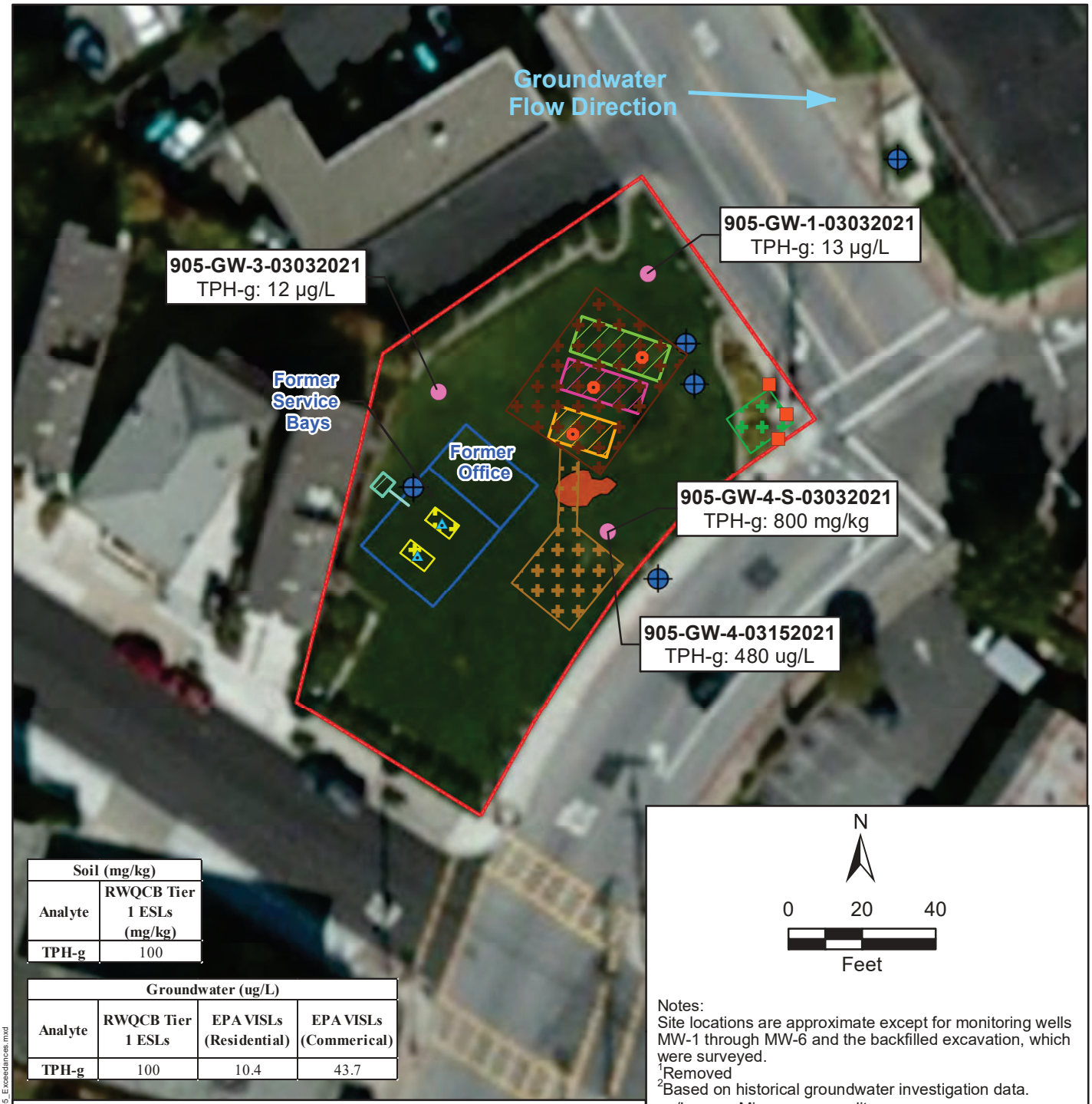
Figure 10
Sampling Results Exceeding Screening Levels - 616 Linden Avenue

TETRA TECH

Date: 6/11/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Source: ESRI, ArcGIS Online, World Imagery, 2018



Soil (mg/kg)	
Analyte	RWQCB Tier 1 ESLs (mg/kg)
TPH-g	100

Groundwater (ug/L)			
Analyte	RWQCB Tier 1 ESLs	EPA VISLs (Residential)	EPA VISLs (Commerical)
TPH-g	100	10.4	43.7

Legend

- SampleType
- Former Hoist
- Former UST Fill Covers
- Electric Vault
- Former Groundwater Wells[1]
- Former Inlet Pipe
- Groundwater Flow Direction[2]
- Former Oil Water Separator Excavation (Depth 8 ft bgs)
- Former Piping Location and Pump Island Excavation (1998) (Depth 7 ft bgs)
- UST Excavation (1998) (Depth 12 ft bgs)
- Former Hoist Excavation (Depth 8 ft bgs)
- Former Waste Oil UST Excavation (Depth 6 ft bgs)
- Former 4,000-Gallon UST - Diesel
- Former 6,000-Gallon UST - Leaded Gasoline
- Former 8,000-Gallon UST - Unleaded Gasoline
- Former Buildings
- Apparent Backfilled Excavation Detected with GPR
- Approximate Site Boundary

N

0 20 40

Feet

Notes:
Site locations are approximate except for monitoring wells MW-1 through MW-6 and the backfilled excavation, which were surveyed.
[1]Removed
[2]Based on historical groundwater investigation data.

ug/L	Micrograms per liter
ESL	Environmental screening level
ft bgs	Feet below ground surface
GPR	Ground-penetrating radar
mg/kg	Milligrams per kilogram
RWQCB	San Francisco Bay Regional Water Quality Control Board
TPH-g	Total petroleum hydrocarbons - gasoline range
UST	Underground storage tank

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 11

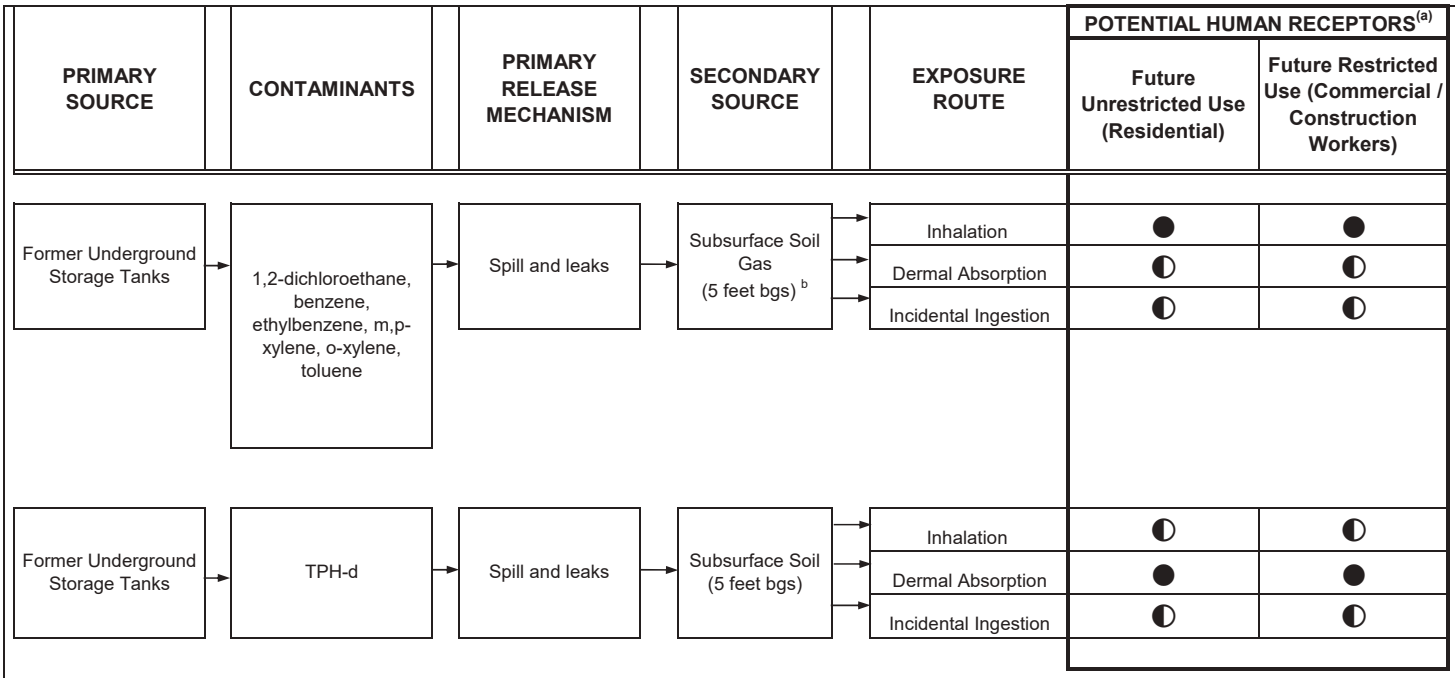
Sampling Results Exceeding Screening Levels - 905 Linden Avenue

TETRA TECH

Date: 6/11/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Source: ESRI, ArcGIS Online, World Imagery, 2018



Notes:

(a) All possible human receptors may be present at the Site in the future.

(b) Soil gas is a tertiary source - contaminants must first be released to soil and/or groundwater, which act as secondary sources that release to soil gas and then soil gas is released into indoor air.

bgs Below ground surface

● Potentially complete exposure pathway

◐ Incomplete or negligible exposure pathway

TPH-d Total petroleum hydrocarbons as diesel

South San Francisco - Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

TETRA TECH

Figure 12
Conceptual Site Model - 616 Linden Avenue

PRIMARY SOURCE	CONTAMINANTS	PRIMARY RELEASE MECHANISM	SECONDARY SOURCE	EXPOSURE ROUTE	POTENTIAL HUMAN RECEPTORS[(a)]	
					Future Unrestricted Use (Residential)	Future Resticted Use (Commercial / Construction Workers)
Former Service Bays	TPH-g	Spills and leaks	Groundwater (5 feet bgs)	Inhalation	◐	◐
				Dermal Absorption	●	●
				Incidental Ingestion	●	●
Former Service Bays	TPH-g	Spills and leaks	Subsurface Soil (5 feet bgs)	Inhalation	●	●
				Dermal Absorption	●	●
				Incidental Ingestion	◐	◐

Notes:

(a) All possible human receptors may be present at the Site in the future.
bgs Below ground surface
● Potentially complete exposure pathway
◐ Incomplete or negligible exposure pathway
TPH-g Total petroleum hydrocarbons as gasoline

South San Francisco - Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

TETRA TECH

Figure 13
Conceptual Site Model - 905 Linden Avenue

TABLES

Table 1: Sample Summary
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Property	Location	Sample ID(s)	Depth Interval (feet bgs)	Matrix	Latitude (°N)	Longitude (°W)	Analyses Performed
616 Linden	SG-1	616-SG-1-03042021	5	Soil Gas	37° 39' 31.910"	122° 24' 30.803"	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium
	SG-2	616-SG-2-03042021	5	Soil Gas	37° 39' 31.545"	122° 24' 30.906"	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium
	SG-3	616-SG-3-03042021	5	Soil Gas	37° 39' 31.497"	122° 24' 30.383"	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium
	SG-4	616-SG-4-03042021	5	Soil Gas	37° 39' 31.203"	122° 24' 31.121"	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium
	SB-4 (collocated with SG-4)	616-SB-4-03022021 616-SB-4-03022021-D	4 – 5	Subsurface Soil	37° 39' 31.203"	122° 24' 31.121"	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs), 16 priority pollutant PAHs, Wear metals, TPH (TPH-g, TPH-d, TPH-mo)
	SG-6	616-SG-6-03042021	5	Soil Gas	37° 39' 30.598"	122° 24' 31.256"	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium DCE, PCE, TCE, vinyl chloride

Table 1: Sample Summary
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Property	Location	Sample ID(s)	Depth Interval (feet bgs)	Matrix	Latitude (°N)	Longitude (°W)	Analyses Performed
616 Linden	Temporary Stockpile (Soil within Concrete Structure)	616-EC-03012021	0.5 -3.8	Soil	37° 39' 30.725"	122° 24' 31.466"	Title 22 Metals, STLC CA WET with Citrate Buffer (Chromium and lead), , STLC CA WET with DI water (Lead ony), TCLP (Lead only)
	Immediately below concrete structure	616-SB-7-03012021	3 – 3.4	Soil	37° 39' 30.725"	122° 24' 31.466"	Title 22 Metals, STLC CA WET with DI water (Chromium and lead)
700 Linden	SS-1	700-SS-1-03042021	0 – 0.5	Surface Soil	37° 39' 33.628"	122° 24' 30.537"	Lead (composite sample)
					37° 39' 33.376"	122° 24' 30.457"	
					37° 39' 33.438"	122° 24' 30.760"	
					37° 39' 33.817"	122° 24' 30.314"	
					37° 39' 33.880"	122° 24' 30.617"	
	SS-2	700-SS-2-03042021	0 – 0.5	Surface Soil	37° 39' 33.503"	122° 24' 29.931"	Lead (composite sample)
					37° 39' 33.251"	122° 24' 29.851"	
					37° 39' 33.313"	122° 24' 30.154"	
					37° 39' 33.755"	122° 24' 30.011"	
					37° 39' 33.693"	122° 24' 29.708"	
	SS-3	700-SS-3-03042021	0 – 0.5	Surface Soil	37° 39' 32.921"	122° 24' 30.767"	Lead (composite sample)
					37° 39' 33.173"	122° 24' 30.847"	
					37° 39' 33.111"	122° 24' 30.544"	
					37° 39' 32.732"	122° 24' 30.990"	
					37° 39' 32.669"	122° 24' 30.687"	

Table 1: Sample Summary
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Property	Location	Sample ID(s)	Depth Interval (feet bgs)	Matrix	Latitude (°N)	Longitude (°W)	Analyses Performed
700 Linden	SS-4	700-SS-4-03042021	0 – 0.5	Surface Soil	37° 39' 32.797"	122° 24' 30.161"	Lead (composite sample)
					37° 39' 32.607"	122° 24' 30.384"	
					37° 39' 32.545"	122° 24' 30.081"	
					37° 39' 33.049"	122° 24' 30.241"	
					37° 39' 32.986"	122° 24' 29.938"	
905 Linden	GW-1	905-GW-1-03032021	5	Groundwater	37° 39' 43.864"	122° 24' 27.863"	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs), TPH (TPH-g, TPH-d, TPH-mo)
	GW-2	905-GW-2-03152021	5	Groundwater	37° 39' 43.480"	122° 24' 27.495"	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs), TPH-g
	GW-3	905-GW-3-03032021 905-GW-3-03032021-D	5	Groundwater	37° 39' 43.549"	122° 24' 28.573"	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs), TPH (TPH-g, TPH-d, TPH-mo)
	GW-4	905-GW-4-03032021	5	Groundwater	37° 39' 43.171"	122° 24' 28.005"	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs) TPH-g

Table 1: Sample Summary
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Property	Location	Sample ID(s)	Depth Interval (feet bgs)	Matrix	Latitude (°N)	Longitude (°W)	Analyses Performed
905 Linden	GW-4	905-GW-4-S-03032021	4 – 5	Subsurface Soil	37° 39' 43.171"	122° 24' 28.005"	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs), 16 priority pollutant PAHs, Wear metals, TPH (TPH-g, TPH-d, TPH-mo)
	GW-5	905-SG-5-03042021 905-SG-5-03122021-D	5	Soil Gas	37° 39' 42.773"	122° 24' 28.631"	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium
705 Cypress	S-1	705-SS-1-03052021	0 – 0.5	Surface Soil	37° 39' 32.483"	122° 24' 24.349"	Pesticide, Lead
	S-2	705-SS-2-03052021	0 – 0.5	Surface Soil	37° 39' 32.446"	122° 24' 23.989"	Pesticide, Lead
	S-3	705-SS-3-03052021	0 – 0.5	Surface Soil	37° 39' 31.680"	122° 24' 24.967"	Pesticide, Lead
	S-4	705-SS-4-03052021	0 – 0.5	Surface Soil	37° 39' 31.382"	122° 24' 24.654"	Pesticide, Lead
	S-5	705-SS-5-03052021 705-SS-5-03042021-D	0 – 0.5	Surface Soil	37° 39' 31.231"	122° 24' 24.577"	Pesticide, Lead (Composite Sample)
					37° 39' 31.305"	122° 24' 24.215"	
					37° 39' 31.657"	122° 24' 24.031"	
					37° 39' 32.009"	122° 24' 23.848"	
					37° 39' 32.361"	122° 24' 23.664"	

Notes:

°	Decimal degrees	N	North	TPH	Total petroleum hydrocarbons
bgs	Below ground surface	PAH	Polycyclic aromatic hydrocarbon	TPH-d	Total petroleum hydrocarbons as diesel
BTEX	Benzene, toluene, ethylbenzene, and xylene	PCE	Tetrachloroethene	TPH-g	Total petroleum hydrocarbons as gasoline
D	Duplicate sample	SB	Soil Boring/Subsurface Soil Sample	TPH-mo	Total petroleum hydrocarbons as motor oil
DCE	1,2-Dichloroethene	SG	Soil Gas Sample	VOC	Volatile organic compound
EDB	1,2-Dibromoethane	SS	Surface Soil Sample	W	West
EDC	1,2-Dichloroethane	TCE	Trichloroethene		
GW	Groundwater Sample				
MTBE	Methyl tert-butyl ether				

Table 2: Summary of Analytical Data - Soil Gas - VOCs
Phase I/II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Screening Level (µg/m³)				616 Linden Avenue												905 Linden Avenue			
	EPA VISLs [a]		RWQCB ESLs [b]		616-SG-1-03122021		616-SG-2-03042021		616-SG-3-03122021		616-SG-4-03042021		616-SG-6-03042021		905-SG-5-03122021		905-SG-5-03122021 D	
	(Residential Soil Gas)	(Commercial Soil Gas)	(Residential Soil Gas)	(Commercial Soil Gas)	Result (µg/m³)	Qual	Result (µg/m³)	Qual	Result (µg/m³)	Qual	Result (µg/m³)	Qual	Result (µg/m³)	Qual	Result (µg/m³)	Qual	Result (µg/m³)	Qual
1,1-DICHLOROETHENE	695	2,920	2,400	10,000	--		--		--		--		0.17	U	--		--	
1,2-DIBROMOETHANE	0.16	0.68	3.6*	16*	360	U	470	U	0.08	U	1,000	U	0.33	U	0.097	U	0.09	U
1,2-DICHLOROETHANE (EDC)	3.6	16	3.6*	16*	1,400		3,000		0.042	U	540	U	0.17	U	0.051	U	0.047	U
BENZENE	12	52	3.2	14	9,500		68,000		1.2		4,400		16		0.47	J	0.037	UJ
CIS-1,2-DICHLOROETHENE	NC	NC	280	1,200	--		--		--		--		0.17	U	--		--	
ETHYLBENZENE	37	164	37	160	19,000		46,000		1.3		580	U	23		1	J	0.051	UJ
M,P-XYLENE	3,480	14,600	3,500	15,000	64,000		200,000		3.8		580	U	110		3.5	J	0.051	UJ
METHYL TERT-BUTYL ETHER	360	1,570	360*	1,600*	170	U	220	U	0.037	U	480	U	0.15	U	0.046	U	0.042	U
NAPHTHALENE	2.75	12	2.8*	12*	790	U	1,000	U	0.26	U	2,200	U	1.1	U	0.32	U	0.29	U
O-XYLENE	3,480	14,600	3,500	15,000	320		29,000		1.4		580	U	32		0.33	J	0.051	UJ
TETRACHLOROETHENE	360	1,570	15	67	--		--		--		--		1.8		--		--	
TOLUENE	174,000	730,000	10,000	44,000	660		83,000		10		500	U	98		1.2	J	0.044	UJ
TRANS-1,2-DICHLOROETHENE	139	584	2,800	12,000	--		--		--		--		0.17	U	--		--	
TRICHLOROETHENE	16	100	16*	100*	--		--		--		--		0.23	U	--		--	
VINYL CHLORIDE	6	93	0.32*	5.2*	--		--		--		--		0.11	U	--		--	

Notes:

All results have been validated.

* Indicates use of most stringent value between cancer and noncancer endpoints.

a EPA VISLs for Target Sub-Slab and Near-source Soil Gas Concentration (THQ = 1) from May 2021 EPA VISL Calculator (see Appendix H).

b RWQCB Vapor ESLs (Subslab/Soil Gas) (Table SG-1) Rev. 2 (RWQCB 2019) and not available online; they can be requested from ESLs.ESL@Waterboards.ca.gov.

Highlighted cells indicate values exceed screening levels.

-- No data

µg/m³ Micrograms per cubic meter

D Duplicate

DTSC California Department of Toxic Substances Control

EPA U.S. Environmental Protection Agency

ESL Environmental screening level

J Estimated value

NC No criteria

Qual Qualifier

RSL Regional screening level

RWQCB San Francisco Bay Regional Water Quality Control Board

SL Screening level

U Not detected at concentration at or above reporting limit

UJ The analyte was analyzed for, but was not detected at or above the associated value (reporting limit), which is considered approximate dueto deficiencies in one or more quality control criteria.

VISL Vapor intrusion screening level

VOC Volatile organic compound

Table 3: Summary of Analytical Data - Soil Gas - Additional Analytes
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	616 Linden Avenue										905 Linden Avenue			
	616-SG-1-03122021		616-SG-2-03042021		616-SG-3-03122021		616-SG-4-03042021		616-SG-6-03042021		905-SG-5-03122021		905-SG-5-03122021-D	
	Result (%)	Qual	Result (%)	Qual	Result (%)	Qual	Result (%)	Qual	Result (%)	Qual	Result (%)	Qual	Result (%)	Qual
HELIUM	0.0037	U	0.0047	U	0.004	U	0.0051	U	0.005	U	0.0049	U	0.0045	U
OXYGEN	1.4		2.6		15		1.2		7.8		13		13	

Notes:

All results have been validated

% Percent

D Duplicate

Qual Qualifier

U Not detected at concentration at or above reporting limit

Table 4: Summary of Analytical Data - Groundwater - VOCs
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Screening Level (mg/kg)				905 Linden Avenue									
	EPA VISLs [a]		RWQCB ESLs [b]		905-GW-1-03032021		905-GW-2-03152021		905-GW-3-03032021		905-GW-4-03032021		905-GW-3-03032021-D	
	(Residential Groundwater)	(Commercial Groundwater)	(Residential Groundwater)	(Commercial Groundwater)	Result (µg/L)	Qual	Result (µg/L)	Qual	Result (µg/L)	Qual	Result (µg/L)	Qual	Result (µg/L)	Qual
1,1,1,2-TETRACHLOROETHANE	3.71	16.2	3.8*	17*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,1,1-TRICHLOROETHANE	7,420	31,100	1,500	6,300	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,1,2,2-TETRACHLOROETHANE	3.23	14.1	3.2*	14*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,1,2-TRICHLOROETHANE	5.21	22.8	5.2*	23*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,1-DICHLOROETHANE	7.64	33.4	7.6*	33*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,1-DICHLOROETHENE	195	821	66	280	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,2,3-TRICHLOROPROPANE	22.3	93.7	22	94	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
1,2-DIBROMOETHANE	0.176	0.769	0.17*	0.76*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,2-DICHLOROBENZENE	2,660	11,200	2,700	11,000	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,2-DICHLOROETHANE (EDC)	2.24	9.78	2.2*	9.8*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,2-DICHLOROPROPANE	6.58	28.7	2.3*	10*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
1,4-DICHLOROBENZENE	2.59	11.3	2.6*	11*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
BENZENE	1.59	6.93	0.42*	1.8*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
CARBON TETRACHLORIDE	0.415	1.81	0.43*	1.9	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
CHLOROBENZENE	410	1,720	400	1,700	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
CHLOROETHANE	23,000	96,500	23,000	97,000	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
CHLOROFORM	0.814	3.55	0.81*	3.6*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
CHLOROMETHANE	260	1,090	260	1,100	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
DICHLORODIFLUOROMETHANE	242	1,020	NC	NC	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
ETHYLBENZENE	3.49	15.2	3.5*	15*	0.1	U	0.1	U	0.1	U	0.53	J	0.1	U
M,P-XYLENE	355	1,490	390	1,600	0.36	J	0.21	U	0.21	U	0.96	J	0.21	U
METHYL TERT-BUTYL ETHER	450	1,970	450	2,000	4.5		1.1		0.15	U	0.15	U	0.15	U
METHYLENE CHLORIDE	763	9,230	7.8*	94*	0.25	U	0.25	U	0.25	U	0.25	U	0.25	U
NAPHTHALENE	4.59	20.1	4.6*	20*	0.25	U	0.25	U	0.25	U	0.92	J	0.25	U
O-XYLENE	492	2,070	390	1,600	0.14	J	0.1	U	0.1	U	0.42	J	0.1	U
TETRACHLOROETHENE	14.9	65.2	0.64*	2.8*	0.15	U	0.15	U	0.15	U	0.15	U	0.15	U
TOLUENE	19,200	80,700	1,200	4,900	0.1	U	0.1	U	0.1	U	0.43	J	0.1	U
TRANS-1,2-DICHLOROETHENE	109	457	220	920	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
TRICHLOROETHENE	1.19	7.43	1.2*	7.5*	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
VINYL CHLORIDE	0.147	2.45	0.0086*	0.14*	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U

Notes:

All results have been validated.

All samples are grab groundwater samples.

* Indicates use of most stringent value between cancer and noncancer endpoints.

a EPA VISLs for Target Groundwater Concentration (THQ = 1) from May 2021 EPA VISL Calculator (see Appendix H).

b RWQCB Groundwater ESLs (Groundwater Vapor Intrusion Human Health Risk Levels) (Table GW-3) Rev. 2 (RWQCB 2019) and not available online; they can be requested from ESLs.ESLs@Waterboards.ca.gov.

µg/L Micrograms per liter

D Duplicate

DTSC California Department of Toxic Substances Control

EPA U.S. Environmental Protection Agency

ESL Environmental screening level

J Estimated value

NC No criteria

Qual Qualifier

RSL Regional screening level

RWQCB San Francisco Bay Regional Water Quality Control Board

SL Screening Level

U Not detected at concentration at or above reporting limit

VISL Vapor intrusion screening level

VOC Volatile organic compound

Table 5: Summary of Analytical Data - Groundwater - TPH
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Screening Level (µg/L)			905 Linden Avenue									
	EPA VISLs [a]		RWQCB Tier 1 ESLs [b,c]	905-GW-1-03032021		905-GW-2-03152021 [d]		905-GW-3-03032021		905-GW-4-03152021 [d]		905-GW-3-03032021-D	
	(Residential Groundwater)	(Commercial Groundwater)		Result (µg/L)	Qual	Result (µg/Lg)	Qual	Result (µg/L)	Qual	Result (µg/L)	Qual	Result (µg/L)	Qual
TPH-D	0.75	3.15	100	51	U	--		55	U	--		50	U
TPH-G	10.4	43.7	100	13	J	10	U	12	J	480		11	J
TPH-MO	NC	NC	NC	51	U	--		55	U	--		50	U

Notes:

All results have been validated.

All samples are grab groundwater samples.

[a] EPA VISLs for Target Groundwater Concentration (THQ = 1) from May 2021 EPA VISL Calculator (see Appendix H). The lower of the target groundwater concentrations for TPH aliphatic and aromatic values were used. TPH-mo corresponds with aliphatic and aromatic high, TPH-d corresponds with aliphatic and aromatic medium, and TPH-g corresponds with aliphatic and aromatic low.

[b] RWQCB Tier 1 ESLs Rev. 2 (RWQCB 2019) and not available online; they can be requested from ESLs.ESLs@Waterboards.ca.gov.

[c] The Tier 1 ESL is based on the generic conceptual site model for a residential receptor where groundwater is a drinking water resource.

[d] TPH-d and TPH-mo samples could not be collected from GW-2 and GW-4 because of insufficient water.

Highlighted cells indicate values exceed screening levels.

-- No data
µg/L Micrograms per liter
D Duplicate
EPA U.S. Environmental Protection Agency
ESL Environmental screening level
J Estimated value
NC No criteria
Qual Qualifier
RWQCB San Francisco Bay Regional Water Quality Control Board
TPH-D Total petroleum hydrocarbons as diesel
TPH-G Total petroleum hydrocarbons as gasoline
TPH-MO Total petroleum hydrocarbons as motor oil
U Not detected at concentration at or above reporting limit
VISL Vapor intrusion screening level

Table 6: Summary of Analytical Data - Soil - VOCs
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Screening Level (mg/kg)				905 Linden Avenue	
					905-GW-4-S-03032021	
	EPA RSL[a] (Residential Soil)	EPA RSL[a] (Commercial Soil)	DTSC SL[b] (Residential Soil)	DTSC SL[b] (Commercial Soil)	Result (mg/kg)	Qual
1,1,1,2-TETRACHLOROETHANE	2	8.8	2*	8.8*	0.0004	U
1,1,1-TRICHLOROETHANE	8,100	36,000	1,700	7,200	0.0004	U
1,1,2,2-TETRACHLOROETHANE	0.6	2.7	0.6*	2.7*	0.0004	U
1,1,2-TRICHLOROETHANE	1.1	5	NC	NC	0.0004	U
1,1-DICHLOROETHANE	3.6	16	3.6*	16*	0.0004	U
1,1-DICHLOROETHENE	230	1,000	83	350	0.0004	U
1,2,3-TRICHLOROPROPANE	0.0051	0.11	0.0015*	0.021*	0.00081	U
1,2-DIBROMOETHANE	0.036	0.16	NC	NC	0.0004	U
1,2-DICHLOROBENZENE	1,800	9,300	NC	NC	0.0004	U
1,2-DICHLOROETHANE	0.46	2	NC	NC	0.0004	U
1,2-DICHLOROPROPANE	2.5	11	NC	NC	0.0004	U
1,4-DICHLOROBENZENE	2.6	11	NC	NC	0.0004	U
BENZENE	1.2	5.1	0.33	1.4*	0.00081	J
CARBON TETRACHLORIDE	0.65	2.9	0.65*	2.9*	0.0004	U
CHLOROBENZENE	280	1,300	NC	NC	0.0004	U
CHLOROETHANE	14,000	57,000	NC	NC	0.00081	U
CHLOROFORM	0.32	14	NC	NC	0.0004	U
CHLOROMETHANE	110	460	NC	NC	0.00081	U
DICHLORODIFLUOROMETHANE	6,700	28,000	NC	NC	0.0016	U
ETHYLBENZENE	5.8	25	NC	NC	0.0021	J
M,P-XYLENE	550	2400	NC	NC	0.0054	J
METHYL TERT-BUTYL ETHER	47	210	NC	NC	0.0004	U
METHYLENE CHLORIDE	57	1,000	2.2*	26*	0.0016	U
O-XYLENE	650	2,800	NC	NC	0.0011	J
TETRACHLOROETHENE	24	100	0.59	2.7	0.00081	U
TOLUENE	4,900	47,000	1,100	5,300	0.0025	J
TRANS-1,2-DICHLOROETHENE	NC	NC	NC	NC	0.0004	U
TRICHLOROETHENE	0.94	6	NC	NC	0.0004	U
VINYL CHLORIDE	0.059	1.7	0.082*	0.15*	0.00081	U

Table 6: Summary of Analytical Data - Soil - VOCs
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Notes:

All results have been validated.

*	Indicates use of most stringent value between cancer and noncancer endpoints.
a	EPA RSLs from November 2020 are available at https://www.epa.gov/risk/regional-screening-levels-rsls.
b	DTSC SLs from June 2020 are available at https://dtsc.ca.gov/wp-content/uploads/sites/31/2019/04/HHRA-Note-3-June-2020-A.pdf.
--	No data
D	Duplicate
DTSC	California Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
J	Estimated value
mg/kg	Milligrams per kilogram
NC	No criteria
Qual	Qualifier
RSL	Regional screening level
SL	Screening level
U	Not detected at concentration at or above reporting limit
VOC	Volatile organic compound

Table 7: Summary of Analytical Data - Soil - PAHs
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Screening Level (mg/kg)				616 Linden Avenue				905 Linden Avenue	
					616-SB-4-03022021		616-SB-4-03022021-D		905-GW-4-S-03032021	
	EPA RSL[a] (Residential Soil)	EPA RSL[a] (Commercial Soil)	DTSC SL[b] (Residential Soil)	DTSC SL[b] (Commercial Soil)	Result (mg/kg)	Qual	Result (mg/kg)	Qual	Result (mg/kg)	Qual
ACENAPHTHENE	3,600	45,000	3,300	23,000	0.0086	U	0.0059	U	0.017	U
ACENAPHTHYLENE	NC	NC	NC	NC	0.0086	U	0.0059	U	0.017	U
ANTHRACENE	18,000	230,000	17,000	130,000	0.0086	U	0.0059	U	0.017	U
BENZO(A)ANTHRACENE	1.1	21	1.1*	12*	0.012	J	0.007	J	0.017	U
BENZO(A)PYRENE	0.11	2.1	0.11*	1.3*	0.0086	U	0.0059	U	0.017	U
BENZO(B)FLUORANTHENE	1.1	21	1.1*	13*	0.0086	U	0.0059	U	0.017	U
BENZO(G,H,I)PERYLENE	NC	NC	NC	NC	0.0086	U	0.0059	U	0.017	U
BENZO(K)FLUORANTHENE	11	210	11*	130*	0.0086	U	0.0059	U	0.017	U
CHRYSENE	110	2,100	110*	1,300*	0.0086	U	0.0059	U	0.017	U
DIBENZ(A,H)ANTHRACENE	0.11	2.1	0.028*	0.31*	0.0086	U	0.0059	U	0.017	U
FLUORANTHENE	2,400	30,000	2,400	18,000	0.0086	U	0.0059	U	0.017	U
FLUORENE	2,400	30,000	2,300	17,000	0.0086	U	0.0059	U	0.017	U
INDENO(1,2,3-CD)PYRENE	1.1	21	1.1*	13*	0.0086	U	0.0059	U	0.017	U
NAPHTHALENE	2	8.6	2*	6.5*	0.0086	U	0.0059	U	0.017	U
PHENANTHRENE	2,400	30,000	NC	NC	0.013	J	0.0075	J	0.017	U
PYRENE	1,800	23,000	1,800	13,000	0.01	J	0.007	J	0.017	U

Notes:

All results have been validated.

*	Indicates use of most stringent value between cancer and noncancer endpoints.
a	EPA RSLs from November 2020 are available at https://www.epa.gov/risk/regional-screening-levels-rsls.
b	DTSC SLs from June 2020 are available at https://dtsc.ca.gov/wp-content/uploads/sites/31/2019/04/HHRA-Note-3-June-2020-A.pdf.
D	Duplicate
DTSC SL	California Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
J	Estimated value
mg/kg	Milligrams per kilogram
NC	No criteria
PAH	Polycyclic aromatic hydrocarbon
PAL	Project action limit
Qual	Qualifier
RSL	Regional screening level
SL	Screening level
U	Not detected at concentration at or above reporting limit

Table 8: Summary of Analytical Data - Soil - Metals
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Screening Level (mg/kg)				616 Linden Avenue Soil Boring				700 Linden Avenue				905 Linden Avenue		705 Cypress Avenue					
	EPA RSL[a] (Residential Soil)	EPA RSL[a] (Commercial Soil)	DTSC SL[b] (Residential Soil)	DTSC SL[b] (Commercial Soil)	616-SB-4-03022021		616-SB-4-03022021-D		700-SS-1-03042021	700-SS-2-03042021	700-SS-3-03042021	700-SS-4-03042021	905-GW-4-S-03032021		705-SS-1-03052021	705-SS-2-03052021	705-SS-3-03052021	705-SS-4-03052021	705-SS-5-03052021	705-SS-5-03042021-D
					Result (mg/kg)	Qual	Result (mg/kg)	Qual	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Qual	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)	Result (mg/kg)
CADMIUM	71	980	NC	NC	0.582		0.52	J	NS	NS	NS	NS	0.177	J	--	--	--	--	--	--
CHROMIUM	NC	NC	NC	NC	95.1		93.8		NS	NS	NS	NS	49		--	--	--	--	--	--
LEAD	400	800	80	320	47.4		43.8		38	52	33	24	11.8		55	54	41	76	60	59
NICKEL	1,500	22,000	820	11,000	88.7		87.9		NS	NS	NS	NS	35.4		--	--	--	--	--	--
ZINC	23,000	350,000	NC	NC	308		266		NS	NS	NS	NS	49.4		--	--	--	--	--	--

Notes:

Wear metals are presented in **bold font.**

Results for the 616 Linden Avenue soil boring and 905 Linden Avenue have been validated. Results for 616 Linden Avenue soil associated with the concrete structure have not been validated.

a	EPA RSLs from November 2020 are available at https://www.epa.gov/risk/regional-screening-levels-rsls.
b	DTSC SLs from June 2020 are available at https://dtsc.ca.gov/wp-content/uploads/sites/31/2019/04/HHRA-Note-3-June-2020-A.pdf.
--	Not analyzed
D	Duplicate
DTSC SL	California Department of Toxic Substances Control - Screening Level
EPA	U.S. Environmental Protection Agency
J	Estimated value
mg/kg	Milligrams per kilogram
NC	No criteria
NS	Not Sampled
Qual	Qualifier
RSL	Regional screening level
U	Not detected at concentration at or above reporting limit
wear metals	Cadmium, chromium, lead, nickel, and zinc

Table 9: Waste Characterization - Soil - Metals
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Screening Level (mg/kg)				Waste Characterization Criteria (mg/kg)			616 Linden Avenue - Soil Associated with Concrete Structure			
	EPA RSL[a] (Residential Soil)	EPA RSL[a] (Commercial Soil)	DTSC SL[b] (Residential Soil)	DTSC SL[b] (Commercial Soil)	TTLC (mg/kg) [a,b]	STLC Trigger (STLC Threshold) (10x STLC) (mg/kg) [b,c]	TCLP Trigger (TCLP Threshold) (20x TCLP) (mg/kg) [d]	616-EC-03012021 (Temporary Stockpile)		616-SB-7-03012021 (Discrete)	
								Result (mg/kg)	Qual	Result (mg/kg)	Qual
ANTIMONY	31	470	NC	NC	500	150	NC	3.16	J	2.44	
ARSENIC	0.68	3	0.11	4.2	500	50	100	8.29		8.56	
BARIUM	15,000	220,000	NC	NC	10,000	1,000	2,000	218		132	
BERYLLIUM	160	2300	16	230	75	8	NC	0.582		0.705	
CADMIUM	71	980	NC	NC	100	10	20	0.991	J	0.11	U
CHROMIUM	NC	NC	NC	NC	2,500	50	100	80		87.4	
COBALT	23	350	NC	NC	8,000	800	NC	11.3		10.3	
COPPER	3,100	47,000	NC	NC	2,500	250	NC	35.3		23.6	
LEAD	400	800	80	320	1,000	50	100	239*		67.6	
MOLYBDENUM	NC	NC	NC	NC	3,500	3,500	NC	0.598	J	0.445	J
NICKEL	1,500	22,000	820	11,000	2,000	200	NC	52.6		67.6	
SELENIUM	390	5800	NC	NC	100	10	20	0.566	U	0.562	J
SILVER	390	5800	NC	NC	500	50	100	0.113	U	0.11	U
THALLIUM	0.78	12	NC	NC	700	70	NC	0.52		0.687	J
VANADIUM	390	5800	NC	NC	2,400	240	NC	61.5		68.2	
ZINC	23,000	350,000	NC	NC	5,000	2,500	NC	397	J	330	
MERCURY					20	2	4	0.12		0.06	J

Notes:

All results have been validated.

Highlighted cells indicate values exceed screening levels.

#	California WET is required to assess leachable metals; concentration exceeds STLC limit using a dilution factor of 10.
*	Both California WET extraction (exceed STLC trigger) and TCLP extraction is required to assess leachable RCRA metals; concentration exceeds TCLP limit using a dilution factor of 20.
a	Total concentrations cannot equal or exceed the TTLC value, which identifies a California hazardous waste.
b	Source: California Code of Regulations, Title 22, Chapter 11, Article 3.
c	If total concentrations equal or exceed 10x STLC limit, a California WET leachable metal analysis is required.
d	Source: Kettleman Hills Class I Landfill Waste Classification Criteria
e	If total concentrations equal or exceed 20x TCLP limit, TCLP leachable metals analysis is required.
J	Estimated value

Table 9: Waste Characterization - Soil - Metals
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

DTSC SL	California Department of Toxic Substances Control - Screening Level
EPA	U.S. Environmental Protection Agency
J	Estimated value
mg/kg	Milligrams per kilogram
mg/L	Milligram per liter
NC	No criteria
Qual	Qualifier
RCRA	Resource Conservation and Recovery Act
RSL	Regional screening level
STLC	Soluble threshold limit concentration
TCLP	Toxicity characteristic leaching procedure
TTLC	Total threshold limit concentration
U	Not detected at concentration at or above reporting limit
WET	Waste extraction test

Table 10: Waste Characterization - Leachate - Metals
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Waste Characterization Criteria (mg/L)		616 Linden Avenue - Soil Associated with Concrete Structure					
			616-EC-03012021 (Composite Sample)				616-SB-7-03012021 (Discrete Sample)	
	STLC Limit (Applies to WET) [a]	TCLP Limit [b]	WET using Citrate Buffer	WET using Deionized Water		TCLP	WET using Deionized Water	
			Result (mg/L)	Result (mg/L)	Qual	Result (mg/L)	Result (mg/L)	Qual
CHROMIUM	5	5	0.357	--	--	--	0.25	U
LEAD	5	5	8.24	0.198	J	0.0557	0.25	U

Notes:

All results have been validated.

Highlighted cell indicates the STLC limit is exceeded when using a citrate buffer. If soil is excavated and removed from the site, it must be disposed of as non-RCRA Class I California Hazardous Waste.

Based on WET results using deionized water as a buffer, chromium and lead would not leach from soil and threaten water quality and may be left on site without a cap. However, a cap would be required to prevent direct exposure.

Chromium is a California Class III inert waste and may be disposed of at a Class II or III landfill. Disposal at a Class III landfill would depend on the waste acceptance criteria of the landfill, which are permit based.

a	Source: California Code of Regulations, Title 22, Chapter 11, Article 3.
b	Source: RCRA toxicity characteristic list at 40 Code of Federal Regulations 261.24
--	Not analyzed
J	Estimated value
mg/L	Milligrams per liter
RCRA	Resource, Conservation, and Recovery Act
STLC	Soluble threshold limit concentration
TCLP	Toxicity characteristic leaching procedure
TTLC	Total threshold limit concentration
U	Not detected at concentration at or above reporting limit
WET	Waste Extraction Test

Table 11: Summary of Analytical Data - Soil - TPH
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Screening Level (mg/kg)	616 Linden Avenue				905 Linden Avenue	
		616-SB-4-03022021		616-SB-4-03022021-D		905-GW-4-S-03032021	
	RWQCB Tier 1 ESLs[a]	Result (mg/kg)	Qual	Result (mg/kg)	Qual	Result (mg/kg)	Qual
TPH-D	260	560		300		70	
TPH-G	100	43	J-	14		800	
TPH-MO	1,600	930		510		22	J

Notes:

All results have been validated.

The Tier 1 ESL is based on the generic conceptual site model for a residential receptor where groundwater is a drinking water resource.

a RWQCB Tier 1 ESLs Rev. 2 (RWQCB 2019) and not available online; they can be requested from ESLs.ESLs@Waterboards.ca.gov.

Highlighted cells indicate values exceed screening levels.

D	Duplicate
ESL	Environmental screening level
J	Estimated value
J-	Estimated value; may be biased low.
mg/kg	Milligrams per kilogram
PAL	Project action limit
Qual	Qualifier
RWQCB	San Francisco Bay Regional Water Quality Control Board
TPH-D	Total petroleum hydrocarbons as diesel
TPH-G	Total petroleum hydrocarbons as gasoline
TPH-MO	Total petroleum hydrocarbons as motor oil

Table 12: Summary of Analytical Data - Soil - Pesticides
Phase I/Phase II ESA TBA Report
South San Francisco - Linden and Cypress Aves

Analyte	Screening Level (mg/kg)				705 Cypress Avenue											
	EPA RSL[a]		DTSC SL[b]		705-SS-1-03052021		705-SS-2-03052021		705-SS-3-03052021		705-SS-4-03052021		705-SS-5-03042021		705-SS-5-03042021-D	
	(Residential Soil)	(Commercial Soil)	(Residential Soil)	(Commercial Soil)	Result (mg/kg)	Qual	Result (mg/kg)	Qual	Result (mg/kg)	Qual	Result (mg/kg)	Qual	Result (mg/kg)	Qual	Result (mg/kg)	Qual
4,4'-DDD	1.9	9.6	1.9	6.2*	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
4,4'-DDE	2	9.3	23	9.3*	0.0016	J	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
4,4'-DDT	1.9	8.5	1.9	7.1*	0.0035		0.0043	J	0.0095	J	0.0034	U	0.0044	J	0.0093	J
ALDRIN	0.039	0.18	0.039*	1.8*	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
ALPHA-BHC	0.086	0.36	0.086*	0.24*	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
BETA-BHC	0.3	1.3	0.3*	0.82*	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
CIS-CHLORDANE	1.7	7.7	NC	NC	0.00091	J	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
DELTA-BHC	NC	NC	NC	NC	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
DIELDRIN	0.034	0.14	0.034*	0.093*	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
ENDOSULFAN I	NC	NC	NC	NC	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
ENDOSULFAN II	NC	NC	NC	NC	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
ENDOSULFAN SULFATE	NC	NC	NC	NC	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
ENDRIN	19	250	19	160	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
ENDRIN ALDEHYDE	NC	NC	NC	NC	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
ENDRIN KETONE	NC	NC	NC	NC	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
GAMMA-BHC (LINDANE)	0.57	2.5	0.57*	2*	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
HEPTACHLOR	0.13	0.63	0.13*	0.63*	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
HEPTACHLOR EPOXIDE	0.07	0.33	0.07*	0.33*	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U
METHOXYCHLOR	320	4,100	320	2,600	0.0022	U	0.011	U	0.022	U	0.023	U	0.012	U	0.024	U
TOXAPHENE	0.49	2.1	0.45*	1.2*	0.017	U	0.084	U	0.17	U	0.17	U	0.088	U	0.18	U
TRANS-CHLORDANE	1.7	7.7	NC	NC	0.00033	U	0.0017	U	0.0033	U	0.0034	U	0.0018	U	0.0036	U

Notes:

All results have been validated.

* Indicates use of most stringent value between cancer and noncancer endpoints.

a EPA RSLs from November 2020 are available at https://www.epa.gov/risk/regional-screening-levels-rsls

b DTSC SLs from June 2020 are available at https://dtsc.ca.gov/wp-content/uploads/sites/31/2019/04/HHRA-Note-3-June-2020-A.pdf.

D	Duplicate	mg/kg	Milligrams per kilogram
DDD	Dichlorodiphenyldichloroethane	NC	No criteria
DDE	Dichlorodiphenyldichloroethylene	PAL	Project action limit
DDT	Dichlorodiphenyltiichloroethylene	Qual	Qualifier
DTSC	California Department of Toxic Substances Control	RSL	Regional screening level
EPA	U.S. Environmental Protection Agency	SL	Screening Level
J	Estimated value	U	Not detected at concentration at or above reporting limit

Table 13: Soil Gas VOC Exceedances Summary at 616 Linden
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Sample Information	EDC	Benzene	Ethylbenzene	m,p-Xylene	o-Xylene	Toluene
# of Samples	7	7	7	7	7	7
# of Exceedances	2	4	2	2	1	1
Concentration Range	Nondetect - 3,000 µg/m³	Nondetect – 68,000 µg/m³	Nondetect – 46,000 µg/m³	Nondetect – 200,000 µg/m³	Nondetect – 29,000 µg/m³	Nondetect – 83,000 µg/m³
Screening Level	3.6 µg/m³ [a]	3.2 µg/m³ [b]	37 µg/m³ [b]	3,480 µg/m³ [c]	3,480 µg/m³ [c]	10,000 µg/m³ [b]
Exceedances (µg/m³)	616-SG-1-03122021: 1,400 µg/m³ 616-SG-2-03042021: 3,000 µg/m³	616-SG-1-03122021: 9,500 µg/m³ 616-SG-2-03042021: 68,000 µg/m³ 616-SG-4-03042021: 4,400 µg/m³ 616-SG-6-03042021: 16 µg/m³	616-SG-1-03122021: 19,000 µg/m³ 616-SG-2-03042021: 46,000 µg/m³	616-SG-1-03122021: 64,000 µg/m³ 616-SG-2-03042021: 200,000 µg/m³	616-SG-2-03042021: 29,000 µg/m³	616-SG-2-03042021: 83,000 µg/m³

Notes:
a EPA VISL and RWQCB ESL for residential soil gas.
b RWQCB ESL for residential soil gas.
c EPA VISL for residential soil gas.
µg/m³ Micrograms per cubic meter of air
EPA U.S. Environmental Protection Agency
ESL Environmental screening level
RWQCB San Francisco Bay Regional Water Quality Control Board
VISL Vapor intrusion screening level

Table 14: Groundwater TPH Exceedances Summary at 905 Linden
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Sample Information	TPH-g
# of Samples	5
# of Exceedances	4 (including one duplicate)
Concentration Range	Nondetect - 480 µg/L
Screening Level[a,b]	10.4 µg/L [a]
Exceedances (µg/L)	905-GW-1-03032021: 13 J µg/L 905-GW-3-03032021: 12 J µg/L 905-GW-4-03152021: 480 µg/L 905-GW-4-03152021-D: 11 J µg/L

Notes:

a	EPA VISLs for Target Groundwater Concentration (THQ = 1) from May 2021 EPA VISL Calculator (see Appendix H)
µg/L	Micrograms per liter
EPA	U.S. Environmental Protection Agency
TPH-g	Total petroleum hydrocarbons as gasoline
VISL	Vapor intrusion screening level

Table 15: Soil TPH Exceedances Summary at 616 Linden and 905 Linden
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Sample Information	TPH-d	TPH-g
# of Samples	3	3
# of Exceedances	2	1
Concentration Range	70 - 560 mg/kg	14 – 800 mg/kg
Screening Level [a]	260 mg/kg	100 mg/kg
Exceedances (mg/kg)	616-SB-4-03022021: 560 mg/kg 616-SB-4-03022021-D: 300 mg/kg	905-GW-4-S-03032021: 800 mg/kg

Notes:

a	RWQCB Tier 1 ESLs.
D	Duplicate
ESL	Environmental screening level
mg/kg	Milligrams per kilogram
RWQCB	San Francisco Bay Regional Water Quality Control Board
TPH-d	Total petroleum hydrocarbons as diesel
TPH-g	Total petroleum hydrocarbons as gasoline

Table 16: Summary of Approximate Minimum Search Distances
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Area of Concern Approximate Minimum Search Distances Surrounding the Site (miles)		
Standard Environmental Record Sources (where available)	**Chemicals of Concern**	**Petroleum Hydrocarbon Chemicals of Concern**
Federal NPL	0.33	0.10
Federal CERCLIS	0.33	0.10
Federal RCRA CORRACTS	0.33	0.10
Federal RCRA non-CORRACTS TSD	0.33	0.10
Federal RCRA Generators	Site Only	Site Only
Federal Institutional Control/Engineering Control	Site Only	Site Only
Federal ERNS	Site Only	Site Only
State and Tribal-equivalent NPL	0.33	0.10
State and Tribal-equivalent CERCLIS	0.33	0.10
State and Tribal Landfill or Solid Waste Disposal Sites	0.33	0.10
State and Tribal LUST	0.33	0.10
State and Tribal UST	Site Only	Site Only
State and Tribal Institutional Control/Engineering Control	Site Only	Site Only
State and Tribal Voluntary Cleanup	0.33	0.10
State and Tribal Brownfield	0.33	0.10

Notes:

CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS	RCRA Corrective Action Activity
ERNS	Emergency Response Notification System
LUST	Leaking underground storage tank
NPL	National Priorities List
RCRA	Resource Conservation and Recovery Act
TSD	RCRA Treatment, Storage, and Disposal
UST	Underground storage tank

Table 17: Summary of Analyses and Findings
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Property	Location	Sample ID(s)	Matrix	Analyses Performed	Finding
616 Linden	SG-1	616-SG-1-03122021	Soil Gas	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium	EDC, Benzene, Ethylbenzene, and m,p-Xylene exceed screening levels.
	SG-1	616-SG-2-03042021	Soil Gas	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium	EDC, Benzene, Ethylbenzene, m,p-Xylene, o-Xylene, and Toluene exceed screening levels.
	SG-3	616-SG-3-03122021	Soil Gas	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium	No issues noted.
	SG-4	616-SG-4-03042021	Soil Gas	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium	Benzene exceeds screening levels.
	SB-4 (same location as SG-4)	616-SB-4-03022021 616-SB-4-03022021-D	Soil	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs) 16 priority pollutant PAHs, Wear metals, TPH (TPH-g, TPH-d, TPH-mo)	TPH-d exceeds screening levels.
	SG-6	616-SG-6-03042021	Soil Gas	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium, DCE, PCE, TCE, vinyl chloride	Benzene exceeds screening levels.
	Temporary Stockpile (Soil within Concrete Structure)	616-EC-03012021	Soil	Title 22 Metals, STLC CA WET using citrate buffer (Chromium and lead), STLC CA WET using DI buffer (Lead only), TCLP (Lead only)	Soil may remain on site without a cap; if disposed off-site, soil is non-RCRA Class I California hazardous waste (for lead)
	Immediately below concrete structure	616-SB-7-03012021	Soil	Title 22 Metals, STLC CA WET using DI buffer (Chromium and lead)	Soil may remain on site without a cap.
700 Linden	SS-1	700-SS-1-03042021	Soil	Lead (composite sample)	No issues noted.
	SS-2	700-SS-2-03042021	Soil	Lead (composite sample)	No issues noted.
	SS-3	700-SS-3-03042021	Soil	Lead (composite sample)	No issues noted.
	SS-4	700-SS-4-03042021	Soil	Lead (composite sample)	No issues noted.

Table 17: Summary of Analyses and Findings
Phase I/Phase II ESA TBA Report
South San Francisco - Linden & Cypress Aves

Property	Location	Sample ID(s)	Matrix	Analyses Performed	Finding
905 Linden	GW-1	905-GW-1-03032021	Groundwater	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs) TPH (TPH-g, TPH-d, TPH-mo)	TPH-g exceeds screening levels.
	GW-2	905-GW-2-03152021	Groundwater	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs), TPH-g	No issues noted.
	GW-3	905-GW-3-03032021 905-GW-3-03032021-D	Groundwater	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs) TPH (TPH-g, TPH-d, TPH-mo)	TPH-g exceeds screening levels.
	GW-3	905-GW-4-03152021	Groundwater	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs), TPH-g	TPH-g exceeds screening levels.
	GW-4	905-GW-4-S-03032021	Soil	VOCs (BTEX, MTBE, naphthalene, t-Butyl alcohol, chlorinated VOCs) 16 priority pollutant PAHs, Wear metals, TPH-g	TPH-g exceeds screening levels.
	GW-5	905-SG-5-03122021 905-SG-5-03122021-D	Soil Gas	VOCs (BTEX, MTBE, naphthalene, EDB, EDC) Oxygen, Helium	No issues noted.
705 Cypress	S-1	705-SS-1-03052021	Soil	Pesticides & Lead	No issues noted.
	S-2	705-SS-2-03042021	Soil	Pesticides & Lead	No issues noted.
	S-3	705-SS-3-03052021	Soil	Pesticides & Lead	No issues noted.
	S-4	705-SS-4-03052021	Soil	Pesticides & Lead	No issues noted.
	S-5	705-SS-5-03042021 705-SS-5-03042021-D	Soil	Pesticides & Lead (composite sample)	No issues noted.

Notes:

BTEX	Benzene, toluene, ethylbenzene, and xylene
D	Duplicate Sample
DCE	1,2-Dichloroethene
EDB	1,2-Dibromoethane
EDC	1,2-Dichloroethane
GW	Groundwater Sample
MTBE	Methyl tert-butyl ether
PAH	Polycyclic aromatic hydrocarbon
PCE	Tetrachloroethene
RCRA	Resource Conservation and Recovery Act
SB	Soil Boring
SG	Soil Gas Sample
SS	Surface Soil Sample
STLC	Soluble threshold limit concentration
TBD	To be determined
TCE	Trichloroethene
TPH	Total petroleum hydrocarbon
TPH-d	Total petroleum hydrocarbons as diesel
TPH-g	Total petroleum hydrocarbons as gasoline
TPH-mo	Total petroleum hydrocarbons as motor oil
TCLP	Toxicity characteristic leaching procedure
VOCs	Volatile organic compound
WET	Waste extraction test

APPENDIX A

PHASE I ENVIRONMENTAL SITE ASSESSMENT REPORT

B2. Analysis of Brownfields Cleanup Alternatives (Toeroek Associates and Tetra Tech Inc. 2021)

August 24, 2021

Dr. Kelly Garbach
EPA TBA Project Manager
U.S. Environmental Protection Agency, Region 9
75 Hawthorne Street
San Francisco, CA 94105

Subject: **Final Analysis of Brownfields Cleanup Alternatives Report**
South San Francisco – Linden & Cypress Aves, South San Francisco, California,
U.S. EPA Region 9, Resource Conservation and Recovery Act (RCRA) Enforcement, Permitting, and Assistance (REPA) Contract No. 68HERH19D0018, Task Order No. 68HE0920F0007

Dear Dr. Garbach:

Toeroek Associates, Inc. (Toeroek) and Tetra Tech, Inc. (Tetra Tech) (hereinafter "Toeroek Team") submit the attached Final Analysis of Brownfields Cleanup Alternatives Report regarding a TBA at the South San Francisco – Linden & Cypress Aves site.

This deliverable has been revised to reflect U.S. Environmental Protection Agency and City of South San Francisco comments on the draft report of the same name. Responses to comments are enclosed as a separate attachment. After revision, this final report was reviewed internally as part of Tech Tech's quality assurance program, as well as Toeroek's quality assurance program, and is consistent with Toeroek's Quality Management Plan for the REPA contract. Documentation of this review is retained in the Toeroek Team's project files.

If you have any questions or comments, please contact Greg Hanna at (720) 898-4102 or Dayna Aragon at (510) 302-6242.

Sincerely,

Greg Hanna
Toeroek Team Program Manager

Dayna Aragon
Toeroek Team Project Manager

Enclosure: Final Analysis of Brownfields Cleanup Alternatives Report
Responses to Comments, Analysis of Brownfields Cleanup Alternatives

cc: Lisa Hanusiak, EPA Region 9 TOCOR
Jinky Callado, EPA Region 9 Alternate TOCOR
Toeroek Team files

ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES

SOUTH SAN FRANCISCO - LINDEN & CYPRESS AVES
SOUTH SAN FRANCISCO, CALIFORNIA
TARGETED BROWNFIELDS ASSESSMENT (TBA)

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) ENFORCEMENT, PERMITTING, AND ASSISTANCE (REPA) CONTRACT

CONTRACT NO. 68HERH19D0018; TASK ORDER NO. 68HE0920F0007

Prepared for:

EPA REGION 9
TBA SUPPORT PROGRAM
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AUGUST 24, 2021

Final

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ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES

SOUTH SAN FRANCISCO - LINDEN & CYPRESS AVES
SOUTH SAN FRANCISCO, CALIFORNIA

CONTRACT NO. 68HERH19D0018;
TASK ORDER NO. 68HE0920F0007

APPROVAL PAGE

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U. S. Environmental Protection Agency, Region 9

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Appendix A: Environmental Footprint Evaluation

ACRONYMS AND ABBREVIATIONS

ABCA	Analysis of Brownfields Cleanup Alternatives
amsl	Above mean sea level
Applicants	City of South San Francisco and Friends of Parks
ASTM	ASTM International
bgs	Below ground surface
BTEX	Benzene, toluene, ethylbenzene, and xylenes
COC	Contaminant of concern
CY	Cubic yard
DI	Deionized
DPT	Direct-push technology
DTSC	California Department of Toxic Substances Control
EDR	Environmental Data Resources, Inc.
EPA	U.S. Environmental Protection Agency
ESA	Environmental Site Assessment
ESL	Environmental screening level
HAZWOPER	Hazardous Waste Operations and Emergency Response
IC	Institutional control
LUST	Leaking underground storage tank
O&M	Operation and maintenance
PAH	Polycyclic aromatic hydrocarbon
PID	Photoionization detector
RACER	Remedial Action Cost Engineering and Requirements System
RBSL	Risk-based screening level
RCRA	Resource Conservation and Recovery Act
REC	Recognized environmental condition
RWQCB	San Francisco Bay Regional Water Quality Control Board
SEFA	Spreadsheets for Environmental Footprint Analysis
SF	Square foot
Site	South San Francisco – Linden & Cypress Aves site
SL	Screening level
SMCGPP	San Mateo County Groundwater Protection Program
SMP	Soil Management Plan
STLC	Soluble threshold limit concentration
SVE	Soil vapor extraction
SWRCB	California State Water Resources Control Board

ACRONYMS AND ABBREVIATIONS (CONTINUED)

TBA	Targeted Brownfields Assessment
TCE	Trichloroethene
Toeroek Team	Toeroek Associates, Inc., and its subcontractor, Tetra Tech, Inc.
TPH	Total petroleum hydrocarbons
TPH-d	Total petroleum hydrocarbons as diesel
TPH-g	Total petroleum hydrocarbons as gasoline
TPH-mo	Total petroleum hydrocarbons as motor oil
USGS	U.S. Geological Survey
UST	Underground storage tank
VEC	Vapor encroachment concern
VISL	Vapor intrusion screening level
VOC	Volatile organic compound
WET	Waste extraction test

EXECUTIVE SUMMARY

The U.S. Environmental Protection Agency (EPA) Region 9 tasked Toeroek Associates, Inc., and its subcontractor, Tetra Tech, Inc., (hereinafter the Toeroek Team) to conduct an Analysis of Brownfields Cleanup Alternatives (ABCA) for the South San Francisco – Linden & Cypress Aves site (the Site) comprising two locations: 616 Linden Avenue (hereinafter 616 Linden) and 905 Linden Avenue (hereinafter 905 Linden) in South San Francisco, San Mateo County, California (Figure 1). For Site features, see Figure 2 and Figure 3.

The City of South San Francisco and Friends of Parks (the Applicants) have an interest in redeveloping the Site for a neighborhood park, a cultural center, affordable housing, mixed-use ground-floor commercial buildings, or some combination of these. The purpose of this ABCA is to evaluate potential cleanup alternatives to address environmental conditions preventing or impeding the preferred type of Site redevelopment and to do so in a manner protective of human health. The cleanup alternatives considered were evaluated based on effectiveness, implementability, and cost.

A Phase II Environmental Site Assessment (ESA) was performed by the Toeroek Team in 2021 for the Site (Toeroek Team 2021). The Toeroek Team conducted soil gas, groundwater, and soil sampling at the Site (Figure 4 and Figure 5). Additionally, geophysical surveys were conducted to locate any remaining underground storage tanks (USTs) at 616 Linden and 905 Linden. The geophysical survey results identified an electromagnetic anomaly at 616 Linden as an additional potential environmental concern. The anomaly was investigated during the Phase II ESA and was determined to be two pieces of metal within a subsurface concrete structure filled with soil. At 616 Linden, volatile organic compounds in soil gas and lead and petroleum hydrocarbons in soil exceeded screening levels (Figure 4). At 905 Linden, petroleum hydrocarbons in soil and groundwater exceeded screening levels (Figure 5). A vapor encroachment concern (VEC) remains at both 616 and 905 Linden. The Phase II ESA also included properties at 700 Linden Avenue and 705 Cypress Avenue. No exceedances of screening levels were observed at these properties, and they are not discussed further.

Based on the planned future use of the Site, the following cleanup alternatives were considered for 616 Linden and 905 Linden, respectively.

<u>616 Linden</u>

- Alternative 1: No Action (Baseline)

- Alternative 2: Passive Vapor Mitigation, Soil Management Plan (SMP), Operation and Maintenance (O&M) and Institutional Controls (ICs)
- Alternative 3: Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M and ICs
- Alternative 4: Soil Excavation with Off-Site Disposal and ICs (neighborhood park reuse only)

Alternative 1 for 616 Linden is included as a baseline for comparison to the other proposed alternatives. This alternative would involve no containment, treatment, removal, or monitoring of contaminants.

Alternative 2 for 616 Linden would involve installation of a passive vapor mitigation system for a new structure to be built on the property and implementation of a SMP for contaminated soil left in place.

Alternative 3 for 616 Linden would involve installation of an active vapor mitigation system for a new structure to be built on the property and excavation of contaminated soil.

Alternative 4 for 616 Linden would involve excavation of contaminated soil to allow for redevelopment of the Site as a neighborhood park.

905 Linden

- Alternative 1: No Action (Baseline)
- Alternative 2: Passive Vapor Mitigation, SMP, O&M and ICs
- Alternative 3: Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M and ICs
- Alternative 4: Soil Excavation with Off-Site Disposal and ICs (neighborhood park reuse only)

Alternative 1 for 905 Linden is included as a baseline for comparison to the other proposed alternatives. This alternative would involve no containment, treatment, removal, or monitoring of contaminants.

Alternative 2 for 905 Linden would involve installation of a passive vapor mitigation system for a new structure to be built on the property and implementation of a SMP for contaminated soil left in place.

Alternative 3 for 905 Linden would involve installation of an active vapor mitigation system for a new structure to be built on the property and excavation of contaminated soil.

Alternative 4 for 905 Linden would involve excavation of contaminated soil to allow for redevelopment of the Site as a neighborhood park.

Table ES-1 summarizes the effectiveness, implementability, and cost for each cleanup alternative evaluated to address environmental conditions preventing or impeding the preferred type of Site redevelopment. The cost

estimates presented in the table are order-of-magnitude estimates intended only for the relative comparison of the alternatives; they should not be used as budget- or design-level estimates.

1.0 INTRODUCTION AND BACKGROUND

The U.S. Environmental Protection Agency (EPA) Region 9 tasked Toeroek Associates, Inc., and its subcontractor, Tetra Tech, Inc., (hereinafter the Toeroek Team) to conduct an Analysis of Brownfields Cleanup Alternatives (ABCA) for the South San Francisco – Linden & Cypress Aves site (the Site) located at 616 Linden Avenue (hereinafter 616 Linden) and 905 Linden Avenue (hereinafter 905 Linden) in South San Francisco, San Mateo County, California (Figure 1). The City of South San Francisco and Friends of Parks (the Applicants) have an interest in redeveloping the Site for a neighborhood park, a cultural center, affordable housing, mixed-use ground-floor commercial buildings, or some combination of these.

This ABCA considers cleanup alternatives based on EPA (2020a) vapor intrusion screening levels (VISLs) or San Francisco Bay Regional Water Quality Control Board (RWQCB) (2019) environmental screening levels (ESLs), whichever is more conservative, for soil gas. For soil, this ABCA considers alternatives based on RWQCB (2019) Tier 1 ESLs for total petroleum hydrocarbons (TPH) and the California Department of Toxic Substances Control (DTSC) (2020) screening level (SL) for lead. For groundwater, this ABCA considers alternatives based on the EPA VISLs (2020a) for residential groundwater. Although groundwater in the vicinity of the Site is not known to be a source of drinking water and there are no future plans to use groundwater for this purpose at the Site, this ABCA considers cleanup alternatives to address the potential for vapor intrusion from groundwater contamination. Furthermore, this ABCA includes rough order-of-magnitude cost estimates (accuracy range of -25 to +75 percent based on the Project Management Institute's [2017] *A Guide to the Project Management Body of Knowledge*) of evaluated cleanup alternatives intended for comparison purposes only; they should not be used as budget- or design-level estimates.

