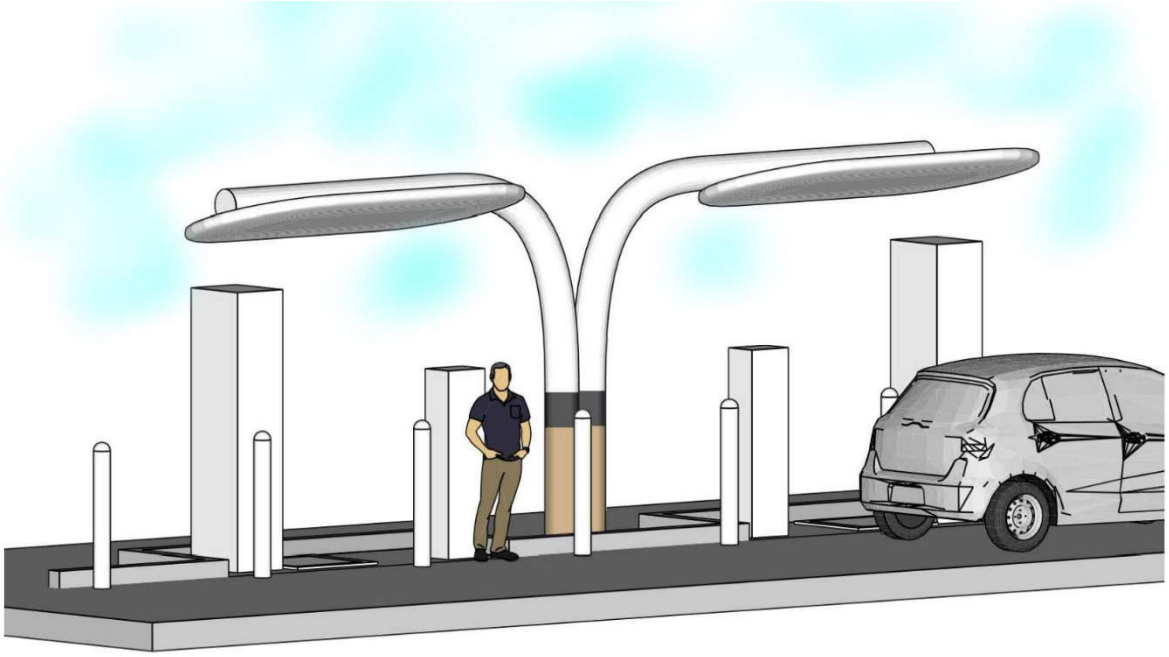

101 Bernal Road Hydrogen Fueling Project

Initial Study

File No. PDA98-079-01

prepared by

City of San José
Department of Planning, Building and Code Enforcement
200 East Santa Clara Street, 3rd Floor
San José, California 95113
Contact: Shannon Hill, Planner

prepared with the assistance of

Rincon Consultants, Inc.
200 Washington Street, Suite 207
Santa Cruz, California 95060

July 2020

RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

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MITIGATED NEGATIVE DECLARATION

The Director of Planning, Building and Code Enforcement has reviewed the proposed project described below to determine whether it could have a significant effect on the environment as a result of project completion. "Significant effect on the environment" means a substantial or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.

PROJECT NAME: 101 Bernal Road Hydrogen Fueling Project

PROJECT FILE NUMBER: PDA98-079-01

PROJECT DESCRIPTION: Planned Development Permit Amendment to allow the addition of two Hydrogen Fuel dispensers and construction of a 1,120 square foot equipment compound that will hold the storage and compression equipment needed for Hydrogen Fuel operation.

PROJECT LOCATION: The project is located on an approximately 1.21 gross acre site at 101 Bernal Road in San Jose.

ASSESSORS PARCEL NO.: 706-01-085 **COUNCIL DISTRICT:** 2

APPLICANT CONTACT INFORMATION: Fielder Group (Attn: Jason Lewis), 299 Euclid Avenue, Pasadena, CA, 91101; jason.lewis@fiedlergroup.com; (213) 381-0097, Extension: 734418

FINDING

The Director of Planning, Building and Code Enforcement finds the project described above would not have a significant effect on the environment if certain mitigation measures are incorporated into the project. The attached Initial Study identifies one or more potentially significant effects on the environment for which the project applicant, before public release of this Mitigated Negative Declaration (MND), has made or agrees to make project revisions that will clearly mitigate the potentially significant effects to a less than significant level.

MITIGATION MEASURES INCLUDED IN THE PROJECT TO REDUCE POTENTIALLY SIGNIFICANT EFFECTS TO A LESS THAN SIGNIFICANT LEVEL

A. **AESTHETICS** – The project would not have a significant impact on this resource. Therefore, no mitigation is required.

B. **AGRICULTURE AND FORESTRY RESOURCES** – The project would not have a significant impact on this resource. Therefore, no mitigation is required.

C. **AIR QUALITY -** The project would not have significant impacts to Air Quality. Therefore, no mitigation is required.

D. **BIOLOGICAL RESOURCES -** The project would not have a significant impact on this

resource. Therefore, no mitigation is required.

E. CULTURAL RESOURCES - The project would not have a significant impact on this resource. Therefore, no mitigation is required.

F. GEOLOGY AND SOILS – The project would not have a significant impact on this resource. Therefore, no mitigation is required.

G. GREENHOUSE GAS EMISSIONS – The project would not have a significant greenhouse gas impacts. Therefore, no mitigation is required.

H. HAZARDS AND HAZARDOUS MATERIALS.

Impact HAZ-1: The proposed project has the potential to expose project construction workers and the environment to on-site hazardous materials due to past soil and groundwater contamination associated with the Fairchild Semiconductor Corporation South San José Plant Superfund Site by rupturing or breaching the slurry wall southwest of the construction area, which is designed to contain existing contamination.

MM HAZ-1.1: Prior to the issuance of any demolition or grading permits, whichever comes first, and at least three (3) business days prior to the required field verification of the slurry wall location, the project applicant shall provide the field schedule to the State oversight agency of the Fairchild Semiconductor Corporation South San José Plant Superfund Site (Site), the San Francisco Bay Regional Water Quality Control Board (RWQCB), and shall provide documentation of this required notice to the Director of the City of San José Planning, Building, and Code Enforcement Department (PBCE), or the director's designee, and the Environmental Compliance Officer in the City of San José's Environmental Services Department (ESD). In addition, the project applicant shall copy the RWQCB on any correspondence with the RWQCB's consultant if the slurry wall is encountered or is planned to be encountered and perform any additional investigation, evaluation, or mitigation, as required by the RWQCB, as the State oversight agency of the Site. Evidence of correspondence with the RWQCB and compliance with any additional investigation, evaluation, or mitigation required by the RWQCB to contain the existing contamination shall be provided to the Director of PBCE, or director's designee, and the ESD Environmental Compliance Officer prior to the issuance of any demolition or grading permit.

Impact HAZ-2: The proposed project has the potential to expose project construction workers and the environment to on-site hazardous materials due potential contamination of subsurface soils due to leaching and movement of contaminated groundwater through the soil from the Fairchild Semiconductor Corporation South San José Plant Superfund Site and from the current use as a gasoline fueling station.

MM HAZ-1. 2: Prior to the issuance of any demolition or grading permit, whichever comes first, the project applicant shall conduct a shallow soil sample in the area of either the hydrogen equipment enclosure area or hydrogen dispensing area. The soil sample may be collected from the existing landscape buffer immediately adjacent to the hydrogen equipment enclosure area or hydrogen dispensing area since these areas are currently paved. The shallow soil shall be sampled for total petroleum hydrocarbons; 1,1,1-trichloroethane (TCA); 1,1-

dichloroethene (DCE); tetrachloroethene (PCE); 1,4-dioxane; 1,1-dichloroethane (DCA); 1,2-DCA; and vinyl chloride. The sampling report, including comparison to RWQCB's environmental screening levels, shall be provided to the Director of Planning of the PBCE, or the Director's designee, and the ESD's Environmental Compliance Officer.

If results of the soil sampling indicate concentrations of chemicals exceeding RWQCB's environmental screening levels, the project applicant shall obtain regulatory oversight from the Santa Clara County Department of Environmental Health (SCCDEH), RWQCB, or equivalent agency prior to the issuance of any demolition or grading permit, whichever comes first. Under regulatory oversight of the applicable agency, the project applicant shall develop a Site Management Plan (SMP) and Health & Safety Plan (HASP), or similar document, as required by the oversight agency, to be implemented prior to and during construction to protect construction worker safety, the public, and the environment. An SMP shall be prepared by a qualified environmental professional and implemented. The contaminated soil excavated from the site shall be hauled off-site and disposed of at a licensed hazardous materials disposal site.

The oversight-agency required plans and evidence of regulatory oversight in preparation and approval of the plans shall be submitted to the City's Director of PBCE, or the Director's designee, and the Municipal Compliance Officer of the ESD prior to issuance of a demolition or grading permit, whichever comes first.

I. **HYDROLOGY AND WATER QUALITY –** The project would not have a significant impact on this resource. Therefore, no mitigation is required.

J. **LAND USE AND PLANNING –** The project would not have a significant impact on this resource. Therefore, no mitigation is required.

K. **MINERAL RESOURCES –** The project would not have a significant impact on this resource. Therefore, no mitigation is required.

L. **NOISE –** The project would not have a significant noise impacts. Therefore, no mitigation is required.

M. **POPULATION AND HOUSING –** The project would not have a significant impact on this resource. Therefore, no mitigation is required.

N. **PUBLIC SERVICES –** The project would not have a significant impact on this resource. Therefore, no mitigation is required.

O. **RECREATION –** The project would not have a significant impact on this resource. Therefore, no mitigation is required.

P. **TRANSPORTATION –** The project would not have a significant impact on this resource. Therefore, no mitigation is required.

Q. **TRIBAL CULTURAL RESOURCES –** The project would not have a significant impact on

this resource. Therefore, no mitigation is required.

R. UTILITIES AND SERVICE SYSTEMS – The project would not have a significant impact on this resource. Therefore, no mitigation is required.

S. WILDFIRE – The project would not have a significant impact on this resource. Therefore, no mitigation is required.

T. MANDATORY FINDINGS OF SIGNIFICANCE.

The Proposed Project would have either have no impacts or less-than-significant impacts on riparian habitat or other sensitive natural communities, migration of species, or applicable biological resources protection ordinances and would not eliminate important examples of the major periods of California history or prehistory. With mitigation measures incorporated, the Proposed Project would not cause changes in the environment that would have potential to cause substantial adverse direct or indirect effects on human beings. Therefore, the Proposed Project would not contribute to a cumulatively considerable impact to these resources.

PUBLIC REVIEW PERIOD

Before 5:00 p.m. on Thursday, August 27, 2020 any person may:

1. Review the Draft Mitigated Negative Declaration (MND) as an informational document only; or

2. Submit written comments regarding the information and analysis in the Draft MND. Before the MND is adopted, Planning staff will prepare written responses to any comments, and revise the Draft MND, if necessary, to reflect any concerns raised during the public review period. All written comments will be included as part of the Final MND.