1.1 SITE LOCATION

The property at 616 Linden is a 0.32-acre commercial property covered by an asphalt parking lot approximately 40 feet above mean sea level (amsl) in an urban area of South San Francisco, California. Depth to groundwater at 616 Linden is unknown as groundwater was not encountered during Phase II Environmental Site Assessment (ESA) activities at this property (Toeroek Team 2021). However, during a groundwater sampling event conducted in January 2001, groundwater was measured at 24 to 24.53 feet below top of casing (Atlas Engineering Services, Inc. 2001). The property is bounded to the northeast, east, southeast, and west by residential developments; north by a vacant vegetated lot; and south, southwest, and northwest by small businesses. Uses of surrounding properties include residential, commercial, and vacant land. Figure 2 illustrates the location and boundaries of 616 Linden.

The property at 905 Linden is a 0.27-acre vegetated lot with sod, a sprinkler system, and fence approximately 40 feet amsl in an urban area of South San Francisco, California. During the Phase II ESA investigation, shallow groundwater was encountered between 3.65 and 5 feet below ground surface (bgs) at 905 Linden (Toeroek Team 2021). Groundwater flow direction is generally east. The property is bounded to the north, east, and west by commercial and industrial buildings, and south and partially west by residential developments. Uses of surrounding properties include residential and commercial. Figure 3 illustrates the location and boundaries of 905 Linden.

1.2 OWNERSHIP AND PREVIOUS USE

The Site is owned by the City of South San Francisco, one of the Applicants.

Based on a review of aerial photographs, Sanborn maps, and previous investigation reports, 616 Linden was undeveloped until between 1910 and 1925 when a single-family home and garage were built on the southern end of the property. Between 1943 and 1946, the home and garage were torn down and an automotive shop (Volante Automotive) was built along with a used car lot and a parking lot. Volante Automotive ceased operations in the early 2000s. The current parking lot on the property was built between 1998 and 2006 (Environmental Data Resources, Inc. [EDR] 2020a, 2020b, 2020c; San Mateo County Groundwater Protection Program [SMCGPP] 2001).

Based on a review of aerial photographs and previous investigation reports, 905 Linden was undeveloped until a gas station was built between 1946 and 1956. Four underground storage tanks (USTs) formerly present at 905 Linden were removed by November 1998, at which time the property became a vegetated lot. The property currently hosts a vegetated lot with sod, a sprinkler system, a sign, a fence to the south and west, ornamental vegetation to the south and west, and ornamental boulders to the north and east (EDR 2020a, 2020b, 2020c; SMCGPP 2003).

1.3 PREVIOUS INVESTIGATIONS

Investigations and remediation activities have been completed at both 616 Linden and 905 Linden. In 2021, the Toeroek Team performed a Phase II ESA to evaluate the previous investigations and remediation activities, which provides a basis for this ABCA.

1.3.1 Previous Investigations and Remediation Activities at 616 Linden

At 616 Linden, environmental investigations and remediation activities associated with Volante Automotive were conducted between July 1993 and February 2001. On July 13, 1993, one 1,000-gallon gasoline UST and

one 250-gallon waste oil UST were excavated from the property following detection of a leak. Soil samples were collected at the time of the UST excavations within excavation pits and soil stockpiles. Because elevated concentrations of hydrocarbons were present in the former UST pits, the pits were excavated again on August 25 and October 21, 1993 and additional confirmation samples were collected. Monitoring wells were installed in 1994 and 1996 to facilitate groundwater monitoring, which occurred until January 2001. The case closure memorandum states that 616 Linden qualified for closure under the RWQCB (1996) "1995 Interim Guidance on Required Cleanup at Low Risk Fuel Sites." However, the qualification for closure did not include the requirement to assess the potential for vapor intrusion. In 2021, the Toeroek Team performed a Phase I ESA to evaluate any remaining recognized environmental conditions (RECs) from previous investigations and remediation activities.

1.3.2 Previous Investigations and Remediation Activities at 905 Linden

At 905 Linden, environmental investigations, remediation activities, and monitoring were conducted between December 1985, when a leaking underground storage tank (LUST) was discovered, and October 2003. A monitoring well was installed and sampled from 1990 through 1998 (California State Water Resources Control Board [SWRCB] 2020). Multiple site features were removed, over-excavated, and investigated, including a 4,000-gallon diesel UST, a 8,000-gallon gasoline UST, a 6,000-gallon gasoline UST, a 1,000-gallon waste oil tank, a dispenser island, a pipeline from the USTs to the dispenser island, inlets from the service bays to the waste oil tank, hoists, a water collection sump, and an oil-water separator. Six additional monitoring wells were established, and groundwater sampling occurred from February 1999 through November 2003. The well locations were surveyed in April 2002, and a well survey and conduit study (preferential pathway investigation) occurred on January 30, 2003 (EDR 2020b). The wells were destroyed on August 7, 2003. The property was deemed clean by the County of San Mateo Health Services Agency through the SMCGPP, and the case was closed on November 17, 2003 (SWRCB 2020; County of San Mateo Health Services Agency 2003). Overall, 720.93 tons of soil and two truckloads with an unknown quantity of soil were removed from the property and sent for disposal between 1998 and 1999 (County of San Mateo Health Services Agency 2003). The case closure memorandum concluded that 905 Linden qualified for closure despite exceedances of soil Tier 2 risk-based screening levels (RBSLs) for TPH as gasoline (TPH-g) and benzene in soil samples collected between 5 and 8 feet bgs. According to the case closure memorandum, because groundwater at the property is shallow and most of the soil samples appeared to be either from the capillary fringe or the saturated zone, the presence of TPH-g and benzene above their RBSLs for ceiling value and indoor air exposure criteria in a sandy clayed silt soil was not a concern for potential health impacts (SMCGPP 2003). Furthermore, the TPH-g exceedances were also not deemed a concern because the

groundwater RBSLs for TPH-g and TPH as diesel (TPH-d) were based on a general nuisance and odor threshold for TPH. However, the vapor intrusion pathway was not evaluated (SMCGPP 2003).

1.3.3 Phase II ESA

The Toeroek Team conducted a Phase II ESA in 2021 to (1) confirm the presence or absence of RECs identified during the Phase I ESA completed by the Toeroek Team in 2021; (2) acquire information regarding the nature of contamination (if present) and risks posed by that contamination that would inform business decisions about the property; and (3), where applicable, satisfy the innocent purchaser defense under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (ASTM International [ASTM] 2019). In addition to the 616 Linden and 905 Linden properties, the Phase II ESA also included properties at 700 Linden Avenue and 705 Cypress Avenue. No exceedances of screening levels were observed at these latter properties, and they are not discussed further.

During the Phase II ESA, the Toeroek Team conducted soil gas, groundwater, and soil sampling. Soils at the properties were observed to be a mixture of silts, clays, sand, and loam with varying colors of brown, orange, and grey. Soil samples were collected at depths ranging from 0 to 5 feet bgs. Additionally, geophysical surveys were conducted to locate any remaining USTs at 616 Linden and 905 Linden. The geophysical survey results identified an electromagnetic anomaly at 616 Linden as an additional potential environmental concern. The anomaly was determined to be two pieces of metal within a subsurface concrete structure filled with soil.

Review of analytical data from the Phase II ESA led to the following noteworthy findings summarized below, shown on Figure 4 and Figure 5 and presented in the Phase I/II ESA Targeted Brownfields Assessment (TBA) Report (Toeroek Team 2021):

- The following exceedances were noted in soil gas and soil at **616 Linden**:
    - 1,2-Dichloroethane soil gas concentrations exceeded all four SLs at sampling locations SG-1 and SG-2.
    - Benzene soil gas concentrations exceeded all four SLs at sampling locations SG-1, SG-2, and SG-4; whereas at sampling location SG-6, benzene concentrations exceeded the EPA VISL for residential soil gas and RWQCB ESLs for both residential and commercial soil gas.
    - Ethylbenzene soil gas concentrations exceeded all four SLs at sampling locations SG-1 and SG-2.
    - M,p-xylene concentrations exceeded all four SLs at sampling locations SG-1 and SG-2.
    - O-xylene soil gas concentrations exceeded all four SLs at sampling location SG-2.

- Toluene soil gas concentrations exceeded RWQCB ESLs for both residential and commercial soil gas at sampling location SG-2.
- The TPH-d soil concentration exceeded the RWQCB Tier 1 ESL at sampling location SB-4 (colocated with sampling location SG-4).
- Lead was detected at a concentration above the residential DTSC SL at the five-point composite location associated with soil within the subsurface concrete structure (616-EC-03012021). Although the lead concentration is within the USGS San Mateo County background range, it was substantially higher than lead concentrations detected in soil at the other sample locations at 616 Linden and the other Site properties and is likely not representative of background concentrations in South San Francisco. The lead concentration within the stockpiled soil was likely impacted by debris discovered within the soil in the concrete structure. At the same location, leachable lead in soil is above the California soluble threshold limit concentration (STLC) limit based on the California waste extraction test (WET) using the citrate buffer, which indicates that if soil is excavated for off-Site disposal in the future, the soil should be treated or disposed of as a non-Resource Conservation and Recovery Act (RCRA) Class I California hazardous waste because of the potential for lead to leach under typically acidic landfill conditions. However, the WET result using deionized (DI) water buffer indicates that lead would not leach from in situ soil and threaten water quality and that soil may be left on site without a cap. A cap (such as the pavement currently in place) would be necessary to address direct exposure to in situ soil based on exceedance of the residential DTSC SL.

- The following exceedances were noted in groundwater and soil at **905 Linden**:
  - The TPH-g groundwater concentrations exceeded the EPA VISL for residential groundwater at sampling locations GW-1, GW-3, and GW-4.
  - The TPH-g soil concentration at sampling location GW-4 exceeded the RWQCB Tier 1 ESL.

The Phase II ESA concluded that a vapor encroachment concern (VEC) remains at 616 Linden. Subsurface soil gas sample locations at this property contained 1,2-dichloroethane and benzene, toluene, ethylbenzene, and xylenes (BTEX) at concentrations above SLs (Figure 4). Use of the Site for residential or commercial purposes could require installing a vapor mitigation system(s) in any future buildings or land use controls to prevent exposure or release and to mitigate potential impacts on human health.

At 616 Linden, subsurface soil contains TPH at concentrations above the Tier 1 ESL, which is based on a generic site model of residential use where groundwater is used as drinking water (Figure 4). Soil could

require treatment, removal, or capping to prevent exposure or release and to mitigate potential impacts on human health if the Site is used for residential purposes where groundwater is used as drinking water. Because of its shallow depth, location in an urban environment, and proximity to the San Francisco Bay, groundwater is unlikely to be used as potable water at the Site.

At 616 Linden, soil within the subsurface concrete structure uncovered during the anomaly investigation contains lead above the residential DTSC SL (Figure 4). The WET results using the DI water buffer indicate that lead would not leach from soil or threaten water quality and that soil may be left on site without a cap. However, a cap (such as the pavement currently in place) would be necessary to address direct exposure to in situ soil. If soil within the subsurface concrete structure is excavated for off-Site disposal in the future, the soil would likely require treatment or disposal as a non-RCRA Class I California hazardous waste because of the potential for leachable lead in landfill conditions.

A VEC remains at 905 Linden. Groundwater at sampling locations GW-1, GW-3, and GW-4 contains TPH-g at a concentration above SLs (Figure 5). Use of the Site for residential or commercial purposes may require treatment to prevent exposure or release and to mitigate potential impacts on human health. No VOCs in groundwater were detected above residential or commercial SLs at 905 Linden.

At 905 Linden, subsurface soil at sampling location GW-4 contains TPH-g at a concentration above the Tier 1 ESL, which is based on a generic site model of residential use where groundwater is used as drinking water (Figure 5). Soil could require treatment, removal, or capping to prevent exposure or release and to mitigate potential impacts on human health if the Site is used for residential purposes where groundwater is used as drinking water. However, groundwater is unlikely to be used as potable water at the Site.

The Phase II ESA indicated that an ABCA should be prepared to evaluate cleanup alternatives required to address the constituents reported above SLs in subsurface soil gas at 616 Linden, soil within the subsurface concrete structure at 616 Linden, and in groundwater and subsurface soil at 905 Linden.

No other prior environmental investigations have occurred at the Site.

1.4 PROJECT GOAL

The overall goal of any brownfields cleanup action is to address environmental conditions preventing or impeding the preferred type of Site redevelopment and to do so in a manner protective of human health. The Applicants have interest in redeveloping the Site for a neighborhood park, a cultural center, affordable housing, mixed-use ground-floor commercial buildings, or some combination of these. This ABCA considers cleanup alternatives based on applicable federal and state screening levels. For soil gas, this ABCA considers

EPA VISLs or RWQCB ESLs, whichever is more conservative (see Table 1). For subsurface soil, the ABCA considers alternatives based on the RWQCB Tier 1 ESL for TPH and the DTSC SL for lead (see Table 2). For groundwater, the ABCA considers alternatives based on the EPA VISL for residential groundwater (see Table 3). Although groundwater in the vicinity of the Site is not known to be a source of drinking water and there are no future plans to use groundwater for this purpose at the Site, this ABCA considers cleanup alternatives to address the potential for vapor intrusion from groundwater contamination. This ABCA does not present cleanup alternatives to address any potential ecological risks. The Phase II ESA investigation did not include an ecological risk assessment or collection of data associated with evaluating ecological risks as these are outside the scope of work for this TBA and the Site is within an urban setting with minimal potential ecological habitat.

This ABCA addresses COCs as identified in the Phase II ESA, which are BTEX and 1,2-dichloroethane in soil gas; TPH-d, TPH-g, and lead in soil; and TPH-g in groundwater.

2.0 APPLICABLE REGULATIONS AND ASSUMED CLEANUP LEVELS

This section discusses oversight responsibility for cleanup, assumed cleanup levels, and applicable laws and regulations.

2.1 CLEANUP OVERSIGHT RESPONSIBILITY

Cleanup and redevelopment of the Site must be completed in compliance with applicable laws and regulations. RWQCB, DTSC, and EPA regulate and oversee cleanup of contaminated sites in California. The lead agency for oversight of remedial activities is assumed to be RWQCB or DTSC.

2.2 ASSUMED CLEANUP LEVELS FOR MAJOR CONTAMINANTS

For the purpose of this ABCA, screening levels are used as the assumed cleanup levels. The Applicant or organization undertaking cleanup actions at the Site will need to work with the oversight agency to establish appropriate cleanup levels specific to the Site. For the purpose of the ABCA, assumed cleanup levels for soil gas are the most conservative EPA VISL (2020a) or RWQCB ESL (2019). Assumed cleanup levels for soil are the RWQCB Tier 1 ESL (2019) for TPH and the DTSC SL (2020) for lead. The assumed cleanup level for groundwater for TPH-g is the EPA VISL (2020a). Although groundwater in the vicinity of the Site is not known to be a source of drinking water and there are no future plans to use groundwater for this purpose at the Site, this ABCA considers cleanup alternatives to address the potential for vapor intrusion from groundwater contamination. Assumed cleanup levels for soil gas, soil, and groundwater are presented in Table 1, Table 2, and Table 3, respectively.

The Toeroek Team screened the analytical data collected during previous investigations against the assumed cleanup levels identified above to determine the areas where remediation is needed. The data are presented in the Phase I/II ESA TBA Report (Toeroek Team 2021). Figure 4 and Figure 5 depict the exceedances of the screening criteria at 616 Linden and 905 Linden; Figure 6 and, Figure 7 show the approximate areas where remediation is needed in soil based on these data. These areas are a rough approximation, and actual Site conditions may vary.

2.3 LAWS AND REGULATIONS APPLICABLE TO THE CLEANUP

Site cleanup must be completed in compliance with applicable cleanup laws and regulations. General environmental laws and regulations that may be applicable to the cleanup activities are identified and briefly

summarized below. This subsection is for informational purposes only. It is the responsibility of the party or parties conducting remedial activities to ensure compliance with all applicable laws and regulations.

Activities that generate waste would be subject to the waste management requirements in the California Code of Regulations, Title 22, Division 4.5 or California Code of Regulations, Title 23, Division 3, both of which regulate hazardous waste, and California Code of Regulations, Title 27, Division 2, which regulate certain solid wastes. These regulations contain requirement on the proper handling, management, and disposal of waste depending on the determination of whether the waste is hazardous, designated, or non-hazardous solid waste.

The Bay Area Air Quality Management District that has promulgated rules for stockpiling VOC-contaminated soil and discharges of VOCs into the air from soil vapor extraction operations.

California Health and Safety Code Division 20, Chapter 6.5, California Civil Code Division 3, and California Code of Regulations Title 22, Division 4.5, Chapter 39 contain requirements for developing institutional controls and land use covenants for property where hazardous substances remain at levels unacceptable for unrestricted use.

3.0 EVALUATION OF BROWNFIELDS CLEANUP ALTERNATIVES

The evaluation of cleanup alternatives in this ABCA is based on the anticipated future use scenario for the Site—redeveloping the Site for a neighborhood park, a cultural center, affordable housing, mixed-use ground-floor commercial buildings, or some combination of these. Because a human health risk assessment of the Site has not been completed, screening levels are used as the assumed cleanup levels. The Applicant or organization undertaking cleanup actions at the Site will need to work with the oversight agency to establish appropriate cleanup levels specific to the Site. For the purpose of the ABCA, assumed cleanup levels for soil gas are the most conservative EPA VISL (2020a) or RWQCB ESL (2019). Assumed cleanup levels for soil are the RWQCB Tier 1 ESL (2019) for TPH and the DTSC SL (2020) for lead. The assumed cleanup level for groundwater for TPH-g is the EPA VISL (2020a).

3.1 CLEANUP ACTION OBJECTIVES

The cleanup action objectives for the Site are to mitigate potential human exposure to contaminants identified in soil gas, soil, and groundwater at the Site at levels exceeding the assumed cleanup levels presented in Section 2.2. Future redevelopment of the Site is intended to include residential exposure scenarios. The cleanup alternatives and costs presented in this ABCA may change if different exposure scenarios are identified, additional data becomes available, or a human health risk assessment is performed.

3.2 IDENTIFICATION OF CLEANUP ALTERNATIVES

The cleanup alternatives selected for evaluation were initially assessed to determine technical feasibility and if the alternative is capable of achieving the project goal to address environmental conditions preventing or impeding the preferred type of Site redevelopment in a manner protective of human health. EPA (2020b) provides guidance for the various technologies available to ensure contamination is either removed from a site or treated so it no longer poses a threat to human health.

Those alternatives deemed potentially capable of achieving the overall project goal were further evaluated for effectiveness, implementability, and cost. The cost estimates presented in this ABCA are rough order-of-magnitude estimates (accuracy range of -25 to +75 percent) and are intended for comparison purposes only; they should not be used as budget- or design-level estimates.

Section 3.2.3, Alternatives Considered and Dismissed, and Table 5 discusses alternatives considered but not selected for further evaluation as a part of alternatives at the Site.

Based on the planned future use of the Site, the following cleanup alternatives were considered for 616 Linden and 905 Linden:

616 Linden

- Alternative 1: No Action (Baseline)
- Alternative 2: Passive Vapor Mitigation, Soil Management Plan (SMP), Operation and Maintenance (O&M) and Institutional Controls (ICs)
- Alternative 3: Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M and ICs
- Alternative 4: Soil Excavation with Off-Site Disposal and ICs (neighborhood park reuse only)

905 Linden

- Alternative 1: No Action (Baseline)
- Alternative 2: Passive Vapor Mitigation, SMP, O&M and ICs
- Alternative 3: Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M and ICs
- Alternative 4: Soil Excavation with Off-Site Disposal and ICs (neighborhood park reuse only)

Detailed descriptions of each alternative for 616 Linden and 905 Linden and the results of a comparative analysis of alternatives are presented in the subsections below.

3.2.1 616 Linden

Detailed descriptions of each alternative evaluated for 616 Linden are included in the subsections below.

3.2.1.1 616 Linden - Alternative 1 – No Action (Baseline)

The no action alternative is included as a baseline for comparison to the other proposed alternatives. This alternative would involve no containment, treatment, removal, or monitoring of contaminants. All contaminated soil would be left in place, soil gas would be left unmitigated, and no restrictions on future land use would be imposed.

Effectiveness

The no action alternative is not considered effective because it would not be protective of human health for the proposed reuse of the Site.

Implementation

Implementation of this alternative would require no effort because no containment, treatment, removal, or monitoring of contaminants would occur.

Cost

No costs are associated with this alternative because no activities would occur.

3.2.1.2 616 Linden - Alternative 2 – Passive Vapor Mitigation, SMP, O&M and ICs

This alternative would involve construction of a passive vapor mitigation system for new structures built at 616 Linden. A passive vapor mitigation system would create a small negative pressure underneath the slab of the structure, providing a preferential flow pathway for vapor, thus allowing the vapors to move through the perforated piping and outside rather than into the occupied structure. The passive vapor mitigation system would include a gravel layer with perforated piping and a vapor barrier consisting of metalized film sheet, nitrile-modified asphalt, and protection fabric layers. Vent risers would extend through the roof of the structure. The soil gas collected would be vented outside to the atmosphere through these risers. Regular inspections and potential repairs and maintenance of the vapor mitigation system would be needed as long as the structure is occupied and contamination remains in soil gas above the cleanup levels.

Contaminated soil would be left in place in the area of sampling location SB-4, where TPH-d was detected at a concentration exceeding the assumed cleanup level, and in the area of the subsurface concrete structure, where lead was detected at a concentration above the assumed cleanup level. Potential Site receptors are currently protected from exposure by the layer of soil and pavement over these contaminated areas. However, a SMP would be necessary to guide proper handling of soil at 616 Linden if the soil is disturbed (for example, during new structure construction). The SMP would present a tiered approach to soil management, regulatory approval, documentation, and record keeping to minimize administrative requirements.

ICs would be necessary to ensure (1) new structures built at 616 Linden are designed with a vapor mitigation system, (2) the continued integrity of the vapor mitigation system, and (3) that a SMP is in place to manage contaminated soils and maintain the existing asphalt cover.

For cost estimating purposes, the Toeroek Team made the following assumption:

- The location, size, and number of structures to be built at 616 Linden is unknown. Therefore, a three-story structure with a slab foundation encompassing 14,000 SF of first-floor space was assumed.

Alternative 2 would allow for residential and commercial/industrial use of the Site.

Effectiveness

Alternative 2 rates **moderate** for effectiveness as this method would limit exposure of potential vapors and contaminated soils to Site receptors. However, soil contamination around sampling location SB-4 and the subsurface concrete structure would remain in place. This alternative would allow for redevelopment of 616 Linden as proposed; however, ICs would also be required to ensure new structures built at 616 Linden are designed with a vapor mitigation system, the continued integrity of vapor mitigation system, and that a SMP is in place to manage contaminated soils and maintain the existing asphalt cover.

Implementation

Alternative 2 rates **moderate** for implementation as passive vapor mitigation is a common remediation practice and the materials, services, and equipment necessary for implementation are readily available; however, the passive vapor mitigation system would require routine inspections and potential repairs and maintenance until vapor concentrations are below cleanup levels. A SMP and ICs would also be easy to implement as no physical remediation would be required. Implementation of ICs would include a restrictive covenant that would be filed with the Register of Deeds to ensure new structures built at 616 Linden are designed with a vapor mitigation system. The SMP would be prepared to guide proper handling of soil potentially impacted by lead and TPH-d.

Cost

The total cost of Alternative 2 in 2021 dollars is estimated at $298,000, which includes a capital cost of $228,000, $53,000 for ICs, and $17,000 for O&M over 30 years. For cost estimating purposes, O&M is assumed to be required for 30 years; however, O&M will be needed in perpetuity for the life of the vapor mitigation system and ICs as long as contamination remains at 616 Linden above cleanup levels. Costs were estimated by applying selected functions of RACER Version 11.2.16.0, contractor quotes, and professional judgment, and include a 30 percent contingency to account for unknown costs associated with changes in scope that may occur during the design phase and unknown costs associated with the construction and implementation of the alternative. Cost details are presented in Table 4.

3.2.1.3 616 Linden - Alternative 3 – Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M and ICs

Alternative 3 would involve construction of an active vapor mitigation for new structures built at 616 Linden. The active vapor mitigation system would consist of a sub-slab depressurization system that would mechanically create a vacuum to collect soil gas from beneath the structure and vent the vapors outside. The

components of the active vapor mitigation system would be similar to the passive vapor mitigation system described in Alternative 2; however, the system would be an active system with the addition of blowers to mechanically create a vacuum.

Long-term O&M would be needed as long as a structure is occupied at 616 Linden and contamination remains in soil gas above cleanup levels. Electricity would be required to operate the blowers, and occasional maintenance or replacement of the blowers may be needed. ICs would be necessary to ensure (1) new structures built at the property are designed with a vapor mitigation system and (2) the continued integrity of the vapor mitigation system.

Soil would also be excavated in the area of sampling location SB-4, where TPH-d was detected at a concentration exceeding the assumed cleanup level, and in the area of the subsurface concrete structure, where lead was detected at a concentration above the assumed cleanup level.

For cost estimating purposes, the Toeroek Team made the following assumptions:

- The size, number, and location of structures to be built at 616 Linden is unknown. Therefore, a three-story structure with a slab foundation encompassing 14,000 SF of first-floor space was assumed.
- Soil Excavation around Sampling Location SB-4: The volume of soil to be excavated to the assumed cleanup levels is approximately 145 CY, assuming an area of 150 SF and a depth of 26 feet bgs. Shoring would be needed because of the excavation depth. The area requiring excavation is depicted on Figure 6.
- Soil Excavation around Subsurface Concrete Structure: The volume of soil to be excavated to the assumed cleanup levels is approximately 6 CY, assuming an area of 54 SF and a depth of 3 feet bgs. In addition, the concrete walls and floor of the structure would be demolished. Approximately 0.6 ton of concrete is assumed to require demolition and off-Site disposal. The area requiring excavation is depicted on Figure 6.
- Confirmation Sampling: Confirmation soil sampling will require collection of 10 five-point composite samples, five from the walls and floor of each excavated area.
- Backfill: Excavated areas will be backfilled with clean off-Site material, graded, and seeded as needed for redevelopment.
- Waste Disposal: Soil around the subsurface concrete structure is assumed to require disposal at a non-RCRA Class I California hazardous waste facility based on the WET results using the citrate

buffer that indicated that leachable lead in soil is above the California STLC. Soil around sampling location SB-4 is assumed to be accepted at a Class III landfill as non-hazardous waste.

Alternative 3 would allow for residential and commercial/industrial use of the Site.

Effectiveness

Alternative 3 rates **moderate to high** for effectiveness as this method would limit exposure of potential vapors to Site receptors by pushing air into the venting layer below the slab with the use of electric blowers. In addition, contaminated soil in the area of sampling location SB-4 and the subsurface concrete structure would be permanently removed from the Site. However, long-term O&M would be required for the active vapor mitigation system to ensure (1) new structures built at the property are designed with a vapor mitigation system and (2) the continued integrity of the vapor mitigation system.

Implementation

Alternative 3 rates **difficult to moderate** for implementation as the active vapor mitigation system would require electricity usage and long-term O&M until vapor concentrations are below cleanup levels. For the purpose of this ABCA, O&M is assumed to be required for 30 years. Any structure to be built at 616 Linden would be designed with an active vapor mitigation system, including a vapor barrier, gravel layer, perforated piping, and blowers. Implementation of ICs would include a restrictive covenant that would be filed with the Register of Deeds to ensure new structures built at 616 Linden are designed with a vapor mitigation system.

Excavation is a common remediation practice and equipment and contractors are readily available. Excavation preparation would involve obtaining buried utility clearances, securing the area, and constructing runoff controls for surface drainage. The work area would be secured to prevent unauthorized access. During construction, a stormwater pollution prevention plan would be required to meet the requirements of the State of California. Soil excavation by qualified equipment operators would comply with applicable state and federal regulations. In total, excavation of approximately 151 CY of soil is assumed. All waste soil excavated during this process would be transported to and disposed of at a Class I-, II-, or III-permitted facility, depending on results on hazardous and leaching characteristics. However, vapor mitigation is a common remediation practice and the materials, services, and equipment necessary for implementation are readily available.

Cost

The total cost of Alternative 3 in 2021 dollars is estimated at $531,000, which includes a capital cost of $275,000, $53,000 for ICs, and $203,000 for O&M over 30 years. For cost estimating purposes, O&M is

assumed to be required for 30 years; however, O&M will be needed in perpetuity for the life of the vapor mitigation system and ICs as long as contamination remains at 616 Linden above cleanup levels. Costs were estimated by applying selected functions of RACER Version 11.2.16.0, contractor quotes, and professional judgment, and include a 30 percent contingency to account for unknown costs associated with changes in scope that may occur during the design phase and unknown costs associated with the construction and implementation of the alternative. Cost details are presented in Table 4.

3.2.1.4 616 Linden - Alternative 4 – Soil Excavation with Off-Site Disposal and ICs (neighborhood park reuse only)

Alternative 4 assumes 616 Linden will be redeveloped as a neighborhood park and will not include the construction of any structures that would be occupied by people on a regular basis for any length of time. This alternative would involve excavation of soil in the area of sampling location SB-4, where TPH-d was detected at a concentration exceeding the assumed cleanup level, and in the area of the subsurface concrete structure, where lead was detected at a concentration above the assumed cleanup level. ICs would be necessary to ensure that if a structure is built on the property, a vapor mitigation system would be required.

For cost estimating purposes, the Toeroek Team made the following assumptions:

- Soil Excavation around Sampling Location SB-4: The volume of soil to be excavated to the assumed cleanup level is approximately 145 CY, assuming an area of 150 SF and a depth of 26 feet bgs. Shoring would be needed because of the excavation depth. The area requiring excavation is depicted on Figure 6.
- Soil Excavation around Subsurface Concrete Structure: The volume of soil to be excavated to the assumed cleanup level is approximately 6 CY, assuming an area of 54 SF and a depth of 3 feet bgs. In addition, the concrete walls and floor of the structure would be demolished. Approximately 0.6 ton of concrete is assumed to require demolition and off-Site disposal. The area requiring excavation is depicted on Figure 6.
- Confirmation Sampling: Confirmation soil sampling will require collection of 10 five-point composite samples, five from the walls and floor of each excavated area.
- Backfill: Excavated areas will be backfilled with clean off-Site material, graded, and seeded as needed for redevelopment.
- Waste Disposal: Soil around the subsurface concrete structure is assumed to require disposal at a non-RCRA Class I California hazardous waste facility based on the WET results using the citrate

buffer that indicated that leachable lead in soil is above the California STLC. Soil around sampling location SB-4 is assumed to be accepted at a Class III landfill as non-hazardous waste.

Effectiveness

Alternative 4 rates **moderate to high** for effectiveness as contaminated soil in the area of sampling location SB-4 and the subsurface concrete structure would be permanently removed from the Site. However, this alternative would limit redevelopment of 616 Linden to a neighborhood park. If any structures are to be built that would be occupied by people on a regular basis for any length of time, vapor mitigation systems would be required as included in Alternatives 2 and 3.

Implementation

Alternative 4 rates **easy to moderate** for implementation as excavation is a common remediation practice and equipment and contractors are readily available. Excavation preparation would involve obtaining buried utility clearances, securing the area, and constructing runoff controls for surface drainage. The work area would be secured to prevent unauthorized access. During construction, a stormwater pollution prevention plan would be required to meet the requirements of the State of California. Soil excavation by qualified equipment operators would comply with applicable state and federal regulations. All waste soil excavated during this process would be transported to and disposed of at a Class I-, II-, or III-permitted facility, depending on results on hazardous and leaching characteristics. Planning these processes would require careful consideration of precautions concerning worker health and safety.

Implementation of ICs would include a restrictive covenant that would be filed with the Register of Deeds to ensure that if structures are built at 616 Linden, vapor mitigation systems would be required.

Cost

The total cost of Alternative 4 in 2021 dollars is estimated at $124,000, which includes a capital cost of $71,000 and $53,000 for ICs. Costs were estimated by applying selected functions of RACER Version 11.2.16.0, contractor quotes, and professional judgment, and include a 30 percent contingency to account for unknown costs associated with changes in scope that may occur during the design phase and unknown costs associated with the construction and implementation of the alternative. Cost details are presented in Table 4.

3.2.2 905 Linden

Based on the results from the Phase II ESA, concentrations of TPH-g exceed the EPA VISL in groundwater and exceed the RWQCB Tier 1 ESL in soil. These present a potential vapor intrusion concern. However,

before redevelopment of the property, soil gas sampling for volatile petroleum hydrocarbons is recommended to confirm the potential for vapor intrusion.

Detailed descriptions of each alternative evaluated for 905 Linden are included in the subsections below.

3.2.2.1 905 Linden - Alternative 1 – No Action (Baseline)

The no action alternative is included as a baseline for comparison to the other proposed alternatives. This alternative would involve no containment, treatment, removal, or monitoring of contaminants. All contaminated soil and groundwater would be left in place, potential for vapor intrusion would be left un-mitigated, and no restrictions on future land use would be imposed.

Effectiveness

Because the no action alternative would not be protective of human health for the proposed reuse of the Site, it is not considered effective.

Implementation

Implementation of this alternative would require no effort because no containment, treatment, removal, or monitoring of contaminants would occur.

Cost

No costs are associated with this alternative because no activities would occur.

3.2.2.2 905 Linden - Alternative 2 - Passive Vapor Mitigation, SMP, O&M and ICs

This alternative would involve construction of a passive vapor mitigation system for new structures built on the property at 905 Linden. A passive vapor mitigation system would create a small negative pressure underneath the slab of the structure, providing a preferential flow pathway for vapor, thus allowing the vapors to move through the perforated piping and outside rather than into the occupied structure. The passive vapor mitigation system would include a gravel layer with perforated piping and a vapor barrier consisting of metalized film sheet, nitrile-modified asphalt, and protection fabric layers. Vent risers would extend through the roof of the structure. The soil gas collected would be vented outside to the atmosphere through these risers. Regular inspections and potential repairs or maintenance of the passive vapor mitigation system would be needed as long as the structure is occupied and contamination remains in soil gas above cleanup levels.

Contaminated soil would be left in place in the area of sampling location GW-4, where TPH-g was detected at 4 to 5 feet bgs at a concentration exceeding the assumed cleanup level. Potential Site receptors are currently

protected from exposure by the layer of soil over this contaminated area. However, a SMP would be necessary to guide proper handling of soil at 905 Linden if the soil is disturbed (for example, during new structure construction). The SMP would present a tiered approach to soil management, regulatory approval, documentation, and record keeping to minimize administrative requirements.

ICs would be necessary to ensure (1) new structures built at 905 Linden are designed with a vapor mitigation system, (2) the continued integrity of the vapor mitigation system, (3) that a SMP is in place to manage contaminated soils and the existing soil cover, and (4) use of untreated groundwater for drinking water is prohibited.

For cost estimating purposes, the Toeroek Team made the following assumption:

- The size, location, and number of structures to be built at 905 Linden is unknown. Therefore, a three-story structure with a slab foundation encompassing 12,000 SF of first-floor space was assumed.

Alternative 2 would allow for residential and commercial/industrial use of the Site.

Effectiveness

Alternative 2 rates **moderate** for effectiveness as this method would limit exposure of potential vapors and contaminated soils to Site receptors. However, groundwater contamination and known soil contamination around sampling location GW-4 would remain in place untreated. This alternative would allow for redevelopment of 905 Linden as proposed; however, ICs would also be required to ensure new structures built at 905 Linden are designed with a vapor mitigation system, the continued integrity of vapor mitigation system, that a SMP is in place to manage contaminated soils and the existing soil cover, and to prohibit use of untreated groundwater for drinking water.

Implementation

Alternative 2 rates **moderate** for implementation as passive vapor mitigation is a common remediation practice and the materials, services, and equipment necessary for implementation are readily available; however, the vapor mitigation system would require routine inspections and potential repairs and maintenance until vapor concentrations are below cleanup levels. A SMP and ICs would be easy to implement as no physical remediation would be required. Implementation of ICs would include a restrictive covenant that would be filed with the Register of Deeds to ensure new structures built at 905 Linden are designed with a vapor mitigation system and use of untreated groundwater for drinking water is prohibited. The SMP would be prepared to guide proper handling of soil potentially impacted by TPH-g.

Cost

The total cost of Alternative 2 in 2021 dollars is estimated at $271,000, which includes a capital cost of $201,000, $53,000 for ICs, and $17,000 for O&M over 30 years. For cost estimating purposes, O&M is assumed to be required for 30 years; however, O&M will be needed in perpetuity as long as contamination remains in groundwater above cleanup levels posing a potential vapor intrusion issue. Costs were estimated by applying selected functions of RACER Version 11.2.16.0, contractor quotes, and professional judgment, and include a 30 percent contingency to account for unknown costs associated with changes in scope that may occur during the design phase and unknown costs associated with the construction and implementation of the alternative. Cost details are presented in Table 4.

3.2.2.3 905 Linden - Alternative 3 - Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M and ICs

Alternative 3 would involve construction of an active vapor mitigation for new structures built at 905 Linden. The active vapor mitigation system would consist of a sub-slab depressurization system that would mechanically create a vacuum to collect soil gas from beneath the structure and vent the vapors outside. The components of the active vapor mitigation system would be similar to the passive vapor mitigation system described in Alternative 2; however, the system would be an active system with the addition of blowers to mechanically create a vacuum.

Long-term O&M would be needed as long as a structure is occupied at 905 Linden and contamination remains in groundwater above cleanup levels posing a potential vapor intrusion issue. Electricity would be required to operate the blowers and occasional maintenance, or replacement of the blowers may be needed. ICs would be necessary to ensure (1) new structures built at the property are designed with a vapor mitigation system, (2) the continued integrity of the vapor mitigation system, and (3) use of untreated groundwater for drinking water is prohibited.

Soil would also be excavated in the area of sampling location GW-4, where TPH-g was detected at a concentration exceeding the assumed cleanup level.

For cost estimating purposes, the Toeroek Team made the following assumptions:

- The size, location, and number of structures to be built at 905 Linden is unknown. Therefore, a three-story structure with a slab foundation encompassing 12,000 SF of first floor space was assumed.

- Soil Excavation around Sampling Location GW-4: The volume of soil to be excavated to cleanup levels is approximately 65 CY, assuming an area of 290 SF and a depth of 6 feet bgs. The area requiring excavation is depicted on Figure 7.
- Confirmation Sampling: Confirmation soil sampling will require collection of five five-point composite samples from the walls and floor of the excavated area.
- Backfill: Excavated areas will be backfilled with clean off-Site material, graded, and seeded as needed for redevelopment.
- Waste Disposal: Soil around sampling location GW-4 is assumed to be accepted at a Class III landfill as non-hazardous waste.

Alternative 3 would allow for residential and commercial/industrial use of the Site.

Effectiveness

Alternative 3 rates **moderate to high** for effectiveness as this method would limit exposure of potential vapors to Site receptors by pushing air into the venting layer below the slab with the use of electric blowers. In addition, contaminated soil in the immediate area of sampling location GW-4 would be permanently removed from the Site. However, long-term O&M would be required for the active vapor mitigation system to ensure (1) new structures built at the property are designed with a vapor mitigation system, (2) the continued integrity of the vapor mitigation system, and (3) use of untreated groundwater for drinking water is prohibited.

Implementation

Alternative 3 rates **difficult to moderate** for implementation as the active vapor mitigation system would require electricity usage and long-term O&M until vapor concentrations are below cleanup levels. However, vapor mitigation is a common remediation practice and the materials, services, and equipment necessary for implementation are readily available. For the purpose of this ABCA, O&M is assumed to be required for 30 years. Any structure to be built at 905 Linden would be designed with an active vapor mitigation system, including a vapor barrier, gravel layer, perforated piping, and blowers. Implementation of ICs would include a restrictive covenant that would be filed with the Register of Deeds to ensure new structures built at 905 Linden are designed with a vapor mitigation system and use of untreated groundwater for drinking water is prohibited.

Excavation is a common remediation practice and equipment and contractors are readily available. Excavation preparation would involve obtaining buried utility clearances, securing the area, and constructing

runoff controls for surface drainage. The work area would be secured to prevent unauthorized access. During construction, a stormwater pollution prevention plan would be required to meet the requirements of the State of California. Soil excavation by qualified equipment operators would comply with applicable state and federal regulations. In total, excavation of approximately 65 CY of soil is assumed. All waste soil excavated during this process would be transported to and disposed of at a Class I-, II-, or III-permitted facility, depending on results on hazardous and leaching characteristics.

Cost

The total cost of Alternative 3 in 2021 dollars is estimated at $460,000, which includes a capital cost of $204,000, $53,000 for ICs, and $203,000 for O&M over 30 years. For cost estimating purposes, O&M is assumed to be required for 30 years; however, O&M will be needed in perpetuity for the life of the vapor mitigation system and ICs as long as contamination remains at 616 Linden above cleanup levels. Costs were estimated by applying selected functions of RACER Version 11.2.16.0, contractor quotes, and professional judgment, and include a 30 percent contingency to account for unknown costs associated with changes in scope that may occur during the design phase and unknown costs associated with the construction and implementation of the alternative. Cost details are presented in Table 4.

3.2.2.4 905 Linden - Alternative 4 - Soil Excavation with Off-Site Disposal and ICs (neighborhood park reuse only)

Alternative 4 assumes 905 Linden will be redeveloped as a neighborhood park and will not include the construction of any structures that would be occupied by people on a regular basis for any length of time. This alternative would involve excavation of soil in the area of sampling location GW-4, where TPH-g was detected at a concentration exceeding the assumed cleanup level. ICs would be necessary to ensure that if a structure is built on the property, a vapor mitigation system would be required and to prohibit use of untreated groundwater for drinking water.

For cost estimating purposes, the Toeroek Team made the following assumptions:

- Soil Excavation around Sampling Location GW-4: The volume of soil to be excavated to cleanup levels is approximately 65 CY, assuming an area of 290 SF and a depth of 6 feet bgs. The area requiring excavation is depicted on Figure 7.
- Confirmation Sampling: Confirmation soil sampling will require collection of five five-point composite samples from the walls and floor of the excavated area.
- Backfill: Excavated areas will be backfilled with clean off-Site material, graded, and seeded as needed for redevelopment.

- Waste Disposal: Soil around sampling location GW-4 is assumed to be accepted at a Class III landfill as non-hazardous waste.

Effectiveness

Alternative 4 rates **moderate to high** for effectiveness as contaminated soil in the area of sampling location GW-4 would be permanently removed from the Site. However, this alternative would limit redevelopment of 905 Linden to a neighborhood park. If any structures are to be built that would be occupied by people on a regular basis for any length of time, vapor mitigation systems would be required as included in Alternatives 2 and 3 as well as prohibiting use of untreated groundwater for drinking water.

Implementation

Alternative 4 rates **easy to moderate** for implementation as excavation is a common remediation practice and equipment and contractors are readily available. Excavation preparation would involve obtaining buried utility clearances, securing the area, and constructing runoff controls for surface drainage. The work area would be secured to prevent unauthorized access. During construction, a stormwater pollution prevention plan would be required to meet the requirements of the State of California. Soil excavation by qualified equipment operators would comply with applicable state and federal regulations. All waste soil excavated during this process would be transported to and disposed of at a Class I-, II-, or III-permitted facility, depending on results on hazardous and leaching characteristics. Planning these processes would require careful consideration of precautions concerning worker health and safety.

Implementation of ICs would include a restrictive covenant that would be filed with the Register of Deeds to ensure that if structures are built at 905 Linden, vapor mitigation systems would be required and to prohibit use of untreated groundwater for drinking water.

Cost

The total cost of Alternative 4 in 2021 dollars is estimated at $80,000, which includes a capital cost of $27,000 and $53,000 for ICs. Costs were estimated by applying selected functions of RACER Version 11.2.16.0, contractor quotes, and professional judgment, and include a 30 percent contingency to account for unknown costs associated with changes in scope that may occur during the design phase and unknown costs associated with the construction and implementation of the alternative. Cost details are presented in Table 4.

3.2.3 Alternatives Considered and Dismissed

A wide variety of alternatives are available for the remediation of soil and groundwater. Table 5 identifies alternatives considered but not selected for further evaluation as a part of alternatives at the Site.

3.3 COMPARISON OF ALTERNATIVES

The Toeroek Team assessed each cleanup alternative selected for evaluation to determine its effectiveness, implementability, and cost in Section 3.2. A comparative analysis of alternatives based on the same criteria is provided in this subsection.

3.3.1 616 Linden

Effectiveness

Alternative 1, the no action alternative, would not be protective of human health and would not meet the project goal for the Site.

Alternative 2 is rated moderate for effectiveness as the passive vapor mitigation system would limit exposure of potential vapors to Site receptors and the SMP would guide proper handling of soil if the soil is disturbed. Alternative 3 is rated slightly higher than Alternative 2 with a rating of moderate to high for effectiveness as the active vapor mitigation system would be more effective at pushing air into the venting layer below the slab with the use of electric blowers. ICs would also be required for both Alternatives 2 and 3 to ensure (1) new structures built at 616 Linden are designed with a vapor mitigation system and (2) the continued integrity of vapor mitigation system.

Alternative 4 is rated moderate to high for effectiveness as contaminated soil in the area of sampling location SB-4 and the subsurface concrete structure would be permanently removed from the Site. However, this alternative would limit redevelopment of 616 Linden to a neighborhood park. If any structures are to be built that would be occupied by people on a regular basis for any length of time, vapor mitigation systems would be required as included in Alternatives 2 and 3.

Implementability

Alternative 2 is rated moderate for implementation as vapor mitigation is a common remediation practice and materials, services, and equipment are readily available; however, the vapor mitigation system would require routine inspections and potential repairs and maintenance in perpetuity. In addition, a SMP would need to be implemented to guide proper handling of contaminated soils. Alternative 3 is rated slightly lower than Alternative 2 with a rating of difficult to moderate. Alternative 3 would also involve the installation of a vapor mitigation system and soil excavation with off-Site disposal. However, electric blowers would be required for the vapor mitigation system, along with long-term O&M. Both Alternatives 2 and 3 would require implementation of ICs, which would include a restrictive covenant that would be filed with the Register of Deeds to ensure new structures built at 616 Linden are designed with a vapor mitigation system.

Alternative 4 is rated easy to moderate for implementation as excavation is a common remediation practice and equipment and contractors are readily available. However, as with Alternatives 2 and 3, this alternative would require implementation of ICs, which would include a restrictive covenant that would be filed with the Register of Deeds to ensure that if structures are built at 616 Linden, vapor mitigation systems would be required.

Cost

Estimated costs for Alternatives 2 and 3 are similar in magnitude; however, Alternative 3 is expected to cost slightly more because of the addition of blowers and long-term O&M, including electricity usage of the blowers. Alternative 4 is expected to cost the least as this alternative assumes that the property will be redeveloped as a neighborhood park and that, therefore, vapor intrusion into structures would not need to be addressed.

Table 6 summarizes each alternative based on effectiveness, implementability, and cost.

3.3.2 905 Linden

Effectiveness

Alternative 1, the no action alternative, would not be protective of human health and would not meet the project goal for the Site.

Alternative 2 rates moderate for effectiveness as the passive vapor mitigation system would limit exposure of potential vapors to Site receptors and the SMP would guide proper handling of soil if soil is disturbed. However, contaminated soil and groundwater would remain in place at the Site.

Alternative 3 rates slightly higher than Alternative 2 at moderate to high for effectiveness as contaminated soil in the immediate area of sampling location GW-4 would be permanently removed from the Site. In addition, the vapor mitigation system would actively push air into the venting layer below the slab with the use of electric blowers. However, long-term O&M of the vapor mitigation system would be required.

Alternative 4 rates similar to Alternative 3 as moderate to high for effectiveness as contaminated soil in the area of sampling location GW-4 would be permanently removed from the Site. However, this alternative would limit redevelopment of 905 Linden to a neighborhood park. If any structures are to be built that would be occupied by people on a regular basis for any length of time, vapor mitigation systems would be required as included in Alternatives 2 and 3 as well as prohibiting use of untreated groundwater for drinking water.

Implementability

Alternative 2 is rated moderate for implementation as vapor mitigation is a common remediation practice and materials, services, and equipment are readily available; however, the vapor mitigation system would require routine inspections and potential repairs and maintenance in perpetuity. In addition, a SMP would need to be implemented to guide proper handling of contaminated soils. Alternative 3 is rated slightly lower than Alternative 2 with a rating of difficult to moderate. Alternative 3 would also involve the installation of a vapor mitigation system and soil excavation with off-Site disposal. However, electric blowers would be required for the vapor mitigation system, along with long-term O&M. Both Alternatives 2 and 3 would require implementation of ICs, which would include a restrictive covenant that would be filed with the Register of Deeds to ensure new structures built at 905 Linden are designed with a vapor mitigation system and use of untreated groundwater for drinking water is prohibited.

Alternative 4 is rated easy to moderate for implementation as excavation is a common remediation practice and equipment and contractors are readily available. However, as with Alternatives 2 and 3, this alternative would require implementation of ICs, which would include a restrictive covenant that would be filed with the Register of Deeds to ensure that if structures are built at 905 Linden, vapor mitigation systems would be required and use of untreated groundwater for drinking water is prohibited.

Cost

Alternatives 2 and 3 are relatively comparable; however, Alternative 3 is expected to cost slightly more because of the addition of blowers and long-term O&M, including electricity usage of the blowers. Alternative 4 is expected to cost the least as this alternative assumes that the property will be redeveloped as a neighborhood park and that, therefore, vapor intrusion into structures would not need to be addressed.

Table 6 summarizes each alternative based on effectiveness, implementability, and cost. Both Alternatives 2 and 3 were ranked equally against these three criteria as they would apply similar technologies. Alternative 4 would not address vapor intrusion and would limit redevelopment of the property to a neighborhood park only. Before redevelopment of the Site, soil gas sampling for volatile petroleum hydrocarbons is recommended to confirm the potential for vapor intrusion.

3.4 CONSIDERATION OF CLIMATE CHANGE IMPACTS

Scientific evidence demonstrates that the climate is changing at an increasingly rapid rate, beyond the range to which society has previously adapted, posing a challenge to EPA in its ability to fulfill its mission to protect human health and the environment. EPA must adapt to climate change to continue to fulfill its statutory,

regulatory, and programmatic requirements. In January 2014, EPA (2014a) published a Climate Change Adaptation Plan, which described priority actions for EPA to integrate into its programs, policies, rules, and operations.

EPA Region 9's Climate Change Adaptation Implementation Plan identifies the adverse impacts of climate change as air temperature increase, precipitation decrease, storm intensity increase, ocean acidification and warming, and sea level rise. Vulnerabilities specific to the southwest geographic region, where the Site is located, include (EPA 2014b):

- Warmer temperatures, resulting in reduced mountain snowpacks and shifting of peak spring runoff from snow melt to earlier in the season, leading to a shortage of fresh water during the summer
- Magnitude of projected temperature increases represent significant stresses to health, energy, and water supply in an area that is already experiencing high summer temperatures
- Reduced groundwater supply because of a lack of recharge
- Warmer ocean temperatures decreasing productivity and impacting fisheries and aquatic life
- Increased frequency and altered timing of flooding increasing risks to people, ecosystems, and infrastructure
- Sea level rise contributing to the loss of wetlands and infrastructure along coastal corridors
- Magnitude and frequency of wildfires, which has increased over the last 30 years, impacting water quality in streams, creeks, rivers, lakes, and estuaries

The Site is located within the southwest region of EPA Region 9 and is, therefore, directly susceptible to many of the vulnerabilities identified above. The Site is located 4.8 miles east of the Pacific Ocean coast and 2.25 miles west of San Francisco Bay at an elevation of 40 feet amsl and is unlikely to be affected by sea level rise.

In June 2021, EPA (2021) published a Climate Smart Brownfields Manual that provides guidance to communities related to climate mitigation, adaptation, and resilience in the content of brownfield cleanup and redevelopment. As the Applicant moves toward cleanup of the Site, this manual may be useful in identifying ways to reduce climate impacts through greener demolition or implementing greener cleanups.

3.5 GREEN AND SUSTAINABLE REMEDIATION GUIDANCE

The cleanup of a site can be seen as "green" in that the cleanup improves the environmental and public health conditions of a site. However, these remediation efforts require energy, water, and other material resources to achieve cleanup objectives. Therefore, the process of remediation creates its own environmental footprint. EPA provides guidance on how to optimize environmental performance and implement protective cleanups that are greener. In Principles for Greener Cleanups, which serves as the foundation for the greener cleanup policy, EPA (2020c) identifies the following elements of a green cleanup assessment that may assist in selecting and implementing protective cleanup activities:

- Total energy use and renewable energy use
- Air pollutants and greenhouse gas emissions
- Water use and impacts to water resources
- Materials management and waste reduction
- Land management and ecosystem protection

The Toeroek Team conducted an analysis on the environmental footprints of the removal actions for 616 Linden and 905 Linden using the Spreadsheets for Environmental Footprint Analysis (SEFA) (EPA 2019). The analysis looks at the first two bullets stated above and determines the total energy usage and the mass of different emissions generated by different construction activities, including greenhouse gases, nitrogen oxides, sulfur oxides, particulate matter, and listed air pollutants. Results of the SEFA are summarized below and presented in Appendix A.

616 Linden

The impacts for Alternative 3 (Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M, and ICs) are rated high for total energy usage and all emissions, relative to other alternatives considered. The impacts for Alternative 2 (Passive Vapor Mitigation, SMP, O&M, and ICs) and Alternative 4 (Soil Excavation with Off-Site Disposal and ICs) are low for most emissions and total energy usage, relative to Alternative 3. Alternatives 2 and 3 are similar in the technologies used; however, Alternative 3 would require more total energy usage and would produce more emissions compared with Alternative 2, as electricity would be required to continually operate the blowers for an assumed period of 30 years. Alternative 4 assumes that the property would be redeveloped as a neighborhood park and that, therefore, vapor intrusion would not need to be mitigated. The emissions and total energy usage would be less compared with Alternatives 3. For

Alternative 3, a portion of the electricity usage could also be offset by installing solar panels if allowed by the property owner and adequate space is available. A portion of the electricity usage could also be offset by installing solar panels on the Site if allowed by the property owner and adequate space is available. However, the treatment system itself would require direct connection to the main power grid because of heavy start up and continuous amperage loading.

905 Linden

The impacts for Alternative 3 (Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M, and ICs) are rated high for total energy usage and all emissions, relative to other alternatives considered. Alternative 2 (Passive Vapor Mitigation, SMP, O&M, and ICs), on the other hand, is rated low to medium for total energy usage and emissions. Impacts for Alternative 4 (Soil Excavation with Off-Site Disposal and ICs) are comparable to Alternative 2. Alternative 4 has a rating of low for total energy usage and all emissions except particulate matter. Particulate matter for Alternative 4 has a medium rating, relative to Alternatives 2 and 3, primarily because of the transportation of excavated soils off the Site. In total, expected particulate matter emissions for Alternative 4 are 40 pounds, while Alternative 2 are 10 pounds. The greatest energy usage for Alternative 3 is from O&M as this alternative requires blowers operating continuously for an assumed period of 30 years. The environmental footprint for both these alternatives could be reduced if groundwater contamination posing a potential vapor intrusion concern is mitigated. Before redevelopment of the property, soil gas sampling for volatile petroleum hydrocarbons is recommended to confirm the potential for vapor intrusion. Mitigation of groundwater would create a greater short-term environmental footprint, but long-term O&M may not be needed depending on the length of time it takes to treat or remove groundwater. For Alternative 3, a portion of the electricity usage could also be offset by installing solar panels if allowed by the property owner and adequate space is available.

3.5.1 Administrative Suggestions

When selecting remediation contractors, emphasis should be placed on those who follow green remediation best management practices and take into consideration the five elements identified above. Redevelopment plans and planned future use of the Site should direct the type of remediation necessary to ensure that efficient and sustainable methods are used. Renewable energy should be considered for future redevelopment. Reporting efforts should use digital format as opposed to hard copy when feasible.

3.5.2 Operations Suggestions

The following operations suggestions should be considered to achieve green and sustainable remediation at the Site:

- Use of non-renewable energy should be minimized to the extent feasible by use of energy efficient equipment and vehicles, renewable energy supplies, and renewable energy generation systems on the Site.
- Sustainable practices that may reduce the use of fossil fuels, such as performing on-Site capping as opposed to off-Site disposal, and the use of native vegetation should be utilized when possible.
- Wastes should be minimized as much as possible by use of recycling and reuse efforts.
- Transport and disposal operations should function as efficiently as possible to reduce the number of trips needed.
- Drilling and excavation activities should include clean fuel and emission controls, such as idle reduction devises, use of ultra-low sulfur diesel and fuel-grade biodiesel, EPA- or California Air Resources Board-verified emission control technology, and routine engine maintenance.

4.0 LIMITATIONS AND ADDITIONAL ASSESSMENT NEEDS

The volumes and areas presented in this ABCA are estimates based on available information or lack thereof; actual Site conditions may vary. For instance, the vertical extent of TPH in soils may not be fully characterized and contamination may extend beyond the depths identified by the Toeroek Team. Therefore, additional excavation may be required beyond the depths and volumes presented in this ABCA to meet cleanup goals. Concentrations of contaminants may extend outside the boundaries defined in this ABCA, requiring additional excavation.

This ABCA provides mitigation guidance but is not intended to be used as a removal characterization report or design document. This ABCA presents only the Site-specific RECs and opinion of the Toeroek Team environmental professional who prepared this document. The cost estimates presented are rough order-of-magnitude estimates solely for comparison purposes and should not be used as budget- or design-level estimates. In addition, other technologies may be available for remediation of the Site that were not considered in this ABCA.

While the exact areas to be redeveloped for each of the scenarios is undetermined at this time, the alternatives presented in this ABCA present options for residential land uses; with the exception of alternative 4, which presents options for recreational use as a park only. Following the completion of a development plan for the Site, the alternatives and cost estimates presented in this ABCA should be reevaluated and adjusted as appropriate.

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FIGURES


Site Vicinity
Scale: 1 inch = 10 miles
Emeryville
Oakland
San Francisco
Alameda
San Leandro
San Francisco Bay
Daly City
San Bruno
Pacifica
CA 92
Burlingame
San Francisco Peninsula Watershed
San Mateo
San Carlos
Redwood City
Half Moon
905 Linden Ave
616 Linden Ave
South San Francisco
Guadalupe Valley Quarry
San Bruno Mountain State Park
Hillside Boulevard
Sister Cities Boulevard
Sign Hill Park
Grand Avenue
Bayshore Freeway
US 101
Forbes Boulevard
Oyster Point Boulevard
Gull Road
DNA Way
Point San Bruno
Orange Memorial Park
South San Francisco High School
El Camino Real
Colma Creek
Mitchell Avenue
Utah Avenue
Swift Avenue
Lawrence Avenue
Littlefield Avenue
Harbor Way
San Mateo Avenue
South Airport Boulevard
Spruce Avenue
Railroad Avenue
Linden Avenue
Maple Avenue
Victory Avenue
Huntington Avenue
Noor Avenue
Alta Vista Drive
Country Club Drive
Northwood Drive
Brentwood Drive
Terrace Avenue
Cypress Avenue
Ridge Trail
Park Way
Almond Avenue
Cottonwood Avenue
Palm Avenue
Magnolia Avenue
Baden Avenue
Commercial Avenue
Cecile Court
Tennis Drive
Mayfair Avenue
Cherry Avenue
Laurel Avenue
Myrtle Avenue
Alida Way
Ward Way
Francisco Drive
Sonora Avenue
Portola Avenue
Worth Avenue
Hillcrest Drive
Highcrest Lane
Northcrest Drive
Parkgrove Drive
Bayberry Lane
Bayview Drive
Crestview Drive
Westview Drive
Vista Street
Hemlock Avenue
Larch Avenue
Poplar Avenue
Pointe View Place
Randolph Avenue
Ardenwood Avenue
North Spruce Avenue
Fern Circle
Fern Avenue
Gardner Avenue
Ridge Drive
Nursery Way
Ivy Drive
Rosita Avenue
Diamond Avenue
Bocca Avenue
Redwood Avenue
Oak Lane
Magnolia Avenue
Linden Avenue
Acacia Avenue
Pine Terrace
Pine Avenue
Elm Lane
Cypress Avenue
Maple Avenue
Hickey Place
Dixon Avenue
Miller Avenue
Commercial Avenue
Baden Avenue
Orange Avenue
Cecile Court
Tennis Drive
Railroad Avenue
Spruce Avenue
Maple Avenue
North Canal Street
South Canal Street
Colma Creek
Mitchell Avenue
Harbor Way
Lawrence Avenue
Littlefield Avenue
Swift Avenue
Utah Avenue
Cory Way
Harbor Way
Colma Creek Service Road
South Airport Boulevard
Bayshore Freeway
San Mateo Avenue
Victory Avenue
Huntington Avenue
Noor Avenue
Alta Vista Drive
Country Club Drive
Northwood Drive
Brentwood Drive
Terrace



Legend

Approximate Site Boundary

N

0 25 50

Feet

Notes:

REC Recognized environmental condition

Source: ESRI, ArcGIS Online, World Imagery, 2018

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 2

Current Site Features - 616 Linden Avenue

TETRA TECH

Date: 9/3/2020 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Legend

Approximate Site Boundary

N

0 40 80

Feet

Source: ESRI, ArcGIS Online, World Imagery, 2018

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

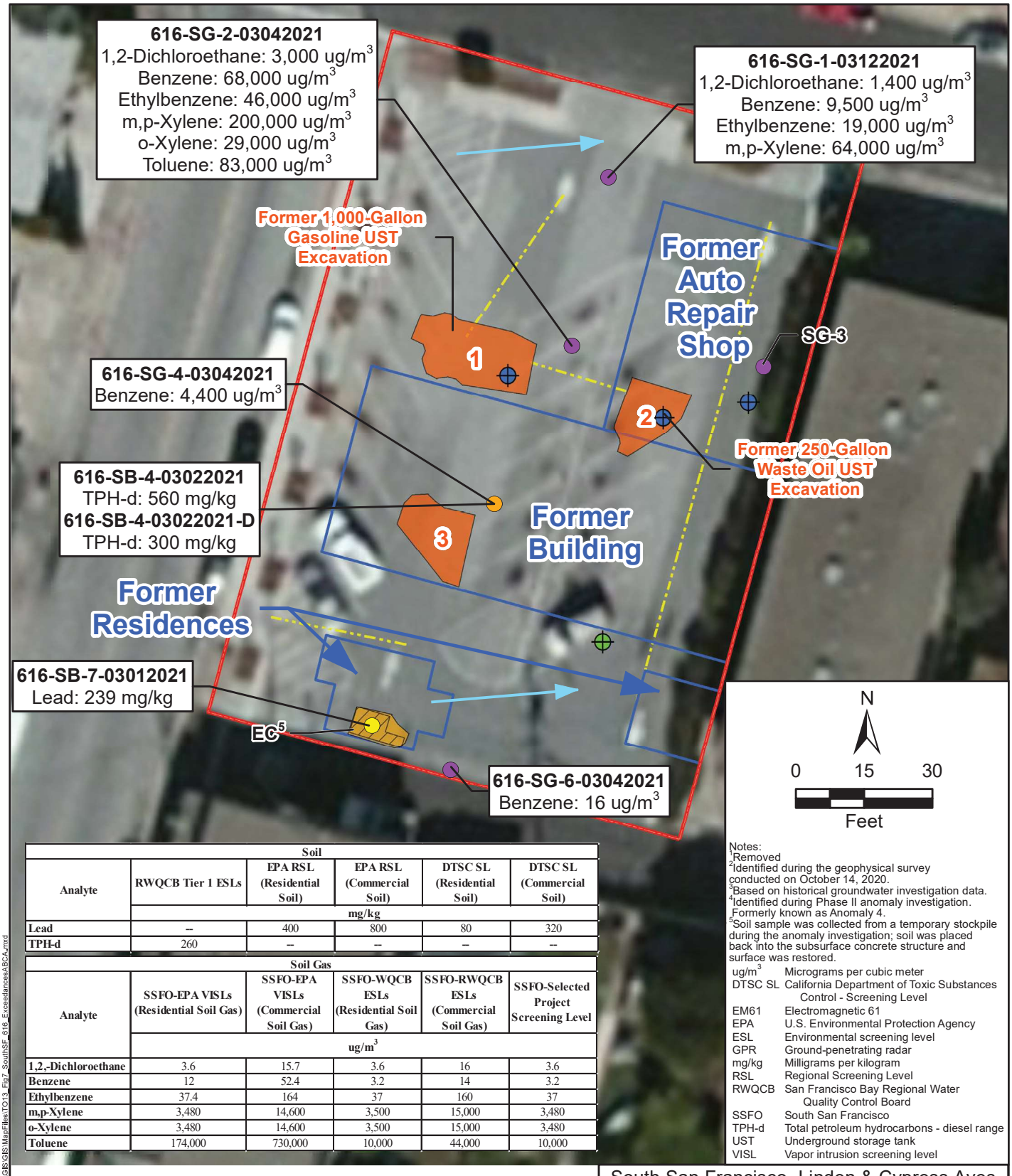
Figure 3

Current Site Features - 905 Linden Avenue

TETRA TECH

Date: 12/18/2020 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Soil					
Analyte	RWQCB Tier 1 ESLs	EPA RSL (Residential Soil)	EPA RSL (Commercial Soil)	DTSC SL (Residential Soil)	DTSC SL (Commercial Soil)
	mg/kg				
Lead	--	400	800	80	320
TPH-d	260	--	--	--	--

Soil Gas					
Analyte	SSFO-EPA VISLs (Residential Soil Gas)	SSFO-EPA VISLs (Commercial Soil Gas)	SSFO-WQCB ESLs (Residential Soil Gas)	SSFO-RWQCB ESLs (Commercial Soil Gas)	SSFO-Selected Project Screening Level
	ug/m3				
1,2,-Dichloroethane	3.6	15.7	3.6	16	3.6
Benzene	12	52.4	3.2	14	3.2
Ethylbenzene	37.4	164	37	160	37
m,p-Xylene	3,480	14,600	3,500	15,000	3,480
o-Xylene	3,480	14,600	3,500	15,000	3,480
Toluene	174,000	730,000	10,000	44,000	10,000

Notes:
[1]Removed
[2]Identified during the geophysical survey conducted on October 14, 2020.
[3]Based on historical groundwater investigation data.
[4]Identified during Phase II anomaly investigation. Formerly known as Anomaly 4.
[5]Soil sample was collected from a temporary stockpile during the anomaly investigation; soil was placed back into the subsurface concrete structure and surface was restored.

ug/m3	Micrograms per cubic meter
DTSC SL	California Department of Toxic Substances Control - Screening Level
EM61	Electromagnetic 61
EPA	U.S. Environmental Protection Agency
ESL	Environmental screening level
GPR	Ground-penetrating radar
mg/kg	Milligrams per kilogram
RSL	Regional Screening Level
RWQCB	San Francisco Bay Regional Water Quality Control Board
SSFO	South San Francisco
TPH-d	Total petroleum hydrocarbons - diesel range
UST	Underground storage tank
VISL	Vapor intrusion screening level

Legend

- Soil Gas Sample
- Soil and Soil Gas Sample
- Soil Sample
- Former Monitoring Well[1]
- Former Piezometer[1]
- Unidentified Utility Lines[2]
- Groundwater Flow Direction[3]
- Concrete Subsurface Structure [4]
- Apparent Backfilled Excavation Detected with GPR[2]
- EM61- GPR Anomaly
- Former Buildings
- Approximate Site Boundary

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

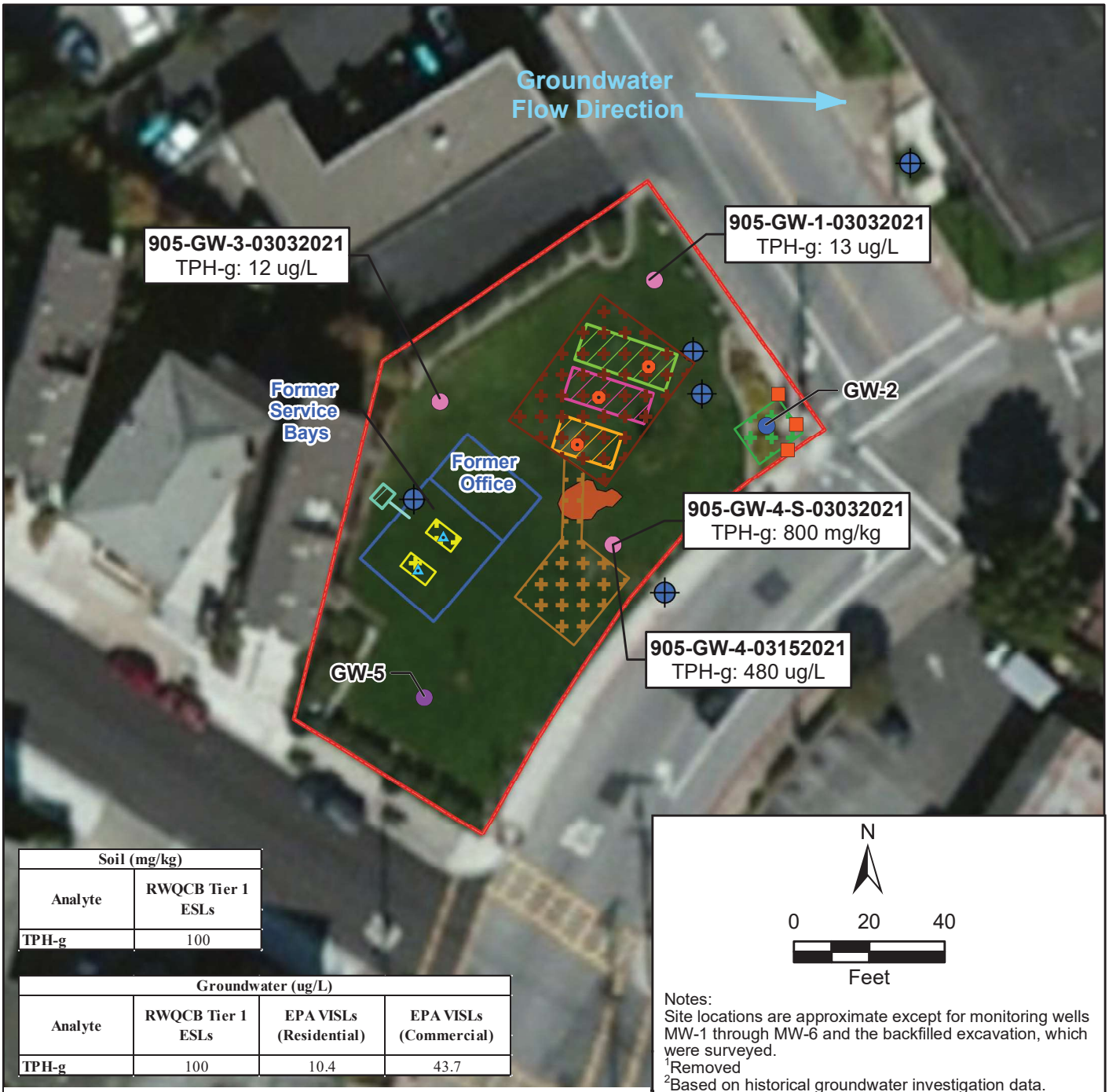
Figure 4
Sampling Locations and Results Exceeding Screening Levels – 616 Linden Avenue

TETRA TECH

Date: 8/2/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Source: ESRI, ArcGIS Online, World Imagery, 2018



Soil (mg/kg)	
Analyte	RWQCB Tier 1 ESLs
TPH-g	100

Groundwater (ug/L)			
Analyte	RWQCB Tier 1 ESLs	EPA VISLs (Residential)	EPA VISLs (Commercial)
TPH-g	100	10.4	43.7

N

0 20 40

Feet

Notes:
Site locations are approximate except for monitoring wells MW-1 through MW-6 and the backfilled excavation, which were surveyed.
[1]Removed
[2]Based on historical groundwater investigation data.

ug/L	Micrograms per liter
EPA	U.S. Environmental Protection Agency
ESL	Environmental screening level
ft bgs	Feet below ground surface
GPR	Ground-penetrating radar
mg/kg	Milligrams per kilogram
RWQCB	San Francisco Bay Regional Water Quality Control Board
TPH-g	Total petroleum hydrocarbons - gasoline range
UST	Underground storage tank
VISL	Vapor intrusion screening level

Legend

- Grab Groundwater Sample
- Soil Gas Sample
- Soil and Grab Groundwater Sample
- Former Hoist
- Former UST Fill Covers
- Electric Vault
- Former Groundwater Wells[1]
- Former Inlet Pipe
- Groundwater Flow Direction[2]
- Apparent Backfilled Excavation Detected with GPR
- Former Oil Water Separator Excavation (Depth 8 ft bgs)
- Former Buildings
- Former Piping Location and Pump Island Excavation (1998) (Depth 7 ft bgs)
- UST Excavation (1998) (Depth 12 ft bgs)
- Former Hoist Excavation (Depth 8 ft bgs)
- Former Waste Oil UST Excavation (Depth 6 ft bgs)
- Former 4,000-Gallon UST - Diesel
- Former 6,000-Gallon UST - Leaded Gasoline
- Former 8,000-Gallon UST - Unleaded Gasoline
- Approximate Site Boundary

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 5

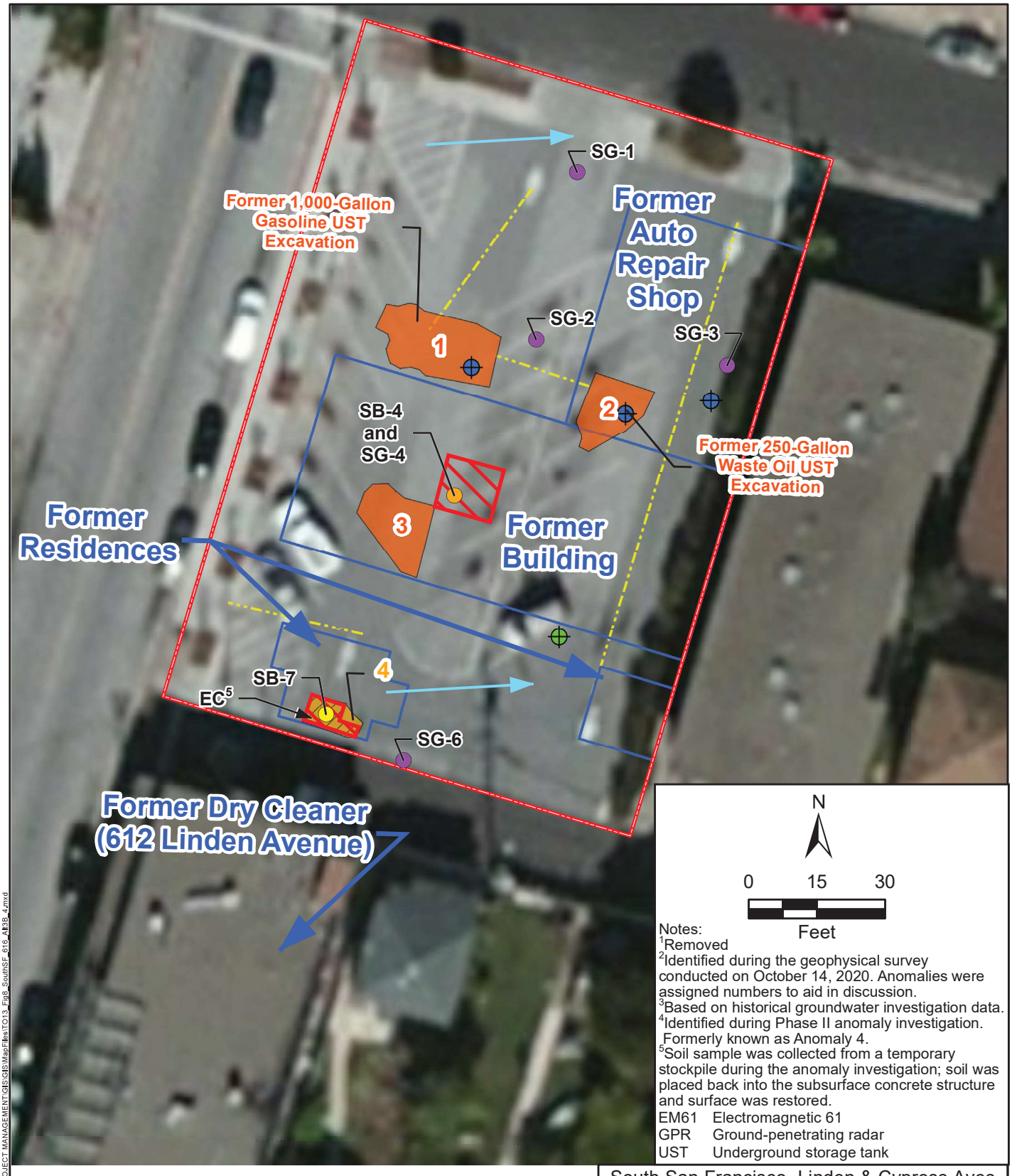
Sampling Locations and Results Exceeding Screening Levels – 905 Linden Avenue

TETRA TECH

Date: 8/2/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

P:\EPA_REPA6_Brownfields\PROJECT MANAGEMENT\GIS\GIS\MapFiles\TO13_Fig9_SouthSF_905_ExceedancesABCA.mxd

Source: ESRI, ArcGIS Online, World Imagery, 2018



N

0 15 30

Feet

Notes:
[1]Removed
[2]Identified during the geophysical survey conducted on October 14, 2020. Anomalies were assigned numbers to aid in discussion.
[3]Based on historical groundwater investigation data.
[4]Identified during Phase II anomaly investigation. Formerly known as Anomaly 4.
[5]Soil sample was collected from a temporary stockpile during the anomaly investigation; soil was placed back into the subsurface concrete structure and surface was restored.

EM61 Electromagnetic 61
GPR Ground-penetrating radar
UST Underground storage tank

Legend

- Soil Gas Sample
- Soil and Soil Gas Sample
- Soil Sample
- Former Monitoring Well[1]
- Former Piezometer[1]
- Unidentified Utility Lines[2]
- Groundwater Flow Direction[3]
- Approximate Area to be Excavated
- Concrete Subsurface Structure [4]
- Apparent Backfilled Excavation Detected with GPR[2]
- EM61- GPR Anomaly[2]
- Approximate Site Boundary
- Former Buildings

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 6

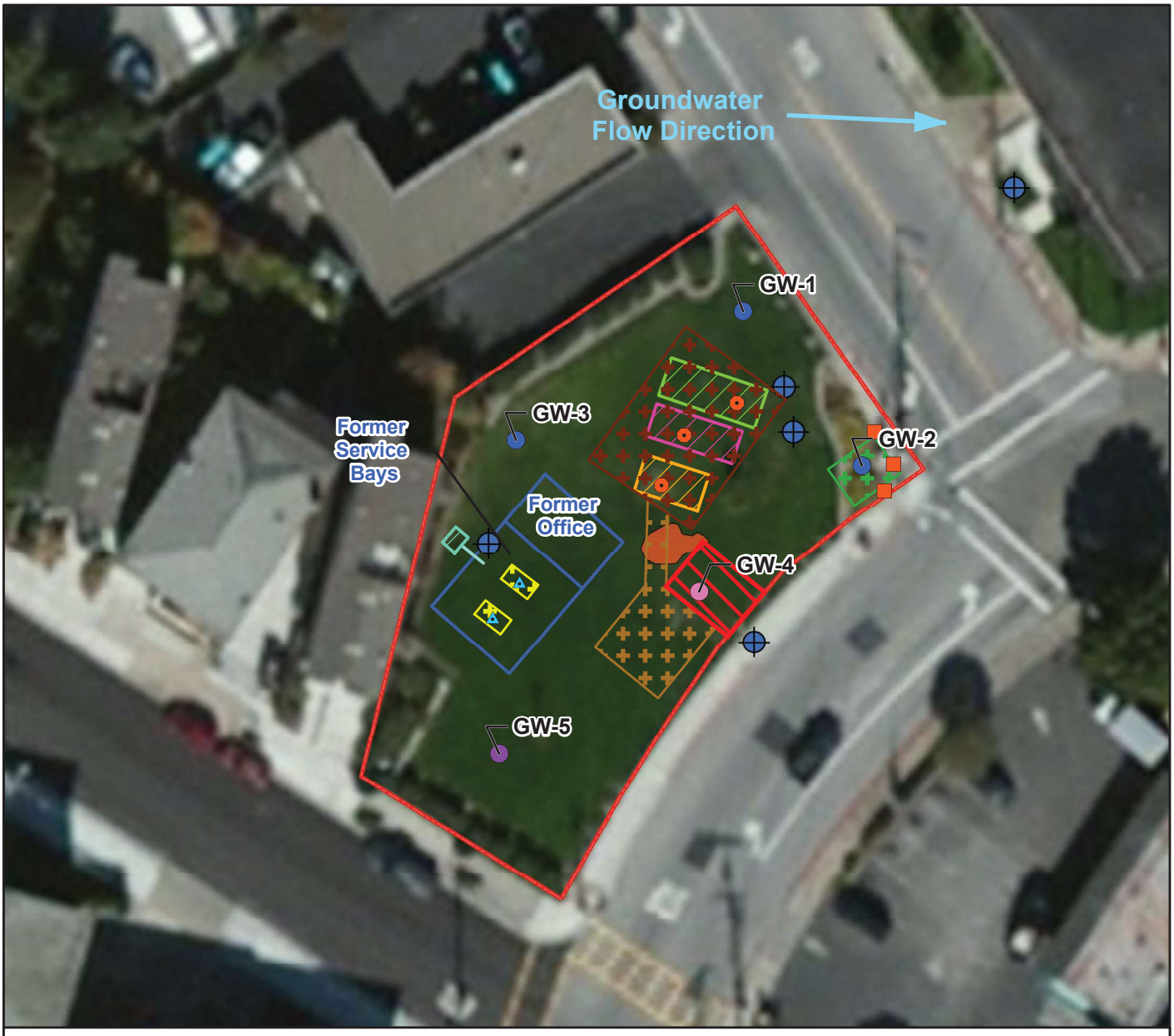
Alternatives 3 and 4: Approximate Areas to Be Excavated – 616 Linden

TETRA TECH

Date: 8/16/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

Source: ESRI, ArcGIS Online, World Imagery, 2018

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Legend

- Grab Groundwater Sample
- Soil Gas Sample
- Soil and Grab Groundwater Sample
- Former Groundwater Wells[1]
- Former Hoist
- Former UST Fill Covers
- Electric Vault
- Former Inlet Pipe
- Groundwater Flow Direction[2]
- Approximate Area to be Excavated
- Former Oil Water Separator Excavation (Depth 8 ft bgs)
- Former Piping Location and Pump Island Excavation (1998) (Depth 7 ft bgs)
- UST Excavation (1998) (Depth 12 ft bgs)
- Former Hoist Excavation (Depth 8 ft bgs)
- Apparent Backfilled Excavation Detected with GPR
- Former Waste Oil UST Excavation (Depth 6 ft bgs)
- Former 4,000-Gallon UST - Diesel
- Former 6,000-Gallon UST - Leaded Gasoline
- Former 8,000-Gallon UST - Unleaded Gasoline
- Former Buildings
- Approximate Site Boundary

Notes:
[1]Removed
[2]Based on historical groundwater investigation data.
Site locations are approximate except for monitoring wells MW-1 through MW-6 and the backfilled excavation, which were surveyed.
ft bgs Feet below ground surface
GPR Ground-penetrating radar
UST Underground storage tank

N

0 20 40

Feet

South San Francisco- Linden & Cypress Aves
Targeted Brownfields Assessment
South San Francisco, California

Figure 7
Alternatives 3 and 4: Approximate Area to Be Excavated – 905 Linden

TETRA TECH

Date: 8/16/2021 Drawn By: Elaia McDonald Project No: 103Z65210007M

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Source: ESRI, ArcGIS Online, World Imagery, 2018

TABLES

Table ES-1
Summary of Cleanup Alternatives
ABCA Document
South San Francisco – Linden & Cypress Aves

616 Linden						
Alternative		**Actions**	**Effectiveness**	**Implementation**	**Cost**	**Considerations**
1	**No Action**	• None	NA	NA	$0	This alternative would not be protective of human health and the environment and would not meet the project goal for the Site.
2	**Passive Vapor Mitigation, SMP, O&M, and ICs**	• Installation of a passive vapor mitigation system for a new structure (assumed to be 14,000 SF of first-floor space). • Implementation of a SMP to guide proper handling of contaminated soil if the soil is disturbed • Implementation of ICs to ensure new structures are designed with a vapor mitigation system and to ensure the continued integrity of the vapor mitigation system.	Moderate	Moderate	$298,000	This alternative assumes a footprint for a new structure to be built; however, the actual footprint may vary.

Notes:

CY	Cubic yard
IC	Institutional control
NA	Not applicable
O&M	Operation and maintenance
SF	Square foot
Site	South San Francisco – Linden & Cypress Aves site
SMP	Soil Management Plan

Table ES-1
Summary of Cleanup Alternatives
ABCA Document
South San Francisco – Linden & Cypress Aves

616 Linden						
Alternative		**Actions**	**Effectiveness**	**Implementation**	**Cost**	**Considerations**
3	**Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M, and ICs**	• Installation of an active vapor mitigation system for a new structure (assumed to be 14,000 SF of first-floor space). • Excavation of 151 CY of contaminated soil. • Off-Site disposal of soil at a permitted disposal facility. • Backfilling of excavated areas. • Implementation of ICs to ensure new structures are designed with a vapor mitigation system and to ensure the continued integrity of the vapor mitigation system. • Long-term O&M of the vapor mitigation system as long as a structure is occupied. • Electricity required for blowers and occasional maintenance or replacement of blowers.	Moderate to High	Difficult to Moderate	$531,000	This alternative assumes a footprint for a new structure to be built; however, the actual footprint may vary. This alternative includes an estimated volume of soil for excavation; however, the extent of contamination is unknown and actual Site conditions may vary. This alternative assumes clean fill material for backfilling will be brought in from off Site.

Notes:

CY	Cubic yard
IC	Institutional control
NA	Not applicable
O&M	Operation and maintenance
SF	Square foot
Site	South San Francisco – Linden & Cypress Aves site
SMP	Soil Management Plan

Table ES-1
Summary of Cleanup Alternatives
ABCA Document
South San Francisco – Linden & Cypress Aves

616 Linden						
Alternative		**Actions**	**Effectiveness**	**Implementation**	**Cost**	**Considerations**
4	**Soil Excavation with Off-Site Disposal and ICs**	• Excavation of 151 CY of contaminated soil. • Off-Site disposal of soil at a permitted disposal facility. • Backfilling of excavated areas. • Implementation of ICs to ensure that if a structure is to be built on the property, then a vapor mitigation system would be required.	Moderate to High	Easy to Moderate	$124,000	This alternative assumes redevelopment of the property will be limited to a neighborhood park. This alternative includes an estimated volume of soil for excavation; however, the extent of contamination is unknown and actual Site conditions may vary. This alternative assumes clean fill material for backfilling will be brought in from off Site.

Notes:

CY	Cubic yard
IC	Institutional control
NA	Not applicable
O&M	Operation and maintenance
SF	Square foot
Site	South San Francisco – Linden & Cypress Aves site
SMP	Soil Management Plan

Table ES-1
Summary of Cleanup Alternatives
ABCA Document
South San Francisco – Linden & Cypress Aves

905 Linden						
Alternative		**Actions**	**Effectiveness**	**Implementation**	**Cost**	**Considerations**
1	**No Action**	• None	NA	NA	$0	This alternative would not be protective of human health and the environment and would not meet the project goal for the Site.
2	**Passive Vapor Mitigation, SMP, O&M, and ICs**	• Installation of a passive vapor mitigation system for a new structure (assumed to be 12,000 SF of first-floor space). • Implementation of a SMP to guide proper handling of contaminated soil in the event that the soil would be disturbed • Implementation of ICs to ensure new structures are designed with a vapor mitigation system and to ensure the continued integrity of the vapor mitigation system and prohibiting use of groundwater as drinking water.	Moderate	Moderate	$271,000	This alternative assumes a footprint for a new structure to be built; however, the actual footprint may vary.

Notes:

CY	Cubic yard
IC	Institutional control
NA	Not applicable
O&M	Operation and maintenance
SF	Square foot
Site	South San Francisco – Linden & Cypress Aves site
SMP	Soil Management Plan

Table ES-1
Summary of Cleanup Alternatives
ABCA Document
South San Francisco – Linden & Cypress Aves

905 Linden						
Alternative		**Actions**	**Effectiveness**	**Implementation**	**Cost**	**Considerations**
3	**Active Vapor Mitigation, Soil Excavation with Off-site Disposal, O&M, and ICs**	• Installation of an active vapor mitigation system for a new structure (assumed to be 12,000 SF of first-floor space). • Excavation of 65 CY of contaminated soil. • Off-Site disposal of soil at a permitted disposal facility. • Backfilling of excavated areas. • Implementation of ICs to ensure new structures are designed with a vapor mitigation system, to ensure the continued integrity of the vapor mitigation system, and to prohibit use of groundwater as drinking water. • Long-term O&M of the vapor mitigation system as long as a structure is occupied. • Electricity required for blowers and occasional maintenance or replacement of blowers.	Moderate to High	Difficult to Moderate	$460,000	This alternative assumes a footprint for a new structure to be built; however, the actual footprint may vary. This alternative includes an estimated volume of soil for excavation; however, the extent of contamination is unknown and actual Site conditions may vary. This alternative assumes clean fill material for backfilling will be brought in from off Site.

Notes:

CY	Cubic yard
IC	Institutional control
NA	Not applicable
O&M	Operation and maintenance
SF	Square foot
Site	South San Francisco – Linden & Cypress Aves site
SMP	Soil Management Plan

Table ES-1
Summary of Cleanup Alternatives
ABCA Document
South San Francisco – Linden & Cypress Aves

905 Linden						
Alternative		**Actions**	**Effectiveness**	**Implementation**	**Cost**	**Considerations**
4	**Soil Excavation with Off-Site Disposal and ICs**	• Excavation of 65 CY of contaminated soil. • Off-Site disposal of soil at a permitted disposal facility. • Backfilling of excavated areas. • Implementation of ICs to ensure that if a structure is built on the property, a vapor mitigation system would be required, and to prohibit use of groundwater as drinking water..	Moderate to High	Easy to Moderate	$80,000	This alternative assumes redevelopment of the property will be limited to a neighborhood park. This alternative includes an estimated volume of soil for excavation; however, the extent of contamination is unknown and actual Site conditions may vary. This alternative assumes clean fill material for backfilling will be brought in from off Site.

Notes:

CY	Cubic yard
IC	Institutional control
NA	Not applicable
O&M	Operation and maintenance
SF	Square foot
Site	South San Francisco – Linden & Cypress Aves site
SMP	Soil Management Plan

Table 1
Summary of Assumed Cleanup Levels for Soil Gas
ABCA Document
South San Francisco – Linden & Cypress Aves

COC	Assumed Cleanup Level ($\mu g/m^3$)	Reference
1,2-Dichloroethane	3.6	EPA (2020a) VISL and RWQCB (2019) ESL
Benzene	3.2	RWQCB (2019) ESL
Ethylbenzene	37	EPA (2020a) VISL and RWQCB (2019) ESL
M,P-Xylene	3,480	EPA (2020a) VISL
O-Xylene	3,480	EPA (2020a) VISL
Toluene	10,000	RWQCB (2019) ESL

Notes:

$\mu g/m^3$	Microgram per cubic meter
COC	Contaminant of concern
EPA	U.S. Environmental Protection Agency
ESL	Environmental screening level
RWQCB	San Francisco Bay Regional Water Quality Control Board
VISL	Vapor intrusion screening level

Table 2
Summary of Assumed Cleanup Levels for Soil
ABCA Document
South San Francisco – Linden & Cypress Aves

COC	Assumed Cleanup Level (mg/kg)	Reference
TPH-d	260	RWQCB (2019) Tier 1 ESL
TPH-g	100	RWQCB (2019) Tier 1 ESL
Lead	80	DTSC (2020) Residential SL

Notes:

COC	Contaminant of concern
DTSC	California Department of Toxic Substances Control
ESL	Environmental screening level
mg/kg	Milligram per kilogram
RWQCB	San Francisco Bay Regional Water Quality Control Board
SL	Screening level
TPH-d	Total petroleum hydrocarbons as diesel
TPH-g	Total petroleum hydrocarbons as gasoline

Table 3
Summary of Assumed Cleanup Levels for Groundwater
ABCA Document
South San Francisco – Linden & Cypress Aves

COC	Assumed Cleanup Level (µg/L)	Reference
TPH-g	10.4	EPA (2020a) VISL Residential Groundwater

Notes:

µg/L Microgram per liter
COC Contaminant of concern
EPA U.S. Environmental Protection Agency
TPH-g Total petroleum hydrocarbons as gasoline
VISL Vapor intrusion screening level

Table 4
Summary of Cost Estimates
ABCA Document
South San Francisco – Linden & Cypress Aves

Alternative		Action Cost			Total Cost	Land Uses Allowed
		Type of Cost	Description	Cost		
616 Linden						
1	**No Action**	Capital Cost	NA	$0	$0	NA
		ICs	NA	$0		
		O&M	NA	$0		
2	**Passive Vapor Mitigation, SMP, O&M, and ICs**	Capital Cost	Passive Vapor Mitigation	$202,000	$298,000	Residential, Commercial/Industrial, and Recreational (i.e. neighborhood park)
			SMP	$26,000		
		ICs	Restrictive Covenant	$53,000		
		O&M*	Routine Inspections	$17,000		
3	**Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M, and ICs**	Capital Cost	Active Vapor Mitigation	$204,000	$531,000	Residential, Commercial/Industrial, and Recreational (i.e. neighborhood park)
			Soil Excavation and Off-Site Disposal	$71,000		
		ICs	Restrictive Covenant	$53,000		
		O&M*	O&M, Blower Replacement	$203,000		
4	**Soil Excavation with Off-Site Disposal and ICs**	Capital Cost	Soil Excavation and Off-Site Disposal	$71,000	$124,000	Recreational (i.e. neighborhood park) Only
		ICs	Restrictive Covenant	$53,000		
		O&M	NA	$0		

Notes:

*	Assumes O&M over a 30-year time period.		
IC	Institutional control	Site	South San Francisco – Linden & Cypress Aves site
NA	Not applicable	SMP	Soil Management Plan
O&M	Operation and maintenance	SVE	Soil vapor extraction

Table 4
Summary of Cost Estimates
ABCA Document
South San Francisco – Linden & Cypress Aves

Alternative		Action Cost			Total Cost	Land Uses Allowed
		Type of Cost	Description	Cost		
905 Linden						
1	**No Action**	Capital Cost	NA	$0	$0	NA
		ICs	NA	$0		
		O&M	NA	$0		
2	**Passive Vapor Mitigation, SMP, O&M, and ICs**	Capital Cost	Passive Vapor Mitigation	$175,000	$271,000	Residential, Commercial/Industrial, and Recreational (i.e. neighborhood park)
			SMP	$26,000		
		ICs	Restrictive Covenant	$53,000		
		O&M*	Routine Inspections	$17,000		
3	**Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M, and ICs**	Capital Cost	Active Vapor Mitigation	$177,000	$460,000	Residential, Commercial/Industrial, and Recreational (i.e. neighborhood park)
			Soil Excavation and Off-Site Disposal	$27,000		
		ICs	Restrictive Covenant	$53,000		
		O&M*	O&M, Blower Replacement	$203,000		
4	**Soil Excavation with Off-Site Disposal and ICs**	Capital Cost	Soil Excavation and Off-Site Disposal	$27,000	$80,000	Recreational (i.e. neighborhood park) Only
		ICs	Restrictive Covenant	$53,000		
		O&M	NA	$0		

Notes:

*	Assumes O&M over a 30-year time period.		
IC	Institutional control	Site	South San Francisco – Linden & Cypress Aves site
NA	Not applicable	SMP	Soil Management Plan
O&M	Operation and maintenance	SVE	Soil vapor extraction

Table 5
Summary of Alternatives Considered and Dismissed
ABCA Document
South San Francisco – Linden & Cypress Aves

Alternative	Description	Considerations
Bioremediation	Bioremediation involves the use of microorganisms to degrade organic contaminants. The microorganisms break down contaminants by using them as a food source or co-metabolizing, converting them to end products such as methane and carbon dioxide.	Although it is effective for breakdown of organic contaminants such as gasoline, this alternative is not effective in remediating the inorganic contaminants (lead) present at the Site. Bioremediation is often not uniform and requires maintaining proper moisture, pH, temperature, and nutrients. This alternative may require longer treatment times. However, bioremediation could be used in combination with other treatment technologies.
In Situ Thermal Treatment	In situ thermal treatment uses temperature to increase the volatility of the contaminants in the soils. It may require off-gas and residual liquid treatment.	This alternative is not effective in remediating the inorganic contaminants (lead) present at the Site. In addition, this alternative requires longer treatment time and remediation is often not uniform. This alternative is the costliest treatment (driven by energy and equipment costs); and is O&M intensive.
Phytoremediation	Phytoremediation is a process that uses plants to extract, degrade, contain, or immobilize contaminants in soils and sediment.	Because of the depth of contaminated soils at the Site (up to 5 feet bgs), this alternative would not be effective as phytoremediation would be limited to the treatment of shallow soil.

Notes:

bgs Below ground surface
O&M Operation and maintenance

Table 6
Summary of Alternatives
ABCA Document
South San Francisco – Linden & Cypress Aves

Criteria	616 Linden					
	Alt. 2		Alt. 3		Alt. 4	
	Passive Vapor Mitigation, SMP, O&M, and ICs		Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M, and ICs		Soil Excavation with Off-Site Disposal and ICs	
	Rating	Score	Rating	Score	Rating	Score
Effectiveness	Moderate	3	Moderate to High	4	Moderate to High	4
Implementation	Moderate	3	Difficult to Moderate	2	Easy to Moderate	4
Cost	$298,000	5	$531,000	5	$124,000	5
Overall Score	11		11		13	

Notes:

Effectiveness Ratings:	
Low	1
Low to Moderate	2
Moderate	3
Moderate to High	4
High	5

Cost Ratings:	
1	>$3 Million
2	$2.25 to $3 Million
3	$1.5 to $2.25 Million
4	$750,000 to $1.5 Million
5	$0 to $750,000

Implementation Ratings:	
Difficult	1
Difficult to Moderate	2
Moderate	3
Easy to Moderate	4
Easy	5

IC	Institutional control
NA	Not applicable
O&M	Operation and maintenance
Site	South San Francisco – Linden & Cypress Aves site
SMP	Soil management plan

Table 6
Summary of Alternatives
ABCA Document
South San Francisco – Linden & Cypress Aves

Criteria	905 Linden					
	Alt. 2		Alt. 3		Alt. 4	
	Passive Vapor Mitigation, SMP, O&M, and ICs		Active Vapor Mitigation, Soil Excavation with Off-Site Disposal, O&M, and ICs		Soil Excavation with Off-Site Disposal and ICs	
	Rating	Score	Rating	Score	Rating	Score
Effectiveness	Moderate	3	Moderate to High	4	Moderate to High	4
Implementation	Moderate	3	Difficult to Moderate	2	Easy to Moderate	4
Cost	$271,000	5	$460,000	5	$80,000	5
Overall Score	11		11		13	

Notes:

Effectiveness Ratings:

Low	1
Low to Moderate	2
Moderate	3
Moderate to High	4
High	5

Cost Ratings:

1	>$3 Million
2	$2.25 to $3 Million
3	$1.5 to $2.25 Million
4	$750,000 to $1.5 Million
5	$0 to $750,000

Implementation Ratings:

Difficult	1
Difficult to Moderate	2
Moderate	3
Easy to Moderate	4
Easy	5

IC	Institutional control
NA	Not applicable
O&M	Operation and maintenance
Site	South San Francisco – Linden & Cypress Aves site
SMP	Soil management plan

APPENDIX A

ENVIRONMENTAL FOOTPRINT EVALUATION

B3. Supplemental Site Investigation Report (Ninyo & Moore 2023)

Supplemental Site Investigation Report

616 Linden Avenue

South San Francisco, California

Closed LUST Cleanup Site Case No. 550097

City of South San Francisco

33 Arroyo Drive | South San Francisco, California 94080

September 21, 2023 | Project No. 403151010



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

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35+ YEARS

September 21, 2023
Project No. 403151010

Mr. Philip Vitale
City of South San Francisco
33 Arroyo Drive
South San Francisco, California 94080

Subject: Supplemental Site Investigation Report
616 Linden Avenue
South San Francisco, California
Closed LUST Cleanup Site Case No. 550097

Dear Mr. Vitale:

Ninyo & Moore has prepared a Supplemental Site Investigation Report (SSI Report) for the above referenced property located at the City of South San Francisco (City) property located at 616 Linden Avenue in South San Francisco, California (site). This investigation was proposed in Ninyo & Moore's February 28, 2023 Brief Work Plan for Supplemental Site Investigation (Work Plan), which was conditionally approved in San Mateo County Groundwater Protection Program's (GPP's) March 31, 2023 email.

We appreciate the opportunity to be of service to the City on this project. If you have any questions or comments regarding this Report, please contact the undersigned at your convenience.

Sincerely,
NINYO & MOORE

Connor Escobar
Senior Staff Scientist

Aubrey K. Cool, PG 7659
Principal Geologist



CRE/AKC/gvr

cc: Jacob Madden, San Mateo County Groundwater Protection Program

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1 – Soil Analytical Results

FIGURES

1 – Site Location

2 – Site Plan

APPENDICES

A – Manifest and Disposal Documentation

B – Laboratory Analytical Reports

1 INTRODUCTION

On behalf of the City of South San Francisco (City), Ninyo & Moore presents this Supplemental Site Investigation Report (SSI Report) for the property located at 616 Linden Avenue in South San Francisco, California (site).

The site is a 0.32-acre property, located on the southeastern corner of Linden Avenue and Pine Avenue in a mixed residential and commercial area in South San Francisco (Figure 1). It is currently an active parking lot.

Redevelopment into a City park is planned for the subject site as well as the adjacent property at 700 Linden Avenue. Park design is expected to begin soon. This SSI was warranted to assess whether current site conditions meet State Water Resources Control Board (State Water Board) Low-Threat Underground Storage Tank Case Closure Policy (Low-Threat Closure Policy) direct contact and outdoor air exposure criteria.

2 PRE-FIELD ACTIVITIES

The following activities were performed prior to initiating the subsurface investigation.

2.1 Permitting

San Mateo County Environmental Health Services did not require permits for this SSI as the borings were shallower than 10 feet below ground surface (bgs) and groundwater was not encountered.

2.2 Health and Safety Plan

Ninyo & Moore updated the site-specific health and safety plan (HASP) prior to mobilization. Ninyo & Moore reviewed the HASP with field personnel prior to the start of each day of field work, and field personnel signed the acknowledgement form attached to the HASP indicating they understood and would abide by its provisions.

2.3 Utility Location

As required by California law, Ninyo & Moore marked out the vicinity of the boring locations in white paint and notified USA North 811 (USA). USA marked locations surrounding the site. In addition, the boring locations were cleared by a private utility locating service.

3 FIELD ACTIVITIES

Ninyo & Moore field staff oversaw VTS Drilling, LLC (VTS) of Hayward, California (C-57 License No. 916085) advance seven soil borings (B1 through B7) on June 30, 2023. The borings were advanced by a direct-push drill rig to a maximum depth of 9.5 feet bgs. Equipment was decontaminated with a rinse of Alconox® and water, followed by two rinses with distilled water, between each sampling location.

3.1 Soil Sampling

Two discrete soil samples were collected from each soil boring: one between the surface and 5 feet bgs and one between 5 feet bgs and the total depth. The samples were transferred into laboratory-supplied glass containers, labeled with sample identifications, placed in re-sealable plastic bags, and stored in a cooler containing ice. They were transported under chain-of-custody (COC) documentation to Torrent Laboratories in Milpitas, California, a California-certified analytical laboratory.

The soil samples were analyzed for benzene, ethylbenzene, and naphthalene using United States Environmental Protection Agency (US EPA) Method 8260B and polyaromatic hydrocarbons (PAHs) using US EPA Method 8270C. In addition, because the site is planned to be redeveloped as a park which may have landscaping and the potential for the public to come into contact with site soil, the shallow soil sample from each boring was also analyzed for lead using US EPA Method 6010B.

3.2 Investigation-Derived Waste

Investigation-derived waste (IDW) generated from the boring advancement consisted of soil cuttings and asphalt/concrete waste. The IDW was stored in a 55-gallon drum, which was labelled and placed in a secure location pending waste profiling and proper off-site disposal. The IDW was characterized as non-hazardous waste.. On July 27, 2023, the drum was transported off site and is pending final transportation to Soil Safe of Adelanto, California as non-hazardous waste. The preliminary manifest presented in Appendix A, and the laboratory report used to characterize the waste is included in Appendix B.

4 ANALYTICAL RESULTS

Laboratory analytical results were compared to the Low-Threat Closure Policy criteria. Additionally, lead results were compared to residential San Francisco Bay Regional Water Quality Control Board environmental screening limits (ESLs). The data are presented on Table 1, and the laboratory analytical report, including COC, is provided in Appendix B.

4.1 Volatile Organic Compounds

Benzene, ethylbenzene, and naphthalene were not detected above laboratory reporting limits (RLs) in any samples.

4.2 Polyaromatic Hydrocarbons

PAHs were not detected above laboratory RLs in any samples.

4.3 Lead

Lead was detected in all samples analyzed for lead, at concentrations ranging from 10.9 milligrams per kilogram (mg/kg) in sample B3-3 to 71.0 mg/kg in B1-1. No detections exceeded the residential ESL of 80 mg/kg. .

5 FINDINGS AND CONCLUSIONS

Ninyo & Moore advanced seven soil borings at the site to assess whether current site conditions meet Low-Threat Closure Policy direct contact and outdoor air exposure criteria.

As discussed above, benzene, ethylbenzene, naphthalene, and PAHs were not detected above laboratory RLs in any samples, and lead detections were below residential ESLs.

Based on this information, the site soil conditions meet the Low-Threat Closure Policy criteria for unrestricted land use.

6 LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during

subsequent activities. Please also note that this assessment did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited subsurface assessment and chemical analysis. Further assessment of potential adverse environmental impacts from past on-site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored in this evaluation.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory which is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Ninyo & Moore’s conclusions, recommendations and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions and/or recommendations of this report by parties other than those noted is undertaken at said parties’ sole risk.

TABLE

Table 1 – Soil Analytical Results

Sample ID	Date Collected	Depth	VOCs			Lead	PAHs
			Benzene	Ethylbenzene	Naphthalene		
		(ft bgs)	mg/kg				
B1-1	6/30/2023	1	ND<0.0081	ND<0.0081	ND<0.0081	71.0	ND
B1-6	6/30/2023	6	ND<0.0079	ND<0.0079	ND<0.0079	--	ND
B2-2	6/30/2023	2	ND<0.0093	ND<0.0093	ND<0.0093	40.9	ND
B2-6	6/30/2023	6	ND<0.0090	ND<0.0090	ND<0.0090	--	ND
B3-3	6/30/2023	3	ND<0.0087	ND<0.0087	ND<0.0087	10.9	ND
B3-5	6/30/2023	5	ND<0.0081	ND<0.0081	ND<0.0081	--	ND
B4-4	6/30/2023	4	ND<0.0088	ND<0.0088	ND<0.0088	17.2	ND
B4-8	6/30/2023	8	ND<0.0092	ND<0.0092	ND<0.0092	--	ND
B5-1	6/30/2023	1	ND<0.0083	ND<0.0083	ND<0.0083	52.5	ND
B5-9	6/30/2023	9	ND<0.0081	ND<0.0081	ND<0.0081	--	ND
B6-2	6/30/2023	2	ND<0.0085	ND<0.0085	ND<0.0085	34.0	ND
B6-6	6/30/2023	6	ND<0.0088	ND<0.0088	ND<0.0088	--	ND
B7-3	6/30/2023	3	ND<0.0080	ND<0.0080	ND<0.0080	42.8	ND
B7-7	6/30/2023	7	ND<0.0083	ND<0.0083	ND<0.0083	--	ND
Screening Levels							
Residential (0 to 5 ft bgs)[1]			1.9	21	9.7	NA	0.063
Residential Volatilization to outdoor air (5 to 10 ft bgs)[1]			2.8	32	9.7	NA	NA
Utility Worker (0 to 10 ft bgs)[1]			14	314	219	NA	4.5
Residential ESLs[2]			NA	NA	NA	80	NA

ID - identification

VOCs - volatile organic compounds, analyzed using United States Environmental Protection Agency (US EPA) Method 8260B

Lead analyzed using US EPA Method 6010B

PAHs - polyaromatic hydrocarbons, analyzed using US EPA Method 8270C

ft bgs – feet below ground surface

mg/kg – milligrams per kilogram

ND - not detected

ND<X – analyte not detected at or above the laboratory reporting limit X

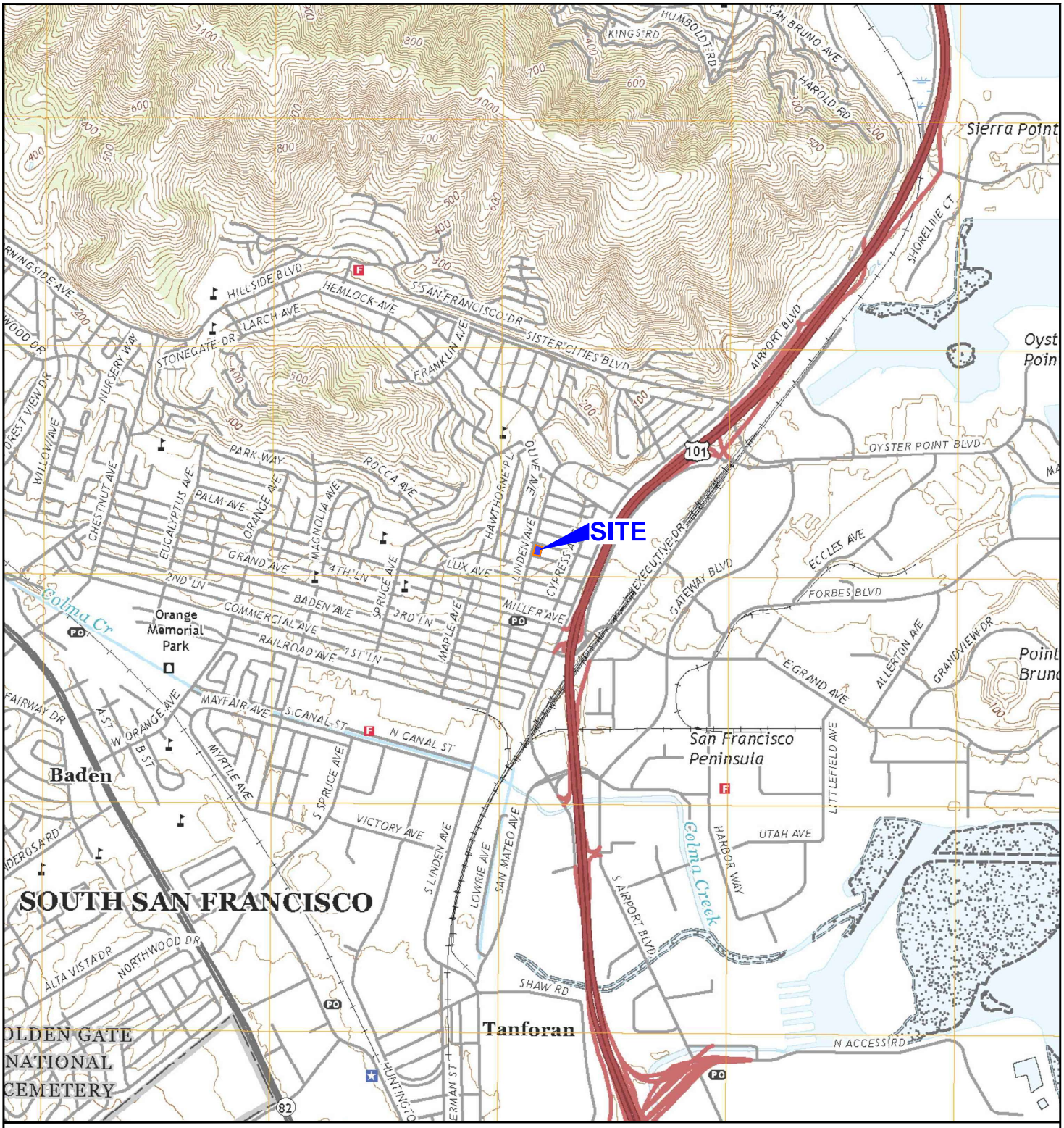
-- not anaylized

1 - Low-Threat Underground Storage Tank Case Closure Policy, Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health (Table 1)

2 - San Francisco Bay Regional Water Quality Control Board environmental screening levels (ESLs), Direct Exposure Human Health Risk Levels (Table S-1), Residential: Shallow Soil Exposure, 2019 (Rev. 2)

NA - screening level not applicable

FIGURES



403151010.dwg 07/25/2023 AEK

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE I REFERENCE: USGS, 2018

N

SCALE (FEET)

0 2,000 4,000

FIGURE 1

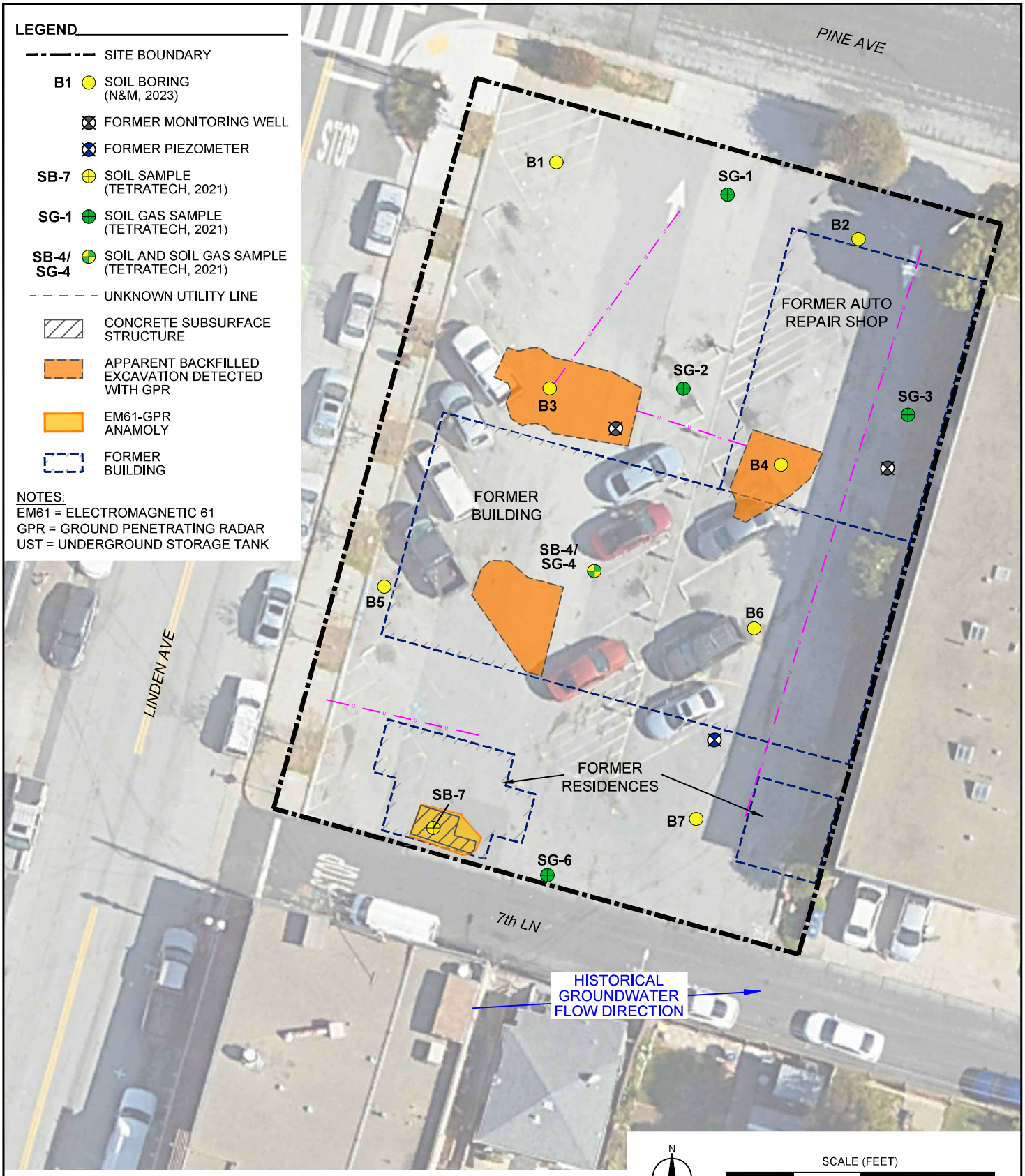
Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

SITE LOCATION

SUPPLEMENTAL SITE INVESTIGATION REPORT
616 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA

403151010 I 07/23



NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE
REFERENCES: GOOGLE EARTH, 2023; TETRA TECH 2021

403151010.dwg 07/25/2023 AEK

FIGURE 2

SITE PLAN

SUPPLEMENTAL SITE INVESTIGATION REPORT
616 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA
403151010 I 07/23

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

B4. Supplemental Site Investigation No. 2 Report (Ninyo & Moore 2024)

Supplemental Site Investigation No. 2 Report

616 Linden Avenue

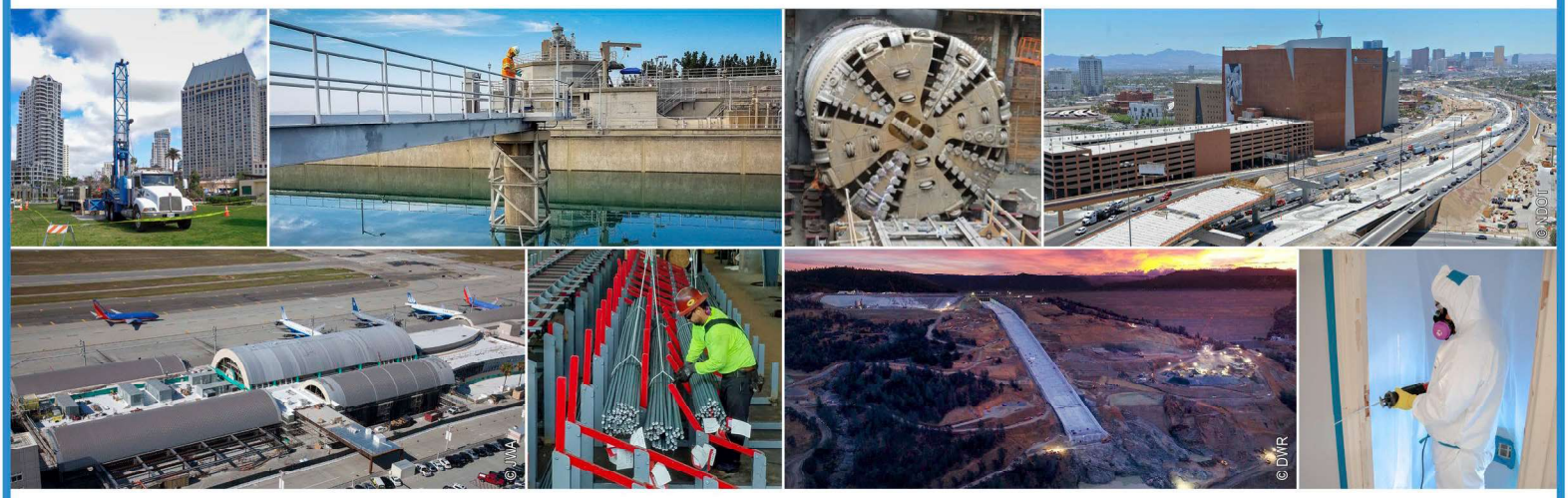
South San Francisco, California

Closed LUST Cleanup Site Case No. 550097

City of South San Francisco

33 Arroyo Drive | South San Francisco, California 94080

March 27, 2024 | Project No. 403151010



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore

Geotechnical & Environmental Sciences Consultants

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

35+ YEARS

March 27, 2024
Project No. 403151010

Mr. Philip Vitale
City of South San Francisco
33 Arroyo Drive
South San Francisco, California 94080

Subject: Supplemental Site Investigation No. 2 Report
616 Linden Avenue
South San Francisco, California
Closed LUST Cleanup Site Case No. 550097

Dear Mr. Vitale:

Ninyo & Moore has prepared this Supplemental Site Investigation (SSI) No. 2 Report for the above referenced City of South San Francisco (City) property located at 616 Linden Avenue in South San Francisco, California (site). This investigation was proposed in Ninyo & Moore's January 25, 2024 Proposal for Soil Characterization Investigation.

We appreciate the opportunity to be of service to the City on this project. If you have any questions or comments regarding this Report, please contact the undersigned at your convenience.

Sincerely,
NINYO & MOORE

Connor Escobar
Senior Staff Scientist

Aubrey K. Cool, PG 7659
Principal Geologist



CRE/AKC/gvr

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A – Laboratory Analytical Reports

1 INTRODUCTION

On behalf of the City of South San Francisco (City), Ninyo & Moore presents this Supplemental Site Investigation (SSI) No. 2 Report for the property located at 616 Linden Avenue in South San Francisco, California (site).

The site is a 0.32-acre property, located on the southeastern corner of Linden Avenue and Pine Avenue in a mixed residential and commercial area in South San Francisco (Figure 1). It is currently an active parking lot.

Redevelopment into a City park is planned for the subject site as well as the adjacent property at 700 Linden Avenue. Park design is expected to begin soon, and the City is exploring whether voluntary soil excavation to remove soil impacted by residual total petroleum hydrocarbons (TPHs) is warranted. This SSI was conducted to determine the extent of TPH in soil that exceeds State Water Resources Control Board (State Water Board) Low-Threat Underground Storage Tank Case Closure Policy (Low-Threat Closure Policy) petroleum vapor intrusion to indoor air criteria for a bioattenuation zone. In the event that excavation would be warranted, samples were also collected to pre-classify the soil for disposal.

2 PRE-FIELD ACTIVITIES

The following activities were performed prior to initiating the subsurface investigation.

2.1 Permitting

San Mateo County Environmental Health Services did not require permits for this work as the borings were shallower than 10 feet below ground surface (bgs) and groundwater was not encountered.

2.2 Health and Safety Plan

Ninyo & Moore updated the site-specific health and safety plan (HASP) prior to mobilization. Ninyo & Moore reviewed the HASP with field personnel prior to the start of each day of field work, and field personnel signed the acknowledgement form attached to the HASP indicating they understood and would abide by its provisions.

2.3 Utility Location

As required by California law, Ninyo & Moore marked out the vicinity of the boring locations in white paint and notified USA North 811 (USA). USA marked locations surrounding the site. In addition, the boring locations were cleared by a private utility locating service.

3 FIELD ACTIVITIES

Ninyo & Moore field staff oversaw VTS Drilling, LLC (VTS) of Hayward, California (C-57 License No. 916085) advance eight soil borings (B8 through B15) on February 22, 2024. The borings were advanced by a direct-push drill rig to a maximum depth of approximately 5.5 feet bgs. Equipment was decontaminated with a rinse of Alconox® and water, followed by two rinses with distilled water, between each sampling location.

3.1 Soil Sampling

Two discrete soil samples were collected from each soil boring: one between the surface and 2.5 feet bgs and one between 2.5 and 5 feet bgs. The samples were transferred into clean laboratory-supplied containers, labeled with sample identifications, placed in re-sealable plastic bags, and stored in a cooler containing ice. They were transported under chain-of-custody documentation to Torrent Laboratories in Milpitas, California, a California-certified analytical laboratory.

The soil samples were analyzed for TPH as motor oil and TPH as diesel (TPHd) using United States Environmental Protection Agency (US EPA) Method 8015, TPH as gasoline (TPHg) and volatile organic compounds using US EPA Method 8260B, and metals using US EPA Method 6010B.

3.2 Investigation-Derived Waste

Investigation-derived waste (IDW) generated from the boring advancement consisted of soil cuttings and asphalt/concrete waste. The IDW was stored in a 55-gallon drum, which was labelled and placed in a secure location pending waste profiling and proper off-site disposal. The IDW was classified as non-hazardous waste. On March 22, 2024, the drum was transported off site and is pending final transportation to Soil Safe of Adelanto, California. The manifest is pending, and the laboratory report used to characterize the waste is included in Appendix A.

4 ANALYTICAL RESULTS

The laboratory analytical reports, presenting all requested analyses, are provided in Appendix A. Select results are discussed in detail below.

TPHd and TPHg analytical results were compared to the Low-Threat Closure Policy petroleum vapor intrusion to indoor air criteria for a bioattenuation zone. Additionally, lead results were compared to residential San Francisco Bay Regional Water Quality Control Board environmental screening levels (ESLs). The TPHd, TPHg, and lead data are presented on Table 1.

4.1 Volatile Organic Compounds

Volatile organic compounds (VOCs) were not detected above laboratory reporting limits (RLs) in any samples.

4.2 Total Petroleum Hydrocarbons as Diesel and Gasoline

TPHd was detected in all samples at concentrations ranging from 3.23 milligrams per kilogram (mg/kg) in sample B8-3 to 29.2 mg/kg in B9-4. TPHg was not detected above laboratory RLs in any samples.

According to the Low-Threat Closure Policy vapor intrusion scenario for direct measurement of soil gas concentrations (Appendix 4, Scenario 4 [2 of 2]), TPH concentrations (defined as TPHd + TPHg) must be less than 100 mg/kg measured in at least 2 depths within the 5-foot zone. None of the sample TPH totals exceeded 100 mg/kg (Table 1). Additionally, no TPHd detections exceeded the residential ESL of 260 mg/kg.

4.3 Lead

Lead was detected in all samples, at concentrations ranging from 12.6 mg/kg in sample B13-5 to 80.0 mg/kg in B9-2. The detection in B9-2, equaled the residential ESL of 80 mg/kg, but no detections exceeded it.

5 CONCLUSIONS AND RECOMMENDATIONS

Ninyo & Moore advanced eight soil borings to further evaluate TPH impacts to site soil and to characterize soil for potential disposal.

The analytical results show that existing soil conditions satisfy Low-Threat Closure Policy criteria for a bioattenuation zone, and TPH concentrations are below residential ESLs. Therefore, additional soil excavation is not warranted to remove TPHs.

Ninyo & Moore recommends removing the lead-impacted soil located in a subsurface concrete structure that was identified during the Phase II Environmental Site Assessment. If the City concurs, this work can be proposed in a Site Management Plan to be submitted to San Mateo County Groundwater Protection Program for review.

6 LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities. Please also note that this assessment did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited subsurface assessment and chemical analysis. Further assessment of potential adverse environmental impacts from past on-site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored in this evaluation.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory which is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such

testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Ninyo & Moore's conclusions, recommendations and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions and/or recommendations of this report by parties other than those noted is undertaken at said parties' sole risk.