Rosalynn Hughey, Director
Planning, Building and Code Enforcement

7/23/2020
Date

Deputy

Shannon Hill
Environmental Project Manager

Circulation Period: July 28, 2020 to August 27, 2020

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Appendix A Project Plan Set
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Initial Study

1. Project Title

101 Bernal Road Hydrogen Fueling Project

2. Lead Agency Contact

City of San José

Department of Planning, Building and Code Enforcement
200 East Santa Clara Street, 3rd Floor
San José, California 95113

Contact:

Shannon Hill, Planner
Phone: 408-535-7872

Email: shannon.hill@sanjoseca.gov

3. Project Applicant

Fiedler Group
299 North Euclid Avenue, Suite 550
Pasadena, California 91101

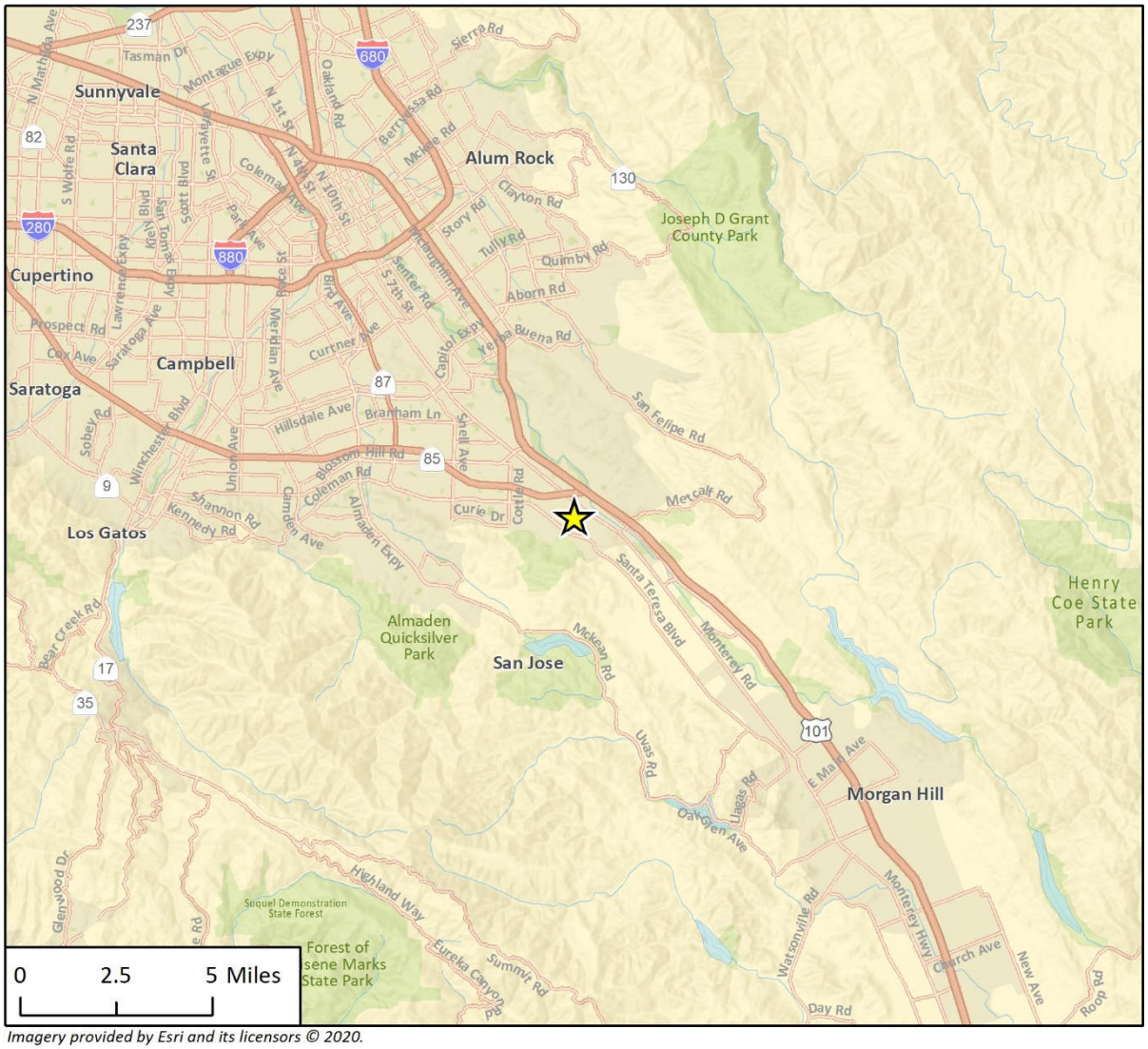
4. Project Location

The approximately 1.2-acre project site is at the southwest corner of the intersection of Bernal Road and San Ignacio Avenue in the south area of the City of San José. The street address is 101 Bernal Road. The assessor's parcel number is 706-01-085. Figure 2-1 shows the site location in a regional context. Figure 2-2 shows the location of the site relative to the surrounding area.

5. General Plan Designation and Zoning District

The project site is designated as Neighborhood/Community Commercial (NCC) under the City's General Plan, titled *Envision San José 2040* (City of San José 2011). The project site is in a Planned Development zoning district.

Figure 2-1 Regional Map



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Project Location

N

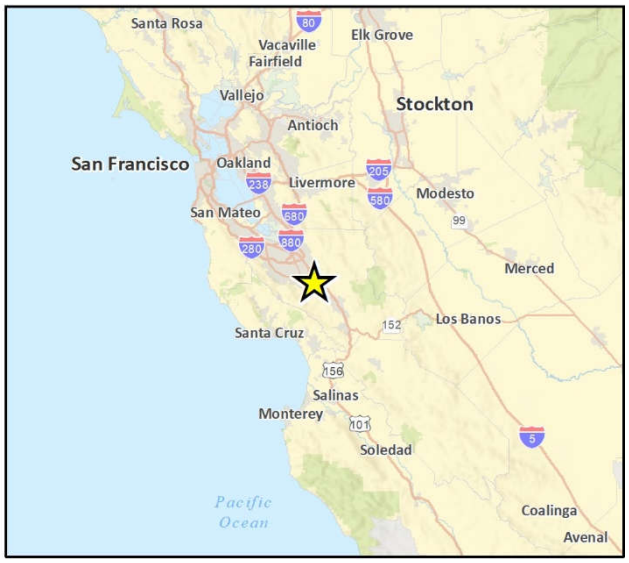
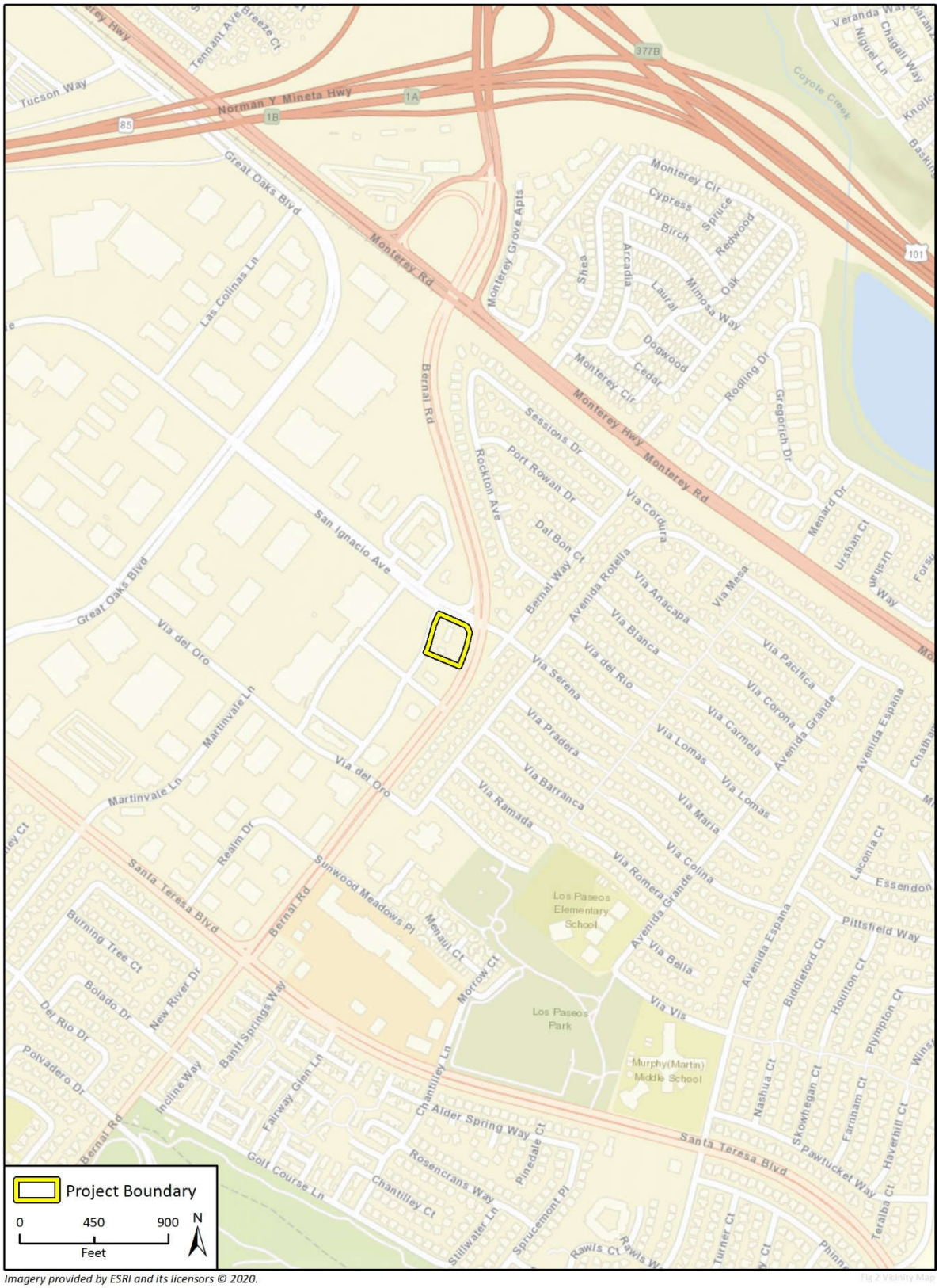


Figure 2-2 Vicinity Map



6. Surrounding Land Uses

The project site consists of an existing convenience store and gas station within a larger commercial shopping center. A McDonald's restaurant with a drive through and parking, also part of the shopping center, are located adjacent to the south side of the site. Retail parking for the shopping center is adjacent to the west side of the project site. The larger commercial anchor stores in the shopping center are at the far end of the parking area adjacent to the western boundary of the parcel. San Ignacio Avenue runs along the northern boundary of the site. A Jack in the Box restaurant with a drive through and multiple hotels are located on the opposite side of San Ignacio Avenue. A San José Fire Department station and residential development is located northeast of the site, at the northeast corner of the Bernal Road and San Ignacio Avenue intersection. Bernal Road runs along the eastern boundary of the site, and single-family residential development is located on the opposite side of Bernal Road. An aerial photograph of the site and surrounding land uses is shown in Figure 2-3.

7. Description of Project

The proposed project consists of the installation of a new hydrogen fueling facility at an existing gasoline station. The proposed hydrogen fueling station would be similar in construction and appearance to the existing gasoline fueling stations and would provide two new hydrogen fuel dispensers. The existing convenience store, fueling bays canopy, and associated gasoline fueling equipment would remain on site, as would a drive-through carwash attached to the convenience store.

An approximately 1,190-square-foot hydrogen equipment enclosure would be constructed on the northeast corner of the project site. The enclosure would be a four-sided wall structure without a roof. The enclosure would be of metal stud construction with fire code gypsum panel with a stucco facade and include steel doors or gates to restrict access. Hydrogen equipment in the enclosure would include two hydrogen station modules for gas compression, hydrogen gas storage vessels, and a delivery manifold for off-loading fuel deliveries. The storage vessels would hold 800 kilograms of compressed hydrogen. Underground fuel pipelines would be installed to carry the hydrogen to two dispenser pumps, which would be installed next to the equipment closure, near the eastern property line of the site. Associated electrical equipment would be installed adjacent to the exterior of the enclosure.

The proposed project would also involve reconstruction of the driveway for the site on both Bernal Road and San Ignacio Avenue to replace broken or uplifted curb and gutter, as well as sidewalk that is not compliant with the American with Disabilities Act (ADA). The proposed conceptual site plan is shown in Figure 2-4. A complete plan set is provided as Appendix A.