TABLE

Table 1 – Soil Analytical Results

Sample ID	Date Collected	Depth	TPHs			VOCs			Lead	PAHs
			TPHd	TPHg	LTCP TPH	Benzene	Ethylbenzene	Naphthalene		
		(ft bgs)	(mg/kg)							
B1-1	6/30/2023	1	--	--	--	ND<0.0081	ND<0.0081	ND<0.0081	71.0	ND
B1-6	6/30/2023	6	--	--	--	ND<0.0079	ND<0.0079	ND<0.0079	--	ND
B2-2	6/30/2023	2	--	--	--	ND<0.0093	ND<0.0093	ND<0.0093	40.9	ND
B2-6	6/30/2023	6	--	--	--	ND<0.0090	ND<0.0090	ND<0.0090	--	ND
B3-3	6/30/2023	3	--	--	--	ND<0.0087	ND<0.0087	ND<0.0087	10.9	ND
B3-5	6/30/2023	5	--	--	--	ND<0.0081	ND<0.0081	ND<0.0081	--	ND
B4-4	6/30/2023	4	--	--	--	ND<0.0088	ND<0.0088	ND<0.0088	17.2	ND
B4-8	6/30/2023	8	--	--	--	ND<0.0092	ND<0.0092	ND<0.0092	--	ND
B5-1	6/30/2023	1	--	--	--	ND<0.0083	ND<0.0083	ND<0.0083	52.5	ND
B5-9	6/30/2023	9	--	--	--	ND<0.0081	ND<0.0081	ND<0.0081	--	ND
B6-2	6/30/2023	2	--	--	--	ND<0.0085	ND<0.0085	ND<0.0085	34.0	ND
B6-6	6/30/2023	6	--	--	--	ND<0.0088	ND<0.0088	ND<0.0088	--	ND
B7-3	6/30/2023	3	--	--	--	ND<0.0080	ND<0.0080	ND<0.0080	42.8	ND
B7-7	6/30/2023	7	--	--	--	ND<0.0083	ND<0.0083	ND<0.0083	--	ND
B8-1	2/22/2024	1	10.8 x	ND<0.098	11	ND<0.0098	ND<0.0098	ND<0.0098	58.5	--
B8-3	2/22/2024	3	3.23 x	ND<0.10	3.3	ND<0.010	ND<0.010	ND<0.010	46.4	--
B9-2	2/22/2024	2	15.2 x	ND<0.083	15	ND<0.0097	ND<0.0097	ND<0.0097	80.0	--
B9-4	2/22/2024	4	29.2 x	ND<0.095	29	ND<0.0095	ND<0.0095	ND<0.0095	53.0	--
B10-2	2/22/2024	2	4.56 x	ND<0.090	4.7	ND<0.0090	ND<0.0090	ND<0.0090	60.5	--
B10-5	2/22/2024	5	3.51 x	ND<0.074	3.6	ND<0.0074	ND<0.0074	ND<0.0074	35.2	--
B11-0.5	2/22/2024	0.5	17.6 x	ND<0.088	18	ND<0.0088	ND<0.0088	ND<0.0088	46.9	--
B11-4	2/22/2024	4	5.90 x	ND<0.096	6.0	ND<0.0096	ND<0.0096	ND<0.0096	26.6	--
B12-1	2/22/2004	1	8.32 x	ND<0.10	8.4	ND<0.010	ND<0.010	ND<0.010	23.6	--
B12-3	2/22/2024	3	4.32 x	ND<0.10	4.4	ND<0.010	ND<0.010	ND<0.010	29.6	--
B13-2	2/22/2024	2	3.58 x	ND<0.065	3.6	ND<0.0065	ND<0.0065	ND<0.0065	35.6	--
B13-5	2/22/2024	5	9.65 x	ND<0.095	9.7	ND<0.0095	ND<0.0095	ND<0.0095	12.6	--
B14-1	2/22/2024	1	8.90 x	ND<0.062	9.0	ND<0.0062	ND<0.0062	ND<0.0062	39.8	--
B14-3	2/22/2024	3	3.45 x	ND<0.092	3.5	ND<0.0092	ND<0.0092	ND<0.0092	31.6	--
B15-2	2/22/2024	2	6.94 x	ND<0.079	7.0	ND<0.0079	ND<0.0079	ND<0.0079	61.5	--
B15-5	2/22/2024	5	3.24 x	ND<0.075	3.3	ND<0.0075	ND<0.0075	ND<0.0075	44.1	--
Screening Levels										
Residential (0 to 5 ft bgs)[1]			NA	NA	NA	1.9	21	9.7	NA	0.063
Residential Volatilization to outdoor air (5 to 10 ft bgs)[1]			NA	NA	NA	2.8	32	9.7	NA	NA
Utility Worker (0 to 10 ft bgs)[1]			NA	NA	NA	14	314	219	NA	4.5
Bioattenuation Zone[2]			NA	NA	100	NA	NA	NA	NA	NA
Residential ESLs[3]			260	100	NA	NA	NA	NA	80	NA

Notes:

ID - identification

TPHs - total petroleum hydrocarbons

VOCs - volatile organic compounds, analyzed using United States Environmental Protection Agency (US EPA) Method 8260B

Lead analyzed using US EPA Method 6010B

PAHs - polyaromatic hydrocarbons, analyzed using US EPA Method 8270C

TPHd - TPH as diesel analyzed using US EPA Method 8015B

TPHg - TPH as gasoline analyzed using US EPA Method 8260B

LTCP TPH - Low-Threat Underground Storage Tank Case Closure Policy TPH = TPHg + TPHd; where not detected, reporting limit used

ft bgs – feet below ground surface

mg/kg – milligrams per kilogram

ND<X – analyte not detected at or above the laboratory reporting limit X

ND - not detected

-- not anaylized

x - diesel value the result of overlap of oil range into diesel range

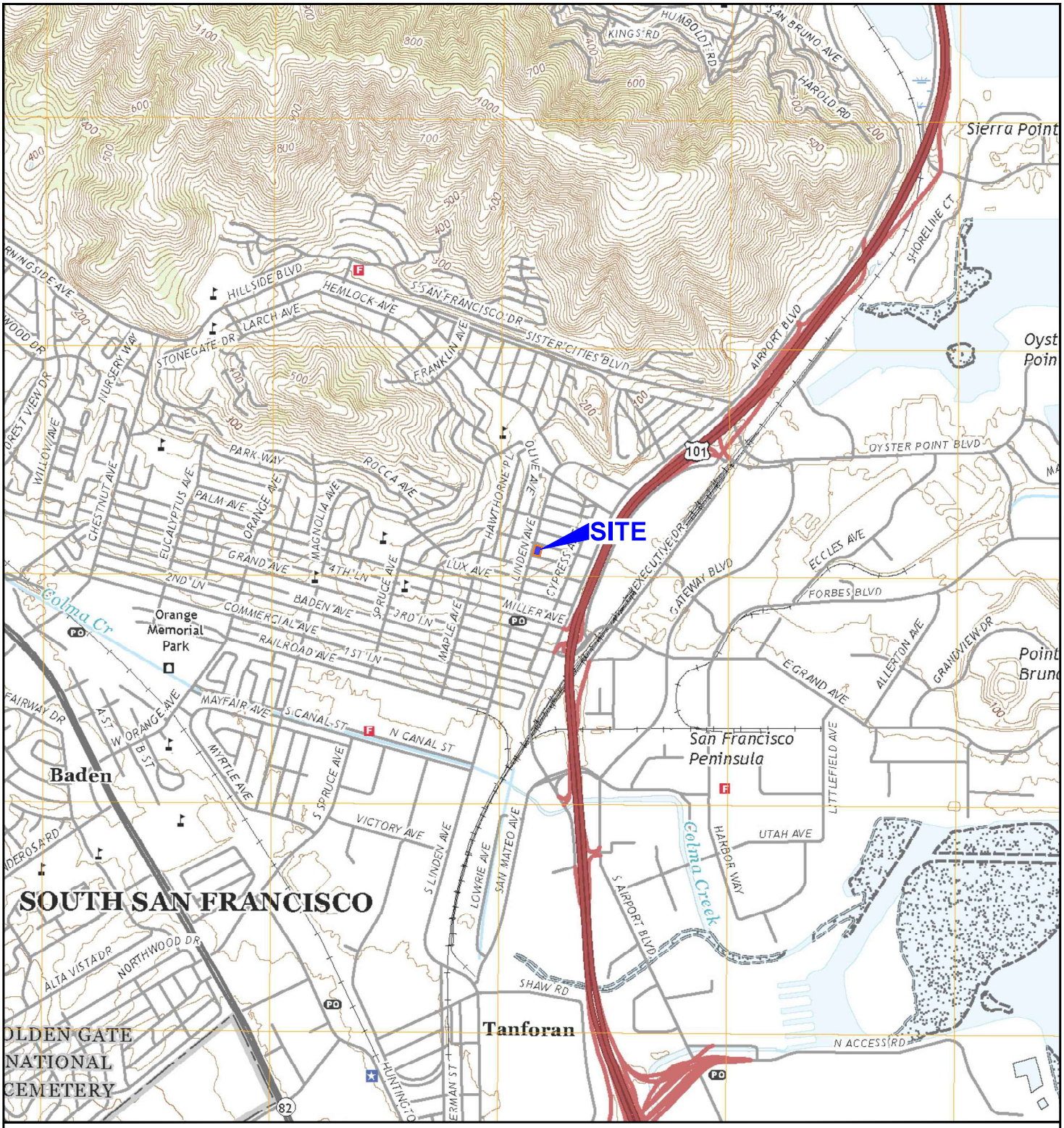
1 - Low-Threat Underground Storage Tank Case Closure Policy, Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health (Table 1)

2 - Low-Threat Underground Storage Tank Case Closure Policy, Soil Gas Sampling - with Bioattenuation Zone (Appendix 4, Scenario 4 - Direct Measure of Soil Gas Concentrations [2 of 2])

3 - San Francisco Bay Regional Water Quality Control Board environmental screening levels (ESLs), Direct Exposure Human Health Risk Levels (Table S-1), Residential: Shallow Soil Exposure, 2019 (Rev. 2)

NA - screening level not applicable

FIGURES



403151010.dwg 03/13/2024 AEK

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE I REFERENCE: USGS, 2018

N

SCALE (FEET)

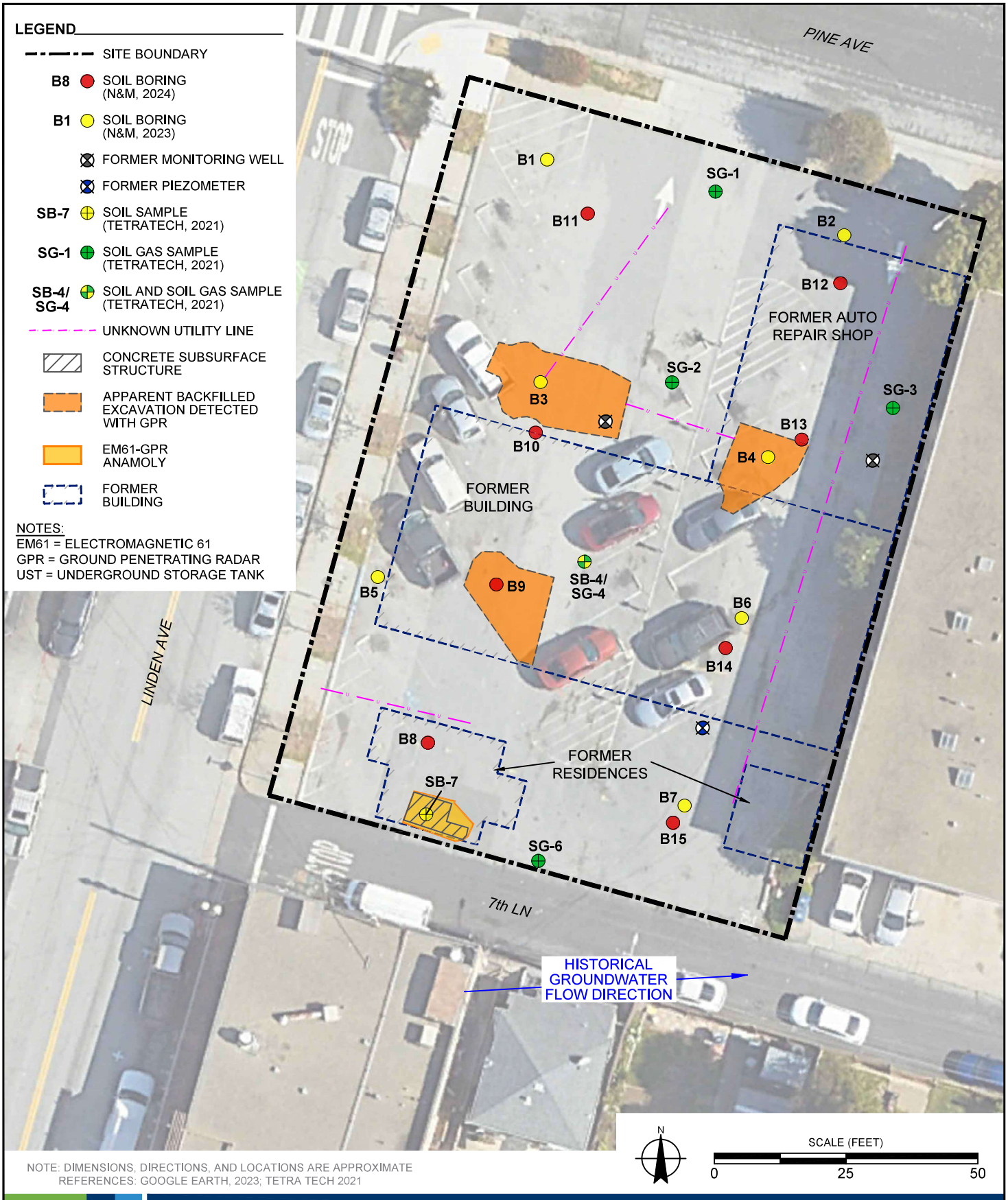
0 2,000 4,000

FIGURE 1

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

SITE LOCATION

SUPPLEMENTAL SITE INVESTIGATION REPORT
616 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA
403151010 I 03/24



NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE
REFERENCES: GOOGLE EARTH, 2023; TETRA TECH 2021

403151010.dwg 03/13/2024 AEK

FIGURE 2

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

SITE PLAN

SUPPLEMENTAL SITE INVESTIGATION REPORT
616 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA
403151010 I 03/24

B5. Environmental Summary Report (Ninyo & Moore 2024)

Environmental Summary Report

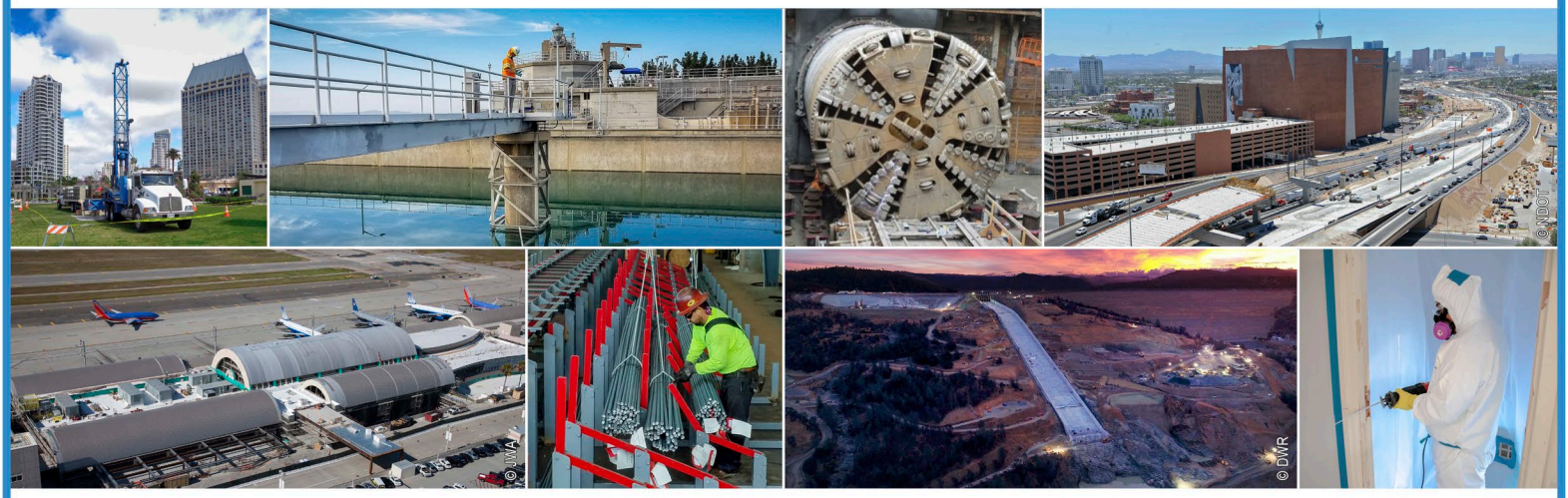
616 and 700 Linden Avenue

South San Francisco, California

City of South San Francisco

33 Arroyo Drive | South San Francisco, California 94080

August 30, 2024 | Project No. 403151010



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

35+ YEARS

August 30, 2024
Project No. 403151010

Mr. Philip Vitale
City of South San Francisco
33 Arroyo Drive
South San Francisco, California 94080

Subject: Environmental Summary Report
616 and 700 Linden Avenue
South San Francisco, California

Dear Mr. Vitale:

Ninyo & Moore prepared this Environmental Summary Report (Report) for the above referenced City of South San Francisco (City) properties located at 616 and 700 Linden Avenue in South San Francisco, California (site). This Report summarizes the historical investigations completed at both properties, and evaluates the investigation findings in the context of the site's planned use as a City park.

We appreciate the opportunity to be of service to the City on this project. If you have any questions or comments regarding this Report, please contact the undersigned at your convenience.

Sincerely,
NINYO & MOORE

Scott Bittinger, PG 7477
Senior Geologist

PROFESSIONAL GEOLOGIST
Scott G. Bittinger
No. 7477
STATE OF CALIFORNIA
August 30, 2024

SGB/AKC/gvr

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No. 7659
STATE OF CALIFORNIA
August 30, 2024

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1 – Site Location

2 – Site Plan

1 EXECUTIVE SUMMARY

The City of South San Francisco (City) intends to redevelop two adjoining properties of land, located at 616 and 700 Linden Avenue and totaling 0.66 acre, into a park.

Extensive environmental investigation work has been performed at 616 Linden Avenue, where motor vehicle fuels had been historically stored and dispensed. Some of the work was performed to meet regulatory requirements, and some of the work was performed out of an abundance of caution. During removal of fuel underground storage tanks (USTs) at 616 Linden Avenue, petroleum hydrocarbons were detected in soil. With oversight from representatives of San Mateo County Groundwater Protection Program (GPP), in the late 1990s and early 2000s, 440 cubic yards of soil were excavated and hauled off site to a landfill, removing most of the petroleum hydrocarbon contamination from the property. The area was then backfilled with imported fill material, and after follow up testing, the County GPP closed the environmental case in 2001.

Prior to redevelopment, historical property uses were evaluated using the Phase I and II Environmental Site Assessment process on both properties in 2021, which is common when changes in property use or ownership occurs or as an initial investigation step.

With the new property use as a park considered, supplemental site investigations were completed at 616 Linden Avenue in June 2023 and February 2024. Shallow soil samples were collected and analyzed for petroleum hydrocarbons and lead. The State of California has established risk-based screening levels specifically for former UST cases. Lead is commonly detected in soil, and State regulatory agencies have established toxicologically-based screening levels to assess safe lead concentrations for different property uses. The supplemental testing and evaluation of the soil data confirms that 616 Linden Avenue is acceptable for use as a park.

At 700 Linden Avenue, shallow soil samples were collected in 2021, composited, and tested for the presence of lead as review of historical site use identified lead as the only likely potential contaminant on that property. Based on the lead data, the property is safe for use as a park.

2 INTRODUCTION

Ninyo & Moore prepared this Environmental Summary Report (Report) on behalf of the City of South San Francisco (City) for the properties located at 616 and 700 Linden Avenue in South San Francisco, California (site).

The 616 Linden Avenue property is a 0.32-acre lot, located on the southeastern corner of Linden Avenue and Pine Avenue, South San Francisco (Figure 1). It is currently used as a parking lot. The 700 Linden Avenue property is a 0.34-acre vacant, vegetated lot, located on the northeastern corner of Linden Avenue and Pine Avenue, South San Francisco (Figure 1). The surrounding area is mixed residential and commercial land use.

Redevelopment into a City park is planned for the subject site, and park design is underway. This Report was prepared to summarize the historical environmental data collected at both properties and assess whether residual contamination affects the planned use as a City park.

3 HISTORICAL ENVIRONMENTAL INVESTIGATIONS

3.1 Closed Underground Storage Tank Case – 616 Linden Avenue

Volonte Automotive, a repair shop, operated at the 616 Linden Avenue property from the 1940s through the early 2000s. The layout of the property is depicted on Figure 2. A leaking underground storage tank cleanup case was opened under San Mateo County Groundwater Protection Program (GPP) oversight following removal of one gasoline UST and one waste oil UST in 1993, and the detection of petroleum hydrocarbons in soil below the USTs. According to the case closure summary (GPP, 2001), approximately 440 tons of soil were excavated and disposed of off site following the UST removals, to remove the petroleum hydrocarbon impacted soil from the property. Groundwater monitoring and sampling was then conducted through January 2001 to assess the shallow groundwater for the presence of petroleum hydrocarbons. GPP confirmed that the investigation and remedial action were satisfactorily completed and closed the case in September 2001.

3.2 Targeted Brownfields Assessment – 616 and 700 Linden Avenue

Working under a United States Environmental Protection Agency (EPA) Targeted Brownfields Assessment (TBA) grant, consultants retained by the EPA conducted Phase I and Phase II Environmental Site Assessments (ESAs) for several sites in South San Francisco in 2021, including the subject sites.

The Phase I ESA, which is a record search, identified the following recognized environmental conditions (RECs) at the site:

- Vapor intrusion potential from residual petroleum hydrocarbons (616 Linden Avenue);
- Possible presence of additional USTs (616 Linden Avenue);
- Possible contamination from a former dry cleaner at 612 Linden Avenue (616 Linden Avenue); and
- Potential historical aerially deposited lead (700 Linden Avenue).

According to the Final Phase I/Phase II ESA TBA Report, the Phase II ESA did not identify any additional USTs at 616 Linden Avenue, but it did identify a buried concrete structure containing metal and elevated lead concentrations in soil.

During the Phase II ESA, which consisted of soil and soil vapor sample collection, the EPA consultant collected three soil samples and five soil gas samples at 616 Linden Avenue. The soil sample analyzed for petroleum hydrocarbons contained up to 930 milligrams per kilogram (mg/kg) total petroleum hydrocarbons (TPH) as motor oil, 560 mg/kg TPH as diesel (TPHd) and 43 mg/kg TPH as gasoline (TPHg). Lead was detected in soil at concentrations ranging from 43.8 to 239 mg/kg. Low concentrations of polyaromatic hydrocarbons (PAHs; benzo(a)anthracene, phenanthrene, and pyrene) were also detected in soil. Of these, only the TPHd detections and one lead detection (from the buried concrete structure) exceeded San Francisco Bay Regional Water Quality Control Board (Regional Water Board) environmental screening levels (ESLs) for direct contact with soil under residential land use. In soil vapor, the following volatile organic compounds (VOCs) were detected: 1.2 to 68,000 micrograms per cubic meter ($\mu g/m^3$) benzene, 1.3 to 46,000 $\mu g/m^3$ ethylbenzene, 10 to 83,000 $\mu g/m^3$ toluene, 5.2 to 230,000 $\mu g/m^3$ total xylenes, 1,400 to 3,000 $\mu g/m^3$ 1,2-dichloroethane (1,2-DCA), and 1.8 $\mu g/m^3$ tetrachloroethene. Some of the benzene, ethylbenzene, toluene, total xylenes (BTEX) and 1,2-DCA concentrations exceeded Regional Water Board ESLs for vapor intrusion to residential indoor air.

Four composite soil samples were collected at 700 Linden Avenue and analyzed for lead, which was detected at concentrations ranging from 24 to 52 mg/kg. These concentrations are below Regional Water Board ESLs for direct contact with soil under residential land use, thus confirming suitability for use as a park.

Analytical results and regulatory screening levels are presented on Tables 1 and 2, and sample locations are shown on Figure 2.

3.3 Supplemental Site Investigations – 616 Linden Avenue

With the objective of evaluating risk to future receptors under the scenario of redeveloping the subject site into a park, Ninyo & Moore consulted with the GPP and conducted a Supplemental Site Investigation (SSI) at the 616 Linden Avenue property in June 2023 to collect additional soil data. Ninyo & Moore advanced seven borings (B1 through B7) to assess whether current site soil conditions meet State Water Resources Control Board's (State Water Board's) Low-Threat Underground Storage Tank Case Closure Policy (Low-Threat Closure Policy) direct contact and outdoor air exposure criteria (which requires testing for benzene, ethylbenzene, naphthalene, and PAHs in the upper 10 feet of the subsurface). Additionally, soil samples were analyzed for lead and results were compared to residential Regional Water Board ESLs. Benzene, ethylbenzene, naphthalene, and PAHs were not detected in any samples. Lead was detected in all samples analyzed for lead, at concentrations ranging from 10.9 mg/kg in sample B3-3 to 71.0 mg/kg in B1-1. None of these detections exceeded the residential ESL of 80 mg/kg for direct soil contact.

To determine if TPH remained in soil at levels that warranted excavation and removal from the property, and to characterize soil for potential disposal, Ninyo & Moore conducted another SSI and advanced eight soil borings (B8 through B15) in February 2024. TPHd was detected in all samples at concentrations ranging from 3.23 mg/kg in sample B8-3 to 29.2 mg/kg in B9-4; these detections are below the residential ESL of 260 mg/kg for direct soil contact. TPHg was not detected in any of the samples. Lead was detected in all samples, at concentrations ranging from 12.6 mg/kg in sample B13-5 to 80.0 mg/kg in B9-2. The detection in B9-2, equaled the residential ESL of 80 mg/kg, but no detections exceeded it.

The analytical data and regulatory screening levels are shown on Table 1, and sample locations are shown on Figure 2.

4 FINDINGS

4.1 616 Linden Avenue

4.1.1 Soil Conditions

Total petroleum hydrocarbons (TPHs) were detected in soil samples collected during the EPA and Ninyo & Moore investigations. Total petroleum hydrocarbons as diesel (TPHd) detections in one sample location only (616-SB-4) collected in 2021 exceeded the Regional Water Board environmental screening level (ESL) for direct soil contact with residential land use. Subsequent samples collected across the 616 Linden Avenue property showed significantly lower concentrations. Additionally, the TPH analytical results show that existing soil

conditions satisfy Low-Threat Closure Policy criteria for a bioattenuation zone, which would support biodegradation of petroleum hydrocarbon vapors.

Volatile organic compounds (VOCs) were not detected in any samples collected during the EPA or Ninyo & Moore investigations.

PAHs were detected at low concentrations in one sample location during the EPA investigation in 2021. They were not detected in samples collected across the 616 Linden Avenue property during Ninyo & Moore's investigation in 2023, and no detections exceeded regulatory screening levels.

Lead was detected in soil samples collected at the 616 Linden Avenue property at concentrations ranging from 10.9 to 239 mg/kg. The only concentration that exceeded the Regional Water Board ESL for direct soil contact with residential land use of 80 mg/kg was from soil within the buried concrete structure.

4.1.2 Soil Vapor Conditions

As discussed above, volatile organic compounds (VOCs); specifically benzene, ethylbenzene, toluene, total xylenes and 1,2-dichloroethane; were detected in soil vapor samples at concentrations that exceeded Regional Water Board ESLs for vapor intrusion to residential indoor air. The benzene and ethylbenzene detections also exceeded State Water Board Low-Threat Closure Policy criteria for residential soil gas concentrations with no bioattenuation zone. Note that these regulatory screening levels only apply to scenarios with residential indoor air.

4.2 700 Linden Avenue

The Phase I Environmental Site Assessment records search, which reviewed historical site use, identified lead as the only contaminant of potential concern as this property, because there were no USTs or other known sources of contamination. Lead was detected in soil samples collected at 700 Linden Avenue at concentrations ranging from 24 to 52 mg/kg. These concentrations are below Regional Water Board ESLs for direct contact with soil under residential land use.

5 CONCLUSIONS

Multiple investigations have been conducted on the site properties, soil and soil vapor samples have been collected, and the analytical results have been compared to applicable regulatory screening levels.

The analytical results for 616 Linden Avenue show that existing soil conditions satisfy the State Water Board Low-Threat Closure Policy criteria for residential direct contact and outdoor air, and lead concentrations in shallow soil are equal to or below residential ESLs. Therefore, there is not significant risk posed by site soils, and additional excavation and off-hauling of soil is not necessary to allow for property redevelopment as a park to proceed.

Prior to park construction, a Site Management Plan (SMP) will be prepared and submitted to San Mateo County Groundwater Protection Program (GPP) for review. This Plan will describe recommended steps necessary to ensure safety of workers, residents and park users during construction. It will also describe procedures that will be followed if petroleum hydrocarbon impacted soils are encountered during construction, although this is not expected. Further, any soils planned for off-haul to a landfill will be tested and disposed of accordingly.

The City plans to remove the lead-impacted soil located within the buried concrete structure at 616 Linden Avenue that was identified during the Phase II Environmental Site Assessment. This work will be proposed in the SMP described above and submitted to the San Mateo County Groundwater Protection Program for review.

The soil vapor contamination identified at 616 Linden Avenue does not affect redevelopment into a park, because the screening levels apply to residential indoor air. If any buildings are planned, they can be placed on the 700 Linden Avenue property without restrictions. If buildings are proposed at the 616 Linden Avenue property, additional investigation can be conducted or mitigation measures, such as a vapor intrusion mitigation system (VIMS) can be implemented.

There are no known environmental issues or restrictions for redevelopment at the 700 Linden Avenue property.

6 LIMITATIONS

The environmental services described in this report have been conducted in general accordance with current regulatory guidelines and the standard-of-care exercised by environmental consultants performing similar work in the project area. No warranty, expressed or implied, is made regarding the professional opinions presented in this report. Variations in site conditions may exist and conditions not observed or described in this report may be encountered during subsequent activities. Please also note that this assessment did not include an evaluation of geotechnical conditions or potential geologic hazards.

Ninyo & Moore's opinions and recommendations regarding environmental conditions, as presented in this report, are based on limited subsurface assessment and chemical analysis. Further assessment of potential adverse environmental impacts from past on-site and/or nearby use of hazardous materials may be accomplished by a more comprehensive assessment. The samples collected and used for testing, and the observations made, are believed to be representative of the area(s) evaluated; however, conditions can vary significantly between sampling locations. Variations in soil and/or groundwater conditions will exist beyond the points explored in this evaluation.

The environmental interpretations and opinions contained in this report are based on the results of laboratory tests and analyses intended to detect the presence and concentration of specific chemical or physical constituents in samples collected from the subject site. The testing and analyses have been conducted by an independent laboratory which is certified by the State of California to conduct such tests. Ninyo & Moore has no involvement in, or control over, such testing and analysis. Ninyo & Moore, therefore, disclaims responsibility for any inaccuracy in such laboratory results.

Ninyo & Moore’s conclusions, recommendations and opinions are based on an analysis of the observed site conditions. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes and standards of practice may occur due to government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires any additional information, or has questions regarding content, interpretations presented, or completeness of this document. This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions and/or recommendations of this report by parties other than those noted is undertaken at said parties' sole risk.

7 REFERENCES

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TABLES

Table 1 – Soil Analytical Results

Sample ID	Date Collected	Depth	TPHs			VOCs			Metals					PAHs
			TPHmo	TPHd	TPHg	Benzene	Ethylbenzene	Naphthalene	Cadmium	Chromium	Lead	Nickel	Zinc	
		(ft bgs)	(mg/kg)											
616 Linden Avenue														
616-SB-4-03022021	3/2/2021	4-5	930	**560**	43 J	--	--	ND<0.0086	0.582	95.1	47.4	88.7	308	a
616-SB-4-03022021-D	3/2/2021	4-5	510	**300**	14	--	--	ND<0.0059	0.520 J	93.8	43.8	87.9	266	b
616-EC-03012021	3/1/2021	temp stockpile	--	--	--	--	--	--	0.991 J	80.0	**239**	52.6	397 J	--
616-SB-7-03012021	3/1/2021	3-3.4	--	--	--	--	--	--	ND<0.110	87.4	67.6	67.6	330	--
B1-1	6/30/2023	1	--	--	--	ND<0.0081	ND<0.0081	ND<0.0081	--	--	71.0	--	--	ND
B1-6	6/30/2023	6	--	--	--	ND<0.0079	ND<0.0079	ND<0.0079	--	--	--	--	--	ND
B2-2	6/30/2023	2	--	--	--	ND<0.0093	ND<0.0093	ND<0.0093	--	--	40.9	--	--	ND
B2-6	6/30/2023	6	--	--	--	ND<0.0090	ND<0.0090	ND<0.0090	--	--	--	--	--	ND
B3-3	6/30/2023	3	--	--	--	ND<0.0087	ND<0.0087	ND<0.0087	--	--	10.9	--	--	ND
B3-5	6/30/2023	5	--	--	--	ND<0.0081	ND<0.0081	ND<0.0081	--	--	--	--	--	ND
B4-4	6/30/2023	4	--	--	--	ND<0.0088	ND<0.0088	ND<0.0088	--	--	17.2	--	--	ND
B4-8	6/30/2023	8	--	--	--	ND<0.0092	ND<0.0092	ND<0.0092	--	--	--	--	--	ND
B5-1	6/30/2023	1	--	--	--	ND<0.0083	ND<0.0083	ND<0.0083	--	--	52.5	--	--	ND
B5-9	6/30/2023	9	--	--	--	ND<0.0081	ND<0.0081	ND<0.0081	--	--	--	--	--	ND
B6-2	6/30/2023	2	--	--	--	ND<0.0085	ND<0.0085	ND<0.0085	--	--	34.0	--	--	ND
B6-6	6/30/2023	6	--	--	--	ND<0.0088	ND<0.0088	ND<0.0088	--	--	--	--	--	ND
B7-3	6/30/2023	3	--	--	--	ND<0.0080	ND<0.0080	ND<0.0080	--	--	42.8	--	--	ND
B7-7	6/30/2023	7	--	--	--	ND<0.0083	ND<0.0083	ND<0.0083	--	--	--	--	--	ND
B8-1	2/22/2024	1	--	10.8 x	ND<0.098	ND<0.0098	ND<0.0098	ND<0.0098	--	--	58.5	--	--	--
B8-3	2/22/2024	3	--	3.23 x	ND<0.10	ND<0.010	ND<0.010	ND<0.010	--	--	46.4	--	--	--
B9-2	2/22/2024	2	--	15.2 x	ND<0.083	ND<0.0097	ND<0.0097	ND<0.0097	--	--	80.0	--	--	--
B9-4	2/22/2024	4	--	29.2 x	ND<0.095	ND<0.0095	ND<0.0095	ND<0.0095	--	--	53.0	--	--	--
B10-2	2/22/2024	2	--	4.56 x	ND<0.090	ND<0.0090	ND<0.0090	ND<0.0090	--	--	60.5	--	--	--
B10-5	2/22/2024	5	--	3.51 x	ND<0.074	ND<0.0074	ND<0.0074	ND<0.0074	--	--	35.2	--	--	--
B11-0.5	2/22/2024	0.5	--	17.6 x	ND<0.088	ND<0.0088	ND<0.0088	ND<0.0088	--	--	46.9	--	--	--
B11-4	2/22/2024	4	--	5.90 x	ND<0.096	ND<0.0096	ND<0.0096	ND<0.0096	--	--	26.6	--	--	--
B12-1	2/22/2004	1	--	8.32 x	ND<0.10	ND<0.010	ND<0.010	ND<0.010	--	--	23.6	--	--	--
B12-3	2/22/2024	3	--	4.32 x	ND<0.10	ND<0.010	ND<0.010	ND<0.010	--	--	29.6	--	--	--
B13-2	2/22/2024	2	--	3.58 x	ND<0.065	ND<0.0065	ND<0.0065	ND<0.0065	--	--	35.6	--	--	--
B13-5	2/22/2024	5	--	9.65 x	ND<0.095	ND<0.0095	ND<0.0095	ND<0.0095	--	--	12.6	--	--	--
B14-1	2/22/2024	1	--	8.90 x	ND<0.062	ND<0.0062	ND<0.0062	ND<0.0062	--	--	39.8	--	--	--
B14-3	2/22/2024	3	--	3.45 x	ND<0.092	ND<0.0092	ND<0.0092	ND<0.0092	--	--	31.6	--	--	--
B15-2	2/22/2024	2	--	6.94 x	ND<0.079	ND<0.0079	ND<0.0079	ND<0.0079	--	--	61.5	--	--	--
B15-5	2/22/2024	5	--	3.24 x	ND<0.075	ND<0.0075	ND<0.0075	ND<0.0075	--	--	44.1	--	--	--
700 Linden Avenue														
700-SS-1-03042021	3/4/2021	0-0.5	--	--	--	--	--	--	--	--	38	--	--	--
700-SS-2-03042021	3/4/2021	0-0.5	--	--	--	--	--	--	--	--	52	--	--	--
700-SS-3-03042021	3/4/2021	0-0.5	--	--	--	--	--	--	--	--	33	--	--	--
700-SS-4-03042021	3/4/2021	0-0.5	--	--	--	--	--	--	--	--	24	--	--	--
Screening Levels														
LTCP Residential (0 to 5 ft bgs)[1]			NE	NE	NE	1.9	21	9.7	NE	NE	NE	NE	NE	0.063
LTCP Volatilization to outdoor air (5 to 10 ft bgs)[1]			NE	NE	NE	2.8	32	9.7	NE	NE	NE	NE	NE	NE
Residential ESLs[2]			12,000	260	430	NA	NA	NA	78	NE	80	320	23,000	NA

Notes:

ID - identification

TPHs - total petroleum hydrocarbons

VOCs - volatile organic compounds, analyzed using United States Environmental Protection Agency (US EPA) Method 8260B

Metals analyzed using US EPA Method 6010B

PAHs - polyaromatic hydrocarbons, analyzed using US EPA Method 8270C

TPHmo - TPH as motor oil analyzed using US EPA Method 8015B

TPHd - TPH as diesel analyzed using US EPA Method 8015B

TPHg - TPH as gasoline analyzed using US EPA Method 8260B

ft bgs – feet below ground surface

mg/kg – milligrams per kilogram

-- not anaylized

ND<X – analyte not detected at or above the laboratory reporting limit X

ND - not detected; see laboratory report for specific chemicals and reporting limits

a - 0.012 mg/kg benzo(a)anthracene, 0.013 mg/kg phenanthrene, and 0.01 mg/kg pyrene (estimated values)

b - 0.007 mg/kg benzo(a)anthracene, 0.0075 mg/kg phenanthrene, and 0.007 mg/kg pyrene (estimated values)

J - estimated value

x - diesel value the result of overlap of oil range into diesel range

1 - Low-Threat Underground Storage Tank Case Closure Policy, Concentrations of Petroleum Constituents in Soil That Will Have No Significant Risk of Adversely Affecting Human Health (Table 1)

2 - San Francisco Bay Regional Water Quality Control Board environmental screening levels (ESLs), Direct Exposure Human Health Risk Levels (Table S-1), Residential: Shallow Soil Exposure, 2019 (Rev. 2)

NE - screening level not established

NA - screening level not applicable

Bold indicates concentration exceeds screening level

Table 2 – Soil Vapor Analytical Results

Sample ID	Date Collected	Depth	Fixed Gases		VOCs						
			Helium	Oxygen	1,2-Dichloroethane	Benzene	Ethylbenzene	Total Xylenes	Naphthalene	Tetrachloroethene	Toluene
		(ft bgs)	%		µg/m^3						
616 Linden Avenue											
616-SG-1-03122021	3/12/2021	5	<0.0037	1.4	**1,400**	**9,500**	**19,000**	**64,000**	ND<790	--	660
616-SG-2-03042021	3/4/2021	5	<0.0047	2.6	**3,000**	**68,000**	**46,000**	**230,000**	ND<1,000	--	**83,000**
616-SG-3-03122021	3/12/2021	5	<0.0040	15	ND<0.042	1.2	1.3	5.2	ND<0.26	--	10
616-SG-4-03042021	3/4/2021	5	<0.0051	1.2	ND<540	**4,400**	ND<580	ND<580	ND<2,200	--	ND<500
616-SG-6-03042021	3/4/2021	5	<0.0050	7.8	ND<0.17	**16**	23	140	ND<1.1	1.8	98
Screening Levels											
LTCP Residential[1]			NE	NE	NE	85	1,100	NE	93	NE	NE
Residential ESLs[2]			NE	NE	3.6	3.2	37	3,500	2.8	15	10,000

Notes:

ID - identification

Fixed Gases analyzed using ASTM D-1946

VOCs - volatile organic compounds, analyzed using United States Environmental Protection Agency (US EPA) Method TO-15

ft bgs – feet below ground surface

% - percent

µg/m^3 – microrams per cubic meter

-- not anaylized

ND<X – analyte not detected at or above the laboratory reporting limit X

1 - Low-Threat Underground Storage Tank Case Closure Policy, Soil Gas Sampling - No Bioattenuation Zone (Appendix 4, Scenario 4 - Direct Measure of Soil Gas Concentrations [1 of 2])

2 - San Francisco Bay Regional Water Quality Control Board environmental screening levels (ESLs), Subslab/Soil Gas, Vapor Intrusion: Human Health Risk Levels (Table SG-1), Residential, 2019 (Rev. 2)

NE - screening level not established

NA - screening level not applicable

Bold indicates concentration exceeds screening level

Detected VOCs tabulated

FIGURES



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NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE I REFERENCE: USGS, 2018

N

SCALE (FEET)

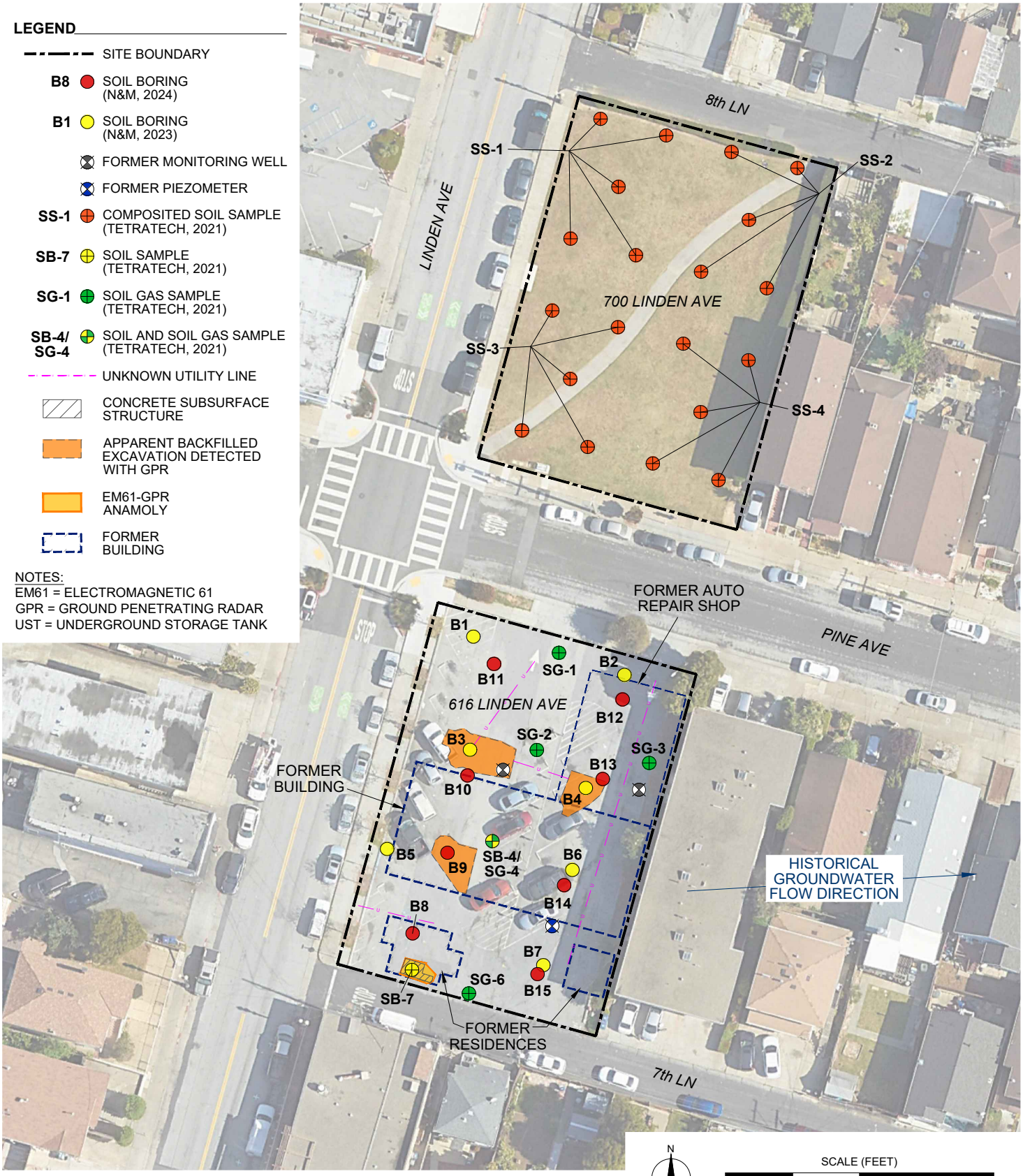
0 2,000 4,000

FIGURE 1

SITE LOCATION

616 AND 700 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA
403151010 I 07/24

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants



NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE
REFERENCES: GOOGLE EARTH, 2023; TETRA TECH 2021

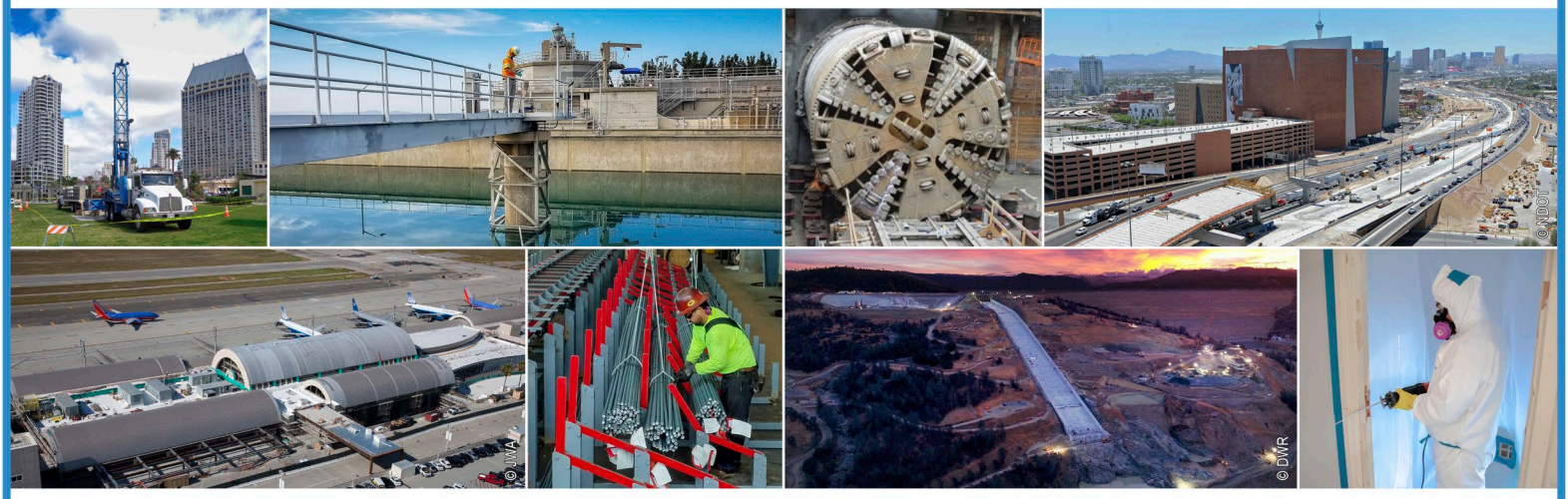
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FIGURE 2

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

SITE PLAN

616 AND 700 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA
403151010 I 07/24



1301 Marina Village Parkway, Suite 110 | Alameda, California 94501 | p. 510.343.3000

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APPENDIX C

CalEEMod Output Results

South San Francisco Linden and Pine Aves Project v2 Custom Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	South San Francisco Linden and Pine Aves Project v2
Construction Start Date	3/1/2026
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	4.60
Precipitation (days)	37.8
Location	616 Linden Ave, South San Francisco, CA 94080, USA
County	San Mateo
City	South San Francisco
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	1212
EDFZ	1
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.30

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
City Park	0.86	Acre	0.86	0.00	0.40	0.00	—	—

Parking Lot	17.0	Space	0.15	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-10-A	Water Exposed Surfaces
Construction	C-10-B	Water Active Demolition Sites
Construction	C-10-C	Water Unpaved Construction Roads
Construction	C-11	Limit Vehicle Speeds on Unpaved Roads

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.	5.92	4.59	43.4	48.0	0.09	1.69	22.7	24.4	1.56	7.62	9.18	—	11,708	11,708	0.80	0.58	8.15	11,908
Mit.	5.92	4.59	43.4	48.0	0.09	1.69	8.88	10.6	1.56	3.12	4.67	—	11,708	11,708	0.80	0.58	8.15	11,908
% Reduced	—	—	—	—	—	—	61%	57%	—	59%	49%	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.91	4.59	43.7	47.8	0.09	1.69	22.7	24.4	1.56	7.62	9.18	—	11,672	11,672	0.80	0.60	0.21	11,870
Mit.	5.91	4.59	43.7	47.8	0.09	1.69	8.88	10.6	1.56	3.12	4.67	—	11,672	11,672	0.80	0.60	0.21	11,870
% Reduced	—	—	—	—	—	—	61%	57%	—	59%	49%	—	—	—	—	—	—	—

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.43	1.07	9.22	11.0	0.03	0.28	5.12	5.40	0.26	0.79	1.05	—	3,292	3,292	0.24	0.20	1.42	3,360
Mit.	1.43	1.07	9.22	11.0	0.03	0.28	1.86	2.14	0.26	0.36	0.61	—	3,292	3,292	0.24	0.20	1.42	3,360
% Reduced	—	—	—	—	—	—	64%	60%	—	55%	42%	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	0.19	1.68	2.00	< 0.005	0.05	0.93	0.99	0.05	0.15	0.19	—	545	545	0.04	0.03	0.24	556
Mit.	0.26	0.19	1.68	2.00	< 0.005	0.05	0.34	0.39	0.05	0.06	0.11	—	545	545	0.04	0.03	0.24	556
% Reduced	—	—	—	—	—	—	64%	60%	—	55%	42%	—	—	—	—	—	—	—

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	5.92	4.59	43.4	48.0	0.09	1.69	22.7	24.4	1.56	7.62	9.18	—	11,708	11,708	0.80	0.58	8.15	11,908
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.91	4.59	43.7	47.8	0.09	1.69	22.7	24.4	1.56	7.62	9.18	—	11,672	11,672	0.80	0.60	0.21	11,870
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.43	1.07	9.22	11.0	0.03	0.28	5.12	5.40	0.26	0.79	1.05	—	3,292	3,292	0.24	0.20	1.42	3,360
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.26	0.19	1.68	2.00	< 0.005	0.05	0.93	0.99	0.05	0.15	0.19	—	545	545	0.04	0.03	0.24	556

2.3. Construction Emissions by Year, Mitigated

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	5.92	4.59	43.4	48.0	0.09	1.69	8.88	10.6	1.56	3.12	4.67	—	11,708	11,708	0.80	0.58	8.15	11,908
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	5.91	4.59	43.7	47.8	0.09	1.69	8.88	10.6	1.56	3.12	4.67	—	11,672	11,672	0.80	0.60	0.21	11,870
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.43	1.07	9.22	11.0	0.03	0.28	1.86	2.14	0.26	0.36	0.61	—	3,292	3,292	0.24	0.20	1.42	3,360
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.26	0.19	1.68	2.00	< 0.005	0.05	0.34	0.39	0.05	0.06	0.11	—	545	545	0.04	0.03	0.24	556

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.	1.42	1.30	0.87	11.2	0.03	0.01	3.14	3.15	0.01	0.79	0.81	0.04	3,295	3,295	0.12	0.11	8.87	3,339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.40	1.28	1.03	11.0	0.03	0.01	3.14	3.15	0.01	0.79	0.81	0.04	3,150	3,150	0.13	0.12	0.23	3,189
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.60	0.55	0.41	4.56	0.01	< 0.005	1.31	1.32	0.01	0.33	0.34	0.04	1,350	1,350	0.06	0.05	1.65	1,368
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.11	0.10	0.08	0.83	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	0.01	224	224	0.01	0.01	0.27	226

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	1.40	1.29	0.88	11.2	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,304	3,304	0.11	0.11	8.87	3,348
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Vegetation	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Total	1.42	1.30	0.87	11.2	0.03	0.01	3.14	3.15	0.01	0.79	0.81	0.04	3,295	3,295	0.12	0.11	8.87	3,339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.39	1.27	1.03	11.0	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,160	3,160	0.13	0.12	0.23	3,198
Area	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Vegetation	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Total	1.40	1.28	1.03	11.0	0.03	0.01	3.14	3.15	0.01	0.79	0.81	0.04	3,150	3,150	0.13	0.12	0.23	3,189

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.59	0.54	0.42	4.56	0.01	0.01	1.32	1.32	0.01	0.33	0.34	—	1,360	1,360	0.05	0.05	1.65	1,377
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Vegetation	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Total	0.60	0.55	0.41	4.56	0.01	< 0.005	1.31	1.32	0.01	0.33	0.34	0.04	1,350	1,350	0.06	0.05	1.65	1,368
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.11	0.10	0.08	0.83	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	225	225	0.01	0.01	0.27	228
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.54	0.54	< 0.005	< 0.005	—	0.55
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02
Vegetation	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-2.10	-2.10	—	—	—	-2.10
Total	0.11	0.10	0.08	0.83	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	0.01	224	224	0.01	0.01	0.27	226

2.6. Operations Emissions by Sector, Mitigated

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	1.40	1.29	0.88	11.2	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,304	3,304	0.11	0.11	8.87	3,348
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

Waste	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Vegetation	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Total	1.42	1.30	0.87	11.2	0.03	0.01	3.14	3.15	0.01	0.79	0.81	0.04	3,295	3,295	0.12	0.11	8.87	3,339
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.39	1.27	1.03	11.0	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,160	3,160	0.13	0.12	0.23	3,198
Area	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Vegetation	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Total	1.40	1.28	1.03	11.0	0.03	0.01	3.14	3.15	0.01	0.79	0.81	0.04	3,150	3,150	0.13	0.12	0.23	3,189
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.59	0.54	0.42	4.56	0.01	0.01	1.32	1.32	0.01	0.33	0.34	—	1,360	1,360	0.05	0.05	1.65	1,377
Area	0.01	0.01	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Vegetation	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Total	0.60	0.55	0.41	4.56	0.01	< 0.005	1.31	1.32	0.01	0.33	0.34	0.04	1,350	1,350	0.06	0.05	1.65	1,368
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.11	0.10	0.08	0.83	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	225	225	0.01	0.01	0.27	228
Area	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.54	0.54	< 0.005	< 0.005	—	0.55
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Waste	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02

Vegetati	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-2.10	-2.10	—	—	—	-2.10
Total	0.11	0.10	0.08	0.83	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	0.01	224	224	0.01	0.01	0.27	226

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	0.60	0.60	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	7.36	7.36	< 0.005	0.73	0.73	—	27.0	27.0	0.01	< 0.005	0.04	28.5
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	—	—	—	—	—	—	0.60	0.60	—	0.09	0.09	—	—	—	—	—	—	—
Onsite truck	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	7.36	7.36	< 0.005	0.73	0.73	—	27.0	27.0	0.01	< 0.005	< 0.005	28.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.10	0.09	0.82	0.92	< 0.005	0.03	—	0.03	0.03	—	0.03	—	157	157	0.01	< 0.005	—	158
Demolition	—	—	—	—	—	—	0.04	0.04	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.42	0.42	< 0.005	0.04	0.04	—	1.70	1.70	< 0.005	< 0.005	< 0.005	1.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.0	26.0	< 0.005	< 0.005	—	26.1
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	0.08	< 0.005	0.01	0.01	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.30
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	0.14	2.31	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	645	645	0.01	0.01	1.92	649
Vendor	0.02	< 0.005	0.15	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	0.01	0.02	0.27	118
Hauling	0.53	0.07	4.60	3.25	0.02	0.04	0.74	0.78	0.04	0.20	0.24	—	3,075	3,075	0.46	0.49	5.93	3,237
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	0.17	2.13	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	610	610	0.01	0.03	0.05	618
Vendor	0.02	< 0.005	0.16	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	0.01	0.02	0.01	118
Hauling	0.53	0.07	4.84	3.25	0.02	0.04	0.74	0.78	0.04	0.20	0.24	—	3,075	3,075	0.46	0.49	0.15	3,231
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.6	38.6	< 0.005	< 0.005	0.05	39.1
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.12	7.12	< 0.005	< 0.005	0.01	7.45
Hauling	0.03	< 0.005	0.30	0.20	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	194	194	0.03	0.03	0.16	204

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.38	6.38	< 0.005	< 0.005	0.01	6.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.1	32.1	< 0.005	0.01	0.03	33.7

3.2. Demolition (2026) - Mitigated

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	1.66	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	—	—	—	—	—	—	0.39	0.39	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	1.86	1.86	< 0.005	0.19	0.19	—	27.0	27.0	0.01	< 0.005	0.04	28.5
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	—	—	—	—	—	—	0.39	0.39	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	1.86	1.86	< 0.005	0.19	0.19	—	27.0	27.0	0.01	< 0.005	< 0.005	28.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road	0.10	0.09	0.82	0.92	< 0.005	0.03	—	0.03	0.03	—	0.03	—	157	157	0.01	< 0.005	—	158
Demolition	—	—	—	—	—	—	0.02	0.02	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.10	0.10	< 0.005	0.01	0.01	—	1.70	1.70	< 0.005	< 0.005	< 0.005	1.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.0	26.0	< 0.005	< 0.005	—	26.1
Demolition	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.30
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	0.14	2.31	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	645	645	0.01	0.01	1.92	649
Vendor	0.02	< 0.005	0.15	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	0.01	0.02	0.27	118
Hauling	0.53	0.07	4.60	3.25	0.02	0.04	0.74	0.78	0.04	0.20	0.24	—	3,075	3,075	0.46	0.49	5.93	3,237
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	0.17	2.13	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	610	610	0.01	0.03	0.05	618
Vendor	0.02	< 0.005	0.16	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	0.01	0.02	0.01	118
Hauling	0.53	0.07	4.84	3.25	0.02	0.04	0.74	0.78	0.04	0.20	0.24	—	3,075	3,075	0.46	0.49	0.15	3,231
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	38.6	38.6	< 0.005	< 0.005	0.05	39.1
Vendor	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	7.12	7.12	< 0.005	< 0.005	0.01	7.45
Hauling	0.03	< 0.005	0.30	0.20	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.01	—	194	194	0.03	0.03	0.16	204

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.38	6.38	< 0.005	< 0.005	0.01	6.48
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.18	1.18	< 0.005	< 0.005	< 0.005	1.23
Hauling	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	32.1	32.1	< 0.005	0.01	0.03	33.7

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.47	1.24	11.0	11.7	0.02	0.51	—	0.51	0.47	—	0.47	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	6.27	6.27	—	3.00	3.00	—	—	—	—	—	—	—
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-Road Equipment	1.47	1.24	11.0	11.7	0.02	0.51	—	0.51	0.47	—	0.47	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	6.27	6.27	—	3.00	3.00	—	—	—	—	—	—	—
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	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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

3.4. Site Preparation (2026) - Mitigated

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	1.47	1.24	11.0	11.7	0.02	0.51	—	0.51	0.47	—	0.47	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	1.47	1.24	11.0	11.7	0.02	0.51	—	0.51	0.47	—	0.47	—	2,065	2,065	0.08	0.02	—	2,072
Dust From Material Movement	—	—	—	—	—	—	2.44	2.44	—	1.17	1.17	—	—	—	—	—	—	—
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	0.01	0.01	0.06	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.3	11.3	< 0.005	< 0.005	—	11.4
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	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-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.87	1.87	< 0.005	< 0.005	—	1.88
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	2.03	1.70	14.4	15.9	0.03	0.64	—	0.64	0.58	—	0.58	—	3,288	3,288	0.13	0.03	—	3,300

Dust From Material Movement	—	—	—	—	—	—	7.09	7.09	—	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	2.03	1.70	14.4	15.9	0.03	0.64	—	0.64	0.58	—	0.58	—	3,288	3,288	0.13	0.03	—	3,300
Dust From Material Movement	—	—	—	—	—	—	7.09	7.09	—	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	0.13	0.11	0.91	1.00	< 0.005	0.04	—	0.04	0.04	—	0.04	—	207	207	0.01	< 0.005	—	208
Dust From Material Movement	—	—	—	—	—	—	0.45	0.45	—	0.22	0.22	—	—	—	—	—	—	—
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	0.02	0.17	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.3	34.3	< 0.005	< 0.005	—	34.4

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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

3.6. Grading (2026) - Mitigated

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	2.03	1.70	14.4	15.9	0.03	0.64	—	0.64	0.58	—	0.58	—	3,288	3,288	0.13	0.03	—	3,300
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	2.03	1.70	14.4	15.9	0.03	0.64	—	0.64	0.58	—	0.58	—	3,288	3,288	0.13	0.03	—	3,300
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	0.13	0.11	0.91	1.00	< 0.005	0.04	—	0.04	0.04	—	0.04	—	207	207	0.01	< 0.005	—	208
Dust From Material Movement	—	—	—	—	—	—	0.17	0.17	—	0.08	0.08	—	—	—	—	—	—	—

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	0.02	0.17	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.3	34.3	< 0.005	< 0.005	—	34.4
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

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

3.7. 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 Equipment	1.55	1.29	10.2	11.8	0.03	0.35	—	0.35	0.32	—	0.32	—	2,634	2,634	0.11	0.02	—	2,643
Onsite truck	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	7.36	7.36	< 0.005	0.73	0.73	—	27.0	27.0	0.01	< 0.005	0.04	28.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.55	1.29	10.2	11.8	0.03	0.35	—	0.35	0.32	—	0.32	—	2,634	2,634	0.11	0.02	—	2,643
Onsite truck	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	7.36	7.36	< 0.005	0.73	0.73	—	27.0	27.0	0.01	< 0.005	< 0.005	28.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	0.69	5.46	6.34	0.01	0.19	—	0.19	0.17	—	0.17	—	1,415	1,415	0.06	0.01	—	1,419
Onsite truck	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	3.54	3.54	< 0.005	0.35	0.35	—	14.5	14.5	< 0.005	< 0.005	0.01	15.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.15	0.13	1.00	1.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	234	234	0.01	< 0.005	—	235
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.65	0.65	< 0.005	0.06	0.06	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.53
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	0.14	2.31	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	645	645	0.01	0.01	1.92	649
Vendor	0.02	< 0.005	0.15	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	0.01	0.02	0.27	118
Hauling	0.27	0.04	2.30	1.63	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,537	1,537	0.23	0.24	2.96	1,619
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	0.17	2.13	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	610	610	0.01	0.03	0.05	618
Vendor	0.02	< 0.005	0.16	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	0.01	0.02	0.01	118
Hauling	0.26	0.04	2.42	1.63	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,537	1,537	0.23	0.24	0.08	1,616
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	1.11	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	329	329	0.01	0.01	0.45	333
Vendor	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	60.7	60.7	0.01	0.01	0.06	63.5
Hauling	0.14	0.02	1.28	0.87	< 0.005	0.01	0.20	0.20	0.01	0.05	0.06	—	826	826	0.12	0.13	0.68	868
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.20	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	54.4	54.4	< 0.005	< 0.005	0.07	55.2
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.0	10.0	< 0.005	< 0.005	0.01	10.5
Hauling	0.03	< 0.005	0.23	0.16	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	137	137	0.02	0.02	0.11	144

3.8. Building Construction (2026) - Mitigated

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	1.55	1.29	10.2	11.8	0.03	0.35	—	0.35	0.32	—	0.32	—	2,634	2,634	0.11	0.02	—	2,643
Onsite truck	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	1.86	1.86	< 0.005	0.19	0.19	—	27.0	27.0	0.01	< 0.005	0.04	28.5
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.55	1.29	10.2	11.8	0.03	0.35	—	0.35	0.32	—	0.32	—	2,634	2,634	0.11	0.02	—	2,643
Onsite truck	0.01	< 0.005	0.10	0.07	< 0.005	< 0.005	1.86	1.86	< 0.005	0.19	0.19	—	27.0	27.0	0.01	< 0.005	< 0.005	28.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.83	0.69	5.46	6.34	0.01	0.19	—	0.19	0.17	—	0.17	—	1,415	1,415	0.06	0.01	—	1,419
Onsite truck	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	0.89	0.89	< 0.005	0.09	0.09	—	14.5	14.5	< 0.005	< 0.005	0.01	15.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.13	1.00	1.16	< 0.005	0.03	—	0.03	0.03	—	0.03	—	234	234	0.01	< 0.005	—	235
Onsite truck	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.16	0.16	< 0.005	0.02	0.02	—	2.40	2.40	< 0.005	< 0.005	< 0.005	2.53
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.21	0.18	0.14	2.31	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	645	645	0.01	0.01	1.92	649
Vendor	0.02	< 0.005	0.15	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	0.01	0.02	0.27	118
Hauling	0.27	0.04	2.30	1.63	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,537	1,537	0.23	0.24	2.96	1,619
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.18	0.17	2.13	0.00	0.00	0.66	0.66	0.00	0.16	0.16	—	610	610	0.01	0.03	0.05	618
Vendor	0.02	< 0.005	0.16	0.10	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	113	113	0.01	0.02	0.01	118
Hauling	0.26	0.04	2.42	1.63	0.01	0.02	0.37	0.39	0.02	0.10	0.12	—	1,537	1,537	0.23	0.24	0.08	1,616
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.10	0.09	1.11	0.00	0.00	0.35	0.35	0.00	0.08	0.08	—	329	329	0.01	0.01	0.45	333
Vendor	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	—	60.7	60.7	0.01	0.01	0.06	63.5
Hauling	0.14	0.02	1.28	0.87	< 0.005	0.01	0.20	0.20	0.01	0.05	0.06	—	826	826	0.12	0.13	0.68	868
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.02	0.20	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	54.4	54.4	< 0.005	< 0.005	0.07	55.2
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.0	10.0	< 0.005	< 0.005	0.01	10.5
Hauling	0.03	< 0.005	0.23	0.16	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	137	137	0.02	0.02	0.11	144

3.9. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipm	0.56	0.47	4.41	6.48	0.01	0.18	—	0.18	0.17	—	0.17	—	991	991	0.04	0.01	—	995
Paving	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.01	0.12	0.18	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	< 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	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.50	4.50	< 0.005	< 0.005	—	4.51
Paving	< 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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

3.10. Paving (2026) - Mitigated

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	0.56	0.47	4.41	6.48	0.01	0.18	—	0.18	0.17	—	0.17	—	991	991	0.04	0.01	—	995
Paving	0.04	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.01	0.12	0.18	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	27.2	27.2	< 0.005	< 0.005	—	27.3
Paving	< 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	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.50	4.50	< 0.005	< 0.005	—	4.51
Paving	< 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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

3.11. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (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	0.71	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61

Architectural Coating	< 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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

3.12. Architectural Coating (2026) - Mitigated

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	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	0.71	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.66	3.66	< 0.005	< 0.005	—	3.67
Architectural Coatings	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
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.61	0.61	< 0.005	< 0.005	—	0.61
Architectural Coatings	< 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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	1.40	1.29	0.88	11.2	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,304	3,304	0.11	0.11	8.87	3,348

Parking Lot	0.00	0.00	0.00	0.00	0.00	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	1.40	1.29	0.88	11.2	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,304	3,304	0.11	0.11	8.87	3,348
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	1.39	1.27	1.03	11.0	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,160	3,160	0.13	0.12	0.23	3,198
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	1.39	1.27	1.03	11.0	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,160	3,160	0.13	0.12	0.23	3,198
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.11	0.10	0.08	0.83	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	225	225	0.01	0.01	0.27	228
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	0.11	0.10	0.08	0.83	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	225	225	0.01	0.01	0.27	228

4.1.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	1.40	1.29	0.88	11.2	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,304	3,304	0.11	0.11	8.87	3,348
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	1.40	1.29	0.88	11.2	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,304	3,304	0.11	0.11	8.87	3,348
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

City Park	1.39	1.27	1.03	11.0	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,160	3,160	0.13	0.12	0.23	3,198
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	1.39	1.27	1.03	11.0	0.03	0.02	3.14	3.16	0.02	0.80	0.81	—	3,160	3,160	0.13	0.12	0.23	3,198
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	0.11	0.10	0.08	0.83	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	225	225	0.01	0.01	0.27	228
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	0.11	0.10	0.08	0.83	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	225	225	0.01	0.01	0.27	228

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	3.26	3.26	< 0.005	< 0.005	—	3.30

Total	—	—	—	—	—	—	—	—	—	—	—	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.54	0.54	< 0.005	< 0.005	—	0.55
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.54	0.54	< 0.005	< 0.005	—	0.55

4.2.2. Electricity Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.26	3.26	< 0.005	< 0.005	—	3.30
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	0.54	0.54	< 0.005	< 0.005	—	0.55

Total	—	—	—	—	—	—	—	—	—	—	—	—	0.54	0.54	< 0.005	< 0.005	—	0.55

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Parking Lot	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Parking Lot	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Parking Lot	0.00	0.00	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

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Parking Lot	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Parking Lot	0.00	0.00	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Parking Lot	0.00	0.00	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

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Consum Products	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	0.01	0.01	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3.2. Mitigated

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	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	0.01	0.01	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.00	0.00	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	< 0.005	< 0.005	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

4.4.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02

4.5.2. Mitigated

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.14
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.02

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. 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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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	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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-4.10	-4.10	—	—	—	-4.10
Subtotal	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-4.10	-4.10	—	—	—	-4.10
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	—	—	—	—	—	—	—	—	—	—	-8.60	-8.60	—	—	—	-8.60
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-8.60	-8.60	—	—	—	-8.60
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-4.10	-4.10	—	—	—	-4.10
Subtotal	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-4.10	-4.10	—	—	—	-4.10
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	—	—	—	—	—	—	—	—	—	—	-8.60	-8.60	—	—	—	-8.60
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-8.60	-8.60	—	—	—	-8.60
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

coastal live oak	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-0.68	-0.68	—	—	—	-0.68
Subtotal	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-0.68	-0.68	—	—	—	-0.68
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	—	—	—	—	—	—	—	—	—	—	-1.42	-1.42	—	—	—	-1.42
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-1.42	-1.42	—	—	—	-1.42
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-2.10	-2.10	—	—	—	-2.10

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-4.10	-4.10	—	—	—	-4.10
Subtotal	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-4.10	-4.10	—	—	—	-4.10

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	—	—	—	—	—	—	—	—	—	—	-8.60	-8.60	—	—	—	-8.60
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-8.60	-8.60	—	—	—	-8.60
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-4.10	-4.10	—	—	—	-4.10
Subtotal	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-4.10	-4.10	—	—	—	-4.10
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	—	—	—	—	—	—	—	—	—	—	-8.60	-8.60	—	—	—	-8.60
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-8.60	-8.60	—	—	—	-8.60
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	> -0.005	-0.01	—	> -0.005	> -0.005	> -0.005	-0.01	> -0.005	> -0.005	> -0.005	—	-12.7	-12.7	—	—	—	-12.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

coastal live oak	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-0.68	-0.68	—	—	—	-0.68
Subtotal	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-0.68	-0.68	—	—	—	-0.68
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	—	—	—	—	—	—	—	—	—	—	-1.42	-1.42	—	—	—	-1.42
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	-1.42	-1.42	—	—	—	-1.42
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
coastal live oak	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
Subtotal	—	—	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	> -0.005	> -0.005	—	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	> -0.005	—	-2.10	-2.10	—	—	—	-2.10

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	3/1/2026	4/1/2026	5.00	23.0	—
Site Preparation	Site Preparation	3/30/2026	4/1/2026	5.00	2.00	—
Grading	Grading	3/1/2026	4/1/2026	5.00	23.0	—
Building Construction	Building Construction	4/2/2026	12/31/2026	5.00	196	—
Paving	Paving	12/4/2026	12/17/2026	5.00	10.0	—
Architectural Coating	Architectural Coating	12/18/2026	12/31/2026	5.00	10.0	—

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	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Off-Highway Trucks	Diesel	Average	1.00	5.00	376	0.38
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	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
Building Construction	Off-Highway Trucks	Diesel	Average	1.00	5.00	376	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Demolition	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	7.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	7.00	84.0	0.37
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Off-Highway Trucks	Diesel	Average	1.00	5.00	376	0.38
Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
Building Construction	Forklifts	Diesel	Average	1.00	6.00	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
Building Construction	Off-Highway Trucks	Diesel	Average	1.00	5.00	376	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Paving	Pavers	Diesel	Average	1.00	6.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	1.00	7.00	36.0	0.38
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	6.00	10.0	0.56

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	80.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	4.00	8.40	HHDT,MHDT
Demolition	Hauling	40.0	20.0	HHDT
Demolition	Onsite truck	5.00	1.00	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	11.7	LDA,LDT1,LDT2
Grading	Vendor	0.00	8.40	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	80.0	11.7	LDA,LDT1,LDT2
Building Construction	Vendor	4.00	8.40	HHDT,MHDT
Building Construction	Hauling	20.0	20.0	HHDT
Building Construction	Onsite truck	5.00	1.00	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	11.7	LDA,LDT1,LDT2

Paving	Vendor	0.00	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	80.0	11.7	LDA,LDT1,LDT2
Demolition	Vendor	4.00	8.40	HHDT,MHDT
Demolition	Hauling	40.0	20.0	HHDT
Demolition	Onsite truck	5.00	1.00	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	0.00	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	0.00	0.00	HHDT
Grading	—	—	—	—
Grading	Worker	0.00	11.7	LDA,LDT1,LDT2
Grading	Vendor	0.00	8.40	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	0.00	0.00	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	80.0	11.7	LDA,LDT1,LDT2

Building Construction	Vendor	4.00	8.40	HHDT,MHDT
Building Construction	Hauling	20.0	20.0	HHDT
Building Construction	Onsite truck	5.00	1.00	HHDT
Paving	—	—	—	—
Paving	Worker	0.00	11.7	LDA,LDT1,LDT2
Paving	Vendor	0.00	8.40	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	0.00	0.00	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	0.00	11.7	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	8.40	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	0.00	0.00	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	0.00	0.00	750	250	400

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	600	—
Site Preparation	0.00	50.0	1.88	0.00	—
Grading	0.00	710	4.00	0.00	—
Paving	0.00	0.00	0.00	0.00	0.15

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
City Park	0.00	0%
Parking Lot	0.15	100%

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	204	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
City Park	101	501	501	78,430	897	4,461	4,461	699,032
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
City Park	101	501	501	78,430	897	4,461	4,461	699,032

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

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)
0	0.00	750	250	400

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
City Park	0.00	204	0.0330	0.0040	0.00
Parking Lot	5,838	204	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
City Park	0.00	204	0.0330	0.0040	0.00
Parking Lot	5,838	204	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
City Park	0.00	3.32
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
City Park	0.00	3.32
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.07	—

Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
City Park	0.07	—
Parking Lot	0.00	—

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

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced

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

5.15.2. Mitigated

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)
coastal live oak	40.0	81,369	398
coastal live oak	-10.0	29,229	153

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
coastal live oak	40.0	81,369	398
coastal live oak	-10.0	29,229	153

8. User Changes to Default Data

Screen	Justification
Land Use	Approx 16,200 sq feet of impervious surfaces
Construction: Construction Phases	Project construction is expected to begin in March 2026 and occur over a period of approximately 10 months
Construction: Off-Road Equipment	Default equipment with the addition of the water trucks for the duration of the project
Construction: Dust From Material Movement	750 cubic yards of soil will need to be recycled or exported and approximately 10 cubic yards of lead-contaminated soil will also be removed.
Construction: Trips and VMT	Increased all trucks trips to ensure the model is conservative
Operations: Vehicle Data	The park is expected to host approximately 100 to 250 people on a daily basis in the absence of events, most of whom would walk to the park. With events no more than 500 people.
Operations: Refrigerants	no refrigerants anticipated

APPENDIX D

Geotechnical Evaluation

Geotechnical Evaluation
Linden Avenue Park
616 Linden Avenue and
270 Pine Avenue
South San Francisco, California

City of South San Francisco
315 Maple Avenue | South San Francisco, California 94080

July 25, 2023 | Project No. 404590001



Geotechnical | Environmental | Construction Inspection & Testing | Forensic Engineering & Expert Witness

Geophysics | Engineering Geology | Laboratory Testing | Industrial Hygiene | Occupational Safety | Air Quality | GIS

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Geotechnical & Environmental Sciences Consultants

35+ YEARS

Geotechnical Evaluation
Linden Avenue Park
616 Linden Avenue and 270 Pine Avenue
South San Francisco, California

Mr. Philip Vitale, Jr.
Deputy Director
Capital Projects
City of South San Francisco
33 Arroyo Drive | South San Francisco, California 94080

July 25, 2023 | Project No. 404590001

REGISTERED PROFESSIONAL ENGINEER
ANTHONY R. DOVER
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1 INTRODUCTION

In accordance with your request and authorization, we have performed a geotechnical evaluation for the Linden Avenue Park project at current addresses 270 Pine Avenue and 616 Linden Avenue in South San Francisco, California. (Figure 1). The purpose of our study was to assess geotechnical conditions and provide recommendations for the design and construction of the proposed improvements.

2 SCOPE OF SERVICES

The services we performed included the following:

- Reviewed readily available geologic and seismic literature pertinent to the project area including geologic maps and reports, regional fault maps, seismic hazard maps, and aerial photographs.
- Performed site reconnaissance to observe the general site conditions and to mark the proposed locations for subsurface exploration.
- Coordinated with Underground Service Alert (USA) to locate and mark underground utilities in the vicinity of the subsurface exploration locations.
- Perform a private utility survey at each boring location.
- Obtained a boring permit from the San Mateo County Environmental Health Services Department.
- Conducted a subsurface exploration consisting of five (4) exploratory borings advanced up to 15 feet below existing grade. A representative of Ninyo & Moore logged the subsurface conditions exposed in the borings and collected bulk and relatively undisturbed soil samples for laboratory tests. The borings were backfilled with cement grout, in compliance with the San Mateo County Environmental Health Services Department.
- Performed laboratory testing of selected soil samples to evaluate the geotechnical properties of the subsurface materials including in-situ soil moisture content and density, grain size distribution, Atterberg limits, expansion index, and soil corrosivity.
- Performed data compilation and engineering analysis of the information obtained from our background review, subsurface evaluation, and laboratory testing.
- Prepared this geotechnical report presenting our findings and conclusions regarding the subsurface conditions encountered at the project site, and our geotechnical recommendations for the design and construction of the proposed improvements.

3 SITE DESCRIPTION AND BACKGROUND

The project site is located at 270 Pine Avenue and 616 Linden Avenue in South San Francisco, California. (Figure 1) at about 37.6591 degrees north latitude and 122.4084 degrees west longitude. The site consists of two lots, separated by Pine Avenue in the middle and bounded to

the west by commercial buildings, to the east by residential homes, to the north by 8th Lane, and to the south by 7th Lane. The project site is currently occupied by a landscape park area and paved parking area. The site is relatively flat with elevations ranging from approximately 51 to 55 feet above mean sea level [MSL] (Google Earth, 2023).

4 PROJECT DESCRIPTION

Based upon the information provided to us, we understand that the project will consist of site grading, demolishing existing structures, and constructing an approximately 1-acre community park at two adjacent properties on 270 Pine Avenue and 616 Linden Avenue. The project will include a sports court and a recreational space on the 616 Linden Avenue as well as a play area on 270 Pine Avenue with both having pedestrian flatwork, gathering or seating areas, overhead structures, seat walls, and landscaping areas. In addition, Pine Avenue between the two properties will include a raised road / speed table, bollards for opening and closing the street, and street parking.

5 SUBSURFACE EVALUATION AND LABORATORY TESTING

Our field exploration included a site reconnaissance and subsurface exploration of the project site. The subsurface exploration was conducted on June 21, 2023, which consisted of four (4) exploratory borings. The locations of the borings are presented on Figure 2. Prior to commencing the subsurface investigation, USA was notified for field marking of existing utilities. In addition, a private utility survey was conducted to further assess and locate any utilities that might conflict with the boring locations.

The borings were advanced to depths of up to approximately 15 feet below the existing grade with a truck-mounted drill rig equipped with hollow-stem augers. A representative of Ninyo & Moore logged the subsurface conditions exposed in the borings and collected bulk and relatively undisturbed soil samples from the borings. The samples were then transported to our geotechnical laboratory for testing. The borings were backfilled with cement grout and capped off with concrete in accordance with San Mateo County Environmental Health Services Department soil boring permit. Detailed logs of the borings are presented in Appendix A.

Laboratory testing of soil samples recovered from the borings included in-place moisture content and dry density, soil gradation, Atterberg limits, expansion index, R-value, and soil corrosivity. The results of the in-place moisture content and dry density tests are shown on the boring logs in Appendix A. The results of the other laboratory tests performed are presented in Appendix B.

6 GEOLOGIC AND SUBSURFACE CONDITIONS

6.1 Regional Geologic Setting

The site is located at the northeastern end of the San Francisco Peninsula approximately 1.8 miles west of the western shore of San Francisco Bay in the Coast Ranges geomorphic province of California. The Coast Ranges are comprised of several mountain ranges and structural valleys formed by tectonic processes commonly found around the Circum-Pacific belt. Basement rocks have been sheared, faulted, metamorphosed, and uplifted, and are separated by thick blankets of Cretaceous and Cenozoic sediments that fill structural valleys and line continental margins. The San Francisco Bay Area has several ranges that trend northwest, parallel to major strike-slip faults such as the San Andreas, Hayward, and Calaveras (Figure 3). San Francisco Bay is a northwest trending structural depression that lies between the San Andreas Fault to the west and the Hayward fault to the east. Major tectonic activity associated with these and other faults within this regional tectonic framework consists primarily of right-lateral, strike-slip movement.

6.2 Site Geology

Published geologic maps (Bonilla, 1998) indicate that the site is underlain by Pleistocene slope debris and ravine fill. Bonilla describe this unit as stony silty to sandy clay; locally silty to clayey sand or gravel; yellowish−orange to medium gray, unstratified or poorly stratified. Where it overlies the Merced or Colma formation it is commonly a silty to clayey sand, or gravel. A map of regional geology is presented as Figure 4.

6.3 Subsurface Conditions

The following sections provide a generalized description of the materials encountered during our subsurface evaluation at the project site. More detailed descriptions are presented on the boring logs in Appendix A.

6.3.1 Pavement Section

B-3 and B-4 were drilled through asphalt concrete pavement. The pavement section encountered in the borings consisted of approximately 2 inches of asphalt concrete over 3 inches of aggregate base. Variations in the thickness of the asphalt concrete may be encountered due to past maintenance, utility work, or other factors.

6.3.2 Alluvium

Alluvium was encountered in all of the borings from below the pavement sections to the depths explored. The alluvium encountered in the borings generally consisted of brown, and

yellowish brown very stiff clay and sandy clay, and yellowish brown, moist, medium dense to dense silty and clayey sand.

6.4 Groundwater

Groundwater was not encountered during our subsurface exploration. However, groundwater may rise to a higher level due to the relatively low seepage rate in clay and the limited time for observation. Fluctuations in the groundwater level may occur due to seasonal precipitation, variations in topography or subsurface hydrogeologic conditions, or as a result of changes to nearby irrigation practices or groundwater pumping. In addition, seeps may be encountered at elevations above the historic high groundwater levels due to perched groundwater conditions, leaking pipes, preferential drainage, or other factors not evident at the time of our exploration.

7 GEOLOGIC HAZARDS AND GEOTECHNICAL CONSIDERATIONS

This study considered a number of potential issues relevant to the proposed construction on the subject site, including expansive soils, static settlement, excavation characteristics, and soil corrosivity. These issues are discussed in the following subsections.

7.1 Expansive Soil

Some clay minerals undergo volume changes upon wetting or drying. Unsaturated soil containing those minerals will shrink/swell with the removal/addition of water. The heaving pressures associated with this expansion can damage structures and flatwork. Laboratory testing was performed on a sample of the near-surface soil to evaluate the expansion index. The tests were performed in accordance with American Society of Testing and Materials (ASTM) Standard D 4829 (Expansion Index). The results of our laboratory test indicate that the expansion index of the sample tested was 44. This result is indicative of a low expansion characteristic.

7.2 Seismic Hazards

The seismic hazards considered in this study include the potential for ground rupture due to faulting, seismic ground shaking, liquefaction, and dynamic settlement. These potential hazards are discussed in the following subsections.

7.2.1 Historical Seismicity

The site is located in a seismically active region. Figure 3 presents the location of the site relative to the epicenters of historic earthquakes with magnitudes of 5.5 or more from 1800 to 2000. Records of historic ground effects related to seismic activity (e.g. liquefaction, sand

boils, lateral spreading, and ground cracking) compiled by Knudsen et al. (2000), indicate that ground effects related to historic seismic activity have not been reported for the site; however, a point about ¾ a mile west of the site along Colma Creek is recorded as having historic ground settlement, lateral spreading and miscellaneous effects.

7.2.2 Faulting and Ground Surface Rupture

California lies along the boundary between the North American and Pacific tectonic plates. Movement along the plate boundary can generate earthquakes and has created zones of deformation within the Earth's crust. These zones include various types of complex geologic structures and geomorphic features such as folds, faults, sag ponds, shutter ridges, linear valleys, and scarps. During moderate to large magnitude earthquakes, the ground can rupture along well-defined zones of deformation where faults intersect the Earth's surface.

The site is not located within an Alquist-Priolo Earthquake Fault Zone established by the California State Geologist (CGS, 2018) to delineate regions of potential ground surface rupture adjacent to active faults. As defined by the California Geological Survey (CGS), active faults are faults that have caused surface displacement within Holocene time, or within approximately the last 11,700 years (CGS, 2007 and 2018). The closest fault rupture hazard fault zone is the San Andreas fault zone, which is located about 2 miles southwest of the site (Figure 3). The nearest mapped fault to the site is the Serra fault, which lies about 1 mile southwest of the project site. The Serra fault is not considered active and does not pose a ground rupture hazard.

Based on our review of the referenced seismic hazard and geologic maps, known active faults are not mapped on the site, and the site is not located within a fault-rupture hazard zone. Therefore, the probability of damage from surface fault rupture is considered to be low.

The site located near the San Andreas Fault has a significant potential for seismic shaking due to its close proximity to this major tectonic boundary. The accumulation of stress along the fault's locked segments results in periodic release of energy through earthquakes. As a result, the site faces an increased risk of experiencing ground shaking during seismic events.

7.2.3 Liquefaction and Strain Softening

The site is located within a liquefaction hazard zone established by the State Geologist (CGS, 2000a). The seismic hazard zones for the site vicinity are presented on Figure 5. Regional studies of liquefaction susceptibility (Knudsen et al., 2000) indicate that the liquefaction susceptibility at the site is high. The strong vibratory motions generated by earthquakes can

trigger a rapid loss of shear strength in saturated, loose, granular soils of low plasticity (liquefaction) or in wet, sensitive, cohesive soils (strain softening). Liquefaction and strain softening can result in a loss of foundation bearing capacity or lateral spreading of sloping or unconfined ground. Liquefaction can also generate sand boils leading to subsidence at the ground surface. Liquefaction (or strain softening) is generally not a concern at depths more than 50 feet below ground surface.

7.3 Static Settlement

Based on documents provided, we understand that the proposed improvements do not include grading that will raise grades at the site. The sustained loads for the proposed structures are expected to be relatively light. We anticipate, therefore, that the total static settlement of drilled pier foundations due to sustained loads will be less than 1/2 inch, provided the recommendations presented in this report are followed for shallow foundations.

7.4 Landsliding and Slope Stability

Regional landslide mapping in the seismic hazard zone report compiled by the California Geological Survey (CGS, 2021) do not show any landslides within close proximity of the site, and the project site is relatively level. Therefore, landsliding and slope stability are not design considerations.

7.5 Excavation Characteristics

We anticipate that the project will involve excavations for foundations and open pits or trenches for utilities. We anticipate that conventional earthmoving equipment in good working condition should be able to make the proposed excavations. Excavations in any fill that might be present may encounter obstructions consisting of debris, rubble, abandoned structures, or over-sized materials that may require special handling or demolition equipment for removal.

Near-vertical temporary cuts in the near surface deposits up to 4 feet in depth should remain stable for a limited period of time. However, sloughing of the materials exposed on the excavation sidewall may occur, particularly if the excavation extends near the groundwater level, encounters granular soil, is exposed to water, or if the sidewall is disturbed during construction operations. Excavation subgrade may become unstable if exposed to wet conditions. The subsurface materials below the first few feet at the project site are mainly granular, and excavations for drilled piers may encounter saturated granular soils. Recommendations for excavation stabilization are provided. Excavated materials may also be wet and need to be dried out before reuse as fill.

7.6 Corrosive/Deleterious Soil

Corrosivity analysis was performed by CERCO Analytical, Inc. of Concord, California on samples of the near-surface soil. As reported by CERCO Analytical, the samples were determined to be "moderately corrosive" based on resistivity test results. CERCO Analytical' s report (see Appendix C) included the following recommendation: "All buried iron, steel, cast iron, ductile iron, galvanized steel and dielectric coated steel or iron should be properly protected against corrosion depending upon the critical nature of the structure. All buried metallic pressure piping such as ductile iron firewater pipelines should be protected against corrosion."

The results for sulfate ion testing indicate that it is not sufficient to damage buried reinforced concrete structures or cement mortar-coated steel.

Please refer to the CERCO Analytical report included in Appendix C for more information regarding their test results and brief evaluation.

8 CONCLUSIONS

Based on our review of the referenced background data, site reconnaissance, subsurface evaluation, and laboratory testing, it is our opinion that the proposed construction is feasible from a geotechnical standpoint. Geotechnical considerations include the following:

- The subsurface conditions encountered during our exploration generally consisted of moist, firm to very stiff lean clay and medium dense to dense, silty and clayey sand.
- The site could experience a relatively large degree of ground shaking during a significant earthquake event on a nearby fault.
- Groundwater was not encountered during our subsurface exploration. Variations in the groundwater level across the site and over time should be anticipated.
- Static settlement should be tolerable for the proposed improvements provided that the proposed structures are supported on foundations that conform to our recommendations and fill placement to raise grades is less than 2 feet in height.
- Expansion Index and Atterberg limit testing indicates that the near-surface soil on site has a low expansion characteristic.
- Laboratory corrosion testing indicates that the near-surface site soils are considered moderately corrosive. A corrosion engineer should be consulted to provide specific guidance on protective measures to mitigate corrosion.

9 RECOMMENDATIONS

The following guidelines should be used in the preparation of the construction plans. The project plans and specifications should be reviewed by Ninyo & Moore prior to construction bidding to check for consistency with these recommendations.

9.1 Seismic Design Criteria

Table 1 presents the Risk-Targeted, Maximum Considered Earthquake (MCER) spectral response accelerations consistent with the 2022 California Building Code and corresponding site-adjusted and design level spectral response accelerations based on the USGS seismic design maps (SEAOC/OSHPD, 2023).

According to shear-wave velocity in upper 30 meter of surficial geology map provided by California Department of Conservation (DOC, 2020), the shear wave velocity in the upper 30 meter is about 400 m/s. According to ASCE 7-16, Table 20.3-1, the site is classified as D, defined as stiff soil.

Table 1 – California Building Code Seismic Design Criteria

Seismic Design Parameter Evaluated for 37.658749° North Latitude, 122.408609°West	Value
Site Classification	D-Stiff Soil
Site Coefficient, F_a	1.0
Site Coefficient, F_v	--
Mapped Spectral Response Acceleration at 0.2-second Period, S_s	1.941g
Mapped Spectral Response Acceleration at 1.0-second Period, S_1	0.799g
Spectral Response Acceleration at 0.2-second Period Adjusted for Site Class, S_{MS}	1.941g
Spectral Response Acceleration at 1.0-second Period Adjusted for Site Class, S_{M1}	--
Design Spectral Response Acceleration at 0.2-second Period, S_{DS}	1.294g
Design Spectral Response Acceleration at 1.0-second Period, S_{D1}	--
Seismic Design Category for Risk Category I, II, or III	II

9.2 Earthwork Recommendations

Earthwork should be performed in accordance with the requirements of applicable governing agencies and the recommendations presented below. The geotechnical consultant should observe earthwork operations. Evaluations performed by the geotechnical consultant during the course of operations may result in new recommendations, which could supersede the recommendations in this section.

9.2.1 Pre-Construction Conference

We recommend that a pre-construction conference be held to discuss the grading recommendations presented in the report. Representatives of South San Francisco, the architect, the engineer, Ninyo & Moore, and the contractor should be in attendance to discuss project schedule and earthwork requirements.

9.2.2 Site Preparation

Site preparation should begin with the removal of vegetation, utility lines, debris and other deleterious materials from areas to be graded. Tree stumps and roots should be removed to such a depth that organic material is generally not present. Clearing and grubbing should extend to the outside of the proposed excavation and fill areas. Rubble and excavated materials that do not meet criteria for use as fill should be disposed of in an appropriate landfill. Existing utilities in the work area should be relocated away from the proposed structures. Existing utilities to be abandoned should be removed, crushed in place, or backfilled with grout.

Excavations resulting from removal of existing building foundations, buried utilities, tree stumps, or obstructions should be backfilled with compacted fill in accordance with the recommendations presented in the following sections.

9.2.3 Observation and Removals

Prior to placement of fill, or the placement of forms or reinforcement for foundations, the client should request an evaluation of the exposed subgrade by Ninyo & Moore. Materials that are considered unsuitable shall be excavated under the observation of Ninyo & Moore in accordance with the recommendations provided in this section or supplemental recommendations by the geotechnical engineer. Based on the materials encountered during our subsurface exploration and the type of proposed construction, we do not anticipate that unsuitable materials will be encountered.

Unsuitable materials include, but may not be limited to dry, loose, soft, wet, expansive, organic, or compressible natural soil, and undocumented or otherwise deleterious fill materials. Unsuitable materials should be removed from trench bottoms and below bearing surfaces to a depth at which suitable foundation subgrade, as evaluated in the field by Ninyo & Moore, is exposed.

9.2.4 Material Recommendations

Materials used during earthwork, grading, and paving operations should comply with the requirements listed in Table 2. Materials should be evaluated by the geotechnical engineer

for suitability prior to use. The contractor should notify the geotechnical consultant 72 hours prior to import of materials or use of on-site materials to permit time for sampling, testing, and evaluation of the proposed materials. On-site materials may need to be dried out before re-use as fill. The contractor should be responsible for the uniformity of import material brought to the site.

Table 2 – Recommended Material Requirements

Material and Use	Source	Requirements[1,2]
General Fill: Import - for uses not otherwise specified	Import	Close-graded with 35 percent or more passing No. 4 sieve and either: Expansion Index of 50 or less, Plasticity Index of 12 or less, or less than 10 percent, by dry weight, passing No. 200 sieve
	On-site borrow	No additional requirements[1]
Aggregate Subbase	Import	Class II; CSS[4] Section 25-1.02
Aggregate Base	Import	Class II; CSS[4] Section 26-1.02
Controlled Low Strength Material (CLSM)	Import	CSS[4] Section 19-3.02F
Pipe/Conduit Bedding and Pipe Zone Material -material below pipe invert to 12 inches above pipe	Import	90 to 100 percent (by mass) should pass No. 4 sieve, and 5 percent or less should pass No. 200 sieve
Trench Backfill - above bedding material	Import or on-site borrow	As per general fill and excluding rock/lumps retained on 4-inch sieve or 2-inch sieve in top 12 inches

Notes:
1 In general, fill should be free of rocks or lumps in excess of 6 inches in diameter, trash, debris, roots, vegetation or other deleterious material.
2 In general, import fill should be tested or documented to be non-corrosive[3] and free from hazardous materials in concentrations above levels of concern.
3 Non-corrosive as defined by the Caltrans Corrosion Guidelines (Caltrans, 2018a).
4 CSS is California Standard Specifications (Caltrans, 2018b).

9.2.5 Subgrade Preparation

Subgrade in trenches and below flatwork or fill should be prepared as per the recommendations in Table 3. Prepared subgrade should be maintained in a moist (but not saturated) condition by the periodic sprinkling of water prior to placement of additional overlying fill. Subgrade that has been permitted to dry out and loosen or develop desiccation cracking, should be scarified, moisture-conditioned, and recompacted as per the requirements above.

Table 3 – Subgrade Preparation Recommendations	
Subgrade Location	**Source**
Below fill, slabs, and flatwork	• After clearing per Section 9.2.2, check for unsuitable materials as per Section 9.2.3. • Scarify top 8 inches then moisture-condition and compact as per Section 9.2.6. • Keep in moist condition by sprinkling water.
Utility Trenches	• After clearing per Section 9.2.2, check for unsuitable materials as per Section 9.2.3. • Remove or compact loose/soft material.

9.2.6 Fill Placement and Compaction

Fill and backfill should be compacted in horizontal lifts in conformance with the recommendations presented in Table 4. The allowable uncompacted thickness of each lift of fill depends on the type of compaction equipment utilized, but generally should not exceed 8 inches in loose thickness.

Table 4 – Fill Placement and Compaction Recommendations			
Fill Type	**Location**	**Compacted Density[1]**	**Moisture Content[2]**
Subgrade	Flatwork, or fill and in locations not already specified	90 percent	+ 2 percent or above
General Fill	In locations not already specified	90 percent	+ 2 percent or above
Bedding and Pipe Zone Fill	Material below invert to 12 inches above pipe or conduit	90 percent	Near Optimum
Trench Backfill	Top 18 inches below finish subgrade for areas subject to vehicular loading	95 percent	+ 2 percent or above
	In locations not already specified	90 percent	+ 2 percent or above
Aggregate Base	Below hardscape	95 percent	Near Optimum

Notes:
1 Expressed as percent relative compaction or ratio of field density to reference density (typically on a dry density basis for soil and aggregate). The reference density of soil and aggregate should be evaluated by ASTM D 1557.
2 Target moisture content at compaction relative to the optimum as evaluated by ASTM D 1557.

Compacted fill should be maintained in a moist (but not saturated) condition by the periodic sprinkling of water prior to placement of additional overlying fill. Fill that has been permitted to dry out and loosen or develop desiccation cracking, should be scarified, moisture-conditioned, and recompacted as per the requirements above.

9.2.7 Temporary Excavations and Shoring

Trench excavations shall be stabilized in accordance with the Excavation Rules and Regulations (29 Code of Federal Regulations [CFR], Part 1926) stipulated by the Occupational Safety and Health Administration (OSHA). Stabilization shall consist of shoring sidewalls or laying slopes back.

Dewatering pits or sumps should be used to depress the groundwater level (if encountered) below the bottom of the excavation. Table 5 lists the OSHA material type classifications and corresponding allowable temporary slope layback inclinations for soil deposits that may be encountered on site. Alternatively, an internally-braced shoring system or trench shield conforming to the OSHA Excavation Rules and Regulations (29 CFR, Part 1926) may be used to stabilize excavation sidewalls during construction. The lateral earth pressures listed in Table 5 may be used to design or select the internally-braced shoring system or trench shield. The recommendations listed in this table are based upon the limited subsurface data provided by our exploratory borings and reflect the influence of the environmental conditions that existed at the time of our exploration. Excavation stability, material classifications, allowable slopes, and shoring pressures should be re-evaluated and revised, as-needed, during construction. Excavations, shoring systems and the surrounding areas should be evaluated daily by a competent person for indications of possible instability or collapse.

Table 5 – OSHA Material Classifications and Allowable Slopes

Formation	OSHA Classification	Allowable Temporary Slope[1,2,3]	Lateral Earth Pressure on Shoring[4] (psf)
Alluvium (above groundwater)	Type C	1½ h:1v (34°)	80×D + 72

Notes:

1 Allowable slope for excavations less than 20 feet deep. Excavation sidewalls in cohesive soil may be benched to meet the allowable slope criteria (measured from the bottom edge of the excavation). The allowable bench height is 4 feet. The bench at the bottom of the excavation may protrude above the allowable slope criteria.
2 In layered soil, layers shall not be sloped steeper than the layer below.
3 Temporary excavations less than 5 feet deep may be made with vertical side slopes and remain unshored if judged to be stable by a competent person (29 CFR, Part 1926.650).
4 'D' is depth of excavation for excavations up to 20 feet deep. Includes a surface surcharge equivalent to two feet of soil.

The shoring system should be designed or selected by a suitably qualified individual or specialty subcontractor. The shoring parameters presented in this report are preliminary design criteria, and the designer should evaluate the adequacy of these parameters and make appropriate modifications for their design. We recommend that the contractor take

appropriate measures to protect workers. OSHA requirements pertaining to worker safety should be observed.

Excavations made in close proximity to existing structures may undermine the foundation of those structures and/or cause soil movement related distress to the existing structures. Stabilization techniques for excavations in close proximity to existing structures will need to account for the additional loads imposed on the shoring system and appropriate setback distances for temporary slopes. The geotechnical engineer should be consulted for additional recommendations if the proposed excavations cross below a plane extending down and away from the foundation bearing surfaces of the adjacent structure at an angle of 2:1 (horizontal to vertical).

The excavation bottoms may encounter wet, loose material, which may be subject to pumping under heavy equipment loads. The contractor should be prepared to stabilize the bottom of the excavations. In general, unstable bottom conditions may be mitigated by using a stabilizing geogrid, overexcavating the excavation bottom to suitable depths and replacing with compacted fill, or other suitable method. Additionally, aeration of wet soils should be anticipated.

9.2.8 Utility Trenches

Trenches constructed for the installation of underground utilities should be stabilized in accordance with our recommendations in Section 9.2.7. Utility trenches should be backfilled with materials that conform to our recommendations in Section 9.2.4. Trench backfill, bedding, and pipe zone fill should be compacted in accordance with Section 9.2.6 of this report. Bedding and pipe zone fill should be shoveled under pipe haunches and compacted by manual or mechanical, hand-held tampers. Trench backfill should be compacted by mechanical means. Densification of trench backfill by flooding or jetting should not be permitted.

To reduce potential for moisture intrusion into a building envelope, we recommend plugging utility trenches at locations where the trench excavations cross under a building perimeter. The trench plug should be constructed of a compacted, fine-grained, cohesive soil that fills the cross-sectional area of the trench for a distance equivalent to the depth of the excavation. Alternatively, the plug may be constructed of concrete or CLSM.

9.2.9 Rainy Weather Considerations

Earthwork and foundation construction should be performed during the period between approximately April 15 and October 15 to avoid the rainy season. In the event that grading is performed during the rainy season, the plans for the project should be supplemented to include a stormwater management plan prepared in accordance with the requirements of the relevant agency having jurisdiction. The plan should include details of measures to protect the subject property and adjoining off-site properties from damage by erosion, flooding or the deposition of mud, debris, or construction-related pollutants, which may originate from the site or result from the grading operation. The protective measures should be installed by the commencement of grading, or prior to the start of the rainy season. The protective measures should be maintained in good working order unless the project drainage system is installed by that date and approval has been granted by the building official to remove the temporary devices.

In addition, construction activities performed during rainy weather may impact the stability of excavation subgrade and exposed ground. Temporary swales should be constructed to divert surface runoff away from excavations and slopes. Steep temporary slopes should be covered with plastic sheeting during significant rains. The geotechnical consultant should be consulted for recommendations to stabilize the site as-needed.

9.3 Structure Foundations

Foundations should be designed in accordance with structural considerations and the following recommendations. In addition, requirements of the appropriate governing jurisdictions and applicable building codes should be considered in design of the structures.

9.3.1 Shallow Foundation

The proposed structures may be designed for a net allowable bearing capacity of 2,000 pounds per square foot (psf) presuming that the foundation is constructed per the recommendations in this report. This allowable bearing capacity includes a factor of safety of more than 3 and may be increased by one-third when considering wind or seismic loading combinations. Shallow foundations should have a minimum width of 24 inches and a minimum depth of the foundation base below adjacent grade of 24 inches.

The proposed structures should be designed for a total settlement of ½-inch due to sustained loads and a differential settlement of ¼-inch over a 20-foot span. The deflection of a mat foundation due to applied loads may be evaluated using a modulus of subgrade reaction equivalent to 50 pounds per cubic inch. Foundations may undergo additional settlement due

to seismic shaking following a significant earthquake. To mitigate differential settlement between the structure and exterior flatwork, the exterior flatwork may be designed as a knock-out slab. The geotechnical engineer should observe foundation subgrade to evaluate bearing materials and subgrade condition before the exposed subgrade is covered.

The mat slab and slab reinforcement should be designed and detailed by the structural engineer based on the anticipate loading and usage. Recommendations for concrete and concrete cover over reinforcing steel are presented in Section 9.5. Masonry briquettes or plastic chairs should be used to aid in the correct placement of slab reinforcement.

A moisture vapor retarding system, consisting of a Class A plastic membrane conforming to ASTM E1745 on a 6-inch thick capillary break layer of ¾-inch crushed rock, should be provided under mat slabs overlain by moisture sensitive floor coverings or underlying conditioned spaces. Where a moisture vapor retarding system is not needed, mat slabs should be constructed over 6 inches of aggregate base that conforms to the criteria for Class 2 aggregate base in Section 26-1.02 of the California Standard Specifications (Caltrans 2015) and is compacted to 95 percent of the reference density as evaluated by ASTM D1557. A layer of coarse sand, up to 2 inches thick, may be placed over the aggregate base or moisture vapor retarder to provide a level surface for precast mat foundations.

A friction coefficient of 0.35 and a lateral bearing pressure of 250 psf per foot of embedment depth may be used to evaluate foundation resistance to lateral loads. The lateral bearing pressure should be neglected to a depth of 12 inches where the ground adjacent to the foundation is not covered by a slab or pavement. The lateral bearing pressure may be increased by one-third when considering loads of short duration such as wind or seismic forces.

Vaults or other below grade walls should be designed to resist at-rest earth pressures. Vaults backfilled with imported fill or on-site soil meeting the criteria for general fill in Section9.2.4 should be designed to resist an at-rest lateral earth pressure equivalent to 94 psf per foot depth for undrained conditions with level backfill or 64 psf per foot depth for drained conditions with level backfill. For rising backfill conditions, the at-rest equivalent fluid earth pressure may be increased by 1 psf per foot depth per degree of inclination.

Walls retaining level ground should be designed to resist construction or live load surcharges on the backfill. The lateral earth pressure due to a backfill surcharge of 240 psf should be a uniform pressure of 120 psf for at-rest conditions. Vaults may be supported on deep mat foundations designed in conformance with the recommendations in this report.

The foundation design parameters provided are not intended to preclude differential movement of foundations. Minor cracking may occur.

9.3.2 Drilled Piers

The new trellis and shade structures, art piece, and other minor pole structures may be supported on drilled pier foundations. Drilled piers embedded 5 to 15 feet deep may be designed for an allowable side friction of 200 pounds per square foot (psf) to evaluate resistance to downward axial loads and 100 psf per foot depth for upward axial loads. The allowable side friction may be increased by one-third when considering loads of short duration, such as wind or seismic loads. Soil support over the upper 1.5 feet of the pier should be assumed to be zero.

An allowable lateral bearing pressure of 250 psf per foot depth up to 2,500 psf may be used to evaluate resistance to lateral loads and overturning moments. The allowable lateral bearing pressure may be increased by a factor of two for structures that can accommodate ½ inch of lateral deflection and by 1⅓ for wind or seismic loading conditions.

Drilled pier excavations should be cleaned of loose material prior to pouring concrete. Drilled pier excavations that encounter groundwater or cohesionless soil may be unstable, and may need to be stabilized by temporary casing or use of drilling mud. Standing water should be removed from the pier excavation, or the concrete should be delivered to the bottom of the excavation, below the water surface, by tremie pipe. Casing should be removed from the excavation as the concrete is placed. Concrete should be placed in the piers in a manner that reduces the potential for segregation of the components.

9.4 Pavements and Flatwork

Recommendations for asphalt pavement and exterior flatwork are presented in the following sections. The design R-value used for evaluating the pavement sections was selected based on R-value testing performed on a sample collected during our subsurface exploration. The pavement subgrade should be observed by the geotechnical engineer during grading to check that the exposed materials are consistent with the findings from our subsurface exploration and the support characteristics assumed for pavement design. Additional R-value testing may be needed, based on these observations, with subsequent revision to the pavement sections. Recommendations for preparation of subgrade are presented in Section 9.2.5.

Pavement sections were evaluated for a range of traffic indexes or loading conditions. The designer may interpolate between the values provided once a traffic index or loading condition has been selected.

9.4.1 Asphalt Pavement

Ninyo & Moore conducted an analysis to evaluate appropriate asphalt pavement structural sections following the methodology presented in the Highway Design Manual (Caltrans, 2020). Alternative sections were evaluated. The pavement sections were designed for a 20-year service life presuming that periodic maintenance, including crack sealing and resurfacing will be performed during the service life of the pavement. Premature deterioration may occur without periodic maintenance. Our recommendations for the pavement sections are presented in Table 6.

Paving operations and base preparation should be observed and tested by Ninyo & Moore. Subgrade enhancement geotextiles, where utilized, should be rolled out flat and tight, without folds or wrinkles, over prepared subgrade in the direction of travel. The geotextile should be pinned to the subgrade with nails and washers or u-shaped sod staples. Adjacent rolls should overlap 12 inches or more. Abutting rolls should overlap in the direction of fill placement to reduce the potential for peeling of the geotextile during fill placement. Aggregate base fill should be pushed over the geotextile into position and compacted. To reduce the potential for displacement of the geotextile or deterioration of the subgrade, construction equipment should not operate on the geotextile with 6 inches of aggregate base cover.

Table 6 – Asphalt Concrete Pavement Sections

Traffic Index	R-value	Alternative 1	Alternative 2
3	7	4 inches AC	2½ inches AC 4½ inches AB
6	7	10 inches AC	4 inches AC 12½ inches AB
9	7	12 inches AC	5 inches AC 15 inches AB

Notes:
[1] AC is Type A, Dense-Graded Hot Mix Asphalt complying with Caltrans Standard Specification 39-2 (2022).
[2] AB is Class II Aggregate Base complying with Caltrans Standard Specification 26-1.02 (2022).
[3] SEG is subgrade enhancement geotextile such as Mirafi 600X or equivalent.

Aggregate base for pavement should be placed in lifts of no more than 8 inches in loose thickness and compacted per Section 9.2.6. Asphalt concrete should be placed and compacted per Section 9.2.6. Pavements should be sloped so that runoff is diverted to an appropriate collector (concrete gutter, swale, or area drain) to reduce the potential for ponding of water on the pavement. Concentration of runoff over asphalt pavement should be discouraged.

9.4.2 Concrete Pavement

Concrete and aggregate base thickness should be 6 inches or more for flatwork subject to vehicular traffic up to periodic garbage trucks and emergency vehicles. Flatwork subject to impact from unloading of dumpsters should be 8 inches thick or more.

Appropriate jointing of concrete flatwork can encourage cracks to form at joints, reducing the potential for crack development between joints. Joints should be laid out in a square pattern at consistent intervals. Contraction and construction joints should be detailed and constructed in accordance with the guidelines of ACI Committee 302. The ratio of lateral spacing between contraction joints to the nominal thickness of the slab should not exceed 24 for jointed plain concrete. Contraction joints formed by premolded inserts, grooving plastic concrete, or saw-cutting at initial hardening, should extend to a depth equivalent to 25 percent of the slab thickness and 1 inch or more for thin slabs. The joint location and layout of new or reconstructed flatwork abutting existing flatwork should be consistent with joint location/layout of the existing flatwork.

Flatwork may be reinforced with distributed steel to reduce the potential for differential slab movement where cracking occurs. The distributed reinforcing steel should be terminated about 3 inches from contraction joints and should consist of No. 3 deformed bars at 18 inches on center, both ways, or with 6x6-D4/D4 welded wire fabric supplied as sheets (not rolls). Slabs reinforced with distributed steel should be 6 inches thick (or more) for No. 3 bar reinforcement and 5 inches thick (or more) for 6x6-D4/D4 reinforcement to provide adequate concrete cover for the steel. To reduce the potential for differential slab movement across joints, the distributed steel may be extended through the joints. This improvement will be balanced by a reduction in the functionality of the contraction joint to encourage crack formation at joints. Flatwork subject to impact from unloading of dumpsters should be reinforced with No. 4 deformed bars at 12 inches on center, both ways extending through contraction joints, if present. Masonry briquettes or plastic chairs should be used to maintain the position of the reinforcement in the upper half of the slab with 1½ inches of cover over

the steel and 3 inches of cover under the steel. Root barriers adjacent to trees may be considered to reduce the potential for pavement heave from root growth.

After demolition, clearing, and rough grading, finish subgrade for flatwork should be scarified and moisture conditioned as needed to achieve a moisture content about 2 percentage points above the optimum, before compaction, by mechanical means, to 90 percent or more of ASTM D1557 reference density on a dry density basis for flatwork that is not subject to vehicular loading and 95 percent of the reference density for flatwork that is subject to vehicular loading. Aggregate base should conform to the criteria for Class 2 aggregate base in Section 26-1.02 of the California Standard Specifications (Caltrans, 2022) and should be placed and compacted in lifts by vibrating plates, smooth drum rollers, or mechanical tampers, to 95 percent of the ASTM D1557 reference density on a dry density basis after moisture conditioning to near the optimum moisture content. The allowable lift thickness is influenced by the type of compaction equipment utilized but generally should not exceed 8 inches in loose thickness. Compacted subgrade and aggregate base should be maintained in a moist condition by sprinkling water. Compacted subgrade or aggregate base that has dried out and loosened or developed desiccation cracking should be scarified and moisture-conditioned, as needed, and recompacted as per the requirements above before the material is covered with concrete or aggregate base.

9.4.3 Exterior Flatwork

Concrete walkways and other exterior flatwork not subject to vehicular loading should be 4 inches thick (or more) over 6 inches of aggregate base. Appropriate jointing of concrete flatwork can encourage cracks to form at joints, reducing the potential for crack development between joints. Joints should be laid out in a square pattern at consistent intervals. Contraction and construction should be detailed and constructed in accordance with the guidelines of ACI Committee 302 (ACI, 2016). The lateral spacing between contraction joints should be 8 feet or less for a 4-inch thick slab.

Distributed reinforcing steel may be utilized to reduce the potential for differential slab movement, should cracking occur between joints. The distributed reinforcing steel should be terminated about 6 inches from contraction joints and should consist of No. 3 deformed bars at 18 inches on center, both ways. Slabs reinforced with distributed steel should be 5 inches thick (or more). To reduce the potential for differential slab movement across joints, the distributed steel may be extended through the joints. This improvement will be balanced by a reduction in the functionality of the contraction joint to encourage crack formation at joints.

Masonry briquettes or plastic chairs should be used to maintain the position of the reinforcement in the upper half of the slab with 1½ inches of cover over the steel.

9.5 Concrete

Due to the variability in the on-site soil, we recommend that Type II/V or Type V cement be used for concrete structures in contact with soil. In addition, we recommend a water-to-cement ratio of no more than 0.45. A 3-inch thick, or thicker, concrete cover should be maintained over reinforcing steel where concrete is in contact with soil in accordance with Section 20.6 of ACI Concrete Institute (ACI) Committee 318 (ACI, 2016).

To reduce the potential for shrinkage cracks in the concrete during curing, concrete for slabs and flatwork should not contain large quantities of water or accelerating admixtures containing calcium chloride. Higher compressive strengths may be achieved by using larger aggregates in lieu of increasing the cement content and corresponding water demand. Additional workability, if desired, may be obtained by including water-reducing or air-entraining admixtures. Concrete should be placed in accordance with the appropriate guidance in the ACI Manual of Concrete Practice (MCP) and project specifications. Particular attention should be given to curing techniques and curing duration. Slabs that do not receive adequate curing have a more pronounced tendency to develop random shrinkage cracks and other defects.

9.6 Surface Drainage

Positive surface drainage should be provided to divert surface water and roof runoff away from foundations. Downspouts should be connected to a closed drainage system to discharge at a suitable location 10 feet or more away from the foundations. Runoff should be diverted by the use of swales or pipes into a collective drainage system. Drainage on the site should be provided so that water is not permitted to pond. A gradient of 2 percent or steeper should be maintained and drainage patterns should be established to divert and remove water from the site to appropriate outlets. Care should be taken by the contractor during grading to preserve any berms, drainage terraces, interceptor swales or other drainage devices on or adjacent to the project site. Drainage patterns established at the time of grading should be maintained for the life of the project.

9.7 Review of Construction Plans

The recommendations provided in this report are based on preliminary design information for the proposed construction. We recommend that a copy of the plans be provided to Ninyo & Moore for review before bidding to check the interpretation of our recommendations and verify that the designed improvements are consistent with our assumptions. It should be noted that, upon review

of these documents, some recommendations presented in this report might be revised or modified to meet the project requirements.

9.8 Construction Observation and Testing

The recommendations provided in this report are based on subsurface conditions encountered in relatively widely spaced exploratory borings. During construction, the geotechnical engineer or his representative in the field should be allowed to check the exposed subsurface conditions. During construction, the geotechnical engineer or his representative should be allowed to:

- Observe preparation and compaction of subgrade.
- Check and test imported materials prior to use as fill.
- Observe placement and compaction of fill.
- Perform field density tests to evaluate fill and subgrade compaction.
- Observe drilling and installation of drilled piers.

The recommendations provided in this report assume that Ninyo & Moore will be retained as the geotechnical consultant during the construction phase of the project. If another geotechnical consultant is selected, we request that the selected consultant provide a letter to the architect and the owner (with a copy to Ninyo & Moore) indicating that they fully understand Ninyo & Moore's recommendations, and that they are in full agreement with the recommendations contained in this report.

10 LIMITATIONS

The field evaluation, laboratory testing, and geotechnical analyses presented in this geotechnical report have been conducted in general accordance with current practice and the standard of care exercised by geotechnical consultants performing similar tasks in the project area. No warranty, expressed or implied, is made regarding the conclusions, recommendations, and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist, and conditions not observed or described in this report may be encountered during construction. Uncertainties relative to subsurface conditions can be reduced through additional subsurface exploration. Additional subsurface evaluation will be performed upon request. Please also note that our evaluation was limited to assessment of the geotechnical aspects of the project, and did not include evaluation of structural issues, environmental concerns, or the presence of hazardous materials.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Ninyo & Moore should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document.

This report is intended for design purposes only. It does not provide sufficient data to prepare an accurate bid by contractors. It is suggested that the bidders and their geotechnical consultant perform an independent evaluation of the subsurface conditions in the project areas. The independent evaluations may include, but not be limited to, review of other geotechnical reports prepared for the adjacent areas, site reconnaissance, and additional exploration and laboratory testing.

Our conclusions, recommendations, and opinions are based on an analysis of the observed site conditions. If geotechnical conditions different from those described in this report are encountered, our office should be notified and additional recommendations, if warranted, will be provided upon request. It should be understood that the conditions of a site could change with time as a result of natural processes or the activities of man at the subject site or nearby sites. In addition, changes to the applicable laws, regulations, codes, and standards of practice may occur because of government action or the broadening of knowledge. The findings of this report may, therefore, be invalidated over time, in part or in whole, by changes over which Ninyo & Moore has no control.

This report is intended exclusively for use by the client. Any use or reuse of the findings, conclusions, and/or recommendations of this report by parties other than the client is undertaken at said parties' sole risk.

11 REFERENCES

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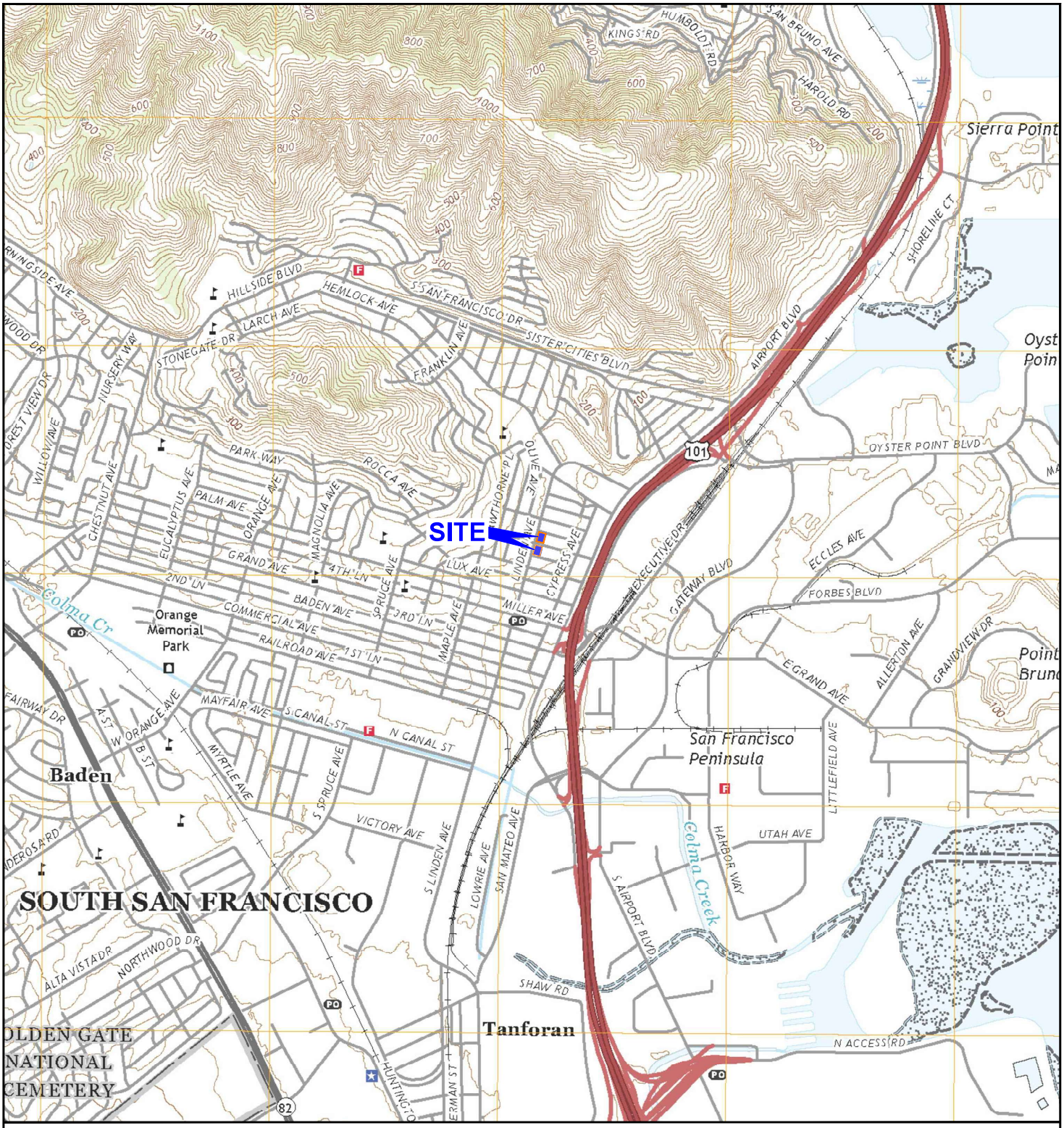
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FIGURES



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NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE I REFERENCE: USGS, 2018

N

SCALE (FEET)

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FIGURE 1

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

SITE LOCATION

LINDEN AVENUE PARK
270 PINE AVENUE AND 616 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA

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NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE I REFERENCE: GOOGLE EARTH, 2023

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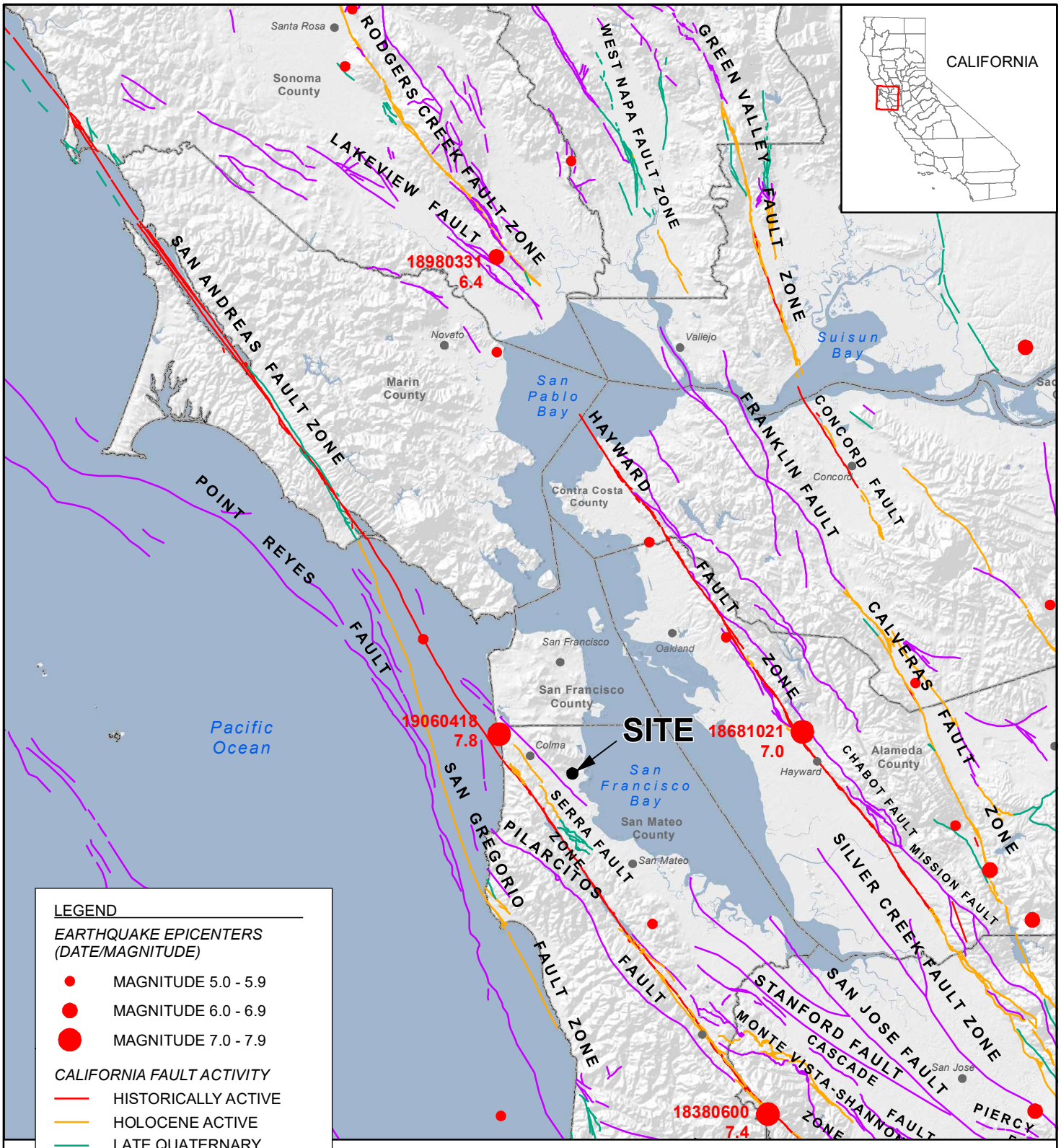
FIGURE 2

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

EXPLORATION LOCATIONS

LINDEN AVENUE PARK
270 PINE AVENUE AND 616 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA

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NOTE: DIRECTIONS, DIMENSIONS, AND LOCATIONS ARE APPROXIMATE

SOURCES: CALIFORNIA GEOLOGICAL SURVEY, 2010, FAULT ACTIVITY MAP OF CALIFORNIA; CALIFORNIA GEOLOGICAL SURVEY, 2000, MAP SHEET 49

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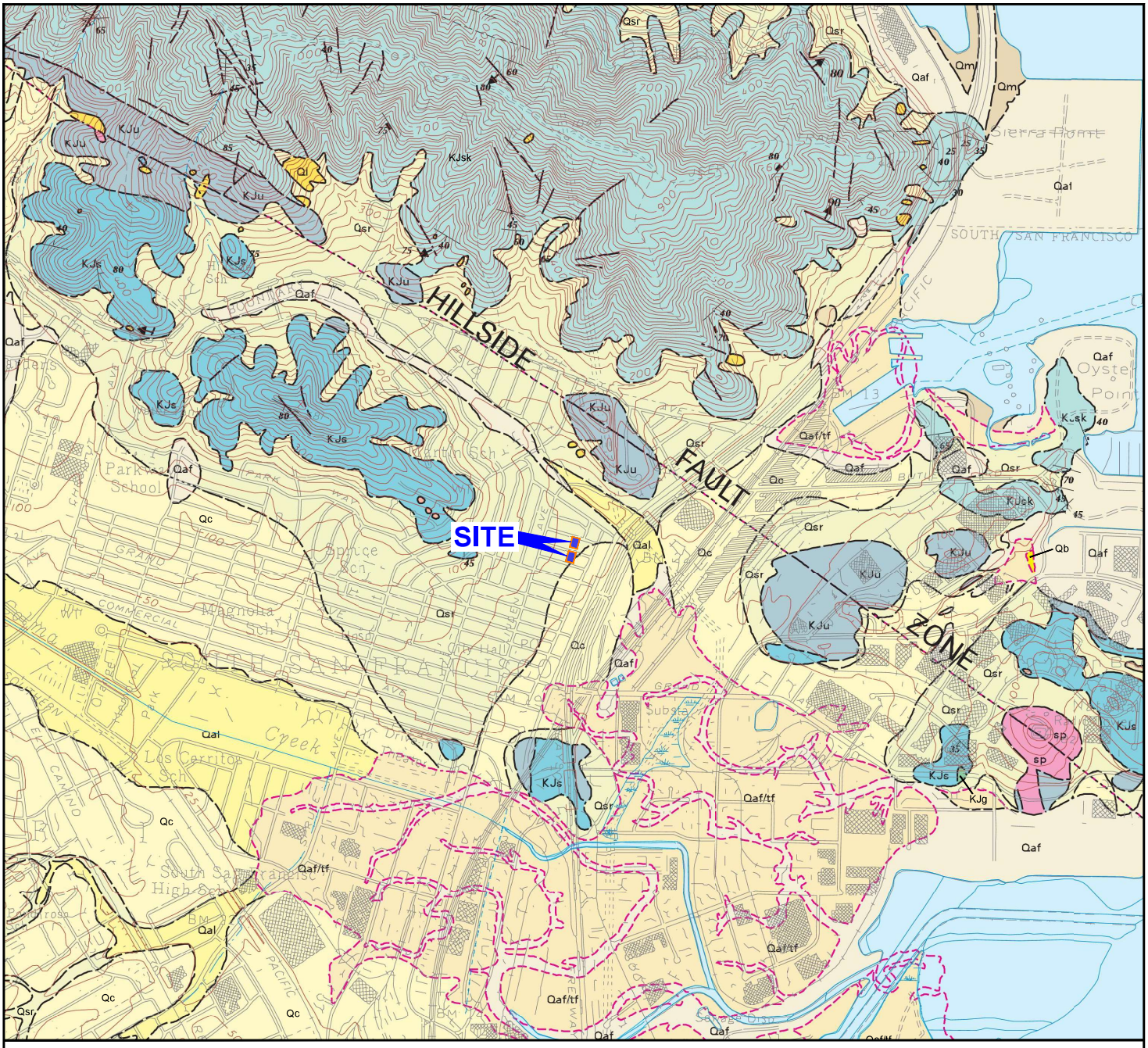
FIGURE 3

FAULT LOCATIONS AND EARTHQUAKE EPICENTERS

LINDEN AVENUE PARK
270 PINE AVENUE AND 616 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA

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Ninyo & Moore
Geotechnical & Environmental Sciences Consultants



LEGEND

Qaf	ARTIFICIAL FILL (HOLOCENE)	Qm	BAY MUD (HOLOCENE)	KJg	FRANCISCAN COMPLEX: GREENSTONE (CRETACEOUS & JURASSIC)
Qaf/tf	ARTIFICIAL FILL OVER TIDAL FLAT (HOLOCENE)	Qsr	SLOPE DEBRIS & RAVINE FILL (PLEISTOCENE)	sp	SERPENTINITE (CRETACEOUS & JURASSIC)
Ql	LANDSLIDE DEPOSITS (HOLOCENE)	Qc	COLMA FORMATION (PLEISTOCENE)	KJu	FRANCISCAN COMPLEX: SHEARED ROCKS (CRETACEOUS & JURASSIC)
Qal	ALLUVIUM (HOLOCENE)	KJs	FRANCISCAN COMPLEX: SANDSTONE & SHALE (CRETACEOUS & JURASSIC)		
Qb	BEACH DEPOSITS (HOLOCENE)	KJsk	FRANCISCAN COMPLEX: SANDSTONE & SHALE (CRETACEOUS & JURASSIC)		

THRUST FAULT
FAULT
GEOLOGIC CONTACT
STRIKE AND DIP OF BEDDING

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE I REFERENCE: BONILLA, 1998

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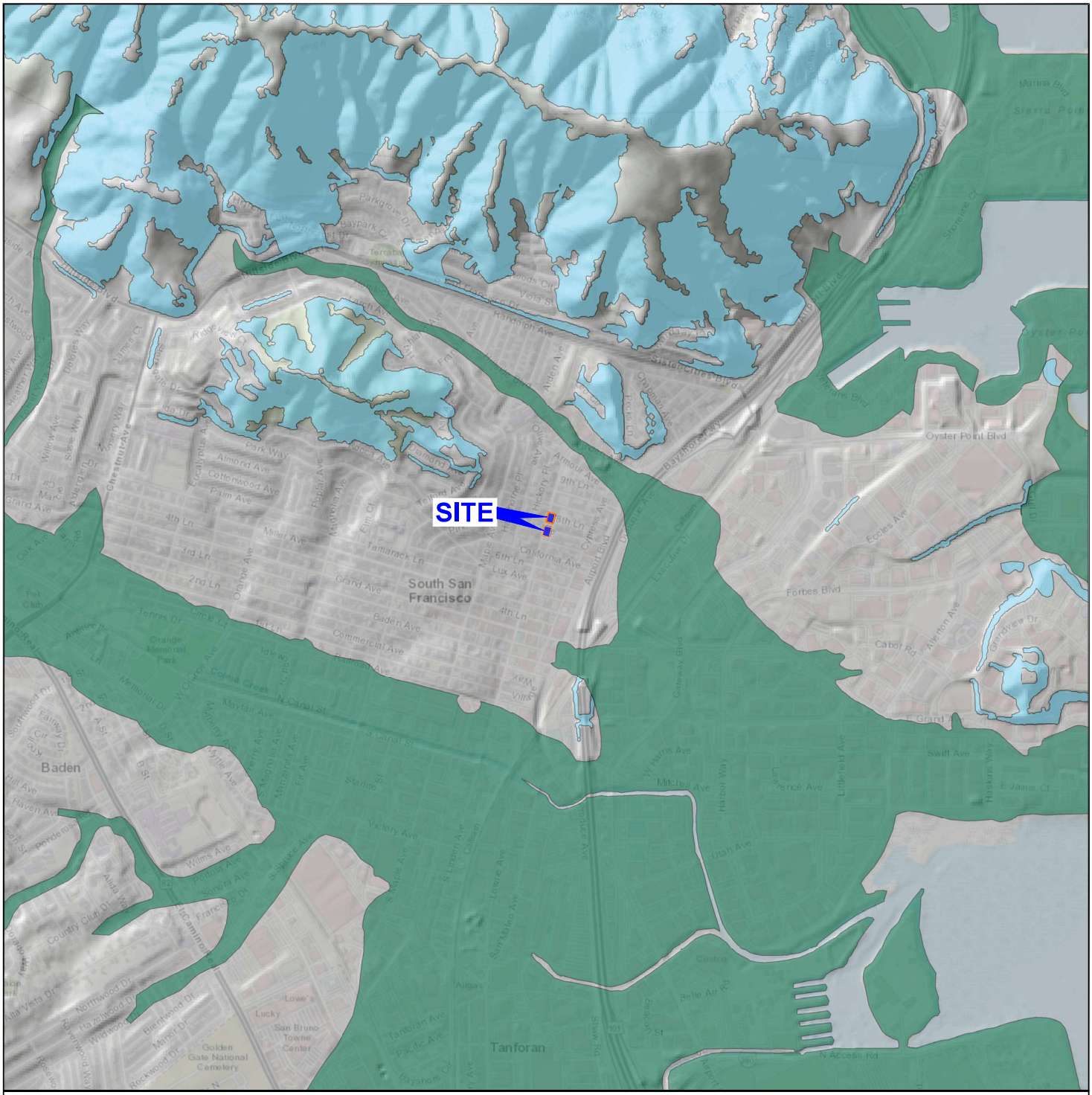
FIGURE 4

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

REGIONAL GEOLOGY

LINDEN AVENUE PARK
270 PINE AVENUE AND 616 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA

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LEGEND

LIQUEFACTION ZONES:
Areas where historic occurrence of liquefaction, or local geological, geotechnical and groundwater conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

EARTHQUAKE-INDUCED LANDSLIDE ZONES:
Areas where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements such that mitigation as defined in Public Resources Code Section 2693(c) would be required.

NOTE: DIMENSIONS, DIRECTIONS, AND LOCATIONS ARE APPROXIMATE I REFERENCE: CGS, 1982, 2021

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FIGURE 5

Ninyo & Moore
Geotechnical & Environmental Sciences Consultants

SEISMIC HAZARD ZONES

LINDEN AVENUE PARK
270 PINE AVENUE AND 616 LINDEN AVENUE
SOUTH SAN FRANCISCO, CALIFORNIA

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APPENDIX A

Boring Logs

APPENDIX E

Transportation Analysis

Hexagon Transportation Consultants, Inc.

Memorandum

Date: August 7, 2025

To: Mr. Philip Vitale, Jr., City of South San Francisco

From: Trisha Dudala, P.E.
Eric Tse, P.E., PTOE

Subject: Transportation Analysis for Linden Park in South San Francisco, California

Hexagon Transportation Consultants, Inc. completed an initial Transportation Analysis for the proposed Linden Park in South San Francisco in January 2024, which analyzed the traffic operational effects of a number of park development alternatives that would potentially close Pine Avenue. Subsequently, the Pine Avenue closure with a new alley alternative was identified as the preferred alternative by the City of South San Francisco. Hexagon was then requested to substantiate the analysis by quantifying the potential traffic effects on the neighborhood streets and intersections due to the proposed Pine Avenue closure.

This memorandum documents the project's potential impact on vehicle miles traveled (VMT) and analyzes the traffic operational effects of the Pine Avenue closure.

The project site (see Figure 1) is located on the east side of Linden Avenue, between 8th Lane to the north and 7th Lane to the south. The site is comprised of two parcels (616 Linden Avenue and 700 Linden Avenue) and a section of Pine Avenue that bisects the project site. 616 Linden Avenue is currently an active parking lot and 700 Linden Avenue is a vacant grass lot. The two parcels would be redeveloped into a park with a children's play area, a space for recreation, a sports court, spaces for community gathering and public art (see Figure 2).

Vehicle Miles Traveled

In accordance with Senate Bill (SB) 743 and the City's Transportation Analysis Guidelines, vehicle miles traveled (VMT) has replaced level of service (LOS) for use in transportation analyses pursuant to the California Environmental Quality Act (CEQA).

According to the City's Transportation Analysis Guidelines, October 2022, some projects may be screened out, or assumed to have a less-than-significant impact on VMT, if they fall within the following categories:

1. Projects located within ½-mile walkshed around major transit stops.
2. 50% affordable housing projects.
3. Small projects that generate less than 100 new trips per day.
4. Locally serving public facilities that encompass government, civic, cultural, health, and infrastructure uses and activity which contribute to and support community needs.
5. Neighborhood-serving retail projects that are less than 50,000 square feet.
6. Hotels designed to serve business travelers or individuals flying in or out of SFO.
7. Residential and office projects in low VMT areas.