Project Construction

Construction activities would begin soon after entitlements are granted and would be completed in approximately 6 to 8 months. Construction activities would include installation of the equipment enclosure and excavation as part of installation of fuel pumps and related infrastructure. The maximum excavation depth would be 4.5 feet; however, most of the excavation would be in the 2-foot to 3-foot range. Soil excavated would be stored onsite during construction and used to backfill excavation. However, as hydrogen fueling infrastructure would occupy space in the excavation, not all soil would be reused. Excess soil would be exported from the site. Additionally, as described in

Section 9, Hazards and Hazardous Materials, implementation of mitigation measures required for the proposed project require sampling soil for hazardous contaminants. If contamination is detected above healthy screening levels, hazardous soils would not be reused for backfill. Hazardous soils would be transported and disposed off-site in accordance with all federal, state, and local regulations.

The project would be constructed within an area that is currently paved with asphalt concrete. Therefore, the proposed project would not increase the amount of impervious surface on the site. However, pavement that is damaged or demolished during construction, such as the required excavation, would be restored.

Project Operation

The proposed hydrogen fueling station would operate 24 hours a day, 7 days a week, consistent with the operational hours of the existing convenience store and gasoline fueling facilities on-site. According to a trip generation study prepared for the project by Hexagon Transportation Consultants, the proposed project would generate eight vehicle trips during the AM peak hour (7 am to 9 am) and 12 vehicle trips during the PM peak hour (4 pm to 6 pm). The trip generation study is provided as Appendix B to this Initial Study. Cars that operate using hydrogen are known as fuel-cell electric vehicles (FCEV). As FCEVs become more popular and common, the number of daily trips to the hydrogen fueling station could increase.

Hydrogen gas would be delivered to the site, as needed, based on supply and demand. Tractor trailer trucks designed to transport liquid and gaseous substances, commonly known as tanker trucks, would deliver fuel to the site. Initially, delivery would occur approximately twice per week. Delivery frequency could increase as FCEVs become more common and the demand for hydrogen fuel increases. Maximum delivery frequency, based on maximum possible demand, would be once, daily.

The proposed hydrogen fueling facilities would not change current operations of the existing convenience store and gasoline fueling station.

8. Other Public Agencies Whose Approval is Required

The proposed project would require the following entitlements, permits, and/or approvals:

- City of San José Planned Development Permit Amendment
- City of San José Grading Permit
- City of San José Building Permit

Implementation of the project may also require clearances from the City's Public Works Department, such as encroachment permit for driveway reconstruction with roadway right-of-way.

Figure 2-3 Aerial Photograph and Surrounding Land Uses

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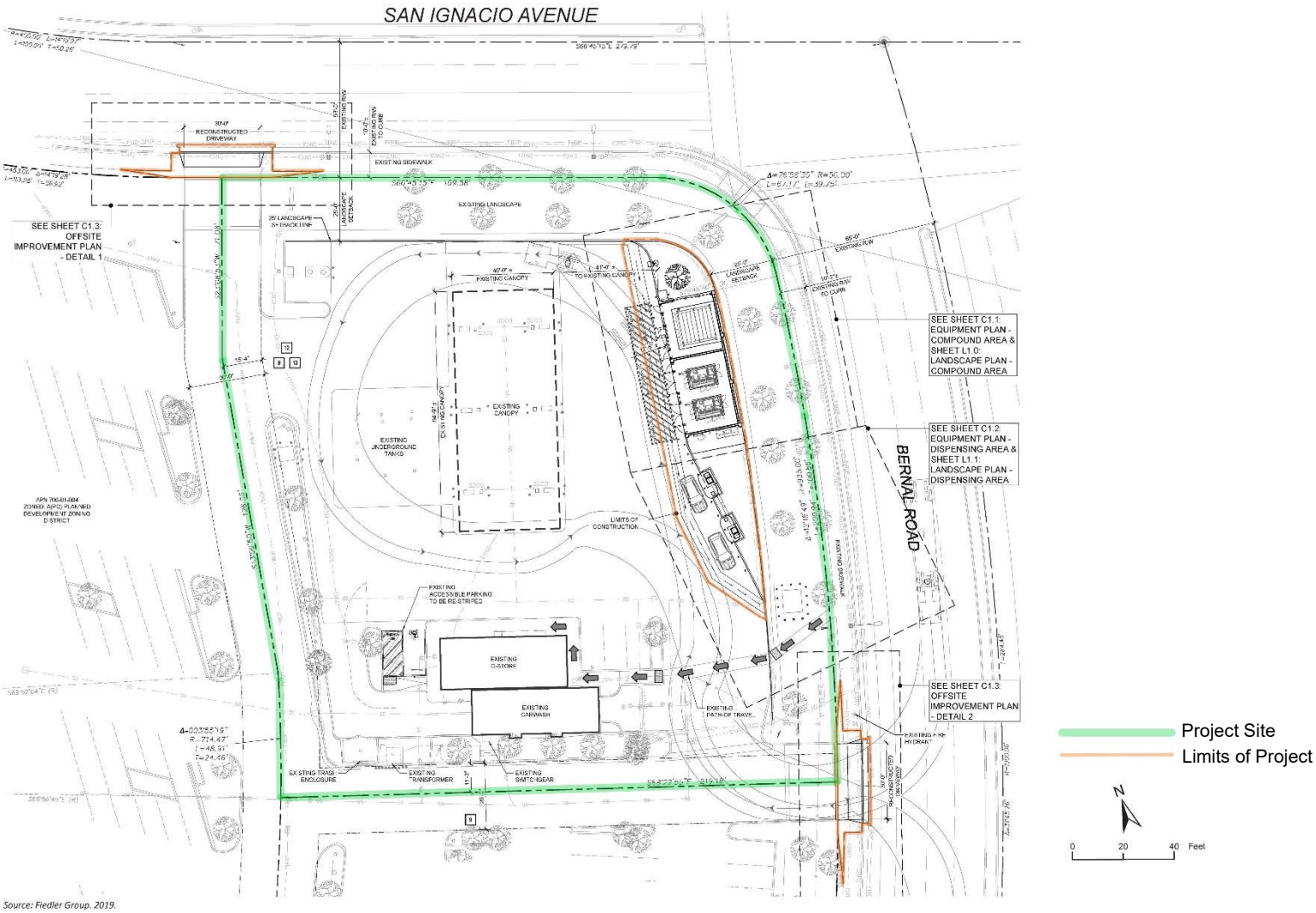
Fig 3 Surrounding Land Uses Map

Figure 2-4 Conceptual Site Plan



Source: Fiedler Group. 2019.

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Environmental Factors Potentially Affected

This project would potentially affect the environmental factors checked below, involving at least one impact that is "Potentially Significant" or "Less than Significant with Mitigation Incorporated" as indicated by the checklist on the following pages.

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

Determination

Based on 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 to 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 "less than significant with mitigation incorporated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potential 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.

Signature	Date
Printed Name	Title

Environmental Checklist

1 Aesthetics

	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 a 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 that would adversely affect daytime or nighttime views in the area?	☐	☐	■	☐

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

Based on the City's General Plan, views of hillside areas, including the foothills of the Diablo Range, Santa Cruz Mountains, Silver Creek Hills, and Santa Teresa Hills are scenic features framing the horizon of the San José portion of the Santa Clara Valley. The project site and the surrounding area are relatively flat. Prominent viewpoints, other than the surrounding buildings, are limited. The project area affords limited views of the Diablo foothills, Santa Cruz Mountains, and Silver Creek Hills. Views from the project site are primarily of surrounding suburban development, but some views of the upper elevations of the Santa Teresa Hills are visible in the distance. The proposed hydrogen fueling facilities would appear similar to the existing gasoline fueling facilities on the project site, and would therefore be consistent with the urban design landscape of the surrounding shopping center where the site is located. The proposed hydrogen fueling facilities would be no taller or massive than existing facilities on the project site. Therefore, existing views of the Santa Teresa Hills from the site or through the site would not be obstructed. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no state-designated scenic highways in San José. In Santa Clara County, the one state-designated scenic highway is State Route (SR) 9 from the Los Gatos City Limit to the Santa Cruz County line (Caltrans 2019). The distance between the roadway segment and the project site is approximately 12 miles. The site is not within the scenic highway or visible from SR 9.

Eligible State Scenic Highways that are not officially designated include: SR 17 from SR 9 to the Santa Cruz County line , SR 35 from SR 9 to the Santa Cruz County line, Interstate 280 from SR 17 to the San Mateo County line, and the entire length of SR 152 within the County (Caltrans 2019). The project site is approximately 11 miles from the nearest of these roadway segments. There would be no impact.

NO IMPACT

c. Would the project, 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 a 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?

The project site is in an existing shopping center in an urbanized area of San José. The project would add hydrogen fueling facilities to an existing gasoline station. The project site is zoned Planned Development, which allows for the fueling station. The hydrogen fueling facilities would appear like existing gasoline fueling facilities, such as fuel dispenser machines. Accordingly, the proposed project would not conflict with applicable zoning and other regulations governing scenic quality. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?

The proposed project would include installation of a lighted canopy over the proposed hydrogen fuel dispensers, to aid customers in refueling during night. Additionally, a single light mounted on a 10-foot-tall pole would be installed next to the hydrogen fuel storage area. Canopy lighting would be directed downward toward the dispensers. The pole-mounted light would be approximately the same height and like the existing exterior pole lights on the site and across the adjacent parking area of shopping center. The lights must also comply with City Council Policy 4-3, which pertains to outdoor lighting on private developments. The policy prohibits outdoor lighting for being cast skyward and requires either full or partial shielding depending on the brightness of the light. Because the project area is urbanized with many sources of light, and the new lights would be required to comply with City Council Policy 4-3, the addition of a lighted canopy over the proposed hydrogen fuel dispensers and a single, pole-mounted light would not be a substantial source of new light. The proposed project would not involve the use of reflective materials that create glare. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on 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?	☐	☐	☐	■

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

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

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?

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

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

The project site is an existing gasoline station that is part of shopping center in an urbanized area of San José. Neither farmland nor forested lands occur on or adjacent to the project site. The site is not zoned for agriculture, forest land, nor timberland production. The project would add hydrogen fueling facilities to an existing fueling station and not convert any existing land use. There would be no impact.

NO IMPACT

3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	■	☐
c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	■	☐
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	■	☐

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

The Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines set forth criteria for determining consistency with the Bay Area 2017 Clean Air Plan (CAP) (BAAQMD 2017). In general, a project is considered consistent if, a) the plan supports the primary goals of the 2017 CAP; b) it includes relevant control measures; and c) it does not interfere with implementation of 2017 CAP control measures. The 2017 CAP control measures generally try to reduce vehicle trips by increasing transit use and active transportation modes, utilizing low-energy design in buildings, and reducing excess waste. Control measures also encourage preservation of trees and planting of urban street trees.

The proposed project would not increase demand for transit use nor result in a reduction of vehicle trips in San José. However, the hydrogen fueling facilities would be used solely for FCEV, which do not generate pollutants that degrade air quality. A tanker truck would deliver hydrogen fuel to the site. The tanker truck would be a conventional diesel tractor trailer. However, the project site would be one stop on the overall route that the truck currently makes to deliver hydrogen fuel in the region. There are several street trees along the perimeter of the site adjacent to Bernal Road and San Ignacio Avenue. The proposed project would not require removal of these trees or other trees. Therefore, the proposed project would facilitate transportation in San José that supports the goals of the 2017 CAP. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

Construction activity required for the proposed project would be short-term and temporary, resulting in negligible to no net increase of criteria pollutants in the region. Hydrogen is not a regulated pollutant, so the storage of hydrogen fuel in tanks would not violate an air quality standard or contribute substantially to an existing or projected air quality violation. Stations that merely accept hydrogen fuel deliveries would likely not need air permits for hydrogen fuel storage tanks, as they would have no regulated emissions. Additionally, construction of the proposed project would be subject to the following City of San José Standard Permit Condition:

> **Air Quality.** The following measures shall be implemented during all phases of construction to control dust and exhaust at the project site:
>
> a. Water active construction areas at least twice daily or as often as needed to control dust emissions.
>
> b. Cover trucks hauling soil, sand, and other loose materials and/or ensure that all trucks hauling such materials maintain at least two feet of freeboard.
>
> c. Remove visible mud or dirt track-out onto adjacent public roads using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
>
> d. Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).
>
> e. Pave new or improved roadways, driveways, and sidewalks as soon as possible.
>
> f. Lay building pads as soon as possible after grading unless seeding or soil binders are used.
>
> g. Replant vegetation in disturbed areas as quickly as possible.
>
> h. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
>
> i. Minimize idling times either by shutting off equipment when not in use, or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Provide clear signage for construction workers at all access points.
>
> j. Maintain and property tune construction equipment in accordance with manufacturer's specifications. Check all equipment by a certified mechanic and record a determination of running in proper condition prior to operation.
>
> k. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints.

With implementation of required Standard Permit Conditions, this impact would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Construction of the proposed project would involve the use of heavy equipment powered by diesel fuel, such as a backhoe. Diesel exhaust contains various pollutants that can be harmful to the

environment or human health. Construction of the project would be short term and temporary for approximately 5 to 6 months. The installation of the proposed hydrogen fueling facilities would be minor construction project, not requiring extensive equipment over extended periods of time. Because the site is an existing gasoline station, construction equipment would primarily be operated on asphalt pavement, resulting in little dust emissions. Additionally, implementation of the City's Standard Permit Condition for construction emissions, described above, would be required during construction activities and reduce construction emissions. Accordingly, construction emissions would not expose sensitive receptors to substantial pollutant concentrations.

Hydrogen gas would be delivered to the site by tanker trucks during the operational life of the project. Like construction equipment, tanker trucks also generate diesel exhaust. Delivery would occur infrequently. Initially, delivery would occur approximately twice per week. Delivery frequency could increase as FCEVs become more common and the demand for hydrogen fuel increases. Maximum delivery frequency, based on maximum possible demand, would be once, daily. A daily increase of a single tractor trailer trip on Bernal Road or San Ignacio Avenue would not generate substantial pollutant concentrations.

As described above, hydrogen is not a regulated pollutant; therefore, the project is not expected to expose sensitive receptors to substantial pollutant concentrations. Trips made to the site in order to refuel would be by FCEV. As electric vehicles, FCEVs generate no pollutant emissions. For the reasons explained above, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Hydrogen is an odorless gas. Therefore, the hydrogen fuel would result in no adverse odors. However, construction and delivery would require use of diesel equipment, such as a backhoe and tanker truck. Diesel exhaust may be described by some as an adverse odor. However, construction would be temporary, and delivery of fuel with a tanker truck would be infrequent. Therefore, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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4 Biological Resources

	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, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	■
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	■
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	■
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	■
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	■	☐

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 Wildlife or U.S. Fish and Wildlife Service?

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, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The project site is an existing gasoline station that is part of a shopping center in an urbanized portion of San José. An approximately 25-foot-wide vegetated buffer separates the asphalt area of the gasoline station from Bernal Road and San Ignacio Avenue. The buffer contains landscaped lawn area and ornamental street trees. In this area, Bernal Road is comprised of six travel lanes and San Ignacio Avenue has four travel lanes. Given that vegetation consists of a narrow strip of landscaping between busy roadways and a shopping center, it is highly unlikely to support special status species. Furthermore, the proposed project would not alter this vegetated buffer. Similarly, riparian habitat or other sensitive natural community do not occur on-site nor within the landscaped medians. Therefore, the proposed project would have no impact on special-status species, riparian habitat, or other sensitive species or natural communities.

NO IMPACT

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?

The proposed project would be constructed within an asphalt pavement area at an existing gasoline station. Accordingly, wetlands do not occur within the project site and the proposed project would have no impact.

NO IMPACT

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?

There are no streams or other surface waters on or adjacent to the project site. Therefore, the project site is not used for fish migration or movement. As described above under criteria a) and b), the vegetation on the project site is limited to a landscaped buffer between the gasoline station and adjacent public streets. This buffer is isolated from contiguous habitat or corridors because it is surrounded by busy arterial streets and a shopping center. Additionally, the buffer is maintained with activities such as mowing and pruning. Therefore, the project site has no value to wildlife movement or migration, and it is not a native wildlife nursery. The proposed project would have no impact.

NO IMPACT

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The landscaped buffer between the project site and adjacent public streets contains street trees. The proposed project would require no tree removal. Trees in the buffer area would not be affected during project construction and operation. The proposed project would have no impact.

NO IMPACT

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?

According to the Santa Clara Valley Habitat Agency, the project site is located within Area 4: Private Development Area, Urban-Suburban Land Cover area, and is not within any special fee zones within the Santa Clara Valley Habitat Plan (SCVHP) (www.hcpmaps.com). However, the project is still considered a Covered project and would be subject to the following City Standard Permit Condition:

> **Santa Clara Valley Habitat Plan.** The project is subject to applicable SCVHP conditions and fees (including the nitrogen deposition fee) prior to issuance of any grading permits. The project applicant would be required to submit the Santa Clara Valley Habitat Plan Coverage Screening Form to the Director of Planning, Building and Code Enforcement (PBCE) or the Director's designee for approval and payment of the nitrogen deposition fee prior to the issuance of a grading permit. The Habitat Plan and supporting materials can be viewed at www.scv-habitatplan.org.

With implementation of the City's Standard Permit Condition, this impact is considered less than significant.

LESS THAN SIGNIFICANT IMPACT

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5 Cultural Resources

	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 formal cemeteries?	☐	☐	■	☐

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

To be considered a historical resource as defined in California Code of Regulations (CCR) Section 15064.5, a district, site, building, or structure must be significant for their traditional, cultural, and/or historical associations. As an existing gasoline station constructed after 2000, the building is not of historic age nor associated with historical or traditional events. The site is not listed nor eligible as a property on the City's Historic Resources Inventory, nor is the site listed on the National Register of Historic Places (City of San José 2016). Therefore, there would be no substantial adverse change in the significance of an historical resource. The proposed project would have no impact.

NO IMPACT

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

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

The project would involve construction within a fully developed and previously disturbed site. Construction the existing gasoline station on the site required excavation and disturbed native soils, reducing the potential for subsurface archaeological resources to remain intact on-site. As described later in Section 9, *Hazards and Hazardous Materials*, groundwater and soil contamination in the project area resulted in installation of a subsurface slurry wall to contain the spread of contaminants. The slurry wall is in the immediate vicinity of location where the proposed hydrogen fuel facilities would be constructed on the site. Installation of the slurry wall required excavation to depths greater than those that would be required for construction of the proposed project. Therefore, the potential for archaeological resources or human remains to be encountered is low. However, the project site is designated as archaeologically sensitive and would involve subsurface construction activities (City of San José 2019). There is always the possibility to encounter intact

archaeological deposits or undocumented human remains during construction. If encountered, construction could damage or destroy these resources or remains. However, the project would be required to implement the following City of San José Standard Permit Conditions:

Standard Permit Conditions

Subsurface Cultural Resources. If prehistoric or historic resources are encountered during excavation and/or grading of the site, all activity within a 50-foot radius of the find shall be stopped, the Director of Planning, Building and Code Enforcement (PBCE) or the Director's designee and the City's Historic Preservation Officer shall be notified, and a qualified archaeologist shall examine the find. The archaeologist shall 1) evaluate the find(s) to determine if they meet the definition of a historical or archaeological resource; and (2) make appropriate recommendations regarding the disposition of such finds prior to issuance of building permits. Recommendations could include collection, recordation, and analysis of any significant cultural materials. A report of findings documenting any data recovery shall be submitted to Director of PBCE or the Director's designee and the City's Historic Preservation Officer and the Northwest Information Center (if applicable). Project personnel shall not collect or move any cultural materials.

Human Remains. If any human remains are found during any field investigations, grading, or other construction activities, all provisions of California Health and Safety Code Sections 7054 and 7050.5 and Public Resources Code Sections 5097.9 through 5097.99, as amended per Assembly Bill 2641, shall be followed. If human remains are discovered during construction, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains. The project applicant shall immediately notify the Director of Planning, Building and Code Enforcement (PBCE) or the Director's designee and the qualified archaeologist, who shall then notify the Santa Clara County Coroner. The Coroner will determine as to whether the remains are Native American. If the remains are believed to be Native American, the Coroner will contact the Native American Heritage Commission (NAHC) within 24 hours. The NAHC will then designate a Most Likely Descendant (MLD). The MLD will inspect the remains and make a recommendation on the treatment of the remains and associated artifacts. If one of the following conditions occurs, the landowner or his authorized representative shall work with the Coroner to reinter the Native American human remains and associated grave goods with appropriate dignity in a location not subject to further subsurface disturbance:

- The NAHC is unable to identify a MLD or the MLD failed to make a recommendation within 48 hours after being given access to the site.
- The MLD identified fails to make a recommendation; or
- The landowner or his authorized representative rejects the recommendation of the MLD, and mediation by the NAHC fails to provide measures acceptable to the landowner.

With implementation of the identified City Standard Permit Conditions, the project would have a less than significant impact on cultural resources.

LESS THAN SIGNIFICANT IMPACT

6 Energy

	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?	☐	☐	■	☐

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?

Construction of the proposed project would require the consumption of fuel energy. However, the project site is nearly flat and would require minimal use of grading equipment for project construction. Construction would be short-term (6 to 8 months) and would not require substantial quantities of equipment. Therefore, project construction would not result in wasteful, inefficient, or unnecessary consumption of energy resources.

Operation of the project would require electricity to power hydrogen fuel dispensers, and other project components, such as the proposed streetlamp near the hydrogen fuel storage tanks. However, the energy required to power two fuel dispensers and lighting would be negligible. Additionally, the project would facilitate the use of FCEVs, which utilize less energy to operate than traditional gasoline-powered vehicles. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Electricity required for operation of the proposed project would be provided by San José Clean Energy. San José Clean Energy is the electricity provider for residents and businesses in the City of San José. San José Clean Energy sources the electricity, and the Pacific Gas and Electric (PG&E) Company delivers it to customers over their existing utility lines. San José Clean Energy customers are automatically enrolled in the GreenSource program, which provides 80 percent greenhouse gas emission-free electricity. Therefore, energy used for operation of the project would be largely from renewable sources. San José Clean Energy plays a crucial role in fulfilling the nine strategies of the Climate Smart San José, which is the City's plan for addressing climate change (City of San José 2018). The proposed project would be consistent with the applicable strategies of Climate Smart San José, such as Strategy 2.3:

> Strategy 2.3: New technology can enable clean, electric, and personalized mobility choices that make it convenient to move between any two points in the city.

Additionally, the provision of hydrogen fueling facilities would facilitate the use of FCEVs, potentially reducing gasoline consumption. Therefore, the proposed project would not conflict with state or local plans for renewable energy or energy efficiency. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

7 Geology and Soils

	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:				
1. 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?	☐	☐	■	☐
2. Strong seismic ground shaking?	☐	☐	■	☐
3. Seismic-related ground failure, including liquefaction?	☐	☐	■	☐
4. 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?	☐	☐	■	☐
d. Be located on expansive soil, as defined in Table 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 wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	■
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	■	☐

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving 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?

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

Earthquake faults in the San Francisco Bay, specifically the San Andreas, Calaveras, and Hayward faults are capable of generating earthquakes larger than 7.0 in magnitude. The project site would experience intense ground shaking in the event of a large earthquake. No active faults or fault zones have been mapped on-site (2003). Therefore, the risk of fault rupture at the project site is low.