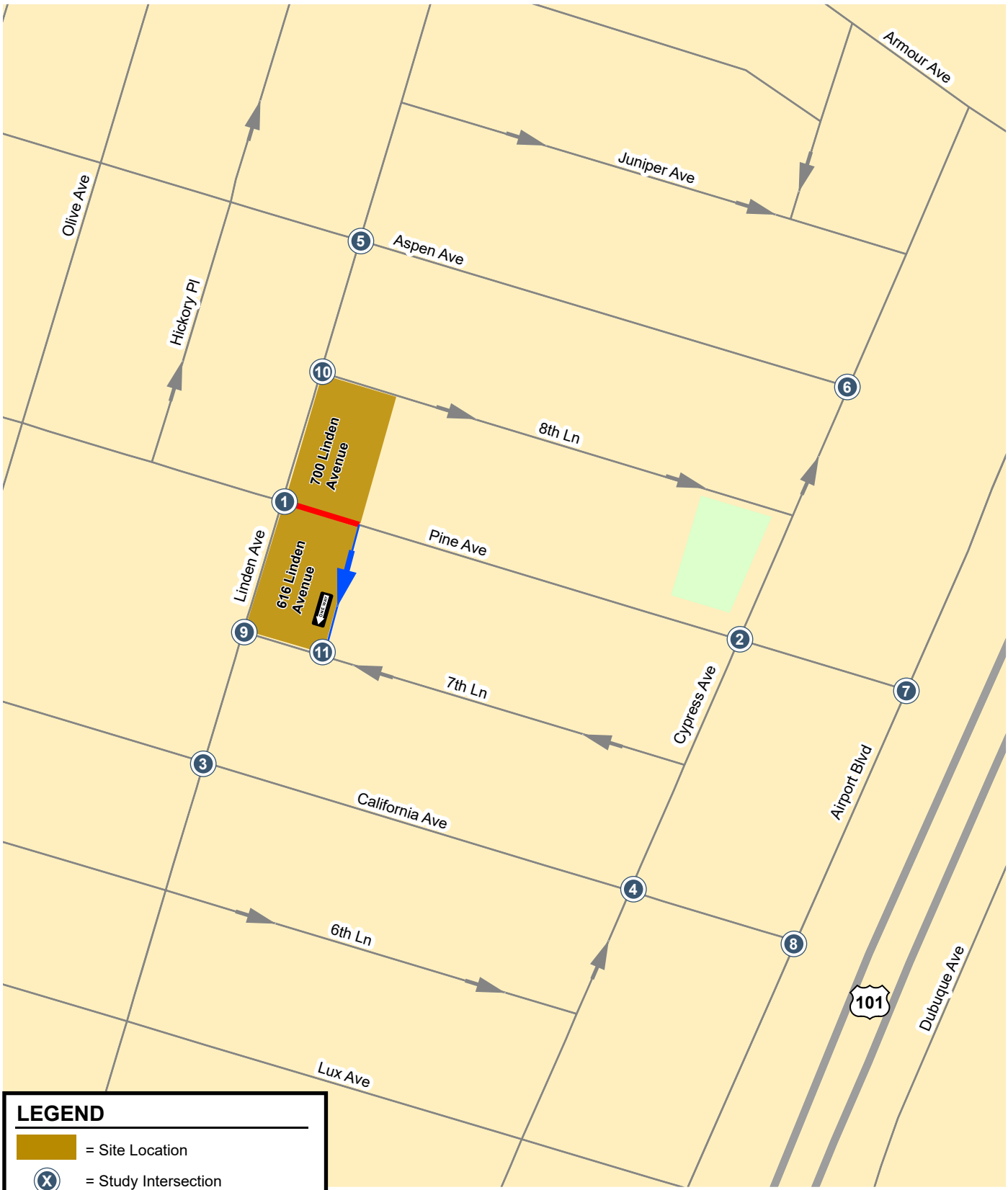


Figure 1
Study Area

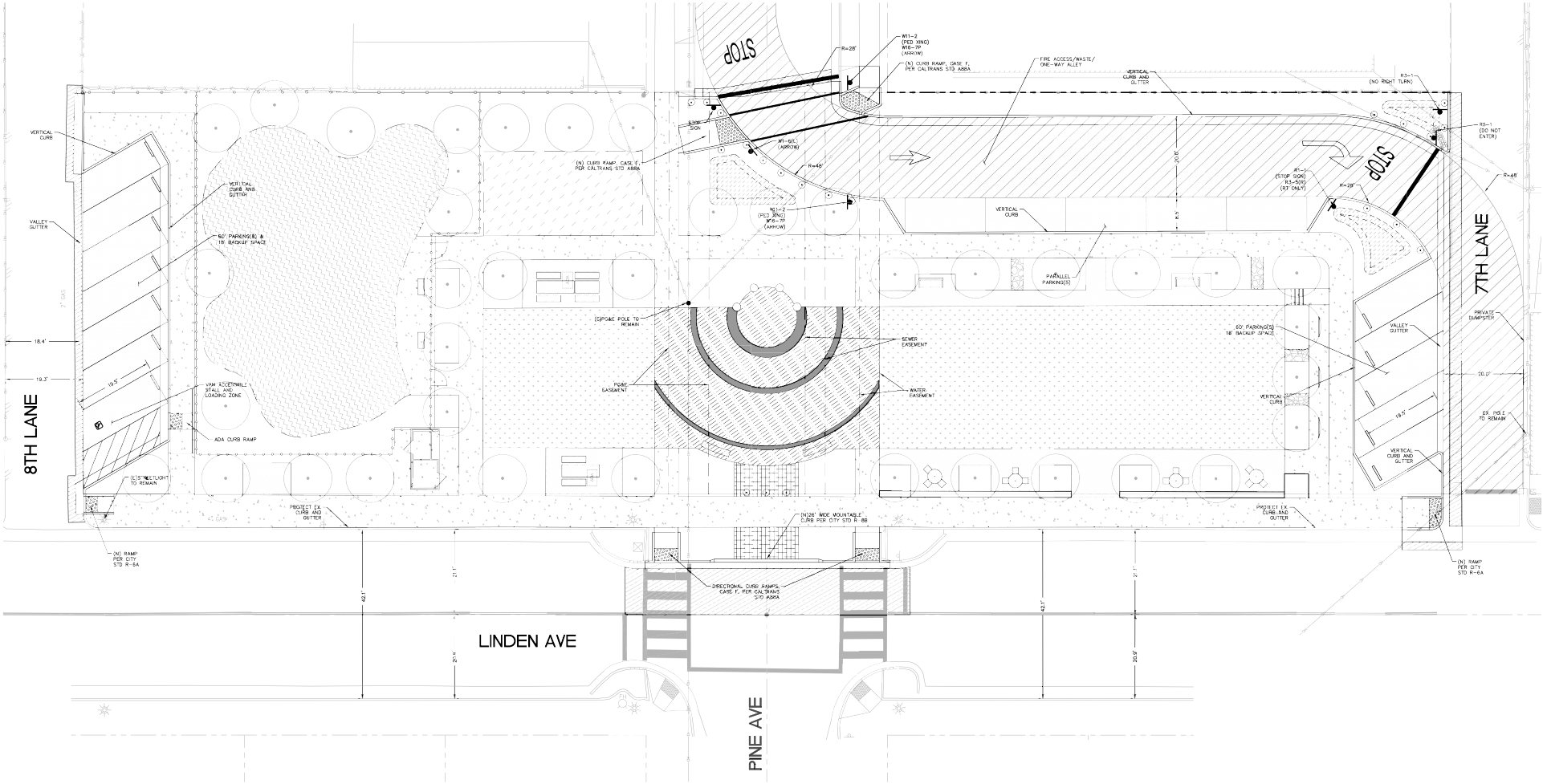


Figure 2
Linden Park – Preferred Concept Plan

HEXAGON

NORTH
Not to Scale

As the project is anticipated to generate less than 100 daily trips (see subsequent discussion in the Project Trip Generation section), according to the South San Francisco's VMT policy, the project would qualify as a small project that may be screened out of a detailed VMT analysis and assumed to have a less than significant impact on VMT. Also, the proposed park would be local serving and would generate activity that would contribute to and support community needs. As the project would generate fewer than 100 daily trips, the project would be considered as a Tier 0 project. According to the city's transportation analysis guidelines, only site access and circulation review are required for Tier 0 projects as these projects would not have a noticeable effect on the existing or future transportation system.

However, as the proposed project would require Pine Avenue to be closed, east of Linden Avenue, and would cause some traffic to divert to the surrounding streets, a level of service (LOS) analysis was conducted for intersections in the study area under existing conditions and with the buildout of the proposed park.

Existing Intersection Operations

The following intersections surrounding the park were analyzed during the AM (7:00 – 9:00) and PM (4:00 – 6:00) peak hours. All of the study intersections are unsignalized.

1. Linden Avenue/Pine Avenue
2. Cypress Avenue/Pine Avenue
3. Linden Avenue/California Avenue
4. Cypress Avenue/California Avenue
5. Linden Avenue/Aspen Avenue
6. Cypress Avenue/Aspen Avenue
7. Airport Boulevard/Pine Avenue
8. Airport Boulevard/California Avenue
9. Linden Avenue/7th Lane
10. Linden Avenue/8th Lane

Existing traffic volumes for intersections surrounding the proposed Linden Park were obtained from peak hour counts conducted on June 4th, 2025, and shown on Figure 3. The count data are included in Appendix A.

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays.

This study utilizes Synchro software to determine intersection level of service. The Synchro software implements the *Highway Capacity Manual* (HCM) 7th Edition methodology for unsignalized intersections. The HCM 7th methodology evaluates intersection operations on the basis of average control delay time (measured in seconds per vehicle) for all vehicles at the intersection. This average delay can then be correlated to a level of service for unsignalized, stopped-controlled intersections shown in Table 1. For stop-controlled intersections, level of service depends on the average delay experienced by vehicles on the stop-controlled approaches. Thus, for two-way or T-intersections, operations are defined by the average control delay experienced by vehicles entering the intersection from the stop-controlled approaches on minor streets or from left-turn approaches on major streets. For an all-way stop controlled intersection, operations are defined by the average control delay for all vehicles entering the intersection.

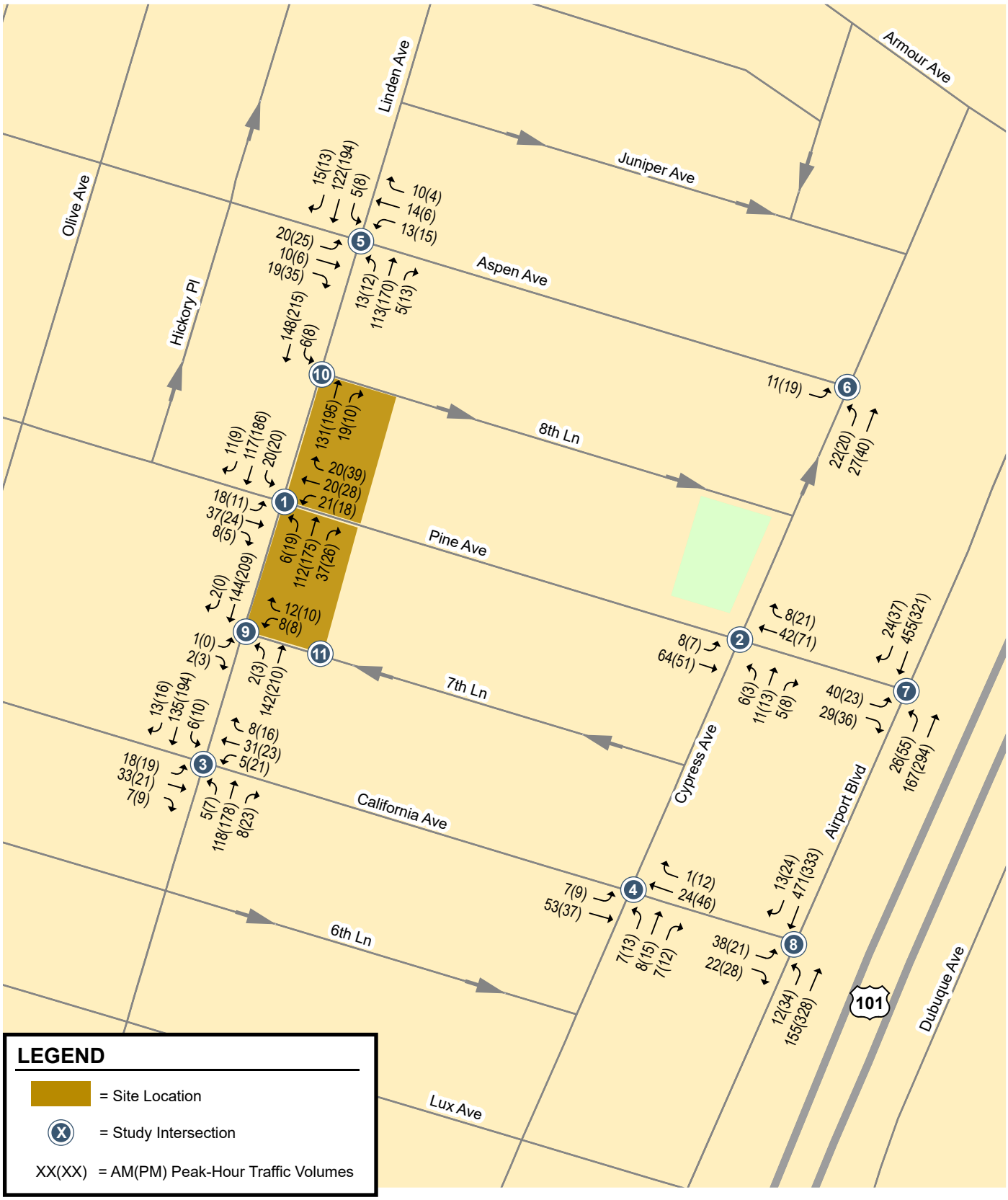


Figure 3
2025 Intersection Volumes

Table 1
Unsignalized Intersection Level of Service Definitions Based on Control Delay

Level of Service	Description	Average Control Delay per Vehicle (sec.)
A	Little or no traffic delay	10.0 or less
B	Short traffic delays	10.1 to 15.0
C	Average traffic delays	15.1 to 25.0
D	Long traffic delays	25.1 to 35.0
E	Very long traffic delays	35.1 to 50.0
F	Extreme traffic delays	greater than 50.0

Source: Transportation Research Board, *Highway Capacity Manual, 7th Edition* (Washington, D.C.,2022)

The results of the intersection level of service analysis under existing conditions are summarized in Table 2. The results of the analysis show that all the study intersections surrounding the proposed park currently operate at LOS A or B with short traffic delays (less than 15 seconds per vehicle) during both the AM and PM peak hours.

Table 2
Existing Conditions Intersection LOS Analysis

#	Intersection	Control [1]	Peak Hour	Existing Conditions [2] Avg. Delay [3] (sec)	LOS [4]
1	Pine Avenue & Linden Avenue	AWSC	AM	8.4	A
			PM	9.2	A
2	Pine Avenue & Cypress Avenue	OWSC	AM	9.1	A
			PM	8.9	A
3	California Avenue & Linden Avenue	AWSC	AM	8.3	A
			PM	9.1	A
4	California Avenue & Cypress Avenue	OWSC	AM	8.9	A
			PM	9.0	A
5	Aspen Avenue & Linden Avenue	AWSC	AM	8.1	A
			PM	8.9	A
6	Aspen Avenue & Cypress Avenue	OWSC	AM	8.9	A
			PM	9.0	A
7	Pine Avenue & Airport Boulevard	OWSC	AM	13.8	B
			PM	12.2	B
8	California Avenue & Airport Boulevard	OWSC	AM	13.5	B
			PM	12.0	B
9	Linden Avenue & 7th Lane	OWSC	AM	9.8	A
			PM	10.8	B
10	Linden Avenue & 8th Lane	OWSC	AM	7.6	A
			PM	7.7	A

Note:
[1] AWSC = All-way stop control, OWSC = One-way stop control.
[2] Existing traffic counts are based on turning movement counts collected on June 4, 2025.
[3] Delay reported as seconds per vehicle. The delay shown is the weighted average delay for all movements at AWSC At OWSC intersections, delay for the stop controlled approach is shown.
[4] LOS is based on Highway Capacity Manual Methodology for unsignalized intersections.

Existing + Project Conditions

Project Trip Generation

The potential new daily vehicle trips that may be generated by the proposed project were estimated by applying trip rates for public parks published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition* to the size of the project site. Table 3 shows the daily, AM and PM peak hour trips that would be generated by the proposed project based on ITE trip generation rates (using the fitted curve equation if available). The ITE trip rates are conservative as they are based on surveys for parks located primarily in suburban areas where a majority of trips are made by vehicles. Given the location of the proposed park and its accessibility to the surrounding residential neighborhoods, it was assumed that approximately 50 percent of these trips would be either walk or bike trips. Based on this assumption, it is anticipated that the proposed park would generate 45 vehicle trips daily, with negligible vehicle trips during the AM peak hour, and 12 vehicle trips during the PM peak hour.

Table 3
Project Trip Generation Estimates

				AM Commute Hour				PM Commute Hour			
		Daily	Daily		Total				Total		
Land Use	Size	Rate	Trips	Rate	Trips	In	Out	Rate	Trips	In	Out
Proposed Use											
Public Park [1]	0.68 acres	130.73	89	0.02	0	0	0	33.30	23	12	11
Estimated Vehicle Trips [2]			**45**		**0**	**0**	**0**		**12**	**6**	**6**
(Assumed 50% of the total trips are non-auto trips)											

[1] *Rates based on ITE Trip Generation, 11th Edition: fitted curve equation for daily and PM peak hour and average rates for AM peak hour for Public Park (ITE 411). Daily and PM peak hour trips based on the fitted curve equations represent a conservative analysis as the park would generate fewer than 10 daily trips using the average trip rate.*

[2] *Given the location of the proposed park and its accessibility to the surrounding residential neighborhoods, it was assumed that approximately 50 percent of these trips would be either walk or bike trips.*

Preferred Concept Plan - Pine Avenue Closure with One-Way Lane

The Pine Avenue Closure with a new alley alternative (Figure 2) was identified as the preferred alternative by the City of South San Francisco. Under this alternative, Pine Avenue would be closed off to vehicular traffic, east of Linden Avenue and a one-way alley (in the southbound direction) would be provided along the eastern boundary of the park that would connect to 7th Lane. Westbound vehicles on Pine Avenue would be able to make a left turn onto the new alley and a right turn onto 7th Lane to connect to Linden Avenue. The through traffic on Pine Avenue between Linden Avenue and Cypress Avenue is expected to use the parallel streets of California Avenue and Aspen Avenue to get to their destinations. The one-way alley would be designed to accommodate large trucks, including fire apparatus.

Access to the proposed park would be provided primarily via Pine Avenue and Linden Avenue. The project will not construct any driveways. In addition to the existing on-street parking on Linden

Avenue, new on-street parking will be provided along the park frontages on the one-way alley, 8th Lane, and 7th Lane. The project is not required to provide a designated loading area. Loading activities such as trash pickup after special events would occur curbside along Linden Avenue or at the two adjacent parking areas on 7th Lane and 8th Lane.

A new crosswalk with stop-control will be installed at the junction between Pine Avenue and the new one-way alley that extends to 7th Lane. The width of the one-way alley, which measures 20 feet, and the dimensions of the adjacent parallel parking spaces (8.5 feet by 20 feet), meet fire truck access and City Code standards. The dimensions of the angled parking spaces (8.5 feet by 19.5 feet) along the project frontage on 8th Lane and 7th Lane also meet City Code standards.

The conceptual site plan shows pedestrian pathways from the on-street parking interconnected to all areas of the park, as well as to the existing sidewalks along the project frontages.

Figures 4 and 5 illustrate the diverted traffic volumes on eastbound and westbound Pine Avenue, respectively, due to the proposed Pine Avenue closure. The proportion of cut-through traffic on Pine Avenue that would potentially be diverted to adjacent parallel streets was estimated by origin-destination traffic data collected along with the 2025 traffic counts on Pine Avenue.

Existing plus Project Conditions Traffic Volumes

Existing plus Project traffic volumes were estimated by adding the traffic generated by (1) the proposed park and (2) diverted traffic due to the Pine Avenue closure to the existing traffic volumes.

The trip distribution pattern for the proposed project was estimated based on existing travel patterns and the locations of complementary land uses. The new peak-hour trips generated by the proposed project were added to the roadway network in accordance with the project trip generation and distribution described above. Figure 6 shows the project trip distribution and assignment at the study intersections.

Project trips, as presented in Figure 6, and diverted vehicle trips, as presented in Figures 4 and 5, were added to existing traffic volumes to obtain existing plus project traffic volumes (see Figure 7).

Existing Plus Project Conditions Traffic Operations

The results of the intersection level of service analysis under existing plus project conditions are summarized in Table 4. The results show that, all study intersections would continue to operate at LOS A or B during the AM and PM peak hours of traffic. All study intersections are currently operating below their capacity, and thus have additional capacity to accommodate traffic that would be diverted from the Pine Avenue closure.

At some of the study intersections, the addition of project traffic and diverted traffic causes the overall average intersection delay to improve slightly compared to existing conditions. This occurs when project trips or diverted traffic are added to movements where the delay is lower than the overall intersection average. At the intersection of Pine Avenue and Linden Avenue, the proposed removal of the east leg of the intersection also contributes to the improvement of overall intersection delay.

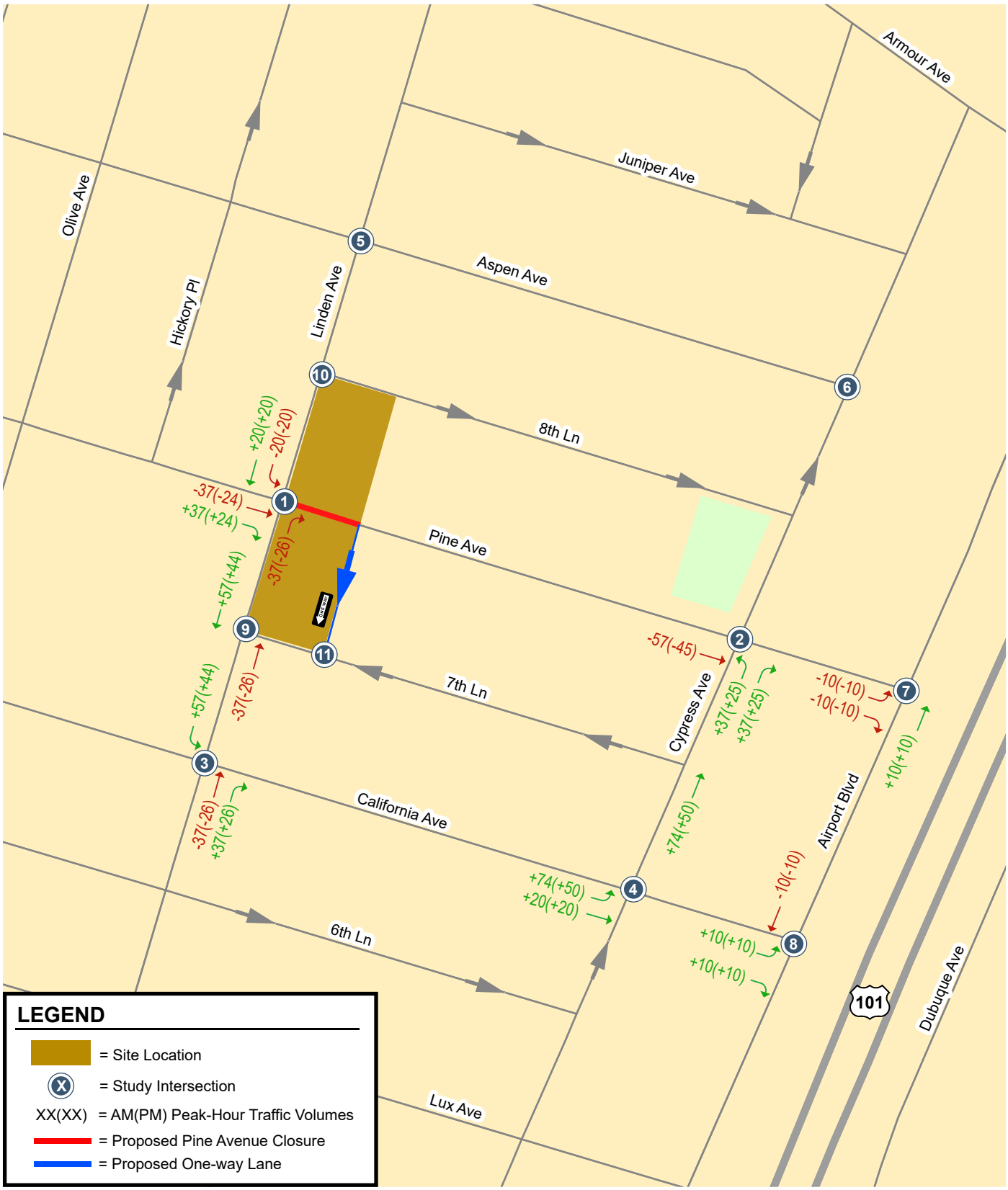


Figure 4
Diverted Traffic Volumes (Eastbound Pine Avenue)

NORTH
Not to Scale

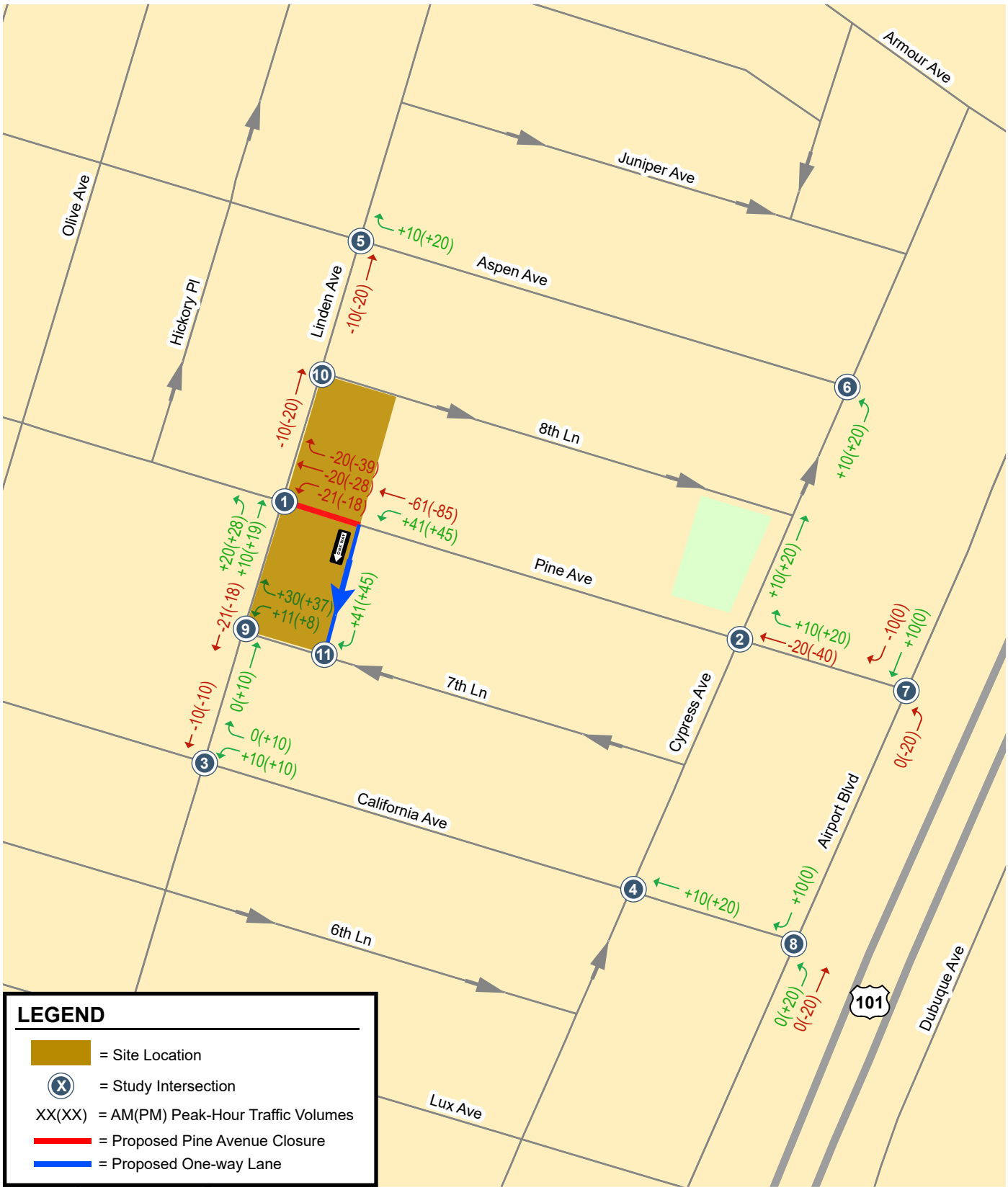


Figure 5
Diverted Traffic Volumes (Westbound Pine Avenue)

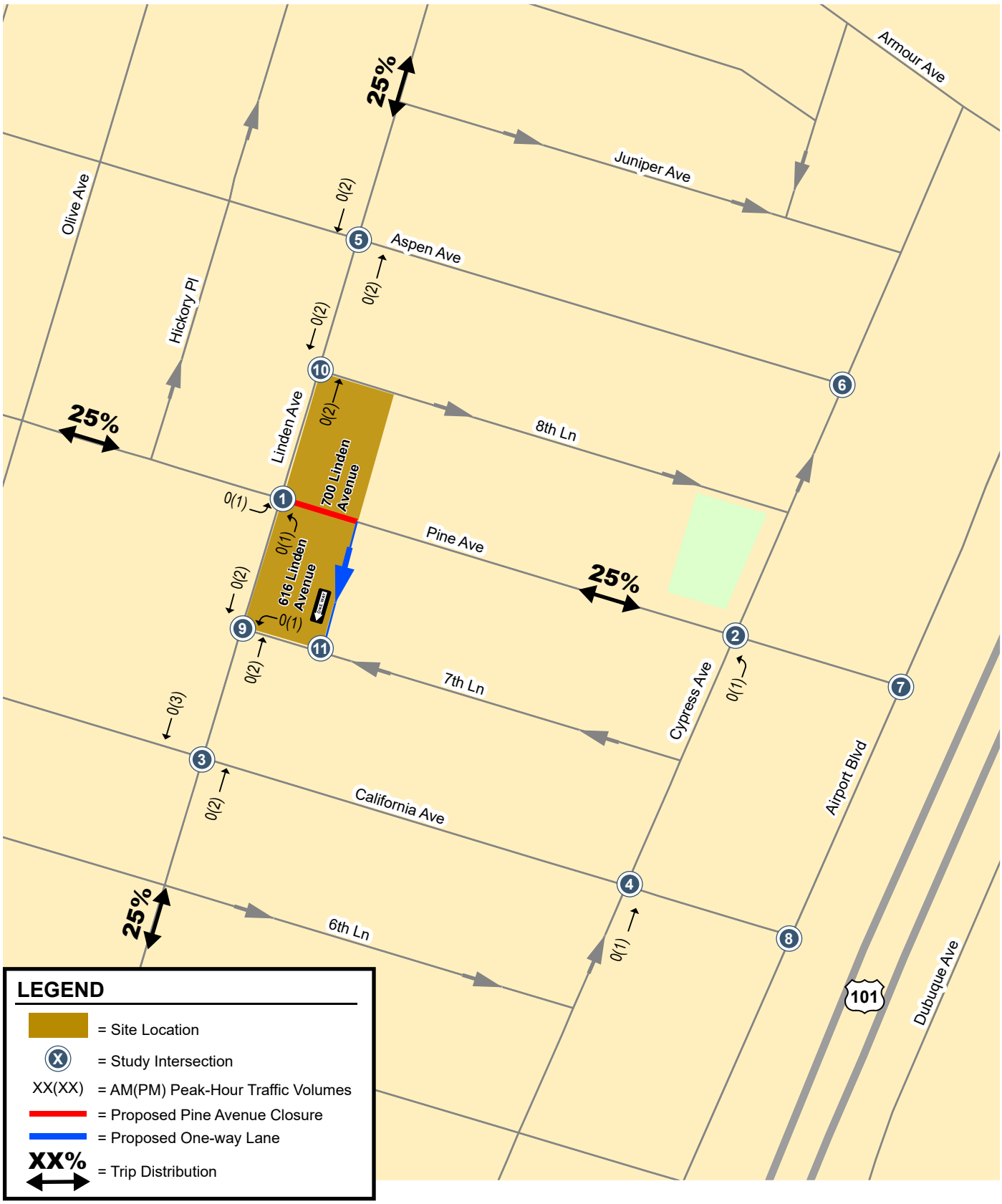


Figure 6
Trip Distribution and Assignment

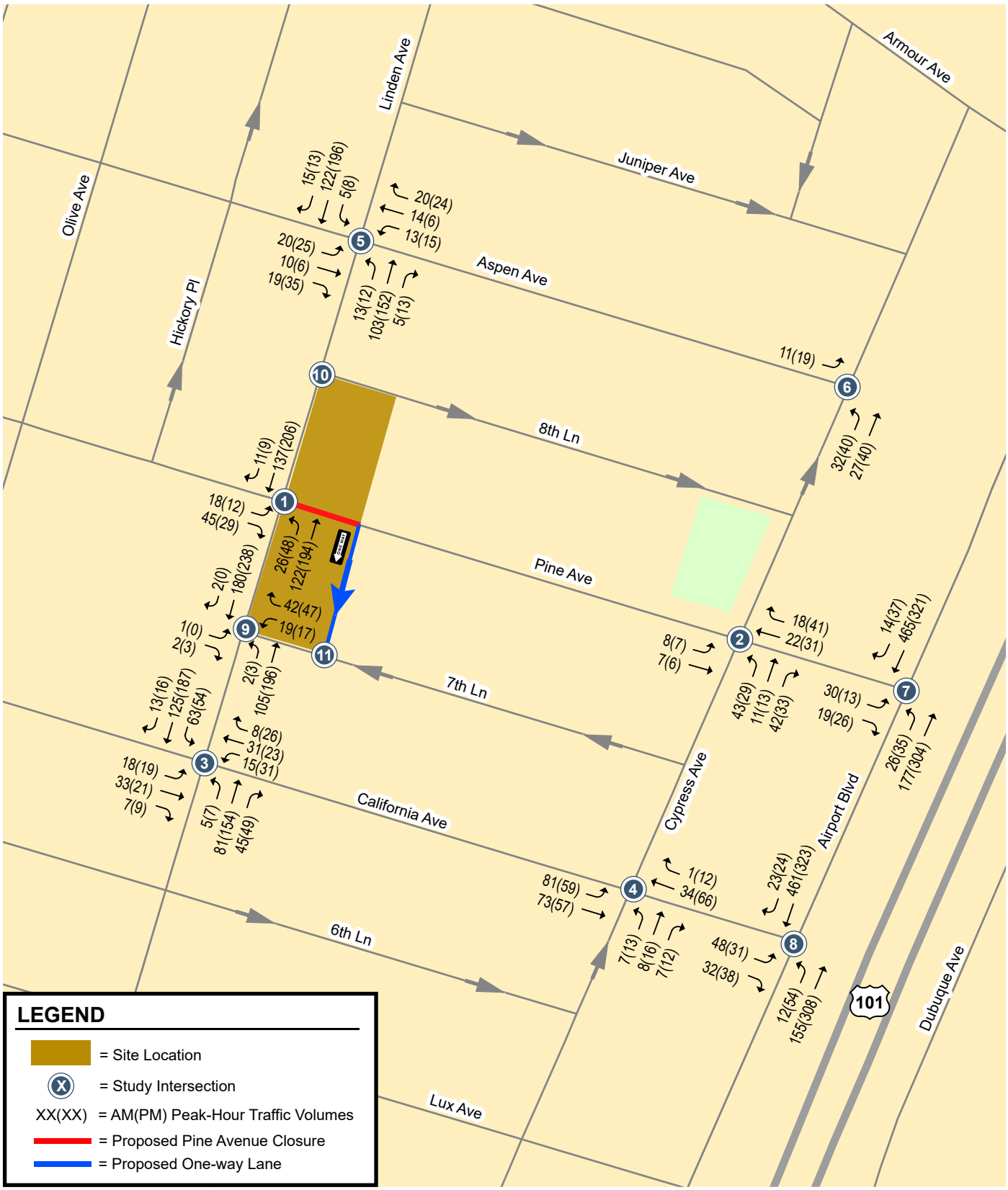


Figure 7
Existing Plus Project Traffic Volumes

Table 4
Existing plus Project Conditions Intersection LOS Analysis

#	Intersection	Control [1]	Peak Hour	Existing Conditions [2] Avg. Delay [3] (sec)	Existing Conditions [2] LOS [4]	Proposed Conditions Avg. Delay [3] (sec)	Proposed Conditions LOS [4]
1	Pine Avenue & Linden Avenue	AWSC	AM	8.4	A	8.1	A
			PM	9.2	A	9.0	A
2	Pine Avenue & Cypress Avenue	OWSC	AM	9.1	A	9.0	A
			PM	8.9	A	8.9	A
3	California Avenue & Linden Avenue	AWSC	AM	8.3	A	8.6	A
			PM	9.1	A	9.5	A
4	California Avenue & Cypress Avenue	OWSC	AM	8.9	A	9.7	A
			PM	9.0	A	9.7	A
5	Aspen Avenue & Linden Avenue	AWSC	AM	8.1	A	8.1	A
			PM	8.9	A	8.9	A
6	Aspen Avenue & Cypress Avenue	OWSC	AM	8.9	A	9.1	A
			PM	9.0	A	9.3	A
7	Pine Avenue & Airport Boulevard	OWSC	AM	13.8	B	13.6	B
			PM	12.2	B	11.3	B
8	California Avenue & Airport Boulevard	OWSC	AM	13.5	B	13.7	B
			PM	12.0	B	12.7	B
9	Linden Avenue & 7th Lane	OWSC	AM	9.8	A	9.8	A
			PM	10.8	B	10.7	B
10	Linden Avenue & 8th Lane	OWSC	AM	7.6	A	7.5	A
			PM	7.7	A	7.6	A
11	One-way Lane & 7th Lane [5]	OWSC	AM	N/A	N/A	8.6	A
			PM	N/A	N/A	8.6	A

Note:
[1] AWSC = All-way stop control, OWSC = One-way stop control.
[2] Existing traffic counts are based on turning movement counts collected on June 4, 2025.
[3] Delay reported as seconds per vehicle. The delay shown is the weighted average delay for all movements at AWSC intersections. At OWSC intersections, delay for the stop controlled approach is shown.
[4] LOS is based on Highway Capacity Manual Methodology for unsignalized intersections.
[5] New intersection due to the proposed one-way lane.

Pedestrian, Bicycle and Transit Impacts

It is anticipated that most of the pedestrian and bicycle trips generated by the proposed park would originate from the immediate vicinity of the adjacent residential neighborhoods. All of the streets in the project vicinity have sidewalks and all intersections that intersect Linden Avenue have high-visibility crosswalks and curb ramps. Although there are no dedicated bike lanes near the project site, the surrounding streets experience low traffic volumes and are considered bicycle friendly. Existing pedestrian and bicycle infrastructure provides adequate access to the site.

The project would install new sidewalks along the project frontage on Linden Avenue, a new curb extension on the east side of Linden Avenue at Pine Avenue, and ADA-compliant wheelchair ramps at the adjacent intersections that would improve pedestrian access and enhance pedestrian connectivity in the area. The development of the project would not remove any existing bicycle/pedestrian facilities, nor would it preclude any future planned improvements. Therefore, the proposed project would not create an adverse impact to existing bicycle/pedestrian circulation in the area.

Existing bus service in the project vicinity is provided by SamTrans and the Free South City Shuttles. The nearest bus routes are Routes 37, 130, 141, and the Blue Shuttle which operate buses along Linden Avenue near the project site. The closest bus stop for the bus routes is located on Linden Avenue at Aspen Avenue about 200 feet north of the project site. The volume of riders that could be generated by the proposed park would not exceed the carrying capacity of the existing transit services near the project site.

Linden Avenue Closure during Large Events

During special events, anticipated to occur fewer than five times per year, the segment of Linden Avenue between 7th Lane and 8th Lane would be temporarily closed to vehicle and bicycle traffic. These closures would occur only on weekends and holidays, when traffic volumes on Linden Avenue and surrounding streets are generally low. During such events, traffic would be detoured to adjacent parallel streets, including Cypress Avenue, Olive Avenue and Maple Avenue.

Because (1) the road closure would occur infrequently and when traffic on Linden Avenue and neighboring streets would be light and (2) the project area is served by a well-connected street grid with short block lengths that facilitate efficient detour routing, the temporary closure of Linden Avenue is not expected to result in significant impacts to vehicle or bike circulation.

The city will implement a traffic management plan that includes advance notifications to residents regarding the temporary street closure, as well as the installation of appropriate signage to direct vehicle and bicycle traffic along designated detour routes.

All of the streets in the project vicinity have sidewalks and curb ramps at intersections. High visibility crosswalks are present at intersections along Linden Avenue where the temporary detours are expected to be implemented. Sidewalks along both sides of Linden Avenue are expected to be open during the road closure.

Bus service in the project vicinity is provided by SamTrans and the Free South City Shuttles funded by SamTrans and the Cities of South San Francisco and Colma. Routes 37, 130, 141, and the Blue Shuttle run along Linden Avenue near the project site. But only Routes 130 and 141 would operate during the weekends when Linden Avenue is closed during large events. During large events on weekends, these two bus routes could potentially be detoured to Airport Boulevard between Armour Avenue and Grand Avenue where Route 397 currently operates, subject to consultation with the bus operators.

Emergency access to properties on the west side of Linden Avenue along the park frontage would be maintained via Pine Avenue and Linden Avenue (north and south of the temporary street closure). Temporary barricades would be used to close Linden Avenue during special events and could be moved or adjusted as needed to accommodate emergency vehicles. Therefore, emergency access would not be impeded during event-related closures.

Conclusions

The effects of the proposed Linden Park were evaluated in accordance with the procedures and guidelines specified by the City of South San Francisco. The analysis resulted in the following key findings:

- A VMT review was conducted to assess the potential impacts caused by the proposed project. According to the South San Francisco's VMT policy, the project would qualify as a small project that may be screened out of a detailed VMT analysis and assumed to have a

less than significant impact on VMT. Also, the proposed park would be local serving and would generate activity that would contribute to and support community needs.

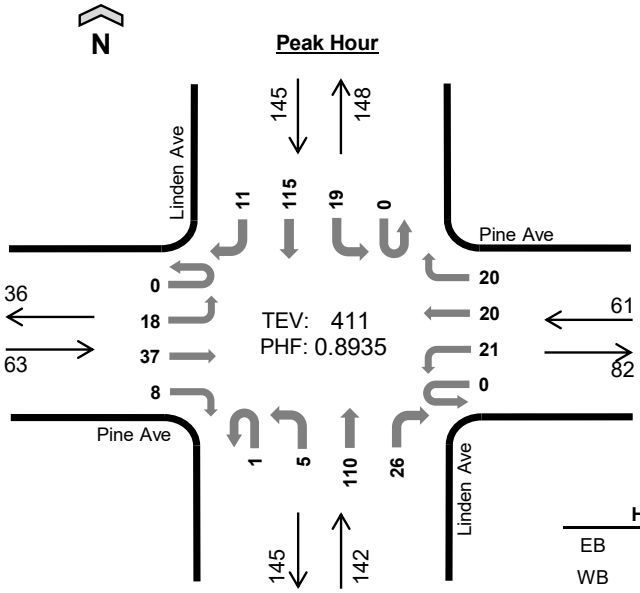
- All study intersections operate at an acceptable LOS A or B under existing and existing plus project conditions with traffic diversions due to Pine Avenue closure, east of Linden Avenue.
- The project would not create any adverse impacts to bikes, pedestrians, or transit facilities.
- The temporary closure of Linden Avenue during special events is not expected to result in significant impacts to vehicle or bike circulation.

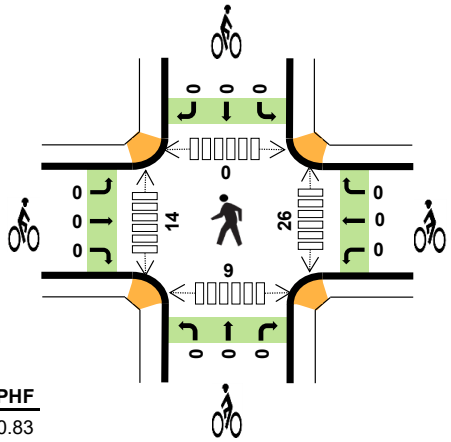
Appendix A

Traffic Counts

Linden Ave
Pine Ave

Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV%	PHF
EB	2%	0.83
WB	3%	0.85
NB	10%	0.91
SB	10%	0.91
TOTAL	8%	0.89

Peak Hour Count Summaries

Peak Hour Interval Start		Pine Ave Eastbound				Pine Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	3	8	2	0	2	9	5	1	0	21	7	0	4	31	0	93	0
8:00 AM		0	5	10	4	0	7	3	8	0	3	33	3	0	4	32	3	115	0
8:15 AM		0	4	8	0	0	5	5	5	0	2	28	8	0	6	28	6	105	0
8:30 AM		0	6	11	2	0	7	3	2	0	0	28	8	0	5	24	2	98	411
Pk Hr	All	0	18	37	8	0	21	20	20	1	5	110	26	0	19	115	11	411	
	HV	0	0	1	0	0	1	0	1	0	0	11	3	0	2	13	0	32	
	HV%	-	0%	3%	0%	-	5%	0%	5%	0%	0%	10%	12%	-	11%	11%	0%	8%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	0	0	3	4	*7*	0	0	0	0	*0*	4	5	0	2	*11*
8:00 AM	1	0	2	5	*8*	0	0	0	0	*0*	5	8	0	3	*16*
8:15 AM	0	2	4	4	*10*	0	0	0	0	*0*	10	1	0	0	*11*
8:30 AM	0	0	5	2	*7*	0	0	0	0	*0*	7	0	0	4	*11*
Peak Hour	1	2	14	15	*32*	0	0	0	0	*0*	26	14	0	9	*49*

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Count Summaries - All Vehicles

Interval Start	Pine Ave				Pine Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	1	9	2	0	7	1	4	0	2	15	3	0	6	18	1	69	0
7:15 AM	0	1	3	2	0	7	6	2	0	2	14	12	0	7	20	3	79	0
7:30 AM	0	2	8	4	0	4	5	5	0	1	18	9	0	1	25	1	83	0
7:45 AM	**0**	**3**	**8**	**2**	**0**	**2**	**9**	**5**	**1**	**0**	**21**	**7**	**0**	**4**	**31**	**0**	**93**	**324**
8:00 AM	**0**	**5**	**10**	**4**	**0**	**7**	**3**	**8**	**0**	**3**	**33**	**3**	**0**	**4**	**32**	**3**	**115**	**370**
8:15 AM	**0**	**4**	**8**	**0**	**0**	**5**	**5**	**5**	**0**	**2**	**28**	**8**	**0**	**6**	**28**	**6**	**105**	**396**
8:30 AM	**0**	**6**	**11**	**2**	**0**	**7**	**3**	**2**	**0**	**0**	**28**	**8**	**0**	**5**	**24**	**2**	**98**	**411**
8:45 AM	0	0	6	3	0	3	4	3	0	3	24	2	0	6	30	3	87	405
Count Total	0	22	63	19	0	42	36	34	1	13	181	52	0	39	208	19	729	
Pk Hr All	**0**	**18**	**37**	**8**	**0**	**21**	**20**	**20**	**1**	**5**	**110**	**26**	**0**	**19**	**115**	**11**	**411**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**11**	**3**	**0**	**2**	**13**	**0**	**32**	
Pk Hr HV%	**-**	**0%**	**3%**	**0%**	**-**	**5%**	**0%**	**5%**	**0%**	**0%**	**10%**	**12%**	**-**	**11%**	**11%**	**0%**	**8%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	3	1	1	*5*	0	0	0	0	*0*	1	8	0	1	*10*
7:15 AM	0	1	7	5	*13*	0	0	0	0	*0*	1	10	2	2	*15*
7:30 AM	2	2	5	3	*12*	0	0	0	2	*2*	12	4	1	10	*27*
7:45 AM	**0**	**0**	**3**	**4**	**7**	**0**	**0**	**0**	**0**	**0**	**4**	**5**	**0**	**2**	**11**
8:00 AM	**1**	**0**	**2**	**5**	**8**	**0**	**0**	**0**	**0**	**0**	**5**	**8**	**0**	**3**	**16**
8:15 AM	**0**	**2**	**4**	**4**	**10**	**0**	**0**	**0**	**0**	**0**	**10**	**1**	**0**	**0**	**11**
8:30 AM	**0**	**0**	**5**	**2**	**7**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**4**	**11**
8:45 AM	0	1	4	6	*11*	0	0	0	0	*0*	3	4	0	2	*9*
Count Total	3	9	31	30	*73*	0	0	0	2	*2*	43	40	3	24	*110*
Peak Hour	**1**	**2**	**14**	**15**	***32***	**0**	**0**	**0**	**0**	***0***	**26**	**14**	**0**	**9**	**49**

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Count Summaries - Heavy Vehicles

Interval Start	Pine Ave				Pine Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	1	0	2	0	0	1	0	0	0	1	0	5	0
7:15 AM	0	0	0	0	0	1	0	0	0	0	5	2	0	0	5	0	13	0
7:30 AM	0	0	1	1	0	0	0	2	0	0	3	2	0	0	3	0	12	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**4**	**0**	**7**	**37**
8:00 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**4**	**0**	**8**	**40**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**3**	**1**	**0**	**0**	**4**	**0**	**10**	**37**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**1**	**0**	**1**	**1**	**0**	**7**	**32**
8:45 AM	0	0	0	0	0	0	1	0	0	0	4	0	0	2	4	0	11	36
Count Total	0	0	2	1	0	3	1	5	0	0	24	7	0	4	26	0	73	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**11**	**3**	**0**	**2**	**13**	**0**	**32**	

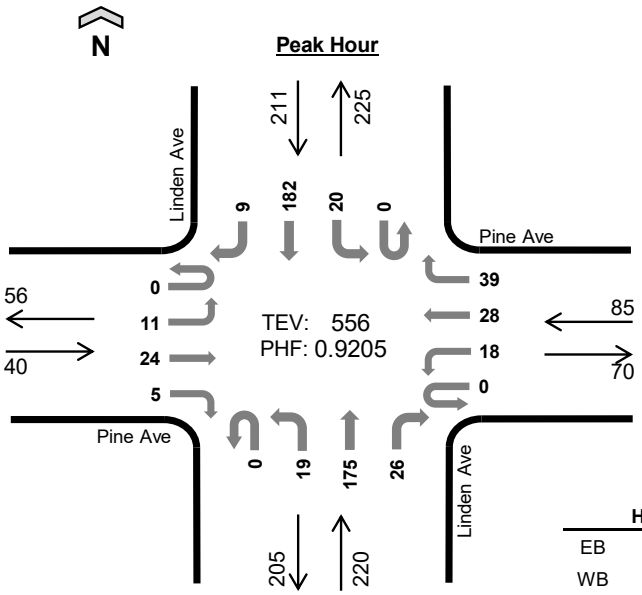
Count Summaries - Bikes

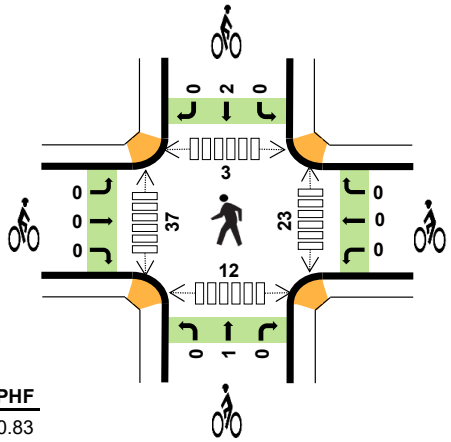
Interval Start	Pine Ave				Pine Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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Linden Ave
Pine Ave

Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV%	PHF
EB	0%	0.83
WB	0%	0.64
NB	4%	0.96
SB	3%	0.84
TOTAL	3%	0.92

Peak Hour Count Summaries

Peak Hour Interval Start		Pine Ave Eastbound				Pine Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	2	5	1	0	3	10	2	0	6	47	3	0	3	40	1	123	0
5:15 PM		0	3	6	3	0	4	5	9	0	6	37	11	0	5	43	1	133	0
5:30 PM		0	3	7	0	0	6	7	20	0	3	44	6	0	6	47	2	151	0
5:45 PM		0	3	6	1	0	5	6	8	0	4	47	6	0	6	52	5	149	556
Pk Hr	All	0	11	24	5	0	18	28	39	0	19	175	26	0	20	182	9	556	
	HV	0	0	0	0	0	0	0	0	0	0	9	0	0	0	7	0	16	
	HV%	-	0%	0%	0%	-	0%	0%	0%	-	0%	5%	0%	-	0%	4%	0%	3%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
5:00 PM	0	0	1	1	*2*	0	0	0	0	*0*	3	17	0	2	*22*
5:15 PM	0	0	3	2	*5*	0	0	0	0	*0*	10	3	0	1	*14*
5:30 PM	0	0	2	0	*2*	0	0	0	1	*1*	4	9	2	7	*22*
5:45 PM	0	0	3	4	*7*	0	0	1	1	*2*	6	8	1	2	*17*
Peak Hour	0	0	9	7	*16*	0	0	1	2	*3*	23	37	3	12	*75*

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Count Summaries - All Vehicles

Interval Start	Pine Ave Eastbound				Pine Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	4	1	0	2	5	5	0	2	43	7	0	4	48	3	126	0
4:15 PM	0	0	2	2	0	7	11	9	0	5	33	6	0	9	56	2	142	0
4:30 PM	0	2	6	3	0	7	11	7	0	2	32	3	0	5	34	2	114	0
4:45 PM	0	1	7	2	0	5	6	7	0	3	38	8	0	8	40	11	136	518
5:00 PM	**0**	**2**	**5**	**1**	**0**	**3**	**10**	**2**	**0**	**6**	**47**	**3**	**0**	**3**	**40**	**1**	**123**	**515**
5:15 PM	**0**	**3**	**6**	**3**	**0**	**4**	**5**	**9**	**0**	**6**	**37**	**11**	**0**	**5**	**43**	**1**	**133**	**506**
5:30 PM	**0**	**3**	**7**	**0**	**0**	**6**	**7**	**20**	**0**	**3**	**44**	**6**	**0**	**6**	**47**	**2**	**151**	**543**
5:45 PM	**0**	**3**	**6**	**1**	**0**	**5**	**6**	**8**	**0**	**4**	**47**	**6**	**0**	**6**	**52**	**5**	**149**	**556**
Count Total	0	16	43	13	0	39	61	67	0	31	321	50	0	46	360	27	1,074	
Pk Hr All	**0**	**11**	**24**	**5**	**0**	**18**	**28**	**39**	**0**	**19**	**175**	**26**	**0**	**20**	**182**	**9**	**556**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**7**	**0**	**16**	
Pk Hr HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**5%**	**0%**	**-**	**0%**	**4%**	**0%**	**3%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	3	1	*4*	1	1	0	0	*2*	7	12	0	1	*20*
4:15 PM	0	1	2	4	*7*	0	0	0	2	*2*	10	9	1	3	*23*
4:30 PM	0	0	3	2	*5*	0	0	0	0	*0*	3	5	0	2	*10*
4:45 PM	0	0	1	2	*3*	0	0	0	0	*0*	5	7	1	0	*13*
5:00 PM	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**17**	**0**	**2**	**22**
5:15 PM	**0**	**0**	**3**	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**10**	**3**	**0**	**1**	**14**
5:30 PM	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**4**	**9**	**2**	**7**	**22**
5:45 PM	**0**	**0**	**3**	**4**	**7**	**0**	**0**	**1**	**1**	**2**	**6**	**8**	**1**	**2**	**17**
Count Total	0	1	18	16	*35*	1	1	1	4	*7*	48	70	5	18	*141*
Peak Hour	**0**	**0**	**9**	**7**	***16***	**0**	**0**	**1**	**2**	***3***	**23**	**37**	**3**	**12**	**75**

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Count Summaries - Heavy Vehicles

Interval Start	Pine Ave				Pine Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	1	0	0	1	0	4	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	2	0	0	0	4	0	7	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	2	0	0	1	1	0	5	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	19
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**17**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**5**	**15**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**12**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**7**	**16**
Count Total	0	0	0	0	0	1	0	0	0	1	16	1	0	1	15	0	35	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**7**	**0**	**16**	

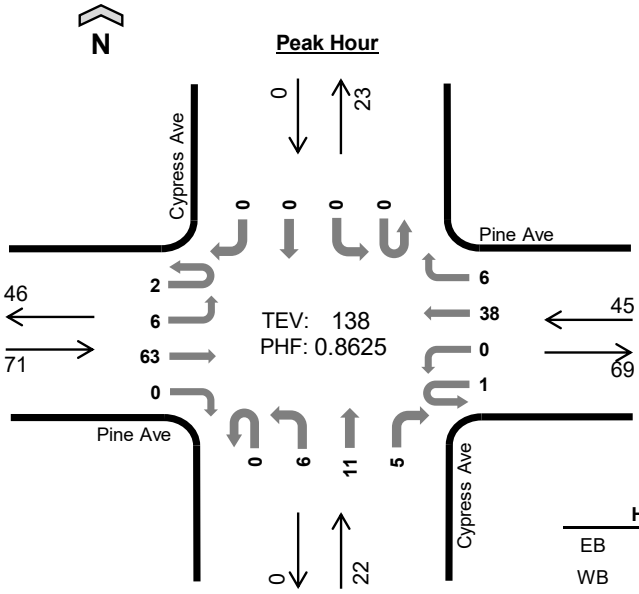
Count Summaries - Bikes

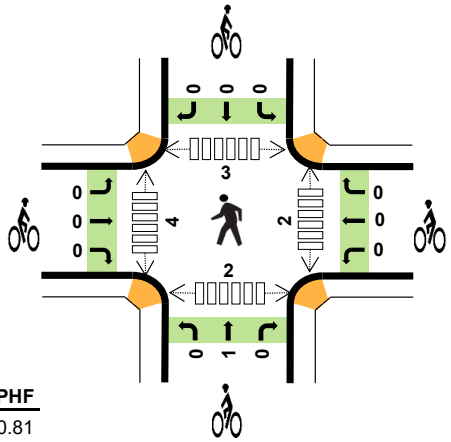
Interval Start	Pine Ave				Pine Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**3**
Count Total	0	1	0	0	0	1	0	0	0	0	1	0	0	0	4	0	7	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	

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Cypress Ave
Pine Ave

Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV%	PHF
EB	7%	0.81
WB	4%	0.56
NB	5%	0.61
SB	--	--
TOTAL	6%	0.86

Peak Hour Count Summaries

Peak Hour Interval Start		Pine Ave Eastbound				Pine Ave Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		**0**	**0**	**18**	**0**	**1**	**0**	**18**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**40**	**0**
8:00 AM		**0**	**4**	**15**	**0**	**0**	**0**	**5**	**3**	**0**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**32**	**0**
8:15 AM		**0**	**0**	**12**	**0**	**0**	**0**	**10**	**0**	**0**	**2**	**5**	**2**	**0**	**0**	**0**	**0**	**31**	**0**
8:30 AM		**2**	**2**	**18**	**0**	**0**	**0**	**5**	**2**	**0**	**2**	**3**	**1**	**0**	**0**	**0**	**0**	**35**	**138**
Pk Hr	All	**2**	**6**	**63**	**0**	**1**	**0**	**38**	**6**	**0**	**6**	**11**	**5**	**0**	**0**	**0**	**0**	**138**	
	HV	**0**	**1**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**8**	
	HV%	**0%**	**17%**	**6%**	**-**	**0%**	**-**	**5%**	**0%**	**-**	**0%**	**9%**	**0%**	**-**	**-**	**-**	**-**	**6%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**2**	**0**	***3***
8:00 AM	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**1**	**0**	***1***	**0**	**1**	**0**	**0**	***1***
8:15 AM	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**1**	**1**	***4***
8:30 AM	**3**	**0**	**1**	**0**	***4***	**0**	**0**	**0**	**0**	***0***	**1**	**1**	**0**	**1**	***3***
Peak Hour	**5**	**2**	**1**	**0**	***8***	**0**	**0**	**1**	**0**	***1***	**2**	**4**	**3**	**2**	***11***

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Count Summaries - All Vehicles

Interval Start	Pine Ave Eastbound				Pine Ave Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	15	0	1	0	7	3	0	1	0	2	0	0	0	0	31	0
7:15 AM	0	1	11	0	0	0	8	4	0	1	1	1	0	0	0	0	27	0
7:30 AM	1	0	19	0	0	0	7	1	0	1	1	2	0	0	0	0	32	0
7:45 AM	**0**	**0**	**18**	**0**	**1**	**0**	**18**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**40**	**130**
8:00 AM	**0**	**4**	**15**	**0**	**0**	**0**	**5**	**3**	**0**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**32**	**131**
8:15 AM	**0**	**0**	**12**	**0**	**0**	**0**	**10**	**0**	**0**	**2**	**5**	**2**	**0**	**0**	**0**	**0**	**31**	**135**
8:30 AM	**2**	**2**	**18**	**0**	**0**	**0**	**5**	**2**	**0**	**2**	**3**	**1**	**0**	**0**	**0**	**0**	**35**	**138**
8:45 AM	0	0	10	0	0	0	3	3	0	4	3	1	0	0	0	0	24	122
Count Total	3	9	118	0	2	0	63	17	0	13	16	11	0	0	0	0	252	
Pk Hr All	**2**	**6**	**63**	**0**	**1**	**0**	**38**	**6**	**0**	**6**	**11**	**5**	**0**	**0**	**0**	**0**	**138**	
Pk Hr HV	**0**	**1**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**8**	
Pk Hr HV%	**0%**	**17%**	**6%**	**-**	**0%**	**-**	**5%**	**0%**	**-**	**0%**	**9%**	**0%**	**-**	**-**	**-**	**-**	**6%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	3	1	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	2	0	0	*3*	0	0	0	0	*0*	0	3	0	1	*4*
7:30 AM	5	1	0	0	*6*	0	0	0	0	*0*	2	0	0	0	*2*
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**3**
8:00 AM	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**
8:15 AM	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**4**
8:30 AM	**3**	**0**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**3**
8:45 AM	0	2	1	0	*3*	0	0	0	0	*0*	2	1	0	1	*4*
Count Total	11	10	3	0	*24*	0	0	1	0	*1*	6	8	3	4	*21*
Peak Hour	**5**	**2**	**1**	**0**	***8***	**0**	**0**	**1**	**0**	***1***	**2**	**4**	**3**	**2**	**11**

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Count Summaries - Heavy Vehicles

Interval Start	Pine Ave				Pine Ave				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0	4	0
7:15 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	0	0	5	0	0	0	1	0	0	0	0	0	0	0	0	0	6	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**
8:00 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**11**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**10**
8:30 AM	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**8**
8:45 AM	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	3	11
Count Total	0	1	10	0	0	0	9	1	0	1	1	1	0	0	0	0	24	
Pk Hr Heavy	**0**	**1**	**4**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**8**	

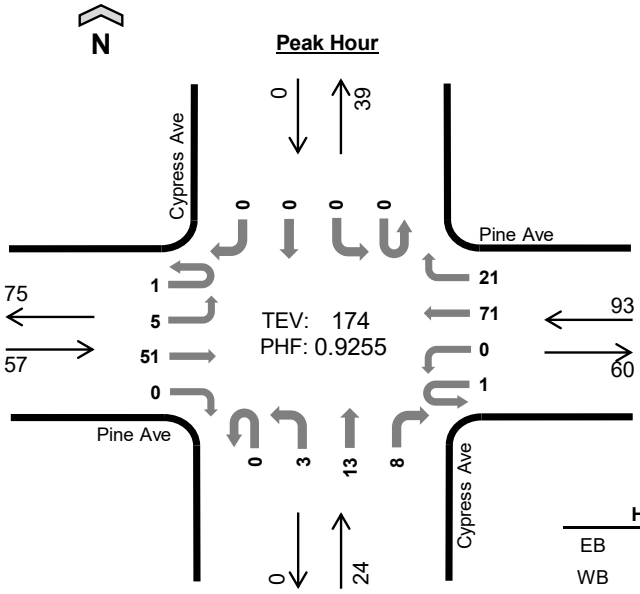
Count Summaries - Bikes

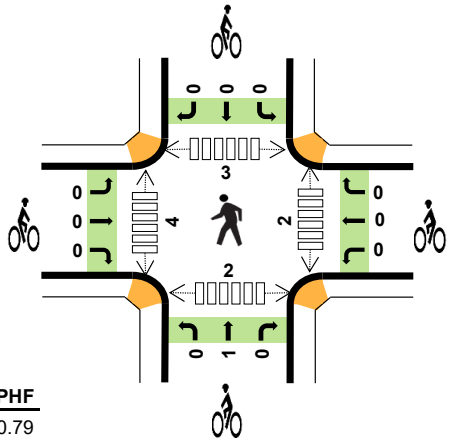
Interval Start	Pine Ave				Pine Ave				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	

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Cypress Ave
Pine Ave

Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV%	PHF
EB	2%	0.79
WB	1%	0.89
NB	4%	0.86
SB	--	--
TOTAL	2%	0.93

Peak Hour Count Summaries

Peak Hour Interval Start		Pine Ave Eastbound				Pine Ave Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:15 PM		0	2	11	0	0	0	19	7	0	2	2	1	0	0	0	0	44	0
4:30 PM		0	0	12	0	0	0	20	3	0	1	2	2	0	0	0	0	40	0
4:45 PM		1	2	15	0	1	0	15	2	0	0	6	1	0	0	0	0	43	0
5:00 PM		0	1	13	0	0	0	17	9	0	0	3	4	0	0	0	0	47	174
Pk Hr	All	1	5	51	0	1	0	71	21	0	3	13	8	0	0	0	0	174	
	HV	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	3	
	HV%	0%	0%	2%	-	0%	-	1%	0%	-	33%	0%	0%	-	-	-	-	2%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:15 PM	0	0	1	0	*1*	0	0	0	0	*0*	1	1	1	0	*3*
4:30 PM	1	0	0	0	*1*	0	0	1	0	*1*	0	0	0	0	*0*
4:45 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	3	1	1	*5*
5:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	1	1	*3*
Peak Hour	1	1	1	0	*3*	0	0	1	0	*1*	2	4	3	2	*11*

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Count Summaries - All Vehicles

Interval Start	Pine Ave Eastbound				Pine Ave Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	3	11	0	0	0	8	5	0	1	3	6	0	0	0	0	37	0
4:15 PM	**0**	**2**	**11**	**0**	**0**	**0**	**19**	**7**	**0**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**44**	**0**
4:30 PM	**0**	**0**	**12**	**0**	**0**	**0**	**20**	**3**	**0**	**1**	**2**	**2**	**0**	**0**	**0**	**0**	**40**	**0**
4:45 PM	**1**	**2**	**15**	**0**	**1**	**0**	**15**	**2**	**0**	**0**	**6**	**1**	**0**	**0**	**0**	**0**	**43**	**164**
5:00 PM	**0**	**1**	**13**	**0**	**0**	**0**	**17**	**9**	**0**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**47**	**174**
5:15 PM	0	0	9	0	1	0	11	8	0	3	2	2	0	0	0	0	36	166
5:30 PM	2	4	10	0	0	0	23	4	0	2	2	1	0	0	0	0	48	174
5:45 PM	0	2	11	0	0	0	16	2	0	1	2	3	0	0	0	0	37	168
Count Total	3	14	92	0	2	0	129	40	0	10	22	20	0	0	0	0	332	
Pk Hr All	**1**	**5**	**51**	**0**	**1**	**0**	**71**	**21**	**0**	**3**	**13**	**8**	**0**	**0**	**0**	**0**	**174**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	
Pk Hr HV%	**0%**	**0%**	**2%**	**-**	**0%**	**-**	**1%**	**0%**	**-**	**33%**	**0%**	**0%**	**-**	**-**	**-**	**-**	**2%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	0	0	*1*	0	1	0	0	*1*	1	2	1	0	*4*
4:15 PM	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**3**
4:30 PM	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**1**	**5**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**3**
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	2	0	1	*4*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	1	0	0	*2*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	3	7	3	0	*13*
Count Total	2	1	1	0	*4*	0	1	1	0	*2*	8	16	7	3	*34*
Peak Hour	**1**	**1**	**1**	**0**	***3***	**0**	**0**	**1**	**0**	***1***	**2**	**4**	**3**	**2**	**11**