The greatest risk during strong seismic ground shaking is structural collapse, leading to falling objects, such as roofing rafters or retaining walls. The proposed project would not involve the construction of new building with occupancy or retaining walls. Hydrogen fueling facilities would largely be at ground level to several feet above ground level and not present a toppling risk during shaking. Additionally, the project would be constructed consistent with the most current California Building Code, which requires seismic stability measures be incorporated into design and construction. For these reasons, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

Liquefaction generally occurs as a result of strong ground shaking in areas where granular sediment or fill material either contains, or is located immediately above, high moisture content. The ground shaking transforms the material from a solid state to a temporarily liquid state and can result in settlement, flow failure, and lateral spreading. Liquefaction is a serious hazard because buildings in areas that experience liquefaction may sink or suffer major structural damage. These geological and groundwater conditions are prevalent in the San Francisco Bay Area, including through parts of San José. According to the California Geological Survey, the project site is in a liquefaction zone (2003). However, the site is developed with an existing gas station, which required proper soil compaction and grading when the station was constructed consistent with mandatory regulations and requirements, such as the California Building Code. The proposed project would also be constructed consistent with all regulations pertaining to safety and stability, such as the California Building Code, which addresses seismic safety. Additionally, the project would be required to implement the following City of San José Standard Permit Condition:

<u>Seismic Damage</u>

The project applicant shall implement the following conditions:

- To avoid or minimize potential damage from seismic shaking, project construction shall use standard engineering and seismic safety design techniques. Complete building design and construction at the site in conformance with the recommendations of an approved geotechnical investigation. The geotechnical investigation report shall be reviewed and approved by the Department of Public Works as part of the building permit review and entitlement process. The buildings shall meet the requirements of applicable Building and Fire Codes as adopted or updated by the City. The project shall be designed to withstand soil hazards

identified on the site and the project shall be designed to reduce the risk to life or property on site and off site to the extent feasible and in compliance with the Building Code.

- Schedule all excavation and grading work in dry weather months or weatherize construction sites.
- Cover stockpiles and excavated soils with secured tarps or plastic sheeting.
- Install ditches to divert runoff around excavations and graded areas if necessary.
- Construct the project in accordance with standard engineering practices in the California Building Code, as adopted by the City of San José. Obtain a grading permit from the Department of Public Works prior to the issuance of a Public Works clearance. These standard practices would ensure that the future building on the site is designed to properly account for soils-related hazards on the site.

With adherence to building regulations and implementation of Standard Permit Conditions, impacts to people or structures resulting from seismic-related ground failure and liquefaction would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

Landslides are the downward and outward movements of slope-forming materials including rock, soil, artificial fill, or combinations of such materials under the direct influence of gravity. The proposed project site is nearly level, and there are no hills adjacent to the site. There are no known landslides near the site, nor is the site in the path of any known or potential landslides (California Geological Survey 2003). The proposed project does not involve substantial mounding of earth or other substantive changes to grade that would create slope instability hazards. Therefore, the proposed project would have no impact.

NO IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

The project site is relatively flat and would require little to no grading to install the proposed hydrogen fueling facilities. Excavation would be required but would be minimal. Most of the site would remain covered in either asphalt or structures during project construction, and all disturbance would be repaved following construction. Therefore, the potential for soil erosion or loss would be negligible. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

The proposed project would be constructed on existing engineered fill that was graded and prepared when the existing gasoline station was constructed on the project site. The proposed project would involve relatively shallow trenching to install electrical conduit and hydrogen fuel

lines. These trenches would be backfilled and compacted in accordance with the California Building Code. Additionally, the project would be subject to standard permit conditions, described above, and would require preparation and adherence to a geotechnical investigation to ensure ground stability. Therefore, the proposed project would not lead to unstable geology or soils. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on expansive soil, as defined in Table 1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

Expansive soils have a potential to undergo significant changes in volume in the form of either shrinking or swelling due to changes in moisture content. Periodic shrinking and swelling of expansive soils can cause extensive damage to buildings, other structures, and roads. The Uniform Building Code requirements (defined in UBC Table 18-1-B) were primarily designed to test stability of foundations to avoid substantial risks to life or property. The proposed project would not require a building foundation; furthermore, on-site drainage features and compliance with existing building code requirements would ensure that surface flows do not impact underlying subgrade support characteristics. Additionally, the entire project site part of a larger shopping center. The site underwent grading and preparation when the shopping center was constructed to ensure proper soil compaction and stability. Soils on the project site are engineered fill and are not expansive soils. For these reasons, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

The proposed project involves installation and subsequent operation of hydrogen fueling facilities. The proposed project would not require the septic tanks or alternative wastewater disposal systems. The project site is currently served by the City's sanitary sewer system. The proposed project would have no impact.

NO IMPACT

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

The project would involve construction within a fully developed and previously disturbed site. Construction of the existing gasoline station on the site required excavation and disturbed native soils, reducing the potential for subsurface paleontological resources to remain intact on-site. Additionally, as described later in Section 9, *Hazards and Hazardous Materials*, groundwater and soil contamination in the project area resulted in installation of a subsurface slurry wall to contain the spread of contaminants. The slurry wall is in the immediate vicinity of location where the proposed hydrogen fuel facilities would be constructed on the site. Installation of the slurry wall required excavation to depths greater than those that would be required for construction of the proposed project. Therefore, the potential for paleontological resources to be encountered is low. However, the project would involve subsurface construction activities, and there is always possibility for intact paleontological deposits to be discovered during construction. However, the project would be required to implement the following City of San José Standard Permit Condition:

Paleontological Resources

If vertebrate fossils are discovered during construction, all work on the site shall stop immediately, the Director of Planning or Director's designee of the of the City of San José Department of Planning, Building and Code Enforcement shall be notified, and a qualified professional paleontologist shall assess the nature and importance of the find and recommend appropriate treatment. Treatment may include, but is not limited to, preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection and may also include preparation of a report for publication describing the finds. The project applicant shall be responsible for implementing the recommendations of the qualified paleontologist. A report of all findings shall be submitted to the Director of Planning or Director's designee of the City of San José Department of Planning, Building and Code Enforcement.

With implementation of the identified Standard Permit Condition, the project would have a less than significant impact on paleontological resources.

LESS THAN SIGNIFICANT IMPACT

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8 Greenhouse Gas Emissions

	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?	☐	☐	■	☐

a. Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

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

The proposed project would result in a temporary increase in GHG emissions associated with construction activities including operation of construction equipment and emissions from construction workers' personal vehicles traveling to and from the project site. Construction related GHG emissions vary depending on the level of activity, length of the construction period, specific construction operations, types of equipment, and number of personnel. Neither the City of San José nor BAAQMD have established a quantitative threshold or standard for determining whether a project's construction related GHG emissions are significant. Because construction would be temporary (6 to 8 months), the project would not result in a permanent increase in emissions nor would project construction interfere with the implementation of AB 32 in 2020 or SB 32 in 2030.

Operation of the proposed hydrogen fueling facilities would require consumption of electricity, which would be a negligible increase in GHG emissions considering how little energy would be required. Additionally, hydrogen-powered vehicles, such as those that would use the proposed hydrogen fueling facilities, omit no GHGs, particulate matter, or other harmful tailpipe emissions (emissions are water and warm air). Therefore, this project would result in negligible GHG emissions that have no significant impacts on the environment. In addition, as described in Section 6, Energy, the proposed project would be consistent with the applicable strategies of Climate Smart San José, such as Strategy 2.3:

> Strategy 2.3: New technology can enable clean, electric, and personalized mobility choices that make it convenient to move between any two points in the city.

Climate Smart San José is the City's plan for addressing climate change and reducing GHG emissions. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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9 Hazards and Hazardous Materials

	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 0.25 mile of an existing or proposed school?	☐	☐	■	☐
d. Be located on a site that is included on a list of hazardous material 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 in 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?	☐	☐	☐	■

Environmental Setting

Regulatory Framework

The storage, use, generation, transport, and disposal of hazardous materials and waste are regulated under federal and state laws. Federal regulations and policies related to development include the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, and the Resource Conservation and Recovery Act (RCRA). In California, the EPA has granted most enforcement authority over federal hazardous materials regulations to the California Environmental Protection Agency (CalEPA). In turn, local agencies have been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) program.

FEDERAL

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress in 1980 and is administered by the U.S. EPA. This law created a tax on the chemical and petroleum industries and provided broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) is a federal law passed by Congress in 1976 to address the increasing problems from the nation's growing volume of municipal and industrial waste. RCRA creates the framework for the proper management of hazardous and non-hazardous solid waste and is administered by the U.S. EPA. RCRA protects communities and resource conservation by enabling the EPA to develop regulations, guidance, and policies that ensure the safe management and cleanup of solid and hazardous waste, and programs that encourage source reduction and beneficial reuse. The term RCRA is often used interchangeably to refer to the law, regulations, and EPA policy and guidance.

Cortese List

Section 65962.5 of the Government Code requires CalEPA to develop and update a list of hazardous waste and substances sites, known as the Cortese List. Government Code § 65962.5 was originally enacted in 1985, and per subsection (g), the effective date of the changes called for under the amendments to this section was January 1, 1992. While Government Code Section 65962.5 makes reference to the preparation of a "list," many changes have occurred related to web-based information access since 1992 and this information is now available on the websites of the responsible organizations. Two of which are the California Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board, which are responsible for updating the EnviroStor and GeoTracker databases, respectively (DTSC 2020; State Water Resources Control Board 2020). Information in these databases is considered part of the Cortese List. Refer to the description of these organizations in the state regulation section below for more information. The Cortese List is used by state and local agencies and developers to comply with CEQA requirements.

Federal Aviation Regulations

Federal Aviation Regulations, Part 77 Objects Affecting Navigable Airspace (FAR Part 77) sets forth standards and review requirements for protecting the airspace for safe aircraft operation. Particularly, FAR Part 77 restricts the height of potential structures and minimizing other potential hazards (such as reflective surfaces, flashing lights, and electronic interference) to aircraft in flight. These regulations require that the Federal Aviation Administration (FAA) be notified of certain proposed construction projects located within an extended zone defined by an imaginary slope radiating outward for several miles from an airport's runways, or which would otherwise stand at least 200 feet in height above ground.

STATE

California Department of Toxic Substances Control

The California Department of Toxic Substances Control (DTSC) is a State agency that protects State citizens and the environment from exposure to hazardous wastes by enforcing hazardous waste laws and regulations. DTSC enforces action against violators; oversees cleanup of hazardous wastes on contaminated properties; makes decisions on permit applications from companies that want to store, treat or dispose of hazardous waste; and protects consumers against toxic ingredients in everyday products. DTSC is responsible for publishing and revising hazardous substance release sites selected for, and subject to, a response action for inclusion in the EnviroStor database, which is considered part of the Cortese List described above.

State Water Resources Control Board

The State Water Resources Control Board is responsible for compiling and updating all underground storage tanks for which an unauthorized release report is filed. These are referred to as Leaking Underground Storage Tanks (LUST). The Health and Safety Code Division 20, Chapters 6.7 and 6.75, gives local agencies the authority to oversee investigation and cleanup of UST leak sites. The San Francisco Bay Regional Water Quality Control Board (RWQCB) is one of nine regional boards of the California State Water Resources Control Board and is the lead agency responsible for identifying, monitoring and remediating LUST's in the Bay Area and for updating the GeoTracker database, which is considered part of the Cortese List described above.

California Department of Industrial Relations, Division of Occupational Safety and Health

Worker health and safety and public safety are key issues when dealing with hazardous materials. Proper handling and disposal of hazardous material is vital if it is disturbed during project construction. The California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) enforces state worker health and safety regulations related to construction activities. Regulations include exposure limits, requirements for protective clothing, and training requirements to prevent exposure to hazardous materials. Cal/OSHA also enforces occupational health and safety regulations specific to lead and asbestos investigations and abatement.