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Count Summaries - Heavy Vehicles

Interval Start	Pine Ave				Pine Ave				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:30 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	2	0	0	0	1	0	0	1	0	0	0	0	0	0	4	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	

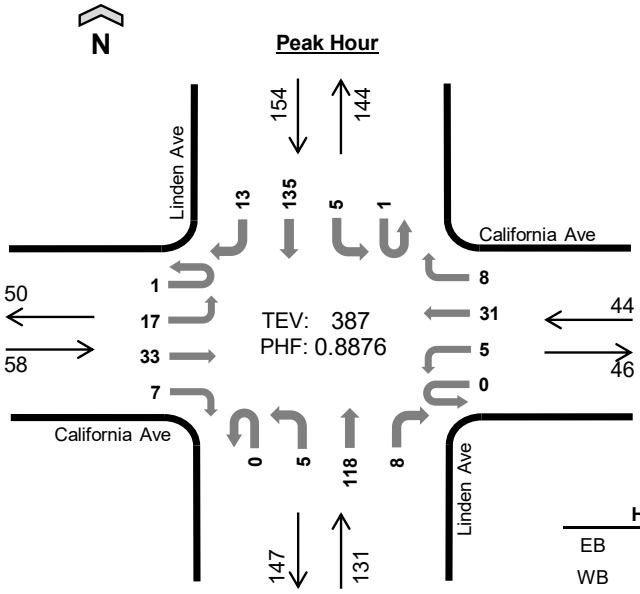
Count Summaries - Bikes

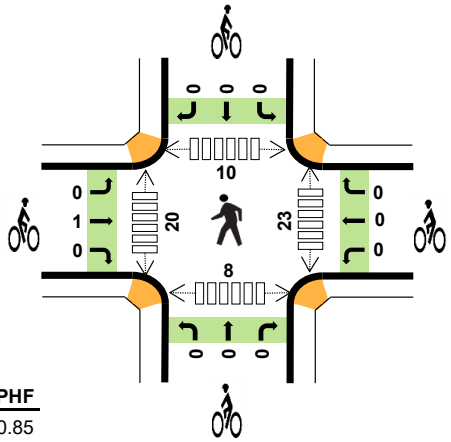
Interval Start	Pine Ave				Pine Ave				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	

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Linden Ave
California Ave

Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV%	PHF
EB	5%	0.85
WB	0%	0.61
NB	10%	0.94
SB	9%	0.86
TOTAL	8%	0.89

Peak Hour Count Summaries

Peak Hour Interval Start		California Ave Eastbound				California Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	2	12	1	0	1	5	0	0	1	24	2	0	0	35	3	86	0
8:00 AM		0	5	4	2	0	1	12	5	0	1	33	1	0	4	37	4	109	0
8:15 AM		1	4	10	2	0	1	7	2	0	3	30	2	0	0	28	4	94	0
8:30 AM		0	6	7	2	0	2	7	1	0	0	31	3	1	1	35	2	98	387
Pk Hr	All	1	17	33	7	0	5	31	8	0	5	118	8	1	5	135	13	387	
	HV	0	0	3	0	0	0	0	0	0	0	13	0	0	0	14	0	30	
	HV%	0%	0%	9%	0%	-	0%	0%	0%	-	0%	11%	0%	0%	0%	10%	0%	8%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	1	0	3	4	*8*	0	0	0	0	*0*	1	6	2	2	*11*
8:00 AM	0	0	2	4	*6*	1	0	0	0	*1*	5	10	4	3	*22*
8:15 AM	1	0	5	4	*10*	0	0	0	0	*0*	10	3	4	0	*17*
8:30 AM	1	0	3	2	*6*	0	0	0	0	*0*	7	1	0	3	*11*
Peak Hour	3	0	13	14	*30*	1	0	0	0	*1*	23	20	10	8	*61*

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Count Summaries - All Vehicles

Interval Start	California Ave Eastbound				California Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	3	0	0	3	1	0	0	1	21	2	0	3	27	0	61	0
7:15 AM	0	3	3	2	0	4	1	3	0	1	22	2	0	3	27	1	72	0
7:30 AM	0	0	6	1	0	4	2	2	0	2	26	2	0	7	29	3	84	0
7:45 AM	**0**	**2**	**12**	**1**	**0**	**1**	**5**	**0**	**0**	**1**	**24**	**2**	**0**	**0**	**35**	**3**	**86**	**303**
8:00 AM	**0**	**5**	**4**	**2**	**0**	**1**	**12**	**5**	**0**	**1**	**33**	**1**	**0**	**4**	**37**	**4**	**109**	**351**
8:15 AM	**1**	**4**	**10**	**2**	**0**	**1**	**7**	**2**	**0**	**3**	**30**	**2**	**0**	**0**	**28**	**4**	**94**	**373**
8:30 AM	**0**	**6**	**7**	**2**	**0**	**2**	**7**	**1**	**0**	**0**	**31**	**3**	**1**	**1**	**35**	**2**	**98**	**387**
8:45 AM	0	3	3	1	0	3	3	0	0	2	23	4	0	4	29	2	77	378
Count Total	1	23	48	11	0	19	38	13	0	11	210	18	1	22	247	19	681	
Pk Hr All	**1**	**17**	**33**	**7**	**0**	**5**	**31**	**8**	**0**	**5**	**118**	**8**	**1**	**5**	**135**	**13**	**387**	
Pk Hr HV	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**14**	**0**	**30**	
Pk Hr HV%	**0%**	**0%**	**9%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**11%**	**0%**	**0%**	**0%**	**10%**	**0%**	**8%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	1	2	*3*	0	0	0	0	*0*	2	4	3	0	*9*
7:15 AM	0	1	9	6	*16*	0	0	0	0	*0*	8	2	3	1	*14*
7:30 AM	0	1	3	5	*9*	0	0	0	2	*2*	11	10	0	3	*24*
7:45 AM	**1**	**0**	**3**	**4**	**8**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	**2**	**2**	**11**
8:00 AM	**0**	**0**	**2**	**4**	**6**	**1**	**0**	**0**	**0**	**1**	**5**	**10**	**4**	**3**	**22**
8:15 AM	**1**	**0**	**5**	**4**	**10**	**0**	**0**	**0**	**0**	**0**	**10**	**3**	**4**	**0**	**17**
8:30 AM	**1**	**0**	**3**	**2**	**6**	**0**	**0**	**0**	**0**	**0**	**7**	**1**	**0**	**3**	**11**
8:45 AM	0	0	3	3	*6*	1	0	0	1	*2*	4	6	5	1	*16*
Count Total	3	2	29	30	*64*	2	0	0	3	*5*	48	42	21	13	*124*
Peak Hour	**3**	**0**	**13**	**14**	***30***	**1**	**0**	**0**	**0**	***1***	**23**	**20**	**10**	**8**	**61**

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Count Summaries - Heavy Vehicles

Interval Start	California Ave				California Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	0
7:15 AM	0	0	0	0	0	1	0	0	0	1	7	1	0	2	4	0	16	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	3	0	0	3	2	0	9	0
7:45 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**8**	**36**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**6**	**39**
8:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**4**	**0**	**10**	**33**
8:30 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**6**	**30**
8:45 AM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	28
Count Total	0	0	3	0	0	1	0	1	0	1	27	1	0	5	25	0	64	
Pk Hr Heavy	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**0**	**0**	**14**	**0**	**30**	

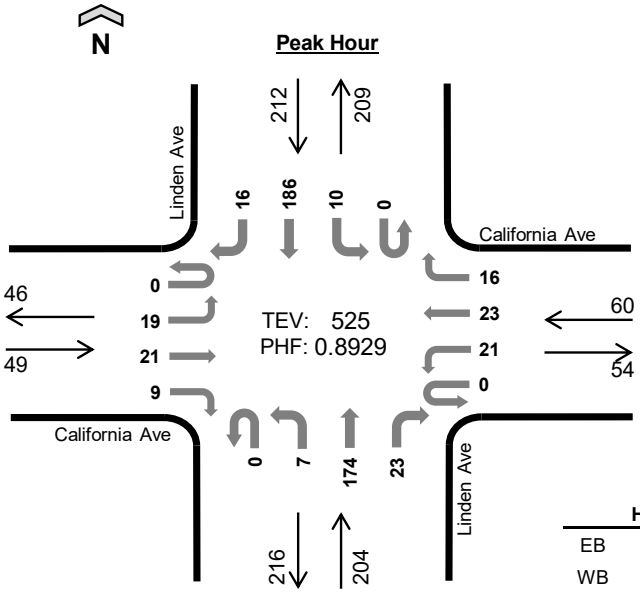
Count Summaries - Bikes

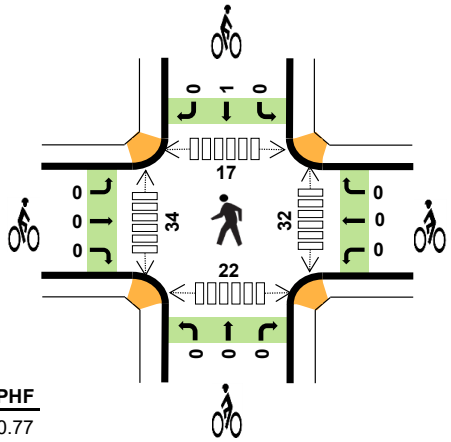
Interval Start	California Ave				California Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:00 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	2	3
Count Total	0	0	2	0	0	0	0	0	0	0	0	0	0	0	3	0	5	
Pk Hr Bike	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	

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Linden Ave
California Ave

Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV%	PHF
EB	0%	0.77
WB	0%	0.75
NB	3%	0.91
SB	3%	0.87
TOTAL	2%	0.89

Peak Hour Count Summaries

Peak Hour Interval Start		California Ave Eastbound				California Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	2	10	4	0	7	8	4	0	3	46	7	0	2	38	5	136	0
5:15 PM		0	8	4	1	0	4	6	2	0	0	45	3	0	3	41	4	121	0
5:30 PM		0	2	3	1	0	2	3	4	0	1	41	6	0	1	54	3	121	0
5:45 PM		0	7	4	3	0	8	6	6	0	3	42	7	0	4	53	4	147	525
Pk Hr	All	0	19	21	9	0	21	23	16	0	7	174	23	0	10	186	16	525	
	HV	0	0	0	0	0	0	0	0	0	0	6	0	0	0	7	0	13	
	HV%	-	0%	0%	0%	-	0%	0%	0%	-	0%	3%	0%	-	0%	4%	0%	2%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
5:00 PM	0	0	0	1	*1*	0	0	1	1	*2*	10	15	3	7	*35*
5:15 PM	0	0	2	2	*4*	0	0	0	0	*0*	9	8	6	7	*30*
5:30 PM	0	0	2	0	*2*	0	0	0	0	*0*	6	5	4	3	*18*
5:45 PM	0	0	2	4	*6*	0	0	0	0	*0*	7	6	4	5	*22*
Peak Hour	0	0	6	7	*13*	0	0	1	1	*2*	32	34	17	22	*105*

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Count Summaries - All Vehicles

Interval Start	California Ave Eastbound				California Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	6	6	1	0	7	9	4	0	5	39	7	0	5	43	5	137	0
4:15 PM	0	3	4	0	0	8	7	3	0	1	40	4	0	4	59	2	135	0
4:30 PM	0	2	5	2	0	3	3	4	0	3	34	1	0	3	39	3	102	0
4:45 PM	1	4	4	3	0	4	8	1	0	2	47	1	0	5	38	1	119	493
5:00 PM	**0**	**2**	**10**	**4**	**0**	**7**	**8**	**4**	**0**	**3**	**46**	**7**	**0**	**2**	**38**	**5**	**136**	**492**
5:15 PM	**0**	**8**	**4**	**1**	**0**	**4**	**6**	**2**	**0**	**0**	**45**	**3**	**0**	**3**	**41**	**4**	**121**	**478**
5:30 PM	**0**	**2**	**3**	**1**	**0**	**2**	**3**	**4**	**0**	**1**	**41**	**6**	**0**	**1**	**54**	**3**	**121**	**497**
5:45 PM	**0**	**7**	**4**	**3**	**0**	**8**	**6**	**6**	**0**	**3**	**42**	**7**	**0**	**4**	**53**	**4**	**147**	**525**
Count Total	1	34	40	15	0	43	50	28	0	18	334	36	0	27	365	27	1,018	
Pk Hr All	**0**	**19**	**21**	**9**	**0**	**21**	**23**	**16**	**0**	**7**	**174**	**23**	**0**	**10**	**186**	**16**	**525**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**7**	**0**	**13**	
Pk Hr HV%	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**3%**	**0%**	**-**	**0%**	**4%**	**0%**	**2%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	1	2	2	*5*	0	0	0	1	*1*	13	10	5	3	*31*
4:15 PM	0	0	3	4	*7*	0	0	0	0	*0*	14	11	8	6	*39*
4:30 PM	1	0	2	1	*4*	0	0	0	0	*0*	2	12	8	3	*25*
4:45 PM	0	0	3	3	*6*	0	0	1	0	*1*	7	10	1	6	*24*
5:00 PM	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**1**	**2**	**10**	**15**	**3**	**7**	**35**
5:15 PM	**0**	**0**	**2**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**9**	**8**	**6**	**7**	**30**
5:30 PM	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**6**	**5**	**4**	**3**	**18**
5:45 PM	**0**	**0**	**2**	**4**	**6**	**0**	**0**	**0**	**0**	**0**	**7**	**6**	**4**	**5**	**22**
Count Total	1	1	16	17	*35*	0	0	2	2	*4*	68	77	39	40	*224*
Peak Hour	**0**	**0**	**6**	**7**	***13***	**0**	**0**	**1**	**1**	***2***	**32**	**34**	**17**	**22**	**105**

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Count Summaries - Heavy Vehicles

Interval Start	California Ave				California Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	1	0	0	2	0	0	0	1	1	5	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	4	0	7	0
4:30 PM	0	1	0	0	0	0	0	0	0	0	2	0	0	0	1	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	0	6	22
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**18**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**4**	**15**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**13**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**6**	**13**
Count Total	0	1	0	0	0	0	0	1	0	0	16	0	0	0	16	1	35	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**7**	**0**	**13**	

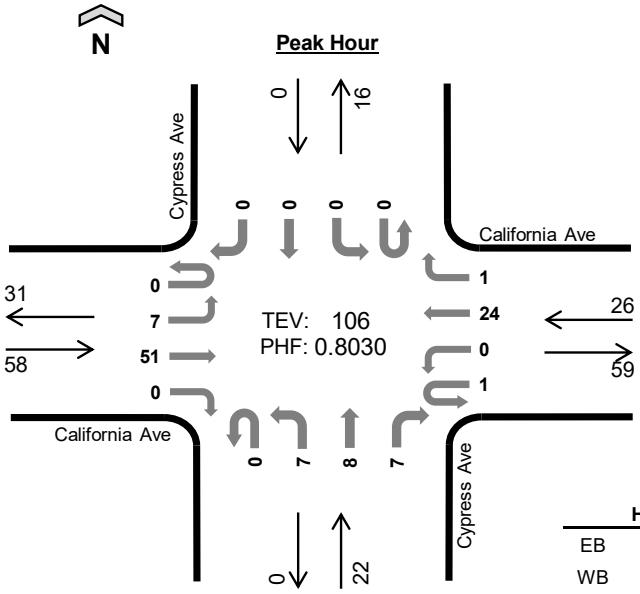
Count Summaries - Bikes

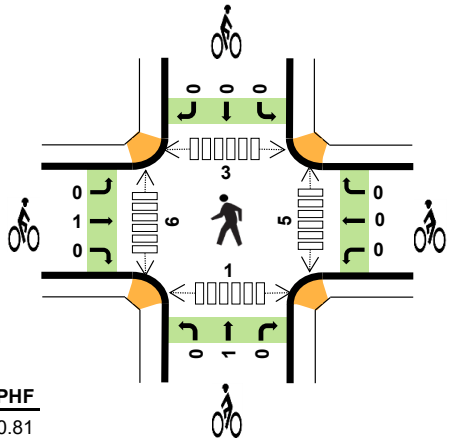
Interval Start	California Ave				California Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**3**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
Count Total	0	0	0	0	0	0	0	0	1	0	1	0	0	0	2	0	4	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	

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Cypress Ave
California Ave

Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:30 AM to 8:30 AM





	HV%	PHF
EB	9%	0.81
WB	8%	0.54
NB	0%	0.69
SB	--	--
TOTAL	7%	0.80

Peak Hour Count Summaries

Peak Hour Interval Start		California Ave Eastbound				California Ave Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:30 AM		0	1	17	0	0	0	6	0	0	1	0	2	0	0	0	0	27	0
7:45 AM		0	1	14	0	0	0	3	0	0	0	2	2	0	0	0	0	22	0
8:00 AM		0	2	11	0	1	0	11	0	0	3	3	2	0	0	0	0	33	0
8:15 AM		0	3	9	0	0	0	4	1	0	3	3	1	0	0	0	0	24	106
Pk Hr	All	0	7	51	0	1	0	24	1	0	7	8	7	0	0	0	0	106	
	HV	0	0	5	0	0	0	2	0	0	0	0	0	0	0	0	0	7	
	HV%	-	0%	10%	-	0%	-	8%	0%	-	0%	0%	0%	-	-	-	-	7%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:30 AM	2	2	0	0	*4*	0	0	0	0	*0*	3	1	1	0	*5*
7:45 AM	2	0	0	0	*2*	0	0	0	0	*0*	1	0	0	1	*2*
8:00 AM	0	0	0	0	*0*	0	0	1	0	*1*	0	3	2	0	*5*
8:15 AM	1	0	0	0	*1*	1	0	0	0	*1*	1	2	0	0	*3*
Peak Hour	5	2	0	0	*7*	1	0	1	0	*2*	5	6	3	1	*15*

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Count Summaries - All Vehicles

Interval Start	California Ave Eastbound				California Ave Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	10	0	0	0	2	0	0	0	0	1	0	0	0	0	15	0
7:15 AM	0	1	8	0	0	0	4	1	0	2	1	4	0	0	0	0	21	0
7:30 AM	**0**	**1**	**17**	**0**	**0**	**0**	**6**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**27**	**0**
7:45 AM	**0**	**1**	**14**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**22**	**85**
8:00 AM	**0**	**2**	**11**	**0**	**1**	**0**	**11**	**0**	**0**	**3**	**3**	**2**	**0**	**0**	**0**	**0**	**33**	**103**
8:15 AM	**0**	**3**	**9**	**0**	**0**	**0**	**4**	**1**	**0**	**3**	**3**	**1**	**0**	**0**	**0**	**0**	**24**	**106**
8:30 AM	0	1	6	0	0	0	3	1	0	0	4	0	0	0	0	0	15	94
8:45 AM	0	5	7	0	0	0	4	3	0	2	3	1	0	0	0	0	25	97
Count Total	0	16	82	0	1	0	37	6	0	11	16	13	0	0	0	0	182	
Pk Hr All	**0**	**7**	**51**	**0**	**1**	**0**	**24**	**1**	**0**	**7**	**8**	**7**	**0**	**0**	**0**	**0**	**106**	
Pk Hr HV	**0**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	
Pk Hr HV%	**-**	**0%**	**10%**	**-**	**0%**	**-**	**8%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**-**	**-**	**-**	**7%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	3	1	0	0	*4*	0	0	0	0	*0*	2	2	3	0	*7*
7:30 AM	**2**	**2**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**1**	**0**	**5**
7:45 AM	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**2**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**3**	**2**	**0**	**5**
8:15 AM	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**3**
8:30 AM	0	0	1	0	*1*	0	0	0	0	*0*	1	0	0	1	*2*
8:45 AM	1	0	0	0	*1*	1	0	0	0	*1*	0	1	0	0	*1*
Count Total	9	3	1	0	*13*	2	0	1	0	*3*	8	9	6	2	*25*
Peak Hour	**5**	**2**	**0**	**0**	**7**	**1**	**0**	**1**	**0**	**2**	**5**	**6**	**3**	**1**	**15**

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Count Summaries - Heavy Vehicles

Interval Start	California Ave				California Ave				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	4	0
7:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**
7:45 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**10**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**
8:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**7**
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	4
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Count Total	0	1	8	0	0	0	3	0	0	0	1	0	0	0	0	0	13	
Pk Hr Heavy	**0**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	

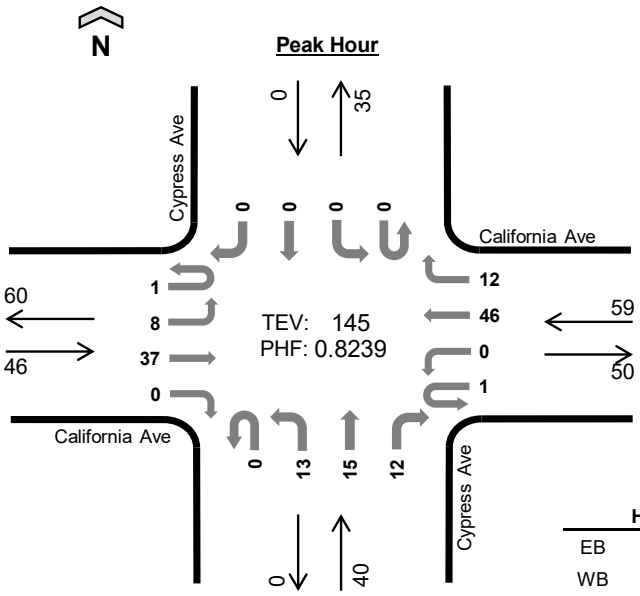
Count Summaries - Bikes

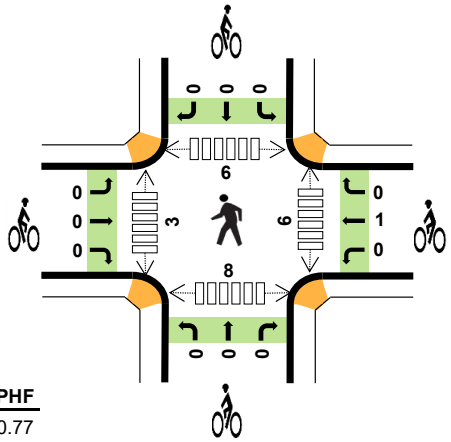
Interval Start	California Ave				California Ave				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
8:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
8:45 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3
Count Total	0	0	2	0	0	0	0	0	0	0	1	0	0	0	0	0	3	
Pk Hr Bike	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	

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Cypress Ave
California Ave

Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV%	PHF
EB	0%	0.77
WB	3%	0.92
NB	0%	0.67
SB	--	--
TOTAL	1%	0.82

Peak Hour Count Summaries

Peak Hour Interval Start		California Ave Eastbound				California Ave Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		**0**	**2**	**13**	**0**	**0**	**0**	**11**	**3**	**0**	**7**	**5**	**3**	**0**	**0**	**0**	**0**	**44**	**0**
4:15 PM		**0**	**1**	**8**	**0**	**1**	**0**	**9**	**4**	**0**	**4**	**3**	**2**	**0**	**0**	**0**	**0**	**32**	**0**
4:30 PM		**1**	**3**	**7**	**0**	**0**	**0**	**12**	**3**	**0**	**1**	**1**	**4**	**0**	**0**	**0**	**0**	**32**	**0**
4:45 PM		**0**	**2**	**9**	**0**	**0**	**0**	**14**	**2**	**0**	**1**	**6**	**3**	**0**	**0**	**0**	**0**	**37**	**145**
Pk Hr	All	**1**	**8**	**37**	**0**	**1**	**0**	**46**	**12**	**0**	**13**	**15**	**12**	**0**	**0**	**0**	**0**	**145**	
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	
	HV%	**0%**	**0%**	**0%**	**-**	**0%**	**-**	**0%**	**17%**	**-**	**0%**	**0%**	**0%**	**-**	**-**	**-**	**-**	**1%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**2**	**1**	**1**	**2**	***6***
4:15 PM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**1**	**0**	**3**	**3**	***7***
4:30 PM	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***	**1**	**0**	**1**	**2**	***4***
4:45 PM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**1**	**1**	***6***
Peak Hour	**0**	**2**	**0**	**0**	***2***	**0**	**1**	**0**	**0**	***1***	**6**	**3**	**6**	**8**	***23***

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Count Summaries - All Vehicles

Interval Start	California Ave Eastbound				California Ave Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**2**	**13**	**0**	**0**	**0**	**11**	**3**	**0**	**7**	**5**	**3**	**0**	**0**	**0**	**0**	**44**	0
4:15 PM	**0**	**1**	**8**	**0**	**1**	**0**	**9**	**4**	**0**	**4**	**3**	**2**	**0**	**0**	**0**	**0**	**32**	**0**
4:30 PM	**1**	**3**	**7**	**0**	**0**	**0**	**12**	**3**	**0**	**1**	**1**	**4**	**0**	**0**	**0**	**0**	**32**	**0**
4:45 PM	**0**	**2**	**9**	**0**	**0**	**0**	**14**	**2**	**0**	**1**	**6**	**3**	**0**	**0**	**0**	**0**	**37**	**145**
5:00 PM	0	3	14	0	0	0	8	3	0	4	2	2	0	0	0	0	36	137
5:15 PM	0	1	6	0	0	0	7	5	0	2	1	3	0	0	0	0	25	130
5:30 PM	0	1	10	0	0	0	8	4	0	2	2	3	0	0	0	0	30	128
5:45 PM	1	2	9	0	0	0	8	2	0	2	3	3	0	0	0	0	30	121
Count Total	2	15	76	0	1	0	77	26	0	23	23	23	0	0	0	0	266	
Pk Hr All	**1**	**8**	**37**	**0**	**1**	**0**	**46**	**12**	**0**	**13**	**15**	**12**	**0**	**0**	**0**	**0**	**145**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	
Pk Hr HV%	**0%**	**0%**	**0%**	**-**	**0%**	**-**	**0%**	**17%**	**-**	**0%**	**0%**	**0%**	**-**	**-**	**-**	**-**	**1%**	

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) E	W	N	S	Total
4:00 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**1**	**2**	**6**
4:15 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**3**	**7**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**1**	**2**	**4**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**1**	**1**	**6**
5:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	3	1	0	*4*
5:15 PM	0	0	0	0	*0*	1	0	1	0	*2*	0	3	0	3	*6*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	1	*1*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	1	3	1	*6*
Count Total	0	2	0	0	*2*	1	1	1	0	*3*	7	10	10	13	*40*
Peak Hour	**0**	**2**	**0**	**0**	***2***	**0**	**1**	**0**	**0**	***1***	**6**	**3**	**6**	**8**	**23**

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Count Summaries - Heavy Vehicles

Interval Start	California Ave				California Ave				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	2	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	

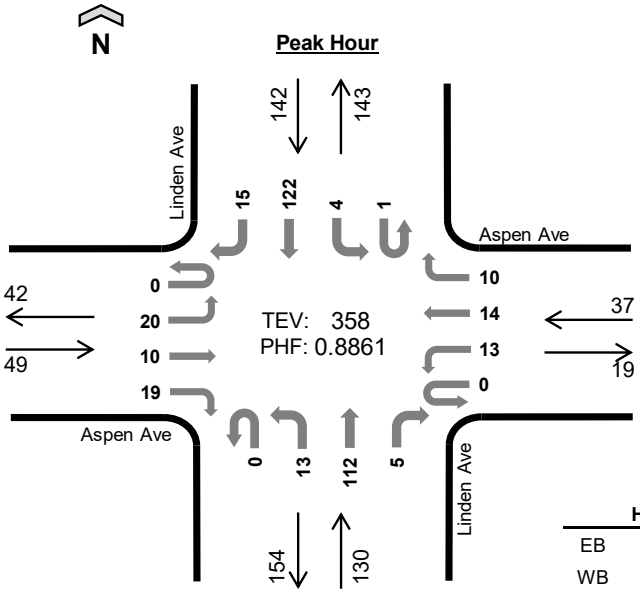
Count Summaries - Bikes

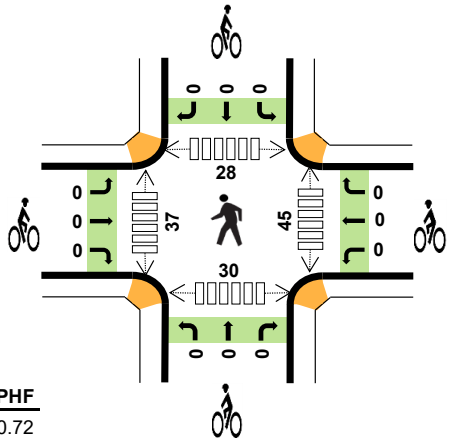
Interval Start	California Ave				California Ave				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:15 PM	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	2	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	0	3	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	

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Linden Ave
Aspen Ave

Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV%	PHF
EB	2%	0.72
WB	5%	0.71
NB	8%	0.79
SB	11%	0.85
TOTAL	8%	0.89

Peak Hour Count Summaries

Peak Hour Interval Start		Aspen Ave Eastbound				Aspen Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	3	1	7	0	1	3	5	0	4	23	0	0	1	31	0	79	0
8:00 AM		0	5	3	1	0	6	4	3	0	3	37	1	0	1	32	2	98	0
8:15 AM		0	8	3	6	0	4	5	1	0	1	31	0	0	1	31	10	101	0
8:30 AM		0	4	3	5	0	2	2	1	0	5	21	4	1	1	28	3	80	358
Pk Hr	All	0	20	10	19	0	13	14	10	0	13	112	5	1	4	122	15	358	
	HV	0	0	0	1	0	1	1	0	0	0	11	0	1	0	15	0	30	
	HV%	-	0%	0%	5%	-	8%	7%	0%	-	0%	10%	0%	100%	0%	12%	0%	8%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	0	0	3	5	*8*	0	0	0	0	*0*	13	8	6	5	*32*
8:00 AM	0	0	2	4	*6*	0	0	0	0	*0*	8	12	7	8	*35*
8:15 AM	0	0	3	5	*8*	0	0	0	0	*0*	12	4	7	4	*27*
8:30 AM	1	2	3	2	*8*	0	0	0	0	*0*	12	13	8	13	*46*
Peak Hour	1	2	11	16	*30*	0	0	0	0	*0*	45	37	28	30	*140*

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Count Summaries - All Vehicles

Interval Start	Aspen Ave Eastbound				Aspen Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	7	1	2	0	4	0	0	0	0	15	1	0	1	22	1	54	0
7:15 AM	0	3	1	2	0	0	2	0	0	2	16	1	0	1	27	1	56	0
7:30 AM	0	3	1	2	0	2	0	0	0	3	18	1	0	0	22	0	52	0
7:45 AM	**0**	**3**	**1**	**7**	**0**	**1**	**3**	**5**	**0**	**4**	**23**	**0**	**0**	**1**	**31**	**0**	**79**	**241**
8:00 AM	**0**	**5**	**3**	**1**	**0**	**6**	**4**	**3**	**0**	**3**	**37**	**1**	**0**	**1**	**32**	**2**	**98**	**285**
8:15 AM	**0**	**8**	**3**	**6**	**0**	**4**	**5**	**1**	**0**	**1**	**31**	**0**	**0**	**1**	**31**	**10**	**101**	**330**
8:30 AM	**0**	**4**	**3**	**5**	**0**	**2**	**2**	**1**	**0**	**5**	**21**	**4**	**1**	**1**	**28**	**3**	**80**	**358**
8:45 AM	0	2	0	4	0	2	1	2	0	3	21	1	0	0	32	2	70	349
Count Total	0	35	13	29	0	21	17	12	0	21	182	9	1	6	225	19	590	
Pk Hr All	**0**	**20**	**10**	**19**	**0**	**13**	**14**	**10**	**0**	**13**	**112**	**5**	**1**	**4**	**122**	**15**	**358**	
Pk Hr HV	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**11**	**0**	**1**	**0**	**15**	**0**	**30**	
Pk Hr HV%	**-**	**0%**	**0%**	**5%**	**-**	**8%**	**7%**	**0%**	**-**	**0%**	**10%**	**0%**	**100%**	**0%**	**12%**	**0%**	**8%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	1	1	*2*	0	0	0	0	*0*	9	4	2	3	*18*
7:15 AM	0	0	8	5	*13*	0	0	0	0	*0*	3	6	2	1	*12*
7:30 AM	0	0	4	2	*6*	0	0	0	0	*0*	11	9	8	8	*36*
7:45 AM	**0**	**0**	**3**	**5**	**8**	**0**	**0**	**0**	**0**	**0**	**13**	**8**	**6**	**5**	**32**
8:00 AM	**0**	**0**	**2**	**4**	**6**	**0**	**0**	**0**	**0**	**0**	**8**	**12**	**7**	**8**	**35**
8:15 AM	**0**	**0**	**3**	**5**	**8**	**0**	**0**	**0**	**0**	**0**	**12**	**4**	**7**	**4**	**27**
8:30 AM	**1**	**2**	**3**	**2**	**8**	**0**	**0**	**0**	**0**	**0**	**12**	**13**	**8**	**13**	**46**
8:45 AM	1	0	5	5	*11*	0	0	1	0	*1*	5	15	7	2	*29*
Count Total	2	2	29	29	*62*	0	0	1	0	*1*	73	71	47	44	*235*
Peak Hour	**1**	**2**	**11**	**16**	***30***	**0**	**0**	**0**	**0**	***0***	**45**	**37**	**28**	**30**	**140**

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Count Summaries - Heavy Vehicles

Interval Start	Aspen Ave				Aspen Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0
7:15 AM	0	0	0	0	0	0	0	0	0	1	7	0	0	0	5	0	13	0
7:30 AM	0	0	0	0	0	0	0	0	0	2	2	0	0	0	2	0	6	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**5**	**0**	**8**	**29**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**6**	**33**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**5**	**0**	**8**	**28**
8:30 AM	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**0**	**1**	**0**	**1**	**0**	**8**	**30**
8:45 AM	0	1	0	0	0	0	0	0	0	1	4	0	0	0	5	0	11	33
Count Total	0	1	0	1	0	1	1	0	0	4	25	0	1	0	28	0	62	
Pk Hr Heavy	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**11**	**0**	**1**	**0**	**15**	**0**	**30**	

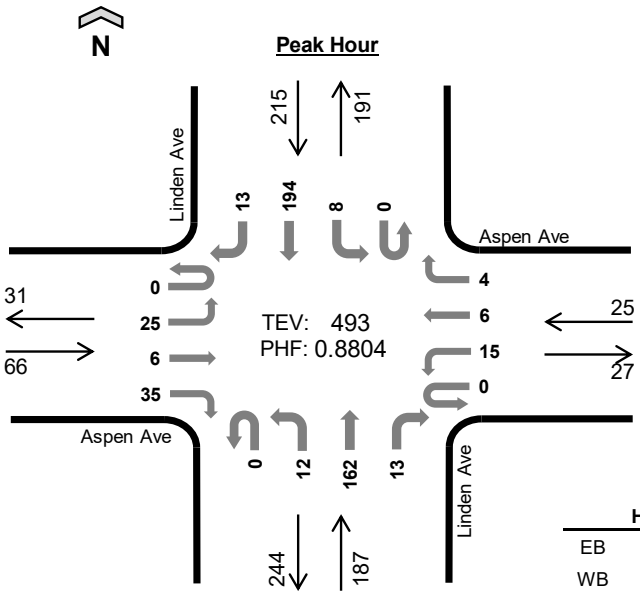
Count Summaries - Bikes

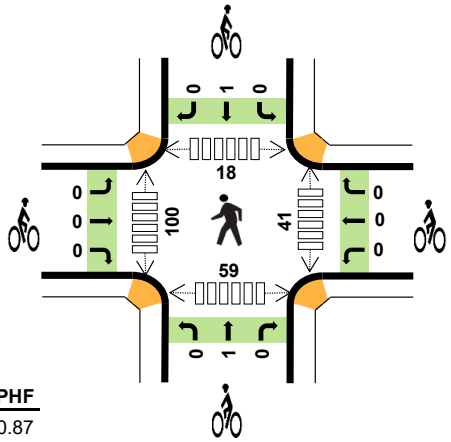
Interval Start	Aspen Ave				Aspen Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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Linden Ave
Aspen Ave

Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV%	PHF
EB	2%	0.87
WB	0%	0.63
NB	5%	0.90
SB	3%	0.90
TOTAL	3%	0.88

Peak Hour Count Summaries

Peak Hour Interval Start		Aspen Ave Eastbound				Aspen Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	10	1	8	0	1	1	2	0	2	39	4	0	3	44	2	117	0
5:15 PM		0	5	1	7	0	3	0	0	0	3	37	2	0	2	46	8	114	0
5:30 PM		0	6	4	6	0	6	1	1	0	5	40	3	0	1	49	0	122	0
5:45 PM		0	4	0	14	0	5	4	1	0	2	46	4	0	2	55	3	140	493
Pk Hr	All	0	25	6	35	0	15	6	4	0	12	162	13	0	8	194	13	493	
	HV	0	0	0	1	0	0	0	0	0	0	9	0	0	0	6	0	16	
	HV%	-	0%	0%	3%	-	0%	0%	0%	-	0%	6%	0%	-	0%	3%	0%	3%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
5:00 PM	0	0	1	1	*2*	0	0	0	0	*0*	8	32	5	15	*60*
5:15 PM	0	0	3	2	*5*	0	0	0	0	*0*	10	17	3	14	*44*
5:30 PM	0	0	2	0	*2*	0	0	0	1	*1*	14	24	4	10	*52*
5:45 PM	1	0	3	3	*7*	0	0	1	0	*1*	9	27	6	20	*62*
Peak Hour	1	0	9	6	*16*	0	0	1	1	*2*	41	100	18	59	*218*

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Count Summaries - All Vehicles

Interval Start	Aspen Ave Eastbound				Aspen Ave Westbound				Linden Ave Northbound				Linden Ave Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	4	0	3	0	6	1	3	0	4	35	1	0	0	54	2	113	0
4:15 PM	0	5	1	13	0	6	2	1	0	1	30	1	0	5	49	3	117	0
4:30 PM	0	4	2	9	0	4	2	1	0	3	29	1	0	2	34	2	93	0
4:45 PM	0	3	0	12	0	1	1	2	0	2	36	1	0	0	50	7	115	438
5:00 PM	**0**	**10**	**1**	**8**	**0**	**1**	**1**	**2**	**0**	**2**	**39**	**4**	**0**	**3**	**44**	**2**	**117**	**442**
5:15 PM	**0**	**5**	**1**	**7**	**0**	**3**	**0**	**0**	**0**	**3**	**37**	**2**	**0**	**2**	**46**	**8**	**114**	**439**
5:30 PM	**0**	**6**	**4**	**6**	**0**	**6**	**1**	**1**	**0**	**5**	**40**	**3**	**0**	**1**	**49**	**0**	**122**	**468**
5:45 PM	**0**	**4**	**0**	**14**	**0**	**5**	**4**	**1**	**0**	**2**	**46**	**4**	**0**	**2**	**55**	**3**	**140**	**493**
Count Total	0	41	9	72	0	32	12	11	0	22	292	17	0	15	381	27	931	
Pk Hr All	**0**	**25**	**6**	**35**	**0**	**15**	**6**	**4**	**0**	**12**	**162**	**13**	**0**	**8**	**194**	**13**	**493**	
Pk Hr HV	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**6**	**0**	**16**	
Pk Hr HV%	**-**	**0%**	**0%**	**3%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**6%**	**0%**	**-**	**0%**	**3%**	**0%**	**3%**	

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) E	W	N	S	Total
4:00 PM	0	0	2	1	*3*	0	0	1	0	*1*	10	22	0	12	*44*
4:15 PM	0	0	2	4	*6*	0	0	0	0	*0*	8	32	6	13	*59*
4:30 PM	0	0	2	2	*4*	0	0	0	0	*0*	11	19	5	9	*44*
4:45 PM	0	0	2	2	*4*	0	1	0	0	*1*	9	29	6	6	*50*
5:00 PM	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**8**	**32**	**5**	**15**	**60**
5:15 PM	**0**	**0**	**3**	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**10**	**17**	**3**	**14**	**44**
5:30 PM	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**14**	**24**	**4**	**10**	**52**
5:45 PM	**1**	**0**	**3**	**3**	**7**	**0**	**0**	**1**	**0**	**1**	**9**	**27**	**6**	**20**	**62**
Count Total	1	0	17	15	*33*	0	1	2	1	*4*	79	202	35	99	*415*
Peak Hour	**1**	**0**	**9**	**6**	***16***	**0**	**0**	**1**	**1**	***2***	**41**	**100**	**18**	**59**	**218**

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Count Summaries - Heavy Vehicles

Interval Start	Aspen Ave				Aspen Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	6	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	17
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**16**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**5**	**15**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**13**
5:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**7**	**16**
Count Total	0	0	0	1	0	0	0	0	0	0	17	0	0	0	15	0	33	
Pk Hr Heavy	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**6**	**0**	**16**	

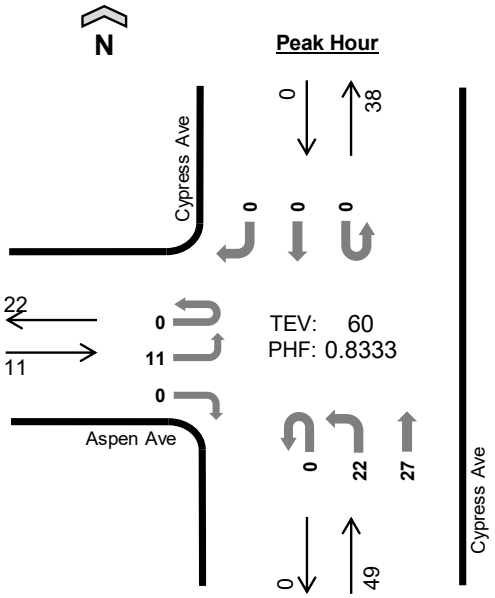
Count Summaries - Bikes

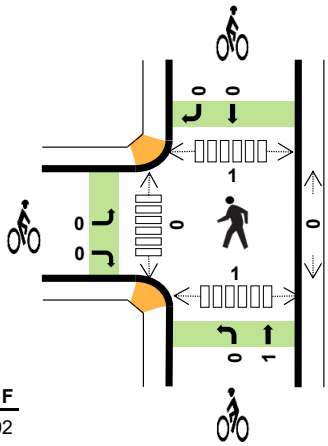
Interval Start	Aspen Ave				Aspen Ave				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	2
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
Count Total	0	0	0	0	0	0	1	0	0	0	2	0	0	0	1	0	4	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	

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Cypress Ave
Aspen Ave

Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV%	PHF
EB	9%	0.92
WB	--	--
NB	4%	0.82
SB	--	--
TOTAL	5%	0.83

Peak Hour Count Summaries

Peak Hour Interval Start		Aspen Ave Eastbound				n/a Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	3	0	0	0	0	0	0	0	5	6	0	0	0	0	0	14	0
8:00 AM		0	2	0	0	0	0	0	0	0	6	9	0	0	0	0	0	17	0
8:15 AM		0	3	0	0	0	0	0	0	0	6	9	0	0	0	0	0	18	0
8:30 AM		0	3	0	0	0	0	0	0	0	5	3	0	0	0	0	0	11	60
Pk Hr	All	0	11	0	0	0	0	0	0	0	22	27	0	0	0	0	0	60	
	HV	0	1	0	0	0	0	0	0	0	2	0	0	0	0	0	0	3	
	HV%	-	9%	-	-	-	-	-	-	-	9%	0%	-	-	-	-	-	5%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
8:00 AM	0	0	0	0	*0*	0	0	1	0	*1*	0	0	0	0	*0*
8:15 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	2	0	*2*	0	0	0	0	*0*	0	0	0	1	*1*
Peak Hour	1	0	2	0	*3*	0	0	1	0	*1*	0	0	1	1	*2*

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Count Summaries - All Vehicles

Interval Start	Aspen Ave				n/a				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	0	0	0	0	0	0	0	2	8	0	0	0	0	0	12	0
7:15 AM	0	4	0	0	0	0	0	0	0	3	8	0	0	0	0	0	15	0
7:30 AM	0	2	0	0	0	0	0	0	0	2	6	0	0	0	0	0	10	0
7:45 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**6**	**0**	**0**	**0**	**0**	**0**	**14**	**51**
8:00 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**9**	**0**	**0**	**0**	**0**	**0**	**17**	**56**
8:15 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**9**	**0**	**0**	**0**	**0**	**0**	**18**	**59**
8:30 AM	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**3**	**0**	**0**	**0**	**0**	**0**	**11**	**60**
8:45 AM	0	3	0	0	0	0	0	0	0	4	5	0	0	0	0	0	12	58
Count Total	0	22	0	0	0	0	0	0	0	33	54	0	0	0	0	0	109	
Pk Hr All	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**27**	**0**	**0**	**0**	**0**	**0**	**60**	
Pk Hr HV	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	
Pk Hr HV%	**-**	**9%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**9%**	**0%**	**-**	**-**	**-**	**-**	**-**	**5%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	1	0	0	*1*
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
8:15 AM	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
8:45 AM	0	0	1	0	*1*	0	0	0	0	*0*	1	3	1	0	*5*
Count Total	1	0	3	0	*4*	0	0	1	0	*1*	1	4	2	1	*8*
Peak Hour	**1**	**0**	**2**	**0**	***3***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**1**	**1**	**2**

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Count Summaries - Heavy Vehicles

Interval Start	Aspen Ave				n/a				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**
8:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	4
Count Total	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	4	
Pk Hr Heavy	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	

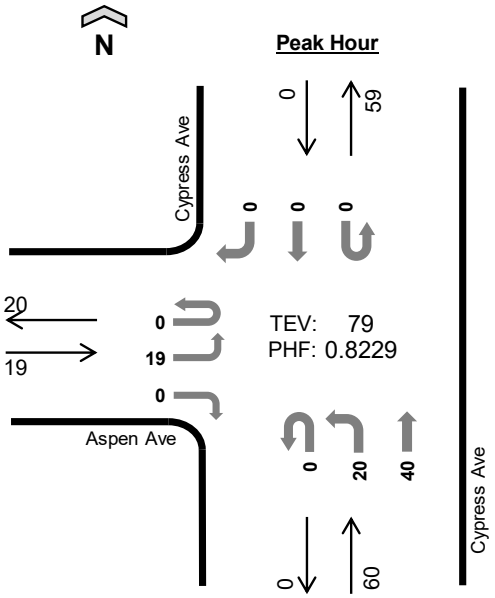
Count Summaries - Bikes

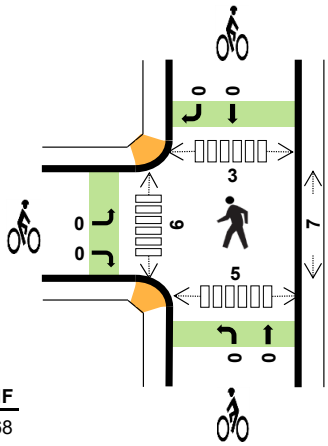
Interval Start	Aspen Ave				n/a				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	

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Cypress Ave
Aspen Ave

Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV%	PHF
EB	0%	0.68
WB	--	--
NB	0%	0.88
SB	--	--
TOTAL	0%	0.82

Peak Hour Count Summaries

Peak Hour Interval Start		Aspen Ave Eastbound				n/a Westbound				Cypress Ave Northbound				Cypress Ave Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	4	0	0	0	0	0	0	0	2	14	0	0	0	0	0	20	0
5:15 PM		0	4	0	0	0	0	0	0	0	3	7	0	0	0	0	0	14	0
5:30 PM		0	4	0	0	0	0	0	0	0	7	10	0	0	0	0	0	21	0
5:45 PM		0	7	0	0	0	0	0	0	0	8	9	0	0	0	0	0	24	79
Pk Hr	All	0	19	0	0	0	0	0	0	0	20	40	0	0	0	0	0	79	
	HV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	HV%	-	0%	-	-	-	-	-	-	-	0%	0%	-	-	-	-	-	0%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
5:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	1	0	0	*2*
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	2	3	1	2	*8*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	3	1	2	3	*9*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	1	0	0	*2*
Peak Hour	0	0	0	0	*0*	0	0	0	0	*0*	7	6	3	5	*21*

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Count Summaries - All Vehicles

Interval Start	Aspen Ave				n/a				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	10	5	0	0	0	0	0	15	0
4:15 PM	1	6	0	0	0	0	0	0	0	10	6	0	0	0	0	0	23	0
4:30 PM	1	3	0	0	0	0	0	0	0	2	6	0	0	0	0	0	12	0
4:45 PM	0	2	0	0	0	0	0	0	0	5	8	0	0	0	0	0	15	65
5:00 PM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**14**	**0**	**0**	**0**	**0**	**0**	**20**	**70**
5:15 PM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**7**	**0**	**0**	**0**	**0**	**0**	**14**	**61**
5:30 PM	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**10**	**0**	**0**	**0**	**0**	**0**	**21**	**70**
5:45 PM	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**9**	**0**	**0**	**0**	**0**	**0**	**24**	**79**
Count Total	2	30	0	0	0	0	0	0	0	47	65	0	0	0	0	0	144	
Pk Hr All	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**40**	**0**	**0**	**0**	**0**	**0**	**79**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	
Pk Hr HV%	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**0%**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	**Total**	EB	WB	NB	SB	**Total**	E	W	N	S	**Total**
4:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
4:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	4	1	2	0	*7*
4:30 PM	0	0	0	0	*0*	0	0	1	0	*1*	2	1	0	1	*4*
4:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	3	0	0	*4*
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**1**	**2**	**8**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**2**	**3**	**9**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**
Count Total	0	0	0	0	*0*	0	0	1	0	*1*	14	11	6	6	*37*
Peak Hour	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**7**	**6**	**3**	**5**	**21**

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Count Summaries - Heavy Vehicles

Interval Start	Aspen Ave				n/a				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

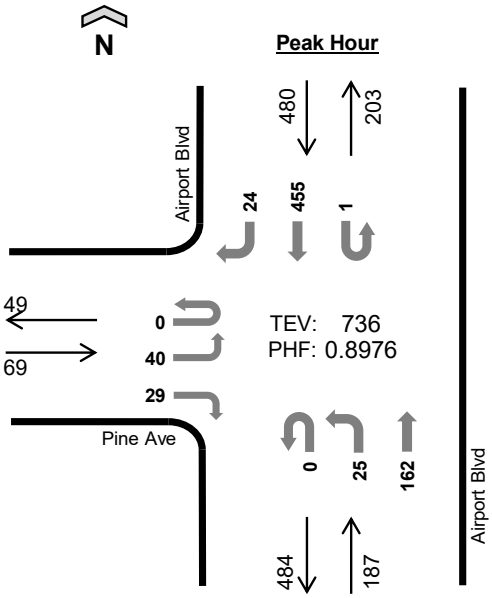
Count Summaries - Bikes

Interval Start	Aspen Ave				n/a				Cypress Ave				Cypress Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

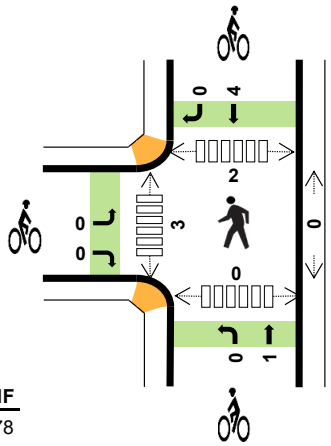
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Airport Blvd
Pine Ave

Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV%	PHF
EB	9%	0.78
WB	--	--
NB	10%	0.83
SB	8%	0.78
TOTAL	9%	0.90



Peak Hour Count Summaries

Peak Hour Interval Start		Pine Ave Eastbound				n/a Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**12**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**4**	**30**	**0**	**0**	**0**	**147**	**6**	**205**	**0**
7:15 AM		**0**	**7**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**9**	**39**	**0**	**0**	**0**	**115**	**4**	**178**	**0**
7:30 AM		**0**	**13**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**3**	**53**	**0**	**0**	**0**	**88**	**5**	**171**	**0**
7:45 AM		**0**	**8**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**9**	**40**	**0**	**1**	**0**	**105**	**9**	**182**	**736**
Pk Hr	All	**0**	**40**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**25**	**162**	**0**	**1**	**0**	**455**	**24**	**736**	
	HV	**0**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**6**	**12**	**0**	**0**	**0**	**40**	**0**	**64**	
	HV%	-	**5%**	-	**14%**	-	-	-	-	-	**24%**	**7%**	-	**0%**	-	**9%**	**0%**	**9%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	**1**	**0**	**4**	**12**	***17***	**0**	**0**	**0**	**1**	***1***	**0**	**1**	**0**	**0**	***1***
7:15 AM	**0**	**0**	**7**	**10**	***17***	**0**	**0**	**0**	**1**	***1***	**0**	**1**	**1**	**0**	***2***
7:30 AM	**5**	**0**	**6**	**11**	***22***	**0**	**0**	**1**	**2**	***3***	**0**	**0**	**0**	**0**	***0***
7:45 AM	**0**	**0**	**1**	**7**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**1**	**0**	***2***
Peak Hour	**6**	**0**	**18**	**40**	***64***	**0**	**0**	**1**	**4**	***5***	**0**	**3**	**2**	**0**	***5***

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Count Summaries - All Vehicles

Interval Start	Pine Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**12**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**4**	**30**	**0**	**0**	**0**	**147**	**6**	**205**	0
7:15 AM	**0**	**7**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**9**	**39**	**0**	**0**	**0**	**115**	**4**	**178**	**0**
7:30 AM	**0**	**13**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**3**	**53**	**0**	**0**	**0**	**88**	**5**	**171**	**0**
7:45 AM	**0**	**8**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**9**	**40**	**0**	**1**	**0**	**105**	**9**	**182**	**736**
8:00 AM	0	8	0	8	0	0	0	0	0	7	37	0	0	0	72	3	135	666
8:15 AM	0	5	0	11	0	0	0	0	0	4	43	0	1	0	81	7	152	640
8:30 AM	0	6	0	10	0	0	0	0	0	5	46	0	0	0	70	3	140	609
8:45 AM	0	2	0	9	0	0	0	0	0	1	38	0	0	0	62	3	115	542
Count Total	0	61	0	67	0	0	0	0	0	42	326	0	2	0	740	40	1,278	
Pk Hr All	**0**	**40**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**25**	**162**	**0**	**1**	**0**	**455**	**24**	**736**	
Pk Hr HV	**0**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**6**	**12**	**0**	**0**	**0**	**40**	**0**	**64**	
Pk Hr HV%	**-**	**5%**	**-**	**14%**	**-**	**-**	**-**	**-**	**-**	**24%**	**7%**	**-**	**0%**	**-**	**9%**	**0%**	**9%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	**1**	**0**	**4**	**12**	**17**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**1**
7:15 AM	**0**	**0**	**7**	**10**	**17**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**1**	**0**	**2**
7:30 AM	**5**	**0**	**6**	**11**	**22**	**0**	**0**	**1**	**2**	**3**	**0**	**0**	**0**	**0**	**0**
7:45 AM	**0**	**0**	**1**	**7**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**2**
8:00 AM	2	0	0	5	*7*	0	0	2	1	*3*	0	5	0	0	*5*
8:15 AM	0	0	5	5	*10*	0	0	2	0	*2*	1	3	0	0	*4*
8:30 AM	3	0	2	5	*10*	0	0	0	0	*0*	0	1	0	0	*1*
8:45 AM	0	0	3	7	*10*	0	0	0	0	*0*	0	2	0	0	*2*
Count Total	11	0	28	62	*101*	0	0	5	5	*10*	1	14	2	0	*17*
Peak Hour	**6**	**0**	**18**	**40**	***64***	**0**	**0**	**1**	**4**	***5***	**0**	**3**	**2**	**0**	**5**

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Count Summaries - Heavy Vehicles

Interval Start	Pine Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**12**	**0**	**17**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**5**	**0**	**0**	**0**	**10**	**0**	**17**	**0**
7:30 AM	**0**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**11**	**0**	**22**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**7**	**0**	**8**	**64**
8:00 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5	0	7	54
8:15 AM	0	0	0	0	0	0	0	0	0	1	4	0	0	0	4	1	10	47
8:30 AM	0	0	0	3	0	0	0	0	0	1	1	0	0	0	5	0	10	35
8:45 AM	0	0	0	0	0	0	0	0	0	1	2	0	0	0	6	1	10	37
Count Total	0	2	0	9	0	0	0	0	0	9	19	0	0	0	60	2	101	
Pk Hr Heavy	**0**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**6**	**12**	**0**	**0**	**0**	**40**	**0**	**64**	

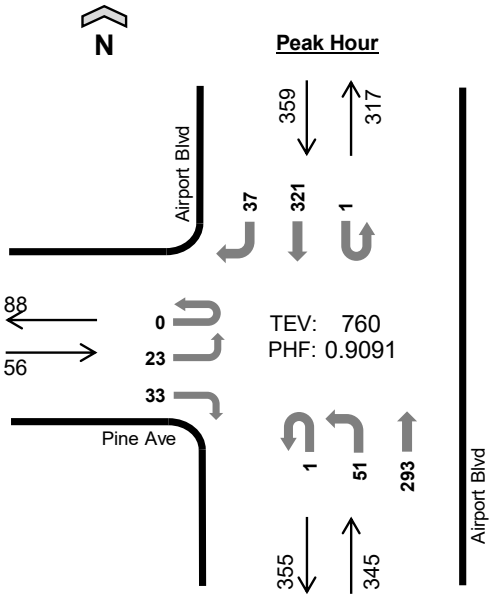
Count Summaries - Bikes

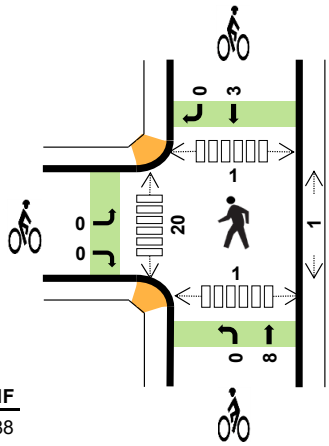
Interval Start	Pine Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	7
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	8
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Count Total	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	10	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**5**	

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Airport Blvd
Pine Ave

Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV%	PHF
EB	0%	0.88
WB	--	--
NB	3%	0.75
SB	3%	0.93
TOTAL	3%	0.91

Peak Hour Count Summaries

Peak Hour Interval Start		Pine Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	7	0	9	0	0	0	0	0	9	64	0	1	0	69	15	174	0
5:15 PM		0	8	0	6	0	0	0	0	0	11	69	0	0	0	86	9	189	0
5:30 PM		0	5	0	7	0	0	0	0	1	24	90	0	0	0	79	3	209	0
5:45 PM		0	3	0	11	0	0	0	0	0	7	70	0	0	0	87	10	188	760
Pk Hr	All	0	23	0	33	0	0	0	0	1	51	293	0	1	0	321	37	760	
	HV	0	0	0	0	0	0	0	0	0	0	9	0	0	0	12	0	21	
	HV%	-	0%	-	0%	-	-	-	-	0%	0%	3%	-	0%	-	4%	0%	3%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
5:00 PM	0	0	1	2	*3*	0	0	1	1	*2*	1	5	1	0	*7*
5:15 PM	0	0	1	2	*3*	0	0	2	2	*4*	0	6	0	0	*6*
5:30 PM	0	0	4	5	*9*	0	0	3	0	*3*	0	8	0	1	*9*
5:45 PM	0	0	3	3	*6*	0	0	2	0	*2*	0	1	0	0	*1*
Peak Hour	0	0	9	12	*21*	0	0	8	3	*11*	1	20	1	1	*23*

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Count Summaries - All Vehicles

Interval Start	Pine Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	8	0	10	0	0	0	0	1	12	38	0	0	0	67	2	138	0
4:15 PM	0	1	0	13	0	0	0	0	0	16	59	0	0	0	67	10	166	0
4:30 PM	0	4	0	11	0	0	0	0	0	16	71	0	0	0	67	9	178	0
4:45 PM	0	5	0	10	0	0	0	0	1	10	56	0	1	0	88	8	179	661
5:00 PM	**0**	**7**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**9**	**64**	**0**	**1**	**0**	**69**	**15**	**174**	**697**
5:15 PM	**0**	**8**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**11**	**69**	**0**	**0**	**0**	**86**	**9**	**189**	**720**
5:30 PM	**0**	**5**	**0**	**7**	**0**	**0**	**0**	**0**	**1**	**24**	**90**	**0**	**0**	**0**	**79**	**3**	**209**	**751**
5:45 PM	**0**	**3**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**7**	**70**	**0**	**0**	**0**	**87**	**10**	**188**	**760**
Count Total	0	41	0	77	0	0	0	0	3	105	517	0	2	0	610	66	1,421	
Pk Hr All	**0**	**23**	**0**	**33**	**0**	**0**	**0**	**0**	**1**	**51**	**293**	**0**	**1**	**0**	**321**	**37**	**760**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**12**	**0**	**21**	
Pk Hr HV%	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**0%**	**0%**	**3%**	**-**	**0%**	**-**	**4%**	**0%**	**3%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	3	3	*7*	0	0	0	2	*2*	0	2	0	0	*2*
4:15 PM	0	0	1	3	*4*	0	0	0	0	*0*	0	2	0	0	*2*
4:30 PM	1	0	4	2	*7*	0	0	1	1	*2*	1	4	0	0	*5*
4:45 PM	0	0	2	3	*5*	0	0	1	1	*2*	1	4	0	0	*5*
5:00 PM	**0**	**0**	**1**	**2**	**3**	**0**	**0**	**1**	**1**	**2**	**1**	**5**	**1**	**0**	**7**
5:15 PM	**0**	**0**	**1**	**2**	**3**	**0**	**0**	**2**	**2**	**4**	**0**	**6**	**0**	**0**	**6**
5:30 PM	**0**	**0**	**4**	**5**	**9**	**0**	**0**	**3**	**0**	**3**	**0**	**8**	**0**	**1**	**9**
5:45 PM	**0**	**0**	**3**	**3**	**6**	**0**	**0**	**2**	**0**	**2**	**0**	**1**	**0**	**0**	**1**
Count Total	2	0	19	23	*44*	0	0	10	7	*17*	3	32	1	1	*37*
Peak Hour	**0**	**0**	**9**	**12**	***21***	**0**	**0**	**8**	**3**	***11***	**1**	**20**	**1**	**1**	**23**

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Count Summaries - Heavy Vehicles

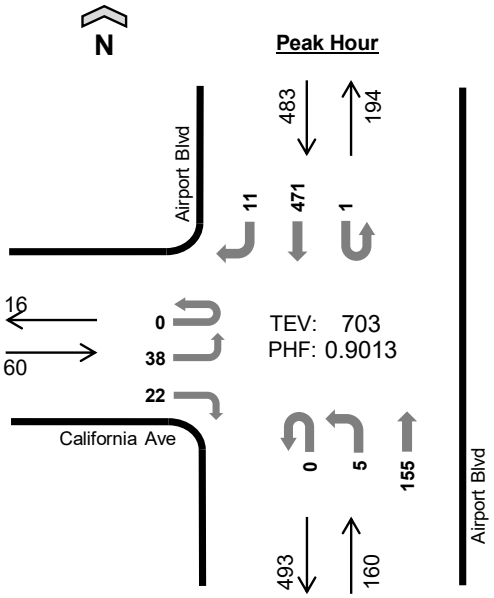
Interval Start	Pine Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	0	0	0	0	3	0	0	0	3	0	7	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	4	0	0	0	2	0	7	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	5	23
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**19**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**18**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**5**	**0**	**9**	**20**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**6**	**21**
Count Total	0	0	0	2	0	0	0	0	0	0	19	0	0	0	22	1	44	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**12**	**0**	**21**	

Count Summaries - Bikes

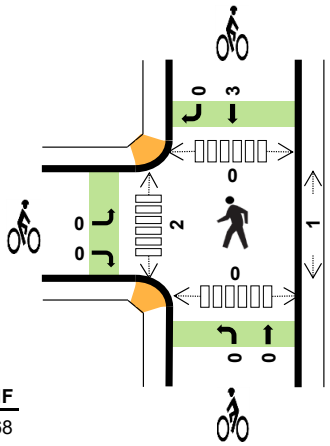
Interval Start	Pine Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	6
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**6**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**4**	**10**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	**11**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**11**
Count Total	0	0	0	0	0	0	0	0	1	0	9	0	0	0	7	0	17	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**3**	**0**	**11**	

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Airport Blvd
California Ave



Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV%	PHF
EB	12%	0.68
WB	--	--
NB	11%	0.80
SB	9%	0.78
TOTAL	9%	0.90

Peak Hour Count Summaries

Peak Hour Interval Start		California Ave Eastbound				n/a Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**7**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**31**	**0**	**0**	**0**	**153**	**2**	**195**	**0**
7:15 AM		**0**	**9**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**0**	**1**	**0**	**116**	**5**	**171**	**0**
7:30 AM		**0**	**13**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**4**	**46**	**0**	**0**	**0**	**91**	**2**	**165**	**0**
7:45 AM		**0**	**9**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**1**	**42**	**0**	**0**	**0**	**111**	**2**	**172**	**703**
Pk Hr	All	**0**	**38**	**0**	**22**	**0**	**0**	**0**	**0**	**0**	**5**	**155**	**0**	**1**	**0**	**471**	**11**	**703**	
	HV	**0**	**3**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**16**	**0**	**1**	**0**	**39**	**2**	**66**	
	HV%	-	**8%**	-	**18%**	-	-	-	-	-	**20%**	**10%**	-	**100%**	-	**8%**	**18%**	**9%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	**0**	**0**	**4**	**11**	***15***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***
7:15 AM	**2**	**0**	**7**	**11**	***20***	**0**	**0**	**0**	**1**	***1***	**0**	**1**	**0**	**0**	***1***
7:30 AM	**3**	**0**	**5**	**14**	***22***	**0**	**0**	**0**	**1**	***1***	**1**	**0**	**0**	**0**	***1***
7:45 AM	**2**	**0**	**1**	**6**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	***1***
Peak Hour	**7**	**0**	**17**	**42**	***66***	**0**	**0**	**0**	**3**	***3***	**1**	**2**	**0**	**0**	***3***

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Count Summaries - All Vehicles

Interval Start	California Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**7**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**31**	**0**	**0**	**0**	**153**	**2**	**195**	0
7:15 AM	**0**	**9**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**0**	**1**	**0**	**116**	**5**	**171**	**0**
7:30 AM	**0**	**13**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**4**	**46**	**0**	**0**	**0**	**91**	**2**	**165**	**0**
7:45 AM	**0**	**9**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**1**	**42**	**0**	**0**	**0**	**111**	**2**	**172**	**703**
8:00 AM	0	7	0	6	0	0	0	0	0	1	39	0	0	0	68	11	132	640
8:15 AM	0	4	0	3	0	0	0	0	0	2	42	0	0	0	88	3	142	611
8:30 AM	0	2	0	4	0	0	0	0	0	1	49	0	0	0	77	3	136	582
8:45 AM	0	2	0	6	0	0	0	0	0	4	33	0	0	0	70	3	118	528
Count Total	0	53	0	41	0	0	0	0	0	13	318	0	1	0	774	31	1,231	
Pk Hr All	**0**	**38**	**0**	**22**	**0**	**0**	**0**	**0**	**0**	**5**	**155**	**0**	**1**	**0**	**471**	**11**	**703**	
Pk Hr HV	**0**	**3**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**16**	**0**	**1**	**0**	**39**	**2**	**66**	
Pk Hr HV%	**-**	**8%**	**-**	**18%**	**-**	**-**	**-**	**-**	**-**	**20%**	**10%**	**-**	**100%**	**-**	**8%**	**18%**	**9%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	**0**	**0**	**4**	**11**	**15**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**
7:15 AM	**2**	**0**	**7**	**11**	**20**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**1**
7:30 AM	**3**	**0**	**5**	**14**	**22**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**1**
7:45 AM	**2**	**0**	**1**	**6**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
8:00 AM	0	0	2	8	*10*	0	0	2	1	*3*	0	3	0	0	*3*
8:15 AM	1	0	3	4	*8*	0	0	1	0	*1*	1	0	0	0	*1*
8:30 AM	0	0	1	8	*9*	0	0	0	0	*0*	0	2	0	0	*2*
8:45 AM	0	0	2	7	*9*	0	0	1	0	*1*	0	2	0	0	*2*
Count Total	8	0	25	69	*102*	0	0	4	4	*8*	2	9	0	0	*11*
Peak Hour	**7**	**0**	**17**	**42**	***66***	**0**	**0**	**0**	**3**	***3***	**1**	**2**	**0**	**0**	**3**