California Accidental Release Prevention Program

The California Accidental Release Prevention (CalARP) Program aims to prevent accidental releases of regulated substances that can cause serious harm to the public and the environment, to minimize the damage if releases do occur, and to satisfy community right-to-know laws. Facilities that are required to participate in the CalARP program use or store more than a threshold quantify of toxic and flammable substances (hazardous materials) must develop a Risk Management Plan (RMP). An RMP is a detailed engineering analysis of the potential accident factors present at a business and the

mitigation measures that can be implemented to reduce the potential of accidents occurring. The County of Santa Clara Hazardous Materials Compliance Division reviews CalARP RMPs as the CUPA.

Asbestos-Containing Materials and Lead-Based Paint

Friable asbestos is any asbestos containing material (ACM) that, when dry, can easily be crumbled or pulverized to a powder by hand, allowing the asbestos particles to become airborne. Common examples of products that have been found to contain friable asbestos include acoustical ceilings, plaster, wallboard, and thermal insulation for water heaters and pipes. Common examples of nonfriable ACMs are asphalt roofing shingles, vinyl floor tiles, and transite siding made with cement. The EPA phased out use of friable asbestos products between 1973 and 1978. National Emission Standards for Hazardous Air Pollutants (NESHAP) guidelines require that potentially friable ACMs be removed prior to building demolition or remodeling that may disturb the ACMs.

The U.S. Consumer Product Safety Commission banned the use of lead-based paint in 1978. Removal of older structures with lead-based paint is subject to requirements outlined by Cal/OSHA Lead in Construction Standard, Title 8, California Code of Regulations 1532.1 during demolition activities. Requirements include employee training, employee air monitoring, and dust control. If lead-based paint is peeling, flaking, or blistered, it is required to be removed prior to demolition.

Local

Bay Area Air Quality Management District Rules

The Bay Area Air Quality Management District (BAAQMD) regulates the demolition and renovation of buildings and structures that may contain asbestos, and the manufacture of materials known to contain asbestos. Demolition of existing buildings and structures are subject to BAAQMD Regulation 11, Rule 2 (Asbestos Demolition, Renovation, and Manufacturing). BAAQMD Regulation 11, Rule 2 is intended to limit asbestos emissions from demolition or renovation of structures and the associated disturbance of asbestos-containing waste material generated or handled during these activities. The rule addresses the national emissions standards for asbestos along with some additional requirements. The rule requires the lead agency and its contractors to notify BAAQMD of any regulated renovation or demolition activity. By complying with BAAQMD Regulation 11, Rule 2, which minimizes the release of airborne asbestos emissions, demolition activity would not result in a significant impact to air quality.

Envision San José 2040 General Plan

The General Plan includes the following hazards and hazardous materials policies and actions applicable to the proposed project.

Policy EC-6.1 Require all users and producers of hazardous materials and wastes to clearly identify and inventory that hazardous materials that they store, use or transport in conformance with local, state and federal laws, regulations and guidelines.

Policy EC-6.2 Require proper storage and use of hazardous materials and wastes to prevent leakage, potential explosions, fires, or the escape of harmful gases, and to prevent individually innocuous materials from combining to form hazardous substances, especially at the time of disposal by businesses and residences. Requires proper disposal of hazardous materials and wastes at licensed facilities.

Policy EC-6.4 Require all proposals for new or expanded facilities that handle hazardous materials that could impact sensitive uses off-site to include adequate mitigation to reduce identified hazardous materials impacts to less than significant levels.

Policy EC-6.7 Do not approve land uses and development that use hazardous materials that could impact existing residences, schools, day care facilities, community or recreation centers, senior residences, or other sensitive receptors if accidentally released without the incorporation of adequate mitigation or separation buffers between uses.

Policy EC-7.1 For development and redevelopment projects, require evaluation of the proposed site's historical and present uses to determine if any potential environmental conditions exist that could adversely impact the community or environment.

Policy EC-7.2 Identify existing soil, soil vapor, groundwater and indoor air contamination and mitigation for identified human health and environmental hazards to future users and provide as part of the environmental review process for all development and redevelopment projects. Mitigation measures for soil, soil vapor and groundwater contamination shall be designed to avoid adverse human health or environmental risk, in conformance with regional, state and federal laws, regulations, guidelines and standards.

Policy EC-7.3 Where a property is located in proximity to known groundwater contamination with volatile organic compounds or within 1,000 feet of an active or inactive landfill, evaluate and mitigate the potential for indoor air intrusion of hazardous compounds to the satisfaction of the City's Environmental Compliance Officer and appropriate regional, state and federal agencies prior to approval of a development or redevelopment project.

Policy EC-7.4 On redevelopment sites, determine the presence of hazardous building materials during the environmental review process or prior to project approval. Mitigation and remediation of hazardous building materials, such as lead-paint and asbestos containing materials, shall be implemented in accordance with state and federal laws and regulations.

Policy EC-7.5 On development and redevelopment sites, require all sources of imported fill to have adequate documentation that it is clean and free of contamination and/or acceptable for the proposed land use considering appropriate environmental screening levels for contaminants. Disposal of groundwater from excavations on construction sites shall comply with local, regional, and state requirements.

Action EC-7.8 When an environmental review process identifies the presence of hazardous materials on a proposed development site, the City will ensure that feasible mitigation measures that will satisfactorily reduce impacts to human health and safety and to the environment are required of or incorporated into the projects. This applies to hazard materials found in the soil, groundwater, soil vapor, or in existing structures.

Action EC-7.9 Ensure coordination with the County of Santa Clara Department of Environmental Health, Regional Water Quality Control Board, Department of Toxic Substances Control or other applicable regulatory agencies, as appropriate, on projects with

contaminated soil and/or groundwater or where historical or active regulatory oversight exists.

Action EC-7.10 Require review and approval of grading, erosion control and dust control plans prior to issuance of a grading permit by the Director of Public Works on sites with known soil contamination. Construction operations shall be conducted to limit the creation and dispersion of dust and sediment runoff

Existing Conditions

Project Site

The project site is currently developed with a convenience store and gasoline station. There is a drive-through car wash attached to the convenience store. Due to the existing uses, gasoline fuel is the primary hazardous material currently stored and used on the project site. Gasoline is delivered to the site by tanker truck and stored in underground tanks connected to fuel dispensers. The gasoline station includes mandatory safety measures, such as emergency shut-off switches for the fuel dispensers. In addition to gasoline, hazardous substances may be used in the car wash fluids. Additionally, minor quantities of cleaning fluids and products are stored and used in the convenience store.

Hazardous Contamination/Cortese Listings

The project site is part of a larger shopping center. The project site and entire shopping center area was primarily used for agriculture during the early 1900s. Transition from agricultural to industrial and commercial land use occurred in the 1960s and 1970s. In 1975, Fairchild Semiconductor Corporation purchased the 22-acre parcel that comprises the shopping center, including the project site portion. Fairchild Semiconductor Corporation constructed a manufacturing plant for electronic devices. Manufacturing processes occurred between 1977 and 1983. In 1990, the property was sold to a retail property developer. Between 1988 and 1992, the developer decommissioned and demolished the former manufacturing facilities. Between 1998 and 2000, the developer constructed the current shopping center.

According to a recurring Five-Year Review Report for the site prepared by the U.S. Environmental Protection Agency, the semiconductor manufacturing process between 1977 and 1983 involved etching, cleaning, coating, and inspection of silicon wafers and required the use of solvents (2019). In 1981, a failed underground storage tank containing waste solvents was discovered that had released a mixture of solvents into the subsurface. A public drinking water supply well located approximately 1,800 feet down-gradient from the site was impacted by the release. The Five-Year Review Report for the site is provided as Appendix C to this Initial Study.

Initial actions following the discovery of the release included: removal of the impacted drinking water well from service; decommissioning of private wells located down-gradient of the site in potentially impacted areas; excavation of soil within the source area; extraction of groundwater and treatment onsite and off-site; and installation of an on-site slurry cutoff wall to contain contaminants (U.S. Environmental Protection Agency 2019). The project site is within the slurry wall footprint.

The San Francisco Bay Regional Water Quality Control Board (RWQCB) adopted the Final Site Cleanup Requirements (SCR) Order No. 89-016 for the site in January 1989. The U.S. Environmental Protection Agency issued a Record of Decision (ROD) for the site in March 1989, which incorporated

the actions required under the SCR Order. The selected remedy included: continued groundwater extraction and treatment; soil vapor extraction in the source area; and soil flushing in the source area. Contaminants of concern identified in the ROD include: 1,1,1- trichloroethane (TCA); 1,1-dichloroethene (DCE); 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113); xylenes; acetone; isopropyl alcohol; and tetrachloroethene (PCE). The ROD also included institutional controls to prevent exposure to contaminated groundwater and soil (U.S. Environmental Protection Agency 2019).

Groundwater extraction was halted in 1998 after it was demonstrated that asymptotic concentrations and other conditions had been reached, and no active remediation has been performed at the Site since that time. The institutional controls are still in place and are effective at preventing exposure to contaminated groundwater. The slurry wall appears to be effective in containing contaminants on-site. However, concentrations of 1,1,1-TCA, 1,1-DCE, and PCE within the slurry wall exceed cleanup standards and do not show decreasing trends. Therefore, it is unknown when cleanup standards within the slurry wall will be reached (U.S. Environmental Protection Agency 2019).

The current state maximum contaminant level for Freon-113 is now lower than the ROD cleanup standard, and the current toxicity value for isopropyl alcohol is more stringent than the ROD cleanup level. However, Freon-113 and isopropyl alcohol have not been detected in groundwater in at least the last 10 years. Therefore, the changed maximum contaminant level and toxicity values do not affect protectiveness of human health and the environment. In addition, 1,4-dioxane has been detected inside the slurry wall since 2001 and was also detected outside the slurry wall during the most recent sampling event. There is no cleanup level for 1,4-dioxane selected in the remedy. Additionally, 1,1-dichloroethane (DCA), 1,2-DCA and vinyl chloride were not included in the ROD and have been detected inside the slurry wall near the source area at levels above California Maximum Contaminant Levels (U.S. Environmental Protection Agency 2019).

In 2018, EPA and the RWQCB oversaw a vapor intrusion assessment at the site, which included the collection of indoor air samples and sub-slab samples along utility conduits. Indoor samples were collected from retail stores in the shopping center but were not collected from inside the existing gas station on the project site (Geosyntec 2018). Soil vapor samples were also obtained within the vicinity of the former source area in the shopping center parking lot. The results of the sampling showed no evidence of unacceptable vapor intrusion occurring or with the potential to occur in the retail buildings under the current land use. Exceedances of health-protective screening levels were detected in soil vapor near the former source area, which do not pose any current health risks due to their subsurface location below paved asphalt (U.S. Environmental Protection Agency 2019).

Impact Assessment

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The routine transport, use, and disposal of hazardous materials is a normal part of the existing operation and maintenance of the gasoline station. As a gasoline station in continual (24 hours a day) operation, the project site regularly receives deliveries of fuel. Delivery complies with all applicable federal, state, and local laws and regulations designed to protect the public from both health risks and environmental hazards.

The proposed project would result in a slight increase in the routine transport associated with hydrogen deliveries, and may require minor quantities of lubricants, paints, solvents, and other products to maintain the hydrogen fueling equipment and enclosures. However, the hydrogen fuel

deliveries would be infrequent and based on market demand, which is expected to be low at first and slowly increase. Additional materials would be like those currently kept and managed on site for existing maintenance and operations. The proposed project would therefore have a minimal and incremental impact on the routine transport, use, and disposal of hazardous materials. The gas station would continue to comply with all applicable federal, state, and local laws and regulations. For these reasons, the impact of the project on public hazards resulting from transport, use, or disposal of hazardous materials would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

Reasonably foreseeable upset and accident conditions involving the release of hazardous materials to the environment would consist of the potential for hydrogen equipment to leak, rupture or malfunction, leading to the risk of fire or explosion. Hydrogen is a colorless, odorless, tasteless, highly flammable diatomic gas with the molecular formula H_2. The vapors are lighter than air, and it is flammable over a wide range of vapor/air concentrations. Hydrogen is not toxic but can be an asphyxiation risk by displacing oxygen in the air. Hazardous events associated with hydrogen gas releases would include jet fires, flash fires, and vapor cloud explosions.

The proposed hydrogen fueling system design is in conformance with the National Fire Protection Association (NFPA) 2 – Hydrogen Technologies Code [2020], as stated on project plans. The purpose of NFPA 2 is to provide fundamental safeguards for the generation, installation, storage, piping, use, and handling of hydrogen in compressed gas (GH_2) form or cryogenic liquid (LH_2) form. One of the requirements of NFPA 2 is that radiant impacts greater than 1,500 British thermal units per hour per square foot (Btu/hr·ft2) are not allowed off site. It is this requirement that necessitates the installation of solid barrier walls designed to prevent flame or explosion hazards around the hydrogen equipment enclosure area, if they were to occur, from extending off site. The NFPA 2 also provides setback standards to prevent hydrogen hazards from affecting adjacent uses or groups. The proposed project has been designed to achieve these standards, and fire hazard exposure would not extend beyond on-site setback areas. The design, installation and testing of the hydrogen fueling station in accordance with NFPA 2, applicable safety regulations, and professional engineering standards of care means that the risk of fire or explosion from hydrogen equipment would be low.

Furthermore, the proposed project would include safety precautions to prevent such accidents from occurring in the first place and to minimize the consequence of such an accident. Accident prevention measures included in project plans consist of the installation of guard posts to protect appurtenant facilities from being struck by vehicles and provision of adequate ventilation systems and pressure release valves. The hydrogen fueling facilities would also include hydrogen-specific flame detectors and gas detectors, and emergency shutoff switches, designed to stop the flow or release of hydrogen gas if ignited.

According to the project plans, construction of the proposed project would not involve relocating or encountering existing buried pipes (see Appendix A). Therefore, there would be no potential to encounter pipes with asbestos containing materials during construction.

Given that the risk of accident and upset conditions associated with the proposed project would be low, and not more severe than that associated with the existing site, and that the project would

implement numerous safety, accident prevention, and response measures, the risk of exposure to hazardous materials from accident conditions associated with operation of the project would be low. In addition, compliance with Mitigation Measures (MM) HAZ-1.1 and HAZ-1.2 listed under "d" below would mitigate any potential accidental release associated with construction activities. Refer to the analysis for CEQA checklist item "d" for additional information.

LESS THAN SIGNIFICANT IMPACT

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

There are no schools adjacent to the project site. However, Los Paseos Elementary School is located approximately 0.25 mile southeast of the project site. The classroom buildings are slightly over 0.25 mile from the project site, but a play field associated with the school is within 0.25 mile of the site.

Hydrogen is not classified as a pollutant but is considered an acutely hazardous substance by state and federal regulations because of its flammability. It is subject to state and federal regulations only if the quantity stored or used at a site exceeds 10,000 pounds. The proposed hydrogen gas storage vessels would contain approximately 1,764 pounds of compressed hydrogen when full. Hydrogen is also considered a Class 2.1 hazardous substance during transportation by the U.S. Department of Transportation because of flammability, and only trained personnel are permitted to transport the substance in vehicles approved by the U.S. Department of Transportation.

The incidental emission of hydrogen, for example from dispenser nozzles, is not a health and safety concern because vapors are lighter than air and would quickly dissipate in the atmosphere, and thus would not present an asphyxiation hazard. Control valves would be pneumatically operated, and all control valves would fail in the safe direction (closed) after loss of utility power or instrument supply. The only on-site supply of hydrogen in sufficient volume to present flammability hazard would be the hydrogen contained in storage tubes. Hydrogen storage tubes would be American Society of Mechanical Engineers-coded vessels with thick steel walls of sufficient strength not to fracture. A gaseous tube trailer in compliance with U.S. Department of Transportation regulations, as legally mandated, would be used to transport hydrogen to the site at startup and periodically as needed for replacement.

As described above under criterion b), the hydrogen equipment enclosure area, including the hydrogen storage tubes, modules, and valve panels would be enclosed behind a solid metal stud construction wall with fire code gypsum panel. The wall would have no openings on its eastern or southern sides. The northern and western sides would be louvered metal fences with gates. The Los Paseos Elementary School is located southeast of the project site. Therefore, in the unlikely event of a flash or jet fire in at the hydrogen equipment enclosure area, the enclosure wall would prevent flames from extending outward off-site in the direction of Los Paseos Elementary School. Additionally, the propose project is designed to meet NFPA 2 – Hydrogen Technologies Code. Specifically, the project is designed with setbacks to limit exposure to potential fire and explosion hazards. In the unlikely event of a fire, sufficient setbacks would exist to prevent the fire hazard from extending off the project site. For these reasons, the proposed project would not present substantial hazards to schools. Impacts would be less than significant.

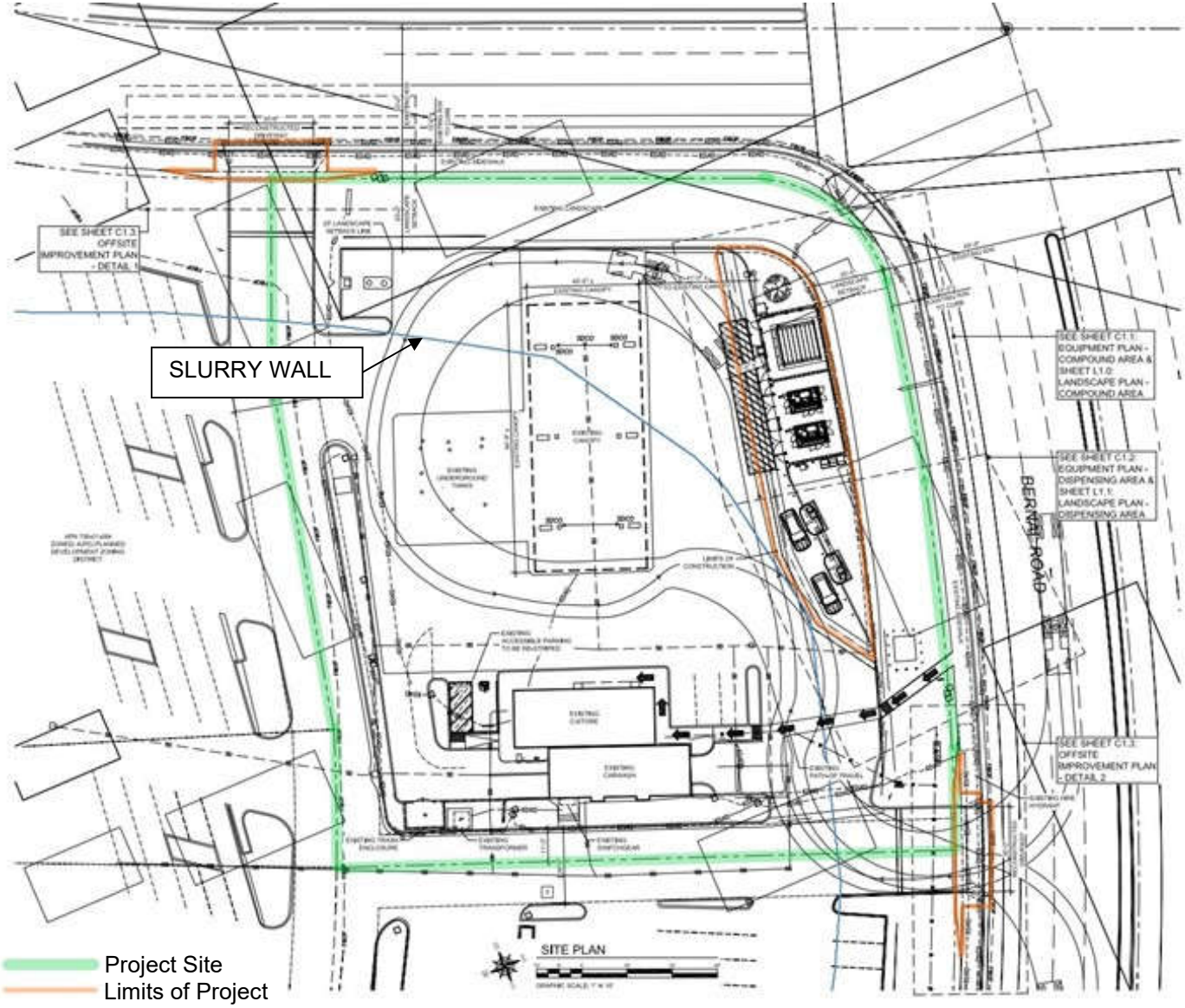
LESS THAN SIGNIFICANT IMPACT

d. Would the project be located on a site that is included on a list of hazardous material 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?

As described above in *Existing Conditions*, the project site currently appears on the Cortese list due to soil and groundwater contamination and ongoing remediation efforts associated with previous semiconductor manufacturing that occurred in the late 1970s and early 1980s. A slurry wall was constructed to prevent contamination from spreading off the former semiconductor property. The project site is partially within the slurry wall. The proposed hydrogen fueling facilities would be located just outside of but adjacent to the slurry wall, as shown on Figure 2-5. Occurrences of 1,4-dioxane have been detected inside the slurry wall since 2001 and was also detected outside the slurry wall during the most recent sampling event. Other contaminants of concern listed in the ROD include 1,1,1-trichloroethane (TCA); 1,1-dichloroethene (DCE); tetrachloroethene (PCE); and 1,4-dioxane. Additionally, 1,1-dichloroethane (DCA), 1,2-DCA and vinyl chloride were not included in the ROD and have been detected inside the slurry wall near the source area at levels above California Maximum Contaminant Levels (U.S. Environmental Protection Agency 2019).