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Count Summaries - Heavy Vehicles

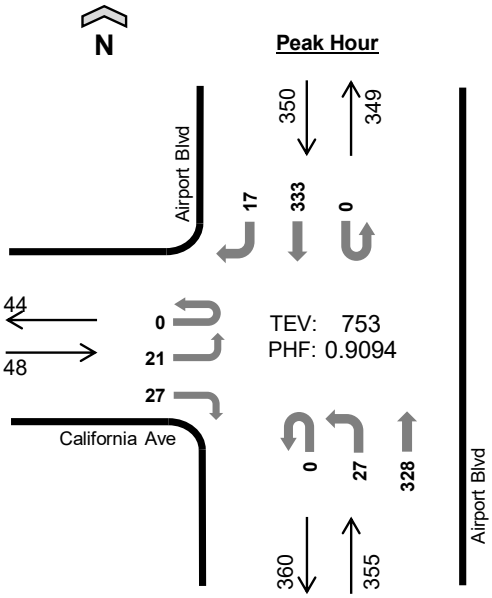
Interval Start	California Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**11**	**0**	**15**	0
7:15 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**1**	**0**	**9**	**1**	**20**	**0**
7:30 AM	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**13**	**1**	**22**	**0**
7:45 AM	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**0**	**9**	**66**
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	8	0	10	61
8:15 AM	0	1	0	0	0	0	0	0	0	0	3	0	0	0	4	0	8	49
8:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	8	0	9	36
8:45 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	7	0	9	36
Count Total	0	4	0	4	0	0	0	0	0	1	24	0	1	0	66	2	102	
Pk Hr Heavy	**0**	**3**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**16**	**0**	**1**	**0**	**39**	**2**	**66**	

Count Summaries - Bikes

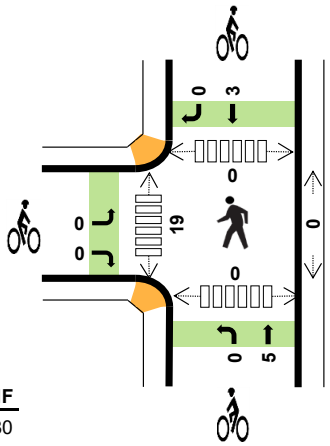
Interval Start	California Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	5
8:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	5
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	5
Count Total	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	8	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	

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Airport Blvd
California Ave



Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV%	PHF
EB	0%	0.80
WB	--	--
NB	2%	0.84
SB	3%	0.93
TOTAL	3%	0.91

Peak Hour Count Summaries

Peak Hour Interval Start		California Ave Eastbound				n/a Westbound				Airport Blvd Northbound				Airport Blvd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	7	0	6	0	0	0	0	0	7	70	0	0	0	75	3	168	0
5:15 PM		0	4	0	5	0	0	0	0	0	8	81	0	0	0	88	4	190	0
5:30 PM		0	7	0	8	0	0	0	0	0	4	102	0	0	0	79	7	207	0
5:45 PM		0	3	0	8	0	0	0	0	0	8	75	0	0	0	91	3	188	753
Pk Hr	All	0	21	0	27	0	0	0	0	0	27	328	0	0	0	333	17	753	
	HV	0	0	0	0	0	0	0	0	0	0	8	0	0	0	12	0	20	
	HV%	-	0%	-	0%	-	-	-	-	-	0%	2%	-	-	-	4%	0%	3%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
5:00 PM	0	0	1	2	*3*	0	0	2	0	*2*	0	5	0	0	*5*
5:15 PM	0	0	1	2	*3*	0	0	0	3	*3*	0	6	0	0	*6*
5:30 PM	0	0	3	5	*8*	0	0	3	0	*3*	0	5	0	0	*5*
5:45 PM	0	0	3	3	*6*	0	0	0	0	*0*	0	3	0	0	*3*
Peak Hour	0	0	8	12	*20*	0	0	5	3	*8*	0	19	0	0	*19*

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Count Summaries - All Vehicles

Interval Start	California Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	10	0	7	0	0	0	0	0	2	45	0	1	0	68	10	143	0
4:15 PM	0	8	0	4	0	0	0	0	0	6	76	0	0	0	75	8	177	0
4:30 PM	0	4	0	7	0	0	0	0	0	7	82	0	1	0	70	7	178	0
4:45 PM	0	7	0	4	0	0	0	0	0	7	65	0	1	0	88	10	182	680
5:00 PM	**0**	**7**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**7**	**70**	**0**	**0**	**0**	**75**	**3**	**168**	**705**
5:15 PM	**0**	**4**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**8**	**81**	**0**	**0**	**0**	**88**	**4**	**190**	**718**
5:30 PM	**0**	**7**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**4**	**102**	**0**	**0**	**0**	**79**	**7**	**207**	**747**
5:45 PM	**0**	**3**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**8**	**75**	**0**	**0**	**0**	**91**	**3**	**188**	**753**
Count Total	0	50	0	49	0	0	0	0	0	49	596	0	3	0	634	52	1,433	
Pk Hr All	**0**	**21**	**0**	**27**	**0**	**0**	**0**	**0**	**0**	**27**	**328**	**0**	**0**	**0**	**333**	**17**	**753**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**12**	**0**	**20**	
Pk Hr HV%	**-**	**0%**	**-**	**0%**	**-**	**-**	**-**	**-**	**-**	**0%**	**2%**	**-**	**-**	**-**	**4%**	**0%**	**3%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	3	4	*7*	0	0	0	2	*2*	0	4	0	0	*4*
4:15 PM	0	0	2	3	*5*	0	0	0	0	*0*	0	3	0	0	*3*
4:30 PM	0	0	4	3	*7*	0	0	0	3	*3*	0	3	0	0	*3*
4:45 PM	0	0	2	2	*4*	0	0	1	2	*3*	0	2	0	0	*2*
5:00 PM	**0**	**0**	**1**	**2**	**3**	**0**	**0**	**2**	**0**	**2**	**0**	**5**	**0**	**0**	**5**
5:15 PM	**0**	**0**	**1**	**2**	**3**	**0**	**0**	**0**	**3**	**3**	**0**	**6**	**0**	**0**	**6**
5:30 PM	**0**	**0**	**3**	**5**	**8**	**0**	**0**	**3**	**0**	**3**	**0**	**5**	**0**	**0**	**5**
5:45 PM	**0**	**0**	**3**	**3**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**
Count Total	0	0	19	24	*43*	0	0	6	10	*16*	0	31	0	0	*31*
Peak Hour	**0**	**0**	**8**	**12**	***20***	**0**	**0**	**5**	**3**	***8***	**0**	**19**	**0**	**0**	**19**

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Count Summaries - Heavy Vehicles

Interval Start	California Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	1	7	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	1	5	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	7	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	23
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**19**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**3**	**17**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**5**	**0**	**8**	**18**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**6**	**20**
Count Total	0	0	0	0	0	0	0	0	0	0	19	0	0	0	22	2	43	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**12**	**0**	**20**	

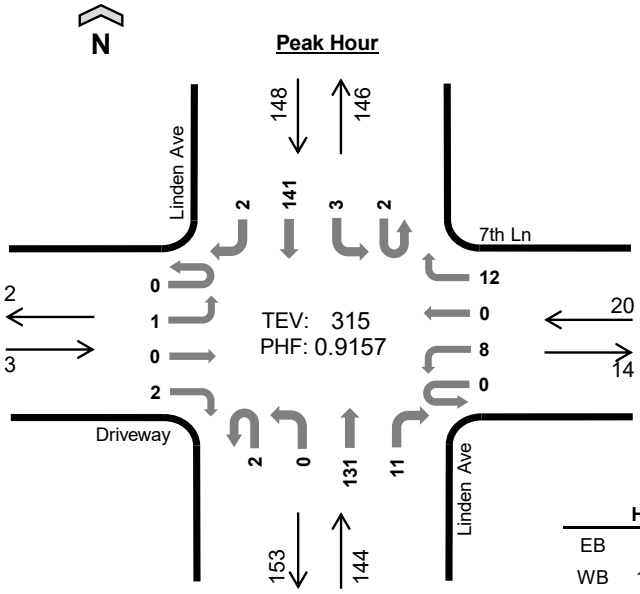
Count Summaries - Bikes

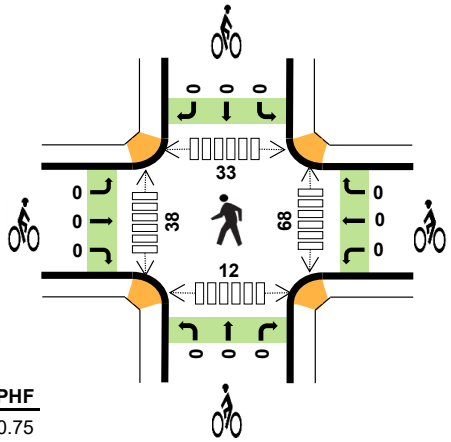
Interval Start	California Ave				n/a				Airport Blvd				Airport Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	8
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**8**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**3**	**11**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	**11**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**
Count Total	0	0	0	0	0	0	0	0	0	0	6	0	0	0	9	1	16	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**3**	**0**	**8**	

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Linden Ave
7th Ln

Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV%	PHF
EB	0%	0.75
WB	10%	0.56
NB	8%	0.88
SB	9%	0.88
TOTAL	9%	0.92

Peak Hour Count Summaries

Peak Hour Interval Start		Driveway				7th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	0	0	1	0	3	0	2	1	0	26	2	1	0	35	1	72	0
8:00 AM		0	0	0	1	0	1	0	3	0	0	38	1	0	1	40	1	86	0
8:15 AM		0	0	0	0	0	1	0	1	1	0	38	2	0	1	30	0	74	0
8:30 AM		0	1	0	0	0	3	0	6	0	0	29	6	1	1	36	0	83	315
Pk Hr	All	0	1	0	2	0	8	0	12	2	0	131	11	2	3	141	2	315	
	HV	0	0	0	0	0	0	0	2	0	0	12	0	0	0	14	0	28	
	HV%	-	0%	-	0%	-	0%	-	17%	0%	-	9%	0%	0%	0%	10%	0%	9%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	0	0	3	4	*7*	0	0	0	0	*0*	20	15	7	3	*45*
8:00 AM	0	0	2	3	*5*	0	0	0	0	*0*	19	13	13	2	*47*
8:15 AM	0	0	4	4	*8*	0	0	0	0	*0*	15	7	5	3	*30*
8:30 AM	0	2	3	3	*8*	0	0	0	0	*0*	14	3	8	4	*29*
Peak Hour	0	2	12	14	*28*	0	0	0	0	*0*	68	38	33	12	*151*

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Count Summaries - All Vehicles

Interval Start	Driveway				7th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	2	0	2	0	0	18	2	0	1	29	0	54	0
7:15 AM	0	0	0	1	0	3	0	3	0	0	25	4	1	0	28	1	66	0
7:30 AM	0	0	0	1	0	5	0	3	0	0	23	2	1	1	31	1	68	0
7:45 AM	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**2**	**1**	**0**	**26**	**2**	**1**	**0**	**35**	**1**	**72**	**260**
8:00 AM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**3**	**0**	**0**	**38**	**1**	**0**	**1**	**40**	**1**	**86**	**292**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**38**	**2**	**0**	**1**	**30**	**0**	**74**	**300**
8:30 AM	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**6**	**0**	**0**	**29**	**6**	**1**	**1**	**36**	**0**	**83**	**315**
8:45 AM	0	0	0	0	0	3	0	2	0	1	26	2	0	0	31	0	65	308
Count Total	0	1	0	4	0	21	0	22	2	1	223	21	4	5	260	4	568	
Pk Hr All	**0**	**1**	**0**	**2**	**0**	**8**	**0**	**12**	**2**	**0**	**131**	**11**	**2**	**3**	**141**	**2**	**315**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**12**	**0**	**0**	**0**	**14**	**0**	**28**	
Pk Hr HV%	**-**	**0%**	**-**	**0%**	**-**	**0%**	**-**	**17%**	**0%**	**-**	**9%**	**0%**	**0%**	**0%**	**10%**	**0%**	**9%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	1	2	*3*	0	0	0	0	*0*	6	12	9	5	*32*
7:15 AM	0	1	7	6	*14*	0	0	0	0	*0*	15	10	8	11	*44*
7:30 AM	0	1	3	5	*9*	0	0	0	2	*2*	24	11	16	4	*55*
7:45 AM	**0**	**0**	**3**	**4**	**7**	**0**	**0**	**0**	**0**	**0**	**20**	**15**	**7**	**3**	**45**
8:00 AM	**0**	**0**	**2**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**19**	**13**	**13**	**2**	**47**
8:15 AM	**0**	**0**	**4**	**4**	**8**	**0**	**0**	**0**	**0**	**0**	**15**	**7**	**5**	**3**	**30**
8:30 AM	**0**	**2**	**3**	**3**	**8**	**0**	**0**	**0**	**0**	**0**	**14**	**3**	**8**	**4**	**29**
8:45 AM	0	0	4	3	*7*	0	0	1	1	*2*	17	6	5	3	*31*
Count Total	0	4	27	30	*61*	0	0	1	3	*4*	130	77	71	35	*313*
Peak Hour	**0**	**2**	**12**	**14**	***28***	**0**	**0**	**0**	**0**	***0***	**68**	**38**	**33**	**12**	**151**

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Count Summaries - Heavy Vehicles

Interval Start	Driveway				7th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	0
7:15 AM	0	0	0	0	0	0	0	1	0	0	7	0	0	0	6	0	14	0
7:30 AM	0	0	0	0	0	0	0	1	0	0	3	0	0	0	5	0	9	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**7**	**33**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**5**	**35**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**4**	**0**	**8**	**29**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**8**	**28**
8:45 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	7	28
Count Total	0	0	0	0	0	0	0	4	0	0	27	0	0	0	30	0	61	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**12**	**0**	**0**	**0**	**14**	**0**	**28**	

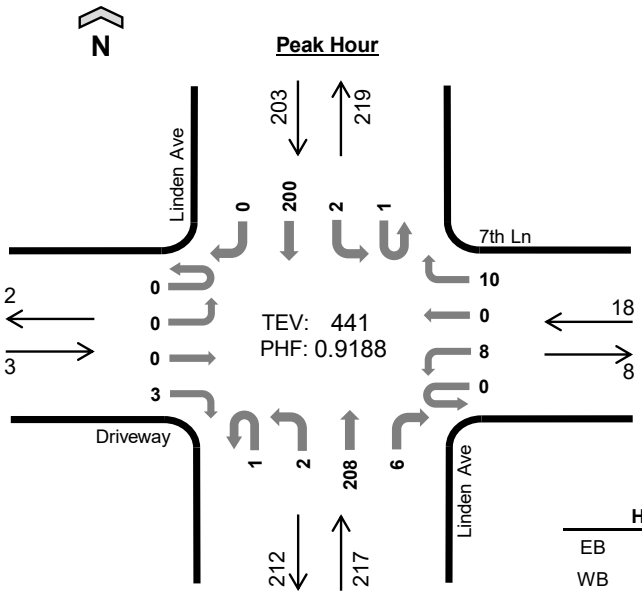
Count Summaries - Bikes

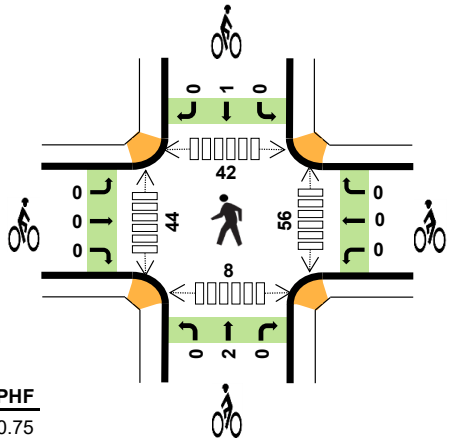
Interval Start	Driveway				7th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	2
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

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Linden Ave
7th Ln

Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM





	HV%	PHF
EB	0%	0.75
WB	0%	0.64
NB	4%	0.97
SB	3%	0.89
TOTAL	4%	0.92

Peak Hour Count Summaries

Peak Hour Interval Start		Driveway				7th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	0	0	1	0	0	0	3	1	1	52	1	1	1	44	0	105	0
5:15 PM		0	0	0	1	0	2	0	3	0	1	53	1	0	0	45	0	106	0
5:30 PM		0	0	0	1	0	2	0	1	0	0	49	2	0	0	55	0	110	0
5:45 PM		0	0	0	0	0	4	0	3	0	0	54	2	0	1	56	0	120	441
Pk Hr	All	0	0	0	3	0	8	0	10	1	2	208	6	1	2	200	0	441	
	HV	0	0	0	0	0	0	0	0	0	0	9	0	0	0	7	0	16	
	HV%	-	-	-	0%	-	0%	-	0%	0%	0%	4%	0%	0%	0%	4%	-	4%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
5:00 PM	0	0	1	1	*2*	0	0	0	0	*0*	11	21	9	5	*46*
5:15 PM	0	0	3	2	*5*	0	0	1	0	*1*	22	7	9	2	*40*
5:30 PM	0	0	2	0	*2*	0	0	0	1	*1*	10	8	14	1	*33*
5:45 PM	0	0	3	4	*7*	0	0	1	0	*1*	13	8	10	0	*31*
Peak Hour	0	0	9	7	*16*	0	0	2	1	*3*	56	44	42	8	*150*

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Count Summaries - All Vehicles

Interval Start	Driveway				7th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	2	0	1	0	0	50	0	0	0	51	0	104	0
4:15 PM	0	0	0	0	0	2	0	1	0	0	43	4	0	2	62	0	114	0
4:30 PM	0	0	0	0	0	2	0	0	0	0	38	1	0	0	43	0	84	0
4:45 PM	0	0	0	1	0	2	1	0	0	0	49	3	0	2	39	0	97	399
5:00 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**1**	**1**	**52**	**1**	**1**	**1**	**44**	**0**	**105**	**400**
5:15 PM	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**3**	**0**	**1**	**53**	**1**	**0**	**0**	**45**	**0**	**106**	**392**
5:30 PM	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**49**	**2**	**0**	**0**	**55**	**0**	**110**	**418**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**3**	**0**	**0**	**54**	**2**	**0**	**1**	**56**	**0**	**120**	**441**
Count Total	0	0	0	4	0	16	1	12	1	2	388	14	1	6	395	0	840	
Pk Hr All	**0**	**0**	**0**	**3**	**0**	**8**	**0**	**10**	**1**	**2**	**208**	**6**	**1**	**2**	**200**	**0**	**441**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**7**	**0**	**16**	
Pk Hr HV%	**-**	**-**	**-**	**0%**	**-**	**0%**	**-**	**0%**	**0%**	**0%**	**4%**	**0%**	**0%**	**0%**	**4%**	**-**	**4%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	1	3	1	*5*	0	0	0	1	*1*	12	11	2	5	*30*
4:15 PM	0	0	2	4	*6*	0	0	0	0	*0*	19	11	6	0	*36*
4:30 PM	0	0	3	1	*4*	0	0	0	0	*0*	9	11	2	1	*23*
4:45 PM	0	1	1	2	*4*	0	0	1	0	*1*	16	13	7	3	*39*
5:00 PM	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**11**	**21**	**9**	**5**	**46**
5:15 PM	**0**	**0**	**3**	**2**	**5**	**0**	**0**	**1**	**0**	**1**	**22**	**7**	**9**	**2**	**40**
5:30 PM	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**10**	**8**	**14**	**1**	**33**
5:45 PM	**0**	**0**	**3**	**4**	**7**	**0**	**0**	**1**	**0**	**1**	**13**	**8**	**10**	**0**	**31**
Count Total	0	2	18	15	*35*	0	0	3	2	*5*	112	90	59	17	*278*
Peak Hour	**0**	**0**	**9**	**7**	***16***	**0**	**0**	**2**	**1**	***3***	**56**	**44**	**42**	**8**	**150**

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Count Summaries - Heavy Vehicles

Interval Start	Driveway				7th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	1	0	0	0	0	3	0	0	0	1	0	5	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	6	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	4	0
4:45 PM	0	0	0	0	0	1	0	0	0	0	1	0	0	0	2	0	4	19
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**16**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**5**	**15**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**13**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**7**	**16**
Count Total	0	0	0	0	0	2	0	0	0	0	18	0	0	0	15	0	35	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**7**	**0**	**16**	

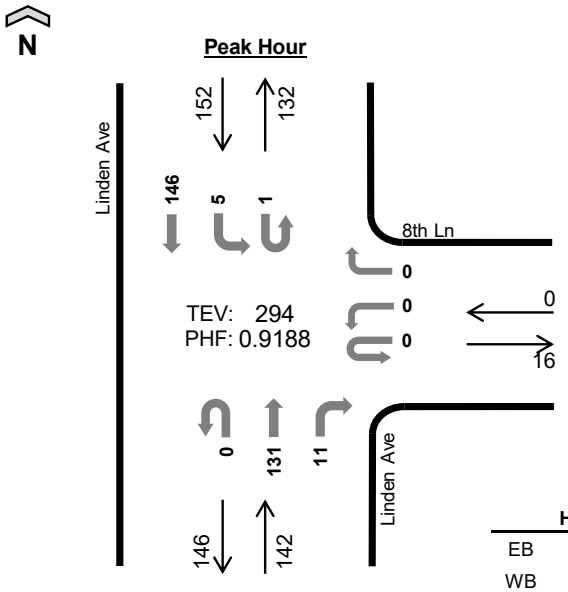
Count Summaries - Bikes

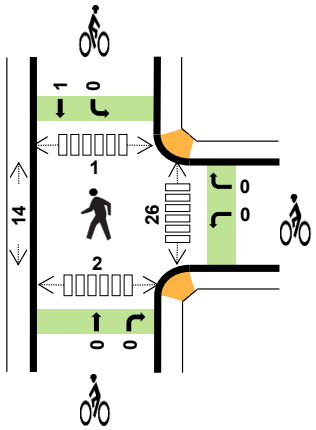
Interval Start	Driveway				7th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	2
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**3**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**3**
Count Total	0	0	0	0	0	0	0	0	0	0	3	0	0	0	2	0	5	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**3**	

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Linden Ave
8th Ln

Date: 5/22/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV%	PHF
EB	--	--
WB	--	--
NB	8%	0.85
SB	11%	0.93
TOTAL	10%	0.92

Peak Hour Count Summaries

Peak Hour Interval Start		n/a				8th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	0	0	0	0	0	0	0	0	0	27	2	1	2	36	0	68	0
8:00 AM		0	0	0	0	0	0	0	0	0	0	40	2	0	1	37	0	80	0
8:15 AM		0	0	0	0	0	0	0	0	0	0	34	3	0	0	41	0	78	0
8:30 AM		0	0	0	0	0	0	0	0	0	0	30	4	0	2	32	0	68	294
Pk Hr	All	0	0	0	0	0	0	0	0	0	0	131	11	1	5	146	0	294	
	HV	0	0	0	0	0	0	0	0	0	0	11	0	0	0	17	0	28	
	HV%	-	-	-	-	-	-	-	-	-	-	8%	0%	0%	0%	12%	-	10%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	0	0	3	5	*8*	0	0	0	0	*0*	5	5	0	1	*11*
8:00 AM	0	0	2	4	*6*	0	0	0	1	*1*	3	9	1	0	*13*
8:15 AM	0	0	4	5	*9*	0	0	0	0	*0*	10	0	0	0	*10*
8:30 AM	0	0	2	3	*5*	0	0	0	0	*0*	8	0	0	1	*9*
Peak Hour	0	0	11	17	*28*	0	0	0	1	*1*	26	14	1	2	*43*

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Count Summaries - All Vehicles

Interval Start	n/a				8th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	17	2	0	1	26	0	46	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	18	0	0	1	30	0	49	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	22	1	0	1	26	0	50	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**27**	**2**	**1**	**2**	**36**	**0**	**68**	**213**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**40**	**2**	**0**	**1**	**37**	**0**	**80**	**247**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**34**	**3**	**0**	**0**	**41**	**0**	**78**	**276**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30**	**4**	**0**	**2**	**32**	**0**	**68**	**294**
8:45 AM	0	0	0	0	0	0	0	0	0	0	26	0	0	1	34	0	61	287
Count Total	0	0	0	0	0	0	0	0	0	0	214	14	1	9	262	0	500	
Pk Hr All	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**131**	**11**	**1**	**5**	**146**	**0**	**294**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**17**	**0**	**28**	
Pk Hr HV%	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**8%**	**0%**	**0%**	**0%**	**12%**	**-**	**10%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	2	1	*3*	0	0	0	0	*0*	3	5	0	0	*8*
7:15 AM	0	0	7	5	*12*	0	0	0	1	*1*	4	3	1	3	*11*
7:30 AM	0	0	4	2	*6*	0	0	0	1	*1*	9	3	0	0	*12*
7:45 AM	**0**	**0**	**3**	**5**	**8**	**0**	**0**	**0**	**0**	**0**	**5**	**5**	**0**	**1**	**11**
8:00 AM	**0**	**0**	**2**	**4**	**6**	**0**	**0**	**0**	**1**	**1**	**3**	**9**	**1**	**0**	**13**
8:15 AM	**0**	**0**	**4**	**5**	**9**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**10**
8:30 AM	**0**	**0**	**2**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**0**	**1**	**9**
8:45 AM	0	0	5	5	*10*	0	0	1	0	*1*	3	4	2	0	*9*
Count Total	0	0	29	30	*59*	0	0	1	3	*4*	45	29	4	5	*83*
Peak Hour	**0**	**0**	**11**	**17**	***28***	**0**	**0**	**0**	**1**	***1***	**26**	**14**	**1**	**2**	**43**

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Count Summaries - Heavy Vehicles

Interval Start	n/a				8th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	5	0	12	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	2	0	6	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**5**	**0**	**8**	**29**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**0**	**6**	**32**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**5**	**0**	**9**	**29**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**0**	**5**	**28**
8:45 AM	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5	0	10	30
Count Total	0	0	0	0	0	0	0	0	0	0	29	0	0	0	30	0	59	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**17**	**0**	**28**	

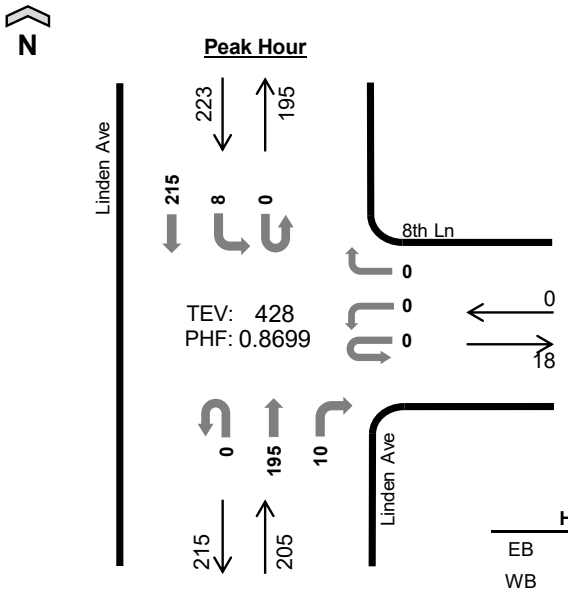
Count Summaries - Bikes

Interval Start	n/a				8th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**3**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Count Total	0	0	0	0	0	0	0	0	0	0	0	1	0	0	3	0	4	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	

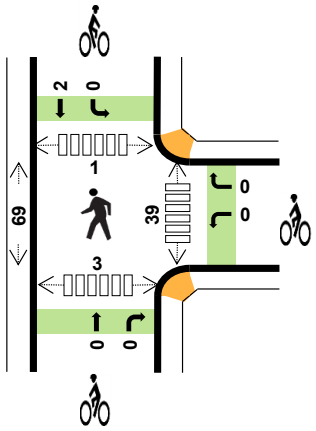
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Linden Ave
8th Ln

Date: 5/22/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV%	PHF
EB	--	--
WB	--	--
NB	4%	0.80
SB	3%	0.81
TOTAL	4%	0.87



Peak Hour Count Summaries

Peak Hour Interval Start		n/a				8th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
5:00 PM		0	0	0	0	0	0	0	0	0	0	43	1	0	1	45	0	90	0
5:15 PM		0	0	0	0	0	0	0	0	0	0	41	2	0	1	49	0	93	0
5:30 PM		0	0	0	0	0	0	0	0	0	0	59	5	0	4	54	0	122	0
5:45 PM		0	0	0	0	0	0	0	0	0	0	52	2	0	2	67	0	123	428
Pk Hr	All	0	0	0	0	0	0	0	0	0	0	195	10	0	8	215	0	428	
	HV	0	0	0	0	0	0	0	0	0	0	9	0	0	0	7	0	16	
	HV%	-	-	-	-	-	-	-	-	-	-	5%	0%	-	0%	3%	-	4%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
5:00 PM	0	0	1	1	*2*	0	0	0	0	*0*	6	17	1	0	*24*
5:15 PM	0	0	3	2	*5*	0	0	0	0	*0*	9	6	0	1	*16*
5:30 PM	0	0	2	0	*2*	0	0	0	1	*1*	10	15	0	1	*26*
5:45 PM	0	0	3	4	*7*	0	0	0	1	*1*	14	31	0	1	*46*
Peak Hour	0	0	9	7	*16*	0	0	0	2	*2*	39	69	1	3	*112*

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Count Summaries - All Vehicles

Interval Start	n/a				8th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	42	8	1	5	54	0	110	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	34	3	0	1	68	0	106	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	37	3	0	2	40	0	82	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	42	3	0	2	60	0	107	405
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**43**	**1**	**0**	**1**	**45**	**0**	**90**	**385**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**41**	**2**	**0**	**1**	**49**	**0**	**93**	**372**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**59**	**5**	**0**	**4**	**54**	**0**	**122**	**412**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**52**	**2**	**0**	**2**	**67**	**0**	**123**	**428**
Count Total	0	0	0	0	0	0	0	0	0	0	350	27	1	18	437	0	833	
Pk Hr All	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**195**	**10**	**0**	**8**	**215**	**0**	**428**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**7**	**0**	**16**	
Pk Hr HV%	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**5%**	**0%**	**-**	**0%**	**3%**	**-**	**4%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	2	1	*3*	0	0	0	0	*0*	2	14	0	0	*16*
4:15 PM	0	0	2	4	*6*	0	0	0	2	*2*	6	13	2	0	*21*
4:30 PM	0	0	2	2	*4*	0	0	0	0	*0*	7	3	1	0	*11*
4:45 PM	0	0	2	2	*4*	0	0	0	0	*0*	5	5	1	0	*11*
5:00 PM	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**6**	**17**	**1**	**0**	**24**
5:15 PM	**0**	**0**	**3**	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**9**	**6**	**0**	**1**	**16**
5:30 PM	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**10**	**15**	**0**	**1**	**26**
5:45 PM	**0**	**0**	**3**	**4**	**7**	**0**	**0**	**0**	**1**	**1**	**14**	**31**	**0**	**1**	**46**
Count Total	0	0	17	16	*33*	0	0	0	4	*4*	59	104	5	3	*171*
Peak Hour	**0**	**0**	**9**	**7**	***16***	**0**	**0**	**0**	**2**	***2***	**39**	**69**	**1**	**3**	**112**

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Count Summaries - Heavy Vehicles

Interval Start	n/a				8th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	1	0	3	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	6	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	4	17
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**16**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**5**	**15**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**13**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**7**	**16**
Count Total	0	0	0	0	0	0	0	0	0	0	17	0	0	0	16	0	33	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**7**	**0**	**16**	

Count Summaries - Bikes

Interval Start	n/a				8th Ln				Linden Ave				Linden Ave				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**
5:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	

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Appendix B

LOS Calculations

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	37	8	21	20	20	6	112	37	20	117	11
Future Vol, veh/h	18	37	8	21	20	20	6	112	37	20	117	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	40	9	23	22	22	7	122	40	22	127	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.2	8.1	8.4	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	29%	34%	14%
Vol Thru, %	72%	59%	33%	79%
Vol Right, %	24%	13%	33%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	155	63	61	148
LT Vol	6	18	21	20
Through Vol	112	37	20	117
RT Vol	37	8	20	11
Lane Flow Rate	168	68	66	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.201	0.09	0.085	0.197
Departure Headway (Hd)	4.295	4.73	4.625	4.417
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	837	758	775	814
Service Time	2.316	2.757	2.652	2.438
HCM Lane V/C Ratio	0.201	0.09	0.085	0.198
HCM Control Delay, s/veh	8.4	8.2	8.1	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.3	0.3	0.7

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	64	0	0	42	8	6	11	5	0	0	0
Future Vol, veh/h	8	64	0	0	42	8	6	11	5	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	70	0	0	46	9	7	12	5	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	54	0	-	-	-	0	133	141	70
Stage 1	-	-	-	-	-	-	87	87	-
Stage 2	-	-	-	-	-	-	46	54	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1551	-	0	0	-	-	861	750	993
Stage 1	-	-	0	0	-	-	936	823	-
Stage 2	-	-	0	0	-	-	977	850	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1551	-	-	-	-	-	856	0	993
Mov Cap-2 Maneuver	-	-	-	-	-	-	856	0	-
Stage 1	-	-	-	-	-	-	931	0	-
Stage 2	-	-	-	-	-	-	977	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0.81	0	9.05
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	914	200	-	-	-
HCM Lane V/C Ratio	0.026	0.006	-	-	-
HCM Ctrl Dly (s/v)	9	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	33	7	5	31	8	5	118	8	6	135	13
Future Vol, veh/h	18	33	7	5	31	8	5	118	8	6	135	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	36	8	5	34	9	5	128	9	7	147	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.1	7.9	8.3	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	31%	11%	4%
Vol Thru, %	90%	57%	70%	88%
Vol Right, %	6%	12%	18%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	58	44	154
LT Vol	5	18	5	6
Through Vol	118	33	31	135
RT Vol	8	7	8	13
Lane Flow Rate	142	63	48	167
Geometry Grp	1	1	1	1
Degree of Util (X)	0.172	0.082	0.061	0.2
Departure Headway (Hd)	4.347	4.671	4.615	4.308
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	769	777	835
Service Time	2.362	2.692	2.637	2.323
HCM Lane V/C Ratio	0.172	0.082	0.062	0.2
HCM Control Delay, s/veh	8.3	8.1	7.9	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.3	0.2	0.7

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	53	0	0	24	1	7	8	7	0	0	0
Future Vol, veh/h	7	53	0	0	24	1	7	8	7	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	58	0	0	26	1	8	9	8	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	27	0	-	-	-	0	99	100	58
Stage 1	-	-	-	-	-	-	73	73	-
Stage 2	-	-	-	-	-	-	26	27	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1587	-	0	0	-	-	900	790	1009
Stage 1	-	-	0	0	-	-	950	834	-
Stage 2	-	-	0	0	-	-	996	873	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1587	-	-	-	-	-	895	0	1009
Mov Cap-2 Maneuver	-	-	-	-	-	-	895	0	-
Stage 1	-	-	-	-	-	-	945	0	-
Stage 2	-	-	-	-	-	-	996	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0.85	0	8.89
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	949	210	-	-	-
HCM Lane V/C Ratio	0.025	0.005	-	-	-
HCM Ctrl Dly (s/v)	8.9	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	10	19	13	14	10	13	113	5	5	122	15
Future Vol, veh/h	20	10	19	13	14	10	13	113	5	5	122	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	11	21	14	15	11	14	123	5	5	133	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.8	7.8	8.2	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	10%	41%	35%	4%
Vol Thru, %	86%	20%	38%	86%
Vol Right, %	4%	39%	27%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	49	37	142
LT Vol	13	20	13	5
Through Vol	113	10	14	122
RT Vol	5	19	10	15
Lane Flow Rate	142	53	40	154
Geometry Grp	1	1	1	1
Degree of Util (X)	0.171	0.066	0.051	0.182
Departure Headway (Hd)	4.316	4.487	4.562	4.253
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	836	800	787	849
Service Time	2.319	2.504	2.579	2.256
HCM Lane V/C Ratio	0.17	0.066	0.051	0.181
HCM Control Delay, s/veh	8.2	7.8	7.8	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.2	0.2	0.7

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	0	22	27	0	0
Future Vol, veh/h	11	0	22	27	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	24	29	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	77	-	0	0
Stage 1	0	-	-	-
Stage 2	77	-	-	-
Critical Hdwy	6.42	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	2.218	-
Pot Cap-1 Maneuver	926	0	-	-
Stage 1	-	0	-	-
Stage 2	946	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	926	-	-	-
Mov Cap-2 Maneuver	926	-	-	-
Stage 1	-	-	-	-
Stage 2	946	-	-	-

Approach	EB	NB
HCM Ctrl Dly, s/v	8.94	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	926
HCM Lane V/C Ratio	-	-	0.013
HCM Ctrl Dly (s/v)	-	-	8.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	29	26	167	455	24
Future Vol, veh/h	40	29	26	167	455	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	43	32	28	182	495	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	655	260	521	0	-	0
Stage 1	508	-	-	-	-	-
Stage 2	147	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	399	738	1042	-	-	-
Stage 1	569	-	-	-	-	-
Stage 2	865	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	388	738	1042	-	-	-
Mov Cap-2 Maneuver	388	-	-	-	-	-
Stage 1	554	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.78	1.15	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1042	-	485	-	-
HCM Lane V/C Ratio	0.027	-	0.155	-	-
HCM Ctrl Dly (s/v)	8.6	-	13.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	22	12	155	471	13
Future Vol, veh/h	38	22	12	155	471	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	24	13	168	512	14

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	629	263	526	0	-	0
Stage 1	519	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	414	735	1037	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	409	735	1037	-	-	-
Mov Cap-2 Maneuver	409	-	-	-	-	-
Stage 1	555	-	-	-	-	-
Stage 2	902	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.5	0.61	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1037	-	489	-	-
HCM Lane V/C Ratio	0.013	-	0.133	-	-
HCM Ctrl Dly (s/v)	8.5	-	13.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	2	8	0	12	2	142	0	0	144	2
Future Vol, veh/h	1	0	2	8	0	12	2	142	0	0	144	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	2	9	0	13	2	154	0	0	157	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	316	316	158	315	317	154	159	0	-	-	-	0
Stage 1	158	158	-	159	159	-	-	-	-	-	-	-
Stage 2	159	159	-	157	159	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	636	600	888	637	599	892	1421	-	0	0	-	-
Stage 1	845	767	-	843	766	-	-	-	0	0	-	-
Stage 2	843	766	-	846	766	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	626	599	888	635	598	892	1421	-	-	-	-	-
Mov Cap-2 Maneuver	626	599	-	635	598	-	-	-	-	-	-	-
Stage 1	845	767	-	842	765	-	-	-	-	-	-	-
Stage 2	830	765	-	844	766	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.64	9.83	0.1	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1421	-	779	767	-	-
HCM Lane V/C Ratio	0.002	-	0.004	0.028	-	-
HCM Ctrl Dly (s/v)	7.5	-	9.6	9.8	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0.1	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	131	19	6	148	0
Future Vol, veh/h	0	0	0	0	0	0	0	131	19	6	148	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	142	21	7	161	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	-	337	-	-	0	0	163	0	0
Stage 1	-	174	-	-	-	-	-	-	-
Stage 2	-	163	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	-	-	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	-	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	584	0	0	-	-	1416	-	0
Stage 1	0	755	0	0	-	-	-	-	0
Stage 2	0	763	0	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	-	-	-	-	1416	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0.29
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	70	-
HCM Lane V/C Ratio	-	-	-	0.005	-
HCM Ctrl Dly (s/v)	-	-	0	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	24	5	18	28	39	19	175	26	20	186	9
Future Vol, veh/h	11	24	5	18	28	39	19	175	26	20	186	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	26	5	20	30	42	21	190	28	22	202	10
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.5	8.6	9.4	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	28%	21%	9%
Vol Thru, %	80%	60%	33%	87%
Vol Right, %	12%	13%	46%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	220	40	85	215
LT Vol	19	11	18	20
Through Vol	175	24	28	186
RT Vol	26	5	39	9
Lane Flow Rate	239	43	92	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.297	0.062	0.124	0.294
Departure Headway (Hd)	4.476	5.108	4.826	4.526
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	801	699	741	792
Service Time	2.51	3.158	2.87	2.56
HCM Lane V/C Ratio	0.298	0.062	0.124	0.295
HCM Control Delay, s/veh	9.4	8.5	8.6	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.2	0.2	0.4	1.2

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	51	0	0	71	21	3	13	8	0	0	0
Future Vol, veh/h	7	51	0	0	71	21	3	13	8	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	55	0	0	77	23	3	14	9	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	100	0	-	-	-	0	148	171	55
Stage 1	-	-	-	-	-	-	71	71	-
Stage 2	-	-	-	-	-	-	77	100	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1493	-	0	0	-	-	844	722	1011
Stage 1	-	-	0	0	-	-	952	836	-
Stage 2	-	-	0	0	-	-	946	812	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1493	-	-	-	-	-	840	0	1011
Mov Cap-2 Maneuver	-	-	-	-	-	-	840	0	-
Stage 1	-	-	-	-	-	-	947	0	-
Stage 2	-	-	-	-	-	-	946	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	0.9	0	8.86
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	958	217	-	-	-
HCM Lane V/C Ratio	0.027	0.005	-	-	-
HCM Ctrl Dly (s/v)	8.9	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	21	9	21	23	16	7	178	23	10	194	16
Future Vol, veh/h	19	21	9	21	23	16	7	178	23	10	194	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	23	10	23	25	17	8	193	25	11	211	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.5	8.5	9.2	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	39%	35%	5%
Vol Thru, %	86%	43%	38%	88%
Vol Right, %	11%	18%	27%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	208	49	60	220
LT Vol	7	19	21	10
Through Vol	178	21	23	194
RT Vol	23	9	16	16
Lane Flow Rate	226	53	65	239
Geometry Grp	1	1	1	1
Degree of Util (X)	0.278	0.074	0.09	0.295
Departure Headway (Hd)	4.431	5.028	4.953	4.442
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	812	710	721	808
Service Time	2.46	3.072	2.996	2.469
HCM Lane V/C Ratio	0.278	0.075	0.09	0.296
HCM Control Delay, s/veh	9.2	8.5	8.5	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.2	0.3	1.2

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	37	0	0	46	12	13	15	12	0	0	0
Future Vol, veh/h	9	37	0	0	46	12	13	15	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	40	0	0	50	13	14	16	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	63	0	-	-	-	0	110	123	40
Stage 1	-	-	-	-	-	-	60	60	-
Stage 2	-	-	-	-	-	-	50	63	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1540	-	0	0	-	-	887	768	1031
Stage 1	-	-	0	0	-	-	963	845	-
Stage 2	-	-	0	0	-	-	972	842	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1540	-	-	-	-	-	882	0	1031
Mov Cap-2 Maneuver	-	-	-	-	-	-	882	0	-
Stage 1	-	-	-	-	-	-	957	0	-
Stage 2	-	-	-	-	-	-	972	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	1.44	0	8.98
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	947	352	-	-	-
HCM Lane V/C Ratio	0.046	0.006	-	-	-
HCM Ctrl Dly (s/v)	9	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0	-	-	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	6	35	15	6	4	12	170	13	8	194	13
Future Vol, veh/h	25	6	35	15	6	4	12	170	13	8	194	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	7	38	16	7	4	13	185	14	9	211	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.2	8.3	9	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	38%	60%	4%
Vol Thru, %	87%	9%	24%	90%
Vol Right, %	7%	53%	16%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	195	66	25	215
LT Vol	12	25	15	8
Through Vol	170	6	6	194
RT Vol	13	35	4	13
Lane Flow Rate	212	72	27	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.259	0.094	0.038	0.284
Departure Headway (Hd)	4.394	4.714	5.042	4.371
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	818	760	709	823
Service Time	2.416	2.746	3.079	2.393
HCM Lane V/C Ratio	0.259	0.095	0.038	0.284
HCM Control Delay, s/veh	9	8.2	8.3	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.3	0.1	1.2

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	0	20	40	0	0
Future Vol, veh/h	19	0	20	40	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	22	43	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	87	-	0	0
Stage 1	0	-	-	-
Stage 2	87	-	-	-
Critical Hdwy	6.42	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	2.218	-
Pot Cap-1 Maneuver	914	0	-	-
Stage 1	-	0	-	-
Stage 2	936	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	914	-	-	-
Mov Cap-2 Maneuver	914	-	-	-
Stage 1	-	-	-	-
Stage 2	936	-	-	-

Approach	EB	NB
HCM Ctrl Dly, s/v	9.03	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	914
HCM Lane V/C Ratio	-	-	0.023
HCM Ctrl Dly (s/v)	-	-	9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	36	55	294	321	37
Future Vol, veh/h	23	36	55	294	321	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	25	39	60	320	349	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	648	195	389	0	-	0
Stage 1	369	-	-	-	-	-
Stage 2	279	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	403	814	1166	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	382	814	1166	-	-	-
Mov Cap-2 Maneuver	382	-	-	-	-	-
Stage 1	635	-	-	-	-	-
Stage 2	743	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.18	1.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1166	-	565	-	-
HCM Lane V/C Ratio	0.051	-	0.113	-	-
HCM Ctrl Dly (s/v)	8.3	-	12.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	28	34	328	333	24
Future Vol, veh/h	21	28	34	328	333	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	30	37	357	362	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	627	194	388	0	-	0
Stage 1	375	-	-	-	-	-
Stage 2	252	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	416	815	1167	-	-	-
Stage 1	665	-	-	-	-	-
Stage 2	767	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	402	815	1167	-	-	-
Mov Cap-2 Maneuver	402	-	-	-	-	-
Stage 1	644	-	-	-	-	-
Stage 2	767	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.02	0.77	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1167	-	566	-	-
HCM Lane V/C Ratio	0.032	-	0.094	-	-
HCM Ctrl Dly (s/v)	8.2	-	12	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	8	0	10	3	210	0	0	209	0
Future Vol, veh/h	0	0	3	8	0	10	3	210	0	0	209	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	9	0	11	3	228	0	0	227	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	462	462	227	462	462	228	227	0	-	-	-	0
Stage 1	227	227	-	235	235	-	-	-	-	-	-	-
Stage 2	235	235	-	227	227	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	510	497	812	510	497	811	1341	-	0	0	-	0
Stage 1	776	716	-	768	711	-	-	-	0	0	-	0
Stage 2	768	711	-	776	716	-	-	-	0	0	-	0
Platoon blocked, %								-			-	
Mov Cap-1 Maneuver	502	495	812	507	495	811	1341	-	-	-	-	-
Mov Cap-2 Maneuver	502	495	-	507	495	-	-	-	-	-	-	-
Stage 1	776	716	-	766	709	-	-	-	-	-	-	-
Stage 2	756	709	-	772	716	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.45	10.8	0.11	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT
Capacity (veh/h)	1341	-	812	640	-
HCM Lane V/C Ratio	0.002	-	0.004	0.031	-
HCM Ctrl Dly (s/v)	7.7	-	9.5	10.8	-
HCM Lane LOS	A	-	A	B	-
HCM 95th %tile Q(veh)	0	-	0	0.1	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	195	10	8	215	0
Future Vol, veh/h	0	0	0	0	0	0	0	195	10	8	215	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	212	11	9	234	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	463	474	234	-	0	0	223	0	0
Stage 1	251	251	-	-	-	-	-	-	-
Stage 2	212	223	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	557	489	805	0	-	-	1346	-	0
Stage 1	791	699	-	0	-	-	-	-	0
Stage 2	823	719	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	553	0	805	-	-	-	1346	-	-
Mov Cap-2 Maneuver	553	0	-	-	-	-	-	-	-
Stage 1	791	0	-	-	-	-	-	-	-
Stage 2	817	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0.28
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	65	-
HCM Lane V/C Ratio	-	-	-	0.006	-
HCM Ctrl Dly (s/v)	-	-	0	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	45	26	122	137	11
Future Vol, veh/h	18	45	26	122	137	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	49	28	133	149	12
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.6	8.3	8.2
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	18%	29%	0%
Vol Thru, %	82%	0%	93%
Vol Right, %	0%	71%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	148	63	148
LT Vol	26	18	0
Through Vol	122	0	137
RT Vol	0	45	11
Lane Flow Rate	161	68	161
Geometry Grp	1	1	1
Degree of Util (X)	0.188	0.081	0.185
Departure Headway (Hd)	4.212	4.265	4.132
Convergence, Y/N	Yes	Yes	Yes
Cap	841	845	857
Service Time	2.289	2.265	2.212
HCM Lane V/C Ratio	0.191	0.08	0.188
HCM Control Delay, s/veh	8.3	7.6	8.2
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.7	0.3	0.7

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	7	0	0	22	18	43	11	42	0	0	0
Future Vol, veh/h	8	7	0	0	22	18	43	11	42	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	8	0	0	24	20	47	12	46	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	43	0	-	-	-	0	49	68	8
Stage 1	-	-	-	-	-	-	25	25	-
Stage 2	-	-	-	-	-	-	24	43	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1565	-	0	0	-	-	960	822	1075
Stage 1	-	-	0	0	-	-	998	874	-
Stage 2	-	-	0	0	-	-	999	859	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1565	-	-	-	-	-	955	0	1075
Mov Cap-2 Maneuver	-	-	-	-	-	-	955	0	-
Stage 1	-	-	-	-	-	-	992	0	-
Stage 2	-	-	-	-	-	-	999	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	3.9	0	8.97
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	1011	960	-	-	-
HCM Lane V/C Ratio	0.103	0.006	-	-	-
HCM Ctrl Dly (s/v)	9	7.3	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

Intersection	
Intersection Delay, s/veh	8.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	33	7	15	31	8	5	81	45	63	125	13
Future Vol, veh/h	18	33	7	15	31	8	5	81	45	63	125	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	36	8	16	34	9	5	88	49	68	136	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.3	8.2	8.2	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	31%	28%	31%
Vol Thru, %	62%	57%	57%	62%
Vol Right, %	34%	12%	15%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	58	54	201
LT Vol	5	18	15	63
Through Vol	81	33	31	125
RT Vol	45	7	8	13
Lane Flow Rate	142	63	59	218
Geometry Grp	1	1	1	1
Degree of Util (X)	0.169	0.084	0.078	0.267
Departure Headway (Hd)	4.268	4.802	4.785	4.403
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	842	746	749	817
Service Time	2.29	2.83	2.814	2.425
HCM Lane V/C Ratio	0.169	0.084	0.079	0.267
HCM Control Delay, s/veh	8.2	8.3	8.2	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.3	0.3	1.1

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	81	73	0	0	34	1	7	8	7	0	0	0
Future Vol, veh/h	81	73	0	0	34	1	7	8	7	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	79	0	0	37	1	8	9	8	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	38	0	-	-	-	0	292	293	79
Stage 1	-	-	-	-	-	-	255	255	-
Stage 2	-	-	-	-	-	-	37	38	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1572	-	0	0	-	-	698	618	981
Stage 1	-	-	0	0	-	-	787	696	-
Stage 2	-	-	0	0	-	-	986	863	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1572	-	-	-	-	-	658	0	981
Mov Cap-2 Maneuver	-	-	-	-	-	-	658	0	-
Stage 1	-	-	-	-	-	-	741	0	-
Stage 2	-	-	-	-	-	-	986	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	3.91	0	9.72
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	787	947	-	-	-
HCM Lane V/C Ratio	0.03	0.056	-	-	-
HCM Ctrl Dly (s/v)	9.7	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	0.2	-	-	-

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	20	10	19	13	14	20	13	103	5	5	122	15
Future Vol, veh/h	20	10	19	13	14	20	13	103	5	5	122	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	11	21	14	15	22	14	112	5	5	133	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	7.8	7.7	8.2	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	41%	28%	4%
Vol Thru, %	85%	20%	30%	86%
Vol Right, %	4%	39%	43%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	49	47	142
LT Vol	13	20	13	5
Through Vol	103	10	14	122
RT Vol	5	19	20	15
Lane Flow Rate	132	53	51	154
Geometry Grp	1	1	1	1
Degree of Util (X)	0.158	0.066	0.063	0.183
Departure Headway (Hd)	4.332	4.477	4.431	4.269
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	831	802	810	846
Service Time	2.344	2.494	2.448	2.269
HCM Lane V/C Ratio	0.159	0.066	0.063	0.182
HCM Control Delay, s/veh	8.2	7.8	7.7	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.2	0.2	0.7

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	0	32	27	0	0
Future Vol, veh/h	11	0	32	27	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	0	35	29	0	0

Major/Minor	Minor2		Major1	
Conflicting Flow All	99	-	0	0
Stage 1	0	-	-	-
Stage 2	99	-	-	-
Critical Hdwy	6.42	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	2.218	-
Pot Cap-1 Maneuver	900	0	-	-
Stage 1	-	0	-	-
Stage 2	925	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	900	-	-	-
Mov Cap-2 Maneuver	900	-	-	-
Stage 1	-	-	-	-
Stage 2	925	-	-	-

Approach	EB	NB
HCM Ctrl Dly, s/v	9.05	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	900
HCM Lane V/C Ratio	-	-	0.013
HCM Ctrl Dly (s/v)	-	-	9.1
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	19	26	177	465	14
Future Vol, veh/h	30	19	26	177	465	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	21	28	192	505	15

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	666	260	521	0	-	0
Stage 1	513	-	-	-	-	-
Stage 2	153	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	393	738	1042	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	859	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	382	738	1042	-	-	-
Mov Cap-2 Maneuver	382	-	-	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	859	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.64	1.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1042	-	470	-	-
HCM Lane V/C Ratio	0.027	-	0.113	-	-
HCM Ctrl Dly (s/v)	8.6	-	13.6	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	48	32	12	155	461	23
Future Vol, veh/h	48	32	12	155	461	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	52	35	13	168	501	25

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	624	263	526	0	-	0
Stage 1	514	-	-	-	-	-
Stage 2	110	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	418	735	1037	-	-	-
Stage 1	565	-	-	-	-	-
Stage 2	902	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	412	735	1037	-	-	-
Mov Cap-2 Maneuver	412	-	-	-	-	-
Stage 1	558	-	-	-	-	-
Stage 2	902	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	13.71	0.61	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1037	-	500	-	-
HCM Lane V/C Ratio	0.013	-	0.174	-	-
HCM Ctrl Dly (s/v)	8.5	-	13.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	0	2	19	0	42	2	105	0	0	180	2
Future Vol, veh/h	1	0	2	19	0	42	2	105	0	0	180	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	0	2	21	0	46	2	114	0	0	196	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	315	315	197	314	316	114	198	0	-	-	-	0
Stage 1	197	197	-	118	118	-	-	-	-	-	-	-
Stage 2	118	118	-	196	198	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	637	601	844	638	600	938	1375	-	0	0	-	-
Stage 1	805	738	-	886	798	-	-	-	0	0	-	-
Stage 2	886	798	-	806	737	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	605	599	844	636	599	938	1375	-	-	-	-	-
Mov Cap-2 Maneuver	605	599	-	636	599	-	-	-	-	-	-	-
Stage 1	805	738	-	885	796	-	-	-	-	-	-	-
Stage 2	841	796	-	804	737	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.85	9.79	0.14	0
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1375	-	746	817	-	-
HCM Lane V/C Ratio	0.002	-	0.004	0.081	-	-
HCM Ctrl Dly (s/v)	7.6	-	9.8	9.8	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	0.3	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	121	19	6	148	0
Future Vol, veh/h	0	0	0	0	0	0	0	121	19	6	148	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	132	21	7	161	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	-	326	-	-	0	0	152	0	0
Stage 1	-	174	-	-	-	-	-	-	-
Stage 2	-	152	-	-	-	-	-	-	-
Critical Hdwy	-	6.52	-	-	-	-	4.12	-	-
Critical Hdwy Stg 1	-	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	-	4.018	-	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	0	592	0	0	-	-	1429	-	0
Stage 1	0	755	0	0	-	-	-	-	0
Stage 2	0	771	0	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	-	0	-	-	-	-	1429	-	-
Mov Cap-2 Maneuver	-	0	-	-	-	-	-	-	-
Stage 1	-	0	-	-	-	-	-	-	-
Stage 2	-	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0.29
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	70	-
HCM Lane V/C Ratio	-	-	-	0.005	-
HCM Ctrl Dly (s/v)	-	-	0	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑			↱
Traffic Vol, veh/h	0	0	20	0	0	41
Future Vol, veh/h	0	0	20	0	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	22	0	0	45

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	22
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	1055
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	1055
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Ctrl Dly, s/v	0	8.56
HCM LOS		A

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	1055
HCM Lane V/C Ratio	-	0.042
HCM Ctrl Dly (s/v)	-	8.6
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	0.1

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	29	48	194	206	9
Future Vol, veh/h	12	29	48	194	206	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	32	52	211	224	10
Number of Lanes	1	0	0	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay, s/veh	7.9	9.2	8.9
HCM LOS	A	A	A

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	20%	29%	0%
Vol Thru, %	80%	0%	96%
Vol Right, %	0%	71%	4%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	242	41	215
LT Vol	48	12	0
Through Vol	194	0	206
RT Vol	0	29	9
Lane Flow Rate	263	45	234
Geometry Grp	1	1	1
Degree of Util (X)	0.309	0.057	0.272
Departure Headway (Hd)	4.229	4.642	4.187
Convergence, Y/N	Yes	Yes	Yes
Cap	836	776	844
Service Time	2.319	2.642	2.286
HCM Lane V/C Ratio	0.315	0.058	0.277
HCM Control Delay, s/veh	9.2	7.9	8.9
HCM Lane LOS	A	A	A
HCM 95th-tile Q	1.3	0.2	1.1

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	6	0	0	31	41	29	13	33	0	0	0
Future Vol, veh/h	7	6	0	0	31	41	29	13	33	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	7	0	0	34	45	32	14	36	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	78	0	-	-	-	0	55	100	7
Stage 1	-	-	-	-	-	-	22	22	-
Stage 2	-	-	-	-	-	-	34	78	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1520	-	0	0	-	-	952	790	1076
Stage 1	-	-	0	0	-	-	1001	877	-
Stage 2	-	-	0	0	-	-	989	830	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1520	-	-	-	-	-	948	0	1076
Mov Cap-2 Maneuver	-	-	-	-	-	-	948	0	-
Stage 1	-	-	-	-	-	-	996	0	-
Stage 2	-	-	-	-	-	-	989	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	3.97	0	8.87
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	1012	969	-	-	-
HCM Lane V/C Ratio	0.081	0.005	-	-	-
HCM Ctrl Dly (s/v)	8.9	7.4	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.3	0	-	-	-

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	21	9	31	23	26	7	154	49	54	187	16
Future Vol, veh/h	19	21	9	31	23	26	7	154	49	54	187	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	23	10	34	25	28	8	167	53	59	203	17
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.7	8.8	9.3	10.1
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	39%	39%	21%
Vol Thru, %	73%	43%	29%	73%
Vol Right, %	23%	18%	33%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	49	80	257
LT Vol	7	19	31	54
Through Vol	154	21	23	187
RT Vol	49	9	26	16
Lane Flow Rate	228	53	87	279
Geometry Grp	1	1	1	1
Degree of Util (X)	0.283	0.076	0.121	0.353
Departure Headway (Hd)	4.47	5.165	5.03	4.547
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	801	690	710	791
Service Time	2.507	3.225	3.085	2.581
HCM Lane V/C Ratio	0.285	0.077	0.123	0.353
HCM Control Delay, s/veh	9.3	8.7	8.8	10.1
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	1.2	0.2	0.4	1.6

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	57	0	0	66	12	13	16	12	0	0	0
Future Vol, veh/h	59	57	0	0	66	12	13	16	12	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	62	0	0	72	13	14	17	13	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	85	0	-	-	-	0	262	275	62
Stage 1	-	-	-	-	-	-	190	190	-
Stage 2	-	-	-	-	-	-	72	85	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	3.318
Pot Cap-1 Maneuver	1512	-	0	0	-	-	727	632	1003
Stage 1	-	-	0	0	-	-	842	743	-
Stage 2	-	-	0	0	-	-	951	825	-
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1512	-	-	-	-	-	695	0	1003
Mov Cap-2 Maneuver	-	-	-	-	-	-	695	0	-
Stage 1	-	-	-	-	-	-	805	0	-
Stage 2	-	-	-	-	-	-	951	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	3.81	0	9.67
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	WBT	WBR
Capacity (veh/h)	815	916	-	-	-
HCM Lane V/C Ratio	0.055	0.042	-	-	-
HCM Ctrl Dly (s/v)	9.7	7.5	0	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	6	35	15	6	24	12	152	13	8	196	13
Future Vol, veh/h	25	6	35	15	6	24	12	152	13	8	196	13
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	7	38	16	7	26	13	165	14	9	213	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay, s/veh	8.2	8.1	8.9	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	38%	33%	4%
Vol Thru, %	86%	9%	13%	90%
Vol Right, %	7%	53%	53%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	177	66	45	217
LT Vol	12	25	15	8
Through Vol	152	6	6	196
RT Vol	13	35	24	13
Lane Flow Rate	192	72	49	236
Geometry Grp	1	1	1	1
Degree of Util (X)	0.238	0.094	0.064	0.288
Departure Headway (Hd)	4.446	4.711	4.731	4.403
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	808	760	756	816
Service Time	2.47	2.745	2.768	2.427
HCM Lane V/C Ratio	0.238	0.095	0.065	0.289
HCM Control Delay, s/veh	8.9	8.2	8.1	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.3	0.2	1.2

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	19	0	40	40	0	0
Future Vol, veh/h	19	0	40	40	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	0	43	43	0	0

Major/Minor	Minor2	Major1		
Conflicting Flow All	130	-	0	0
Stage 1	0	-	-	-
Stage 2	130	-	-	-
Critical Hdwy	6.42	-	4.12	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-
Follow-up Hdwy	3.518	-	2.218	-
Pot Cap-1 Maneuver	864	0	-	-
Stage 1	-	0	-	-
Stage 2	896	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	864	-	-	-
Mov Cap-2 Maneuver	864	-	-	-
Stage 1	-	-	-	-
Stage 2	896	-	-	-

Approach	EB	NB
HCM Ctrl Dly, s/v	9.27	
HCM LOS	A	

Minor Lane/Major Mvmt	NBL	NBT	EBLn1
Capacity (veh/h)	-	-	864
HCM Lane V/C Ratio	-	-	0.024
HCM Ctrl Dly (s/v)	-	-	9.3
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	13	26	35	304	321	37
Future Vol, veh/h	13	26	35	304	321	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	14	28	38	330	349	40

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	610	195	389	0	-	0
Stage 1	369	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	426	814	1166	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	776	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	412	814	1166	-	-	-
Mov Cap-2 Maneuver	412	-	-	-	-	-
Stage 1	648	-	-	-	-	-
Stage 2	776	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	11.29	0.85	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1166	-	614	-	-
HCM Lane V/C Ratio	0.033	-	0.069	-	-
HCM Ctrl Dly (s/v)	8.2	-	11.3	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	31	38	54	308	323	24
Future Vol, veh/h	31	38	54	308	323	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	41	59	335	351	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	649	189	377	0	-	0
Stage 1	364	-	-	-	-	-
Stage 2	285	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	403	821	1178	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	738	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	382	821	1178	-	-	-
Mov Cap-2 Maneuver	382	-	-	-	-	-
Stage 1	640	-	-	-	-	-
Stage 2	738	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	12.71	1.23	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1178	-	542	-	-
HCM Lane V/C Ratio	0.05	-	0.138	-	-
HCM Ctrl Dly (s/v)	8.2	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.5	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	3	17	0	47	3	196	0	0	238	0
Future Vol, veh/h	0	0	3	17	0	47	3	196	0	0	238	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	18	0	51	3	213	0	0	259	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	478	478	259	478	-	213	259	0	-	-	-	0
Stage 1	259	259	-	220	-	-	-	-	-	-	-	-
Stage 2	220	220	-	259	-	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	-	6.22	4.12	-	-	-	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	-	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	-	3.318	2.218	-	-	-	-	-
Pot Cap-1 Maneuver	497	486	780	497	0	827	1306	-	0	0	-	-
Stage 1	746	694	-	783	0	-	-	-	0	0	-	-
Stage 2	783	721	-	746	0	-	-	-	0	0	-	-
Platoon blocked, %								-			-	-
Mov Cap-1 Maneuver	465	485	780	494	-	827	1306	-	-	-	-	-
Mov Cap-2 Maneuver	465	485	-	494	-	-	-	-	-	-	-	-
Stage 1	746	694	-	781	-	-	-	-	-	-	-	-
Stage 2	732	719	-	743	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	9.64	10.7	0.12	0
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	WBLn1	SBT	SBR
Capacity (veh/h)	1306	-	780	701	-	-
HCM Lane V/C Ratio	0.002	-	0.004	0.099	-	-
HCM Ctrl Dly (s/v)	7.8	-	9.6	10.7	-	-
HCM Lane LOS	A	-	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0	0.3	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	177	10	8	217	0
Future Vol, veh/h	0	0	0	0	0	0	0	177	10	8	217	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage,#	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	192	11	9	236	0

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	446	457	236	-	0	0	203	0	0
Stage 1	253	253	-	-	-	-	-	-	-
Stage 2	192	203	-	-	-	-	-	-	-
Critical Hdwy	6.42	6.52	6.22	-	-	-	4.12	-	-
Critical Hdwy Stg 1	5.42	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.42	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	-	-	-	2.218	-	-
Pot Cap-1 Maneuver	570	500	803	0	-	-	1368	-	0
Stage 1	789	698	-	0	-	-	-	-	0
Stage 2	840	733	-	0	-	-	-	-	0
Platoon blocked, %					-	-		-	
Mov Cap-1 Maneuver	566	0	803	-	-	-	1368	-	-
Mov Cap-2 Maneuver	566	0	-	-	-	-	-	-	-
Stage 1	789	0	-	-	-	-	-	-	-
Stage 2	834	0	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	0	0	0.27
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	EBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	64	-
HCM Lane V/C Ratio	-	-	-	0.006	-
HCM Ctrl Dly (s/v)	-	-	0	7.6	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↑			↱
Traffic Vol, veh/h	0	0	18	0	0	45
Future Vol, veh/h	0	0	18	0	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage,-#		0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	20	0	0	49

Major/Minor	Major2		Minor2	
Conflicting Flow All	-	0	-	20
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	-	6.22
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	3.318
Pot Cap-1 Maneuver	-	0	0	1058
Stage 1	-	0	0	-
Stage 2	-	0	0	-
Platoon blocked, %	-			
Mov Cap-1 Maneuver	-	-	-	1058
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	SB
HCM Ctrl Dly, s/v	0	8.57
HCM LOS		A

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	1058
HCM Lane V/C Ratio	-	0.046
HCM Ctrl Dly (s/v)	-	8.6
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	0.1