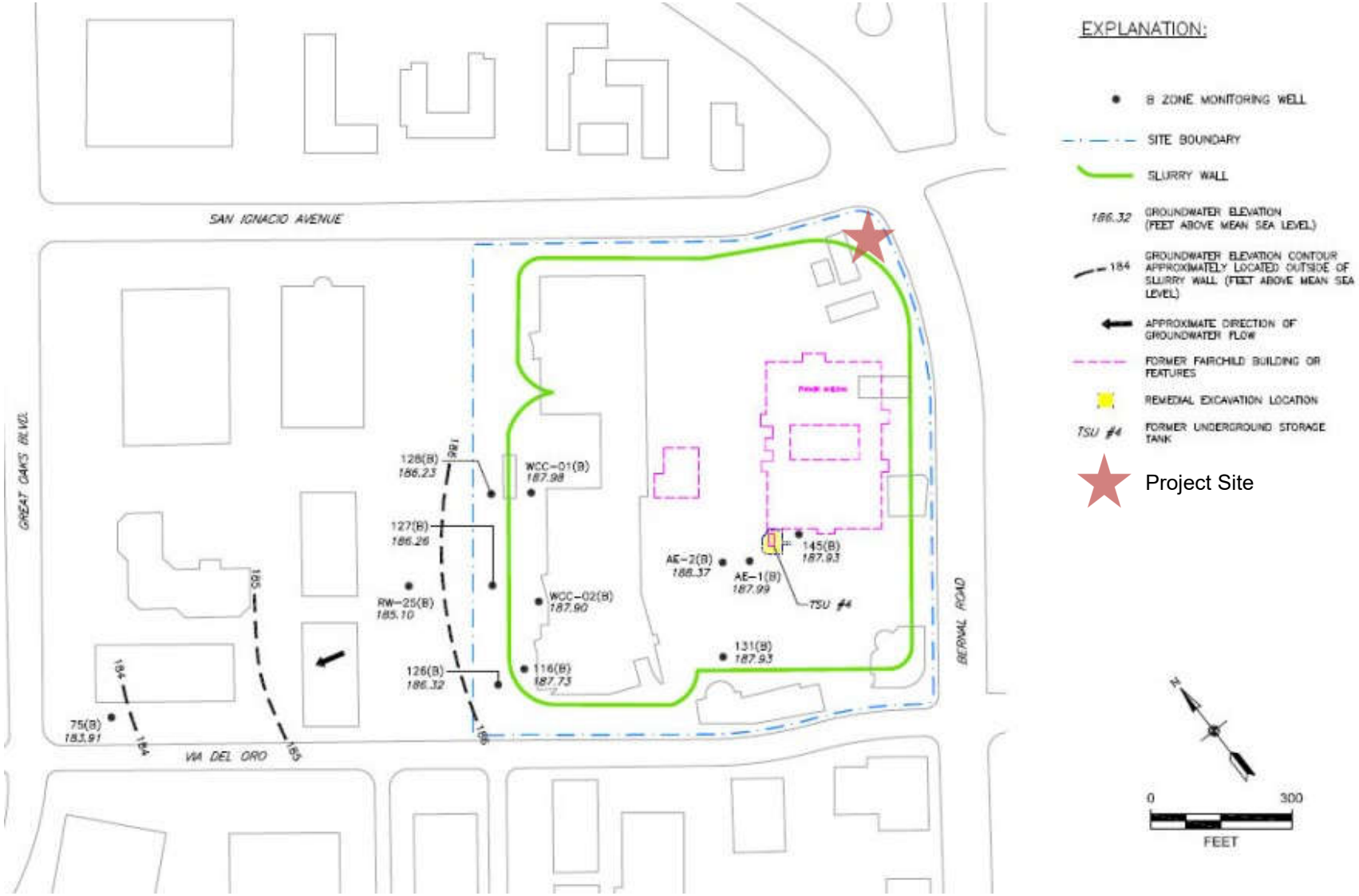
According to the U.S. Environmental Protection Agency (2019), groundwater flow direction in the project area is west-northwest, as shown in Figure 2-6. The proposed hydrogen fueling facilities would be upgradient up groundwater flow within the contamination area, and the slurry wall is downgradient of the proposed facility. Location of the project upgradient of the slurry wall would reduce the potential for contaminated groundwater to be encountered during installation of the proposed hydrogen fueling facilities. Additionally, groundwater elevations recorded in the project area are approximately 188 feet (U.S. Environmental Protection Agency 2019). Ground surface elevation is approximately 220 feet at the site according to the Grading Details plan sheet (see Appendix A). Therefore, groundwater is expected at approximately 32 feet below ground surface. Maximum excavation depth during installation of the proposed hydrogen fueling facilities would be approximately 4.5 feet below ground surface. Therefore, the potential to encounter groundwater is low.

Figure 2-5 Slurry Wall Location



Note: Slurry wall location shown on figure has not been field or survey verified.

Figure 2-6 Groundwater Elevation Contours



Source: U.S. Environmental Protection Agency 2019

Although low, the potential to encounter groundwater during project construction could be possible depending on seasonal variations in the water table. Additionally, subsurface soils may also be contaminated due to leaching and movement of groundwater through the soil, in addition to vapor intrusion into the soil. The project site is also an existing gasoline station where fuel is stored in underground storage tanks. Thus, there is potential for contamination from leaking underground storage tanks. Therefore, construction workers could be potentially exposed to fuel contamination and to 1,4-dioxane, 1,1-dichloroethane (DCE), 1,1,1-trichloroethane (TCA); tetrachloroethene (PCE); 1,1-dichloroethane (DCA); 1,2-DCA, and vinyl chloride during installation activities of the proposed hydrogen fueling facilities that require excavation or ground disturbance. Offsite disposal of excavated soils, if required, could also lead to exposure if improperly handled and transported. Additionally, given the proximity of the slurry wall to the proposed fueling facilities, excavation activities could rupture or breach the wall, allowing contamination to spread beyond the property. For these reasons, impacts would be potentially significant, and implementation of the following mitigation measures would be required.

MM HAZ-1.1: Prior to the issuance of any demolition or grading permits, whichever comes first, and at least three (3) business days prior to the required field verification of the slurry wall location, the project applicant shall provide the field schedule to the State oversight agency of the Fairchild Semiconductor Corporation South San José Plant Superfund Site (Superfund Site), the San Francisco Bay Regional Water Quality Control Board (RWQCB), and shall provide documentation of this required notice to the Director of the City of San José Planning, Building, and Code Enforcement Department (PBCE), or the director's designee, and the Environmental Compliance Officer in the City of San José's Environmental Services Department (ESD). In addition, the project applicant shall copy the RWQCB on any correspondence with the RWQCB's consultant if the slurry wall is encountered or is planned to be encountered and perform any additional investigation, evaluation, or mitigation, as required by the RWQCB, as the State oversight agency of the Superfund Site. Evidence of correspondence with the RWQCB and compliance with any additional investigation, evaluation, or mitigation required by the RWQCB to contain the existing contamination shall be provided to the Director of PBCE, or director's designee, and the ESD Environmental Compliance Officer prior to the issuance of any demolition or grading permit.

MM HAZ-1.2: Prior to the issuance of any demolition or grading permit, whichever comes first, the project applicant shall conduct a shallow soil sample in the area of either the hydrogen equipment enclosure area or hydrogen dispensing area. The soil sample may be collected from the existing landscape buffer immediately adjacent to the hydrogen equipment enclosure area or hydrogen dispensing area since these areas are currently paved. The shallow soil shall be sampled for total petroleum hydrocarbons; 1,1,1-trichloroethane (TCA); 1,1-dichloroethene (DCE); tetrachloroethene (PCE); 1,4-dioxane; 1,1-dichloroethane (DCA); 1,2-DCA; and vinyl chloride. The sampling report, including comparison to RWQCB's environmental screening levels, shall be provided to the Director of Planning of the PBCE, or the Director's designee, and the ESD's Environmental Compliance Officer.

If results of the soil sampling indicate concentrations of chemicals exceeding RWQCB's environmental screening levels, the project applicant shall obtain regulatory oversight from the Santa Clara County Department of Environmental

Health (SCCDEH), RWQCB, or equivalent agency prior to the issuance of any demolition or grading permit, whichever comes first. Under regulatory oversight of the applicable agency, the project applicant shall develop a Site Management Plan (SMP) and Health & Safety Plan (HASP), or similar document, as required by the oversight agency, to be implemented prior to and during construction to protect construction worker safety, the public, and the environment. An SMP shall be prepared by a qualified environmental professional and implemented. The contaminated soil excavated from the site shall be hauled off-site and disposed of at a licensed hazardous materials disposal site.

The oversight-agency required plans and evidence of regulatory oversight in preparation and approval of the plans shall be submitted to the City's Director of PBCE, or the Director's designee, and the Municipal Compliance Officer of the ESD prior to issuance of a demolition or grading permit, whichever comes first.

With implementation of the identified mitigation measures, impacts from potentially contaminated soils on-site would be reduced to a less than significant level.

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?

The Norman Y. Mineta San José International Airport is located approximately 11 miles northwest of the project site. The project site is not within the adopted Airport Comprehensive Land Use Plan for the airport (Santa Clara County Airport Land Use Commission 2011). There are no private airstrips or other airports within 2 miles of the project site. The proposed project would have no impact.

NO IMPACT

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

The project would have no effect on an adopted emergency response plan or emergency evacuation plan because it is an addition to an existing facility and would not block roads or interfere with circulation. Therefore, the proposed project would have no impact.

NO IMPACT

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

The project site is in an existing shopping center in an urbanized area of San José. Wildland fuels, such as forest, chaparral, or annual grasslands do not occur on the project site. The proposed project would have no impact.

NO IMPACT

10 Hydrology and Water Quality

	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?	☐	☐	■	☐

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Construction of the proposed project would require ground disturbance, which would increase the potential for soil erosion. Erosion can lead to sedimentation of surface waters. However, pursuant to the City's Standard Permit Conditions, the following measures, based on RWQCB recommendations, would be included in the project entitlement to reduce potential construction-related water quality impacts:

Construction-related water quality.

The project applicant shall implement the following conditions:

- Install burlap bags filled with drain rock around storm drains to route sediment and other debris away from the drains.
- Suspend earthmoving or other dust-producing activities during periods of high winds.
- Water all exposed or disturbed soil surfaces at least twice daily to control dust as necessary.
- Water or cover stockpiles of soil or other materials that can be blown by the wind.
- Cover all trucks hauling soil, sand, and other loose materials and maintain at least two feet of freeboard on all trucks.
- Sweep all paved access roads, parking areas, staging areas and residential streets adjacent to the construction sites daily (with water sweepers).
- Replant vegetation in disturbed areas as quickly as possible.
- Fill with rock all unpaved entrances to the site to remove mud from tires prior to entering City streets. Install a tire wash system if requested by the City.
- Comply with the City of San José Grading Ordinance, including implementing erosion and dust control during site preparation and with the City's Zoning Ordinance requirements for keeping adjacent streets free of dirt and mud during construction.

Because the project would be constructed in an asphalt pavement area, construction equipment would largely be operated on pavement. This would reduce the potential for construction vehicles to carry soil or dust onto adjacent streets, such as Bernal Road. With implementation of the identified City Standard Permit Conditions, project construction would have a less than significant impact on water quality.

Operation of the proposed project would not substantially alter the amount or type of pollutants in stormwater runoff. Land use would not change, because the proposed new fueling facilities would be added to the existing gasoline station at the site. Similar to existing conditions, stormwater runoff would occur as sheet flow, which would be transmitted into subdrains that would drain into a curb and gutter system. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

The proposed project would be constructed in an existing impervious area of the site currently paved with asphalt. Therefore, the proposed project would not increase the amount of impervious surface on site, or the resultant volume of water that is able to infiltrate the ground. The proposed project would have no impact.

NO IMPACT

c.(i) 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 result in substantial erosion or siltation on- or off-site?

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

c.(iii) 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 that would 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?

c.(iv) 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 impede or redirect flood flows?

As described above for criterion b), the proposed project would not increase the impervious surface area on the project site. There would be no change to existing drainage patterns on the site. There are no streams or rivers on the site. The proposed project would have no impact.

NO IMPACT

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

The proposed project is not a 100-year flood zone (Federal Emergency Management Agency 2009). There are no landlocked bodies of water near the project site that would affect the site in the event of a seiche. There are no bodies of water near the project site that would affect the site in the event of a tsunami (Association of Bay Area Governments 2016). Additionally, hydrogen fuel is not a pollutant of concern because water is comprised of hydrogen and oxygen. The proposed project would have no impact.

NO IMPACT

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

As described above for criterion a), the City's Standard Permit Conditions would prevent soil erosion and sedimentation of surface waters during project construction. Operation of the project would result in no new impervious surface area on the site. Therefore, there would be no change to precipitation and runoff infiltration and groundwater. The project would not generate increased demand for water. As described above for criterion d), hydrogen is not a pollutant of concern because water is comprised of hydrogen and oxygen. Emissions of FCEVs using the hydrogen fueling facilities would be water. Therefore, the proposed project would not conflict with a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

11 Land Use and Planning

	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?	☐	☐	■	☐

a. Would the project physically divide an established community?

The proposed project would not include construction of a physical barrier that would physically divide the existing area surrounding the proposed project site. No freeways, railroad tracks, or any kind of physical obstruction is included as part of the proposed project. Construction associated with the project would not result in major changes to any public roadways. The proposed hydrogen fueling facilities would be compatible with the existing variety of uses in the project vicinity, including the existing gasoline station on the project site. Therefore, the project would not physically divide an established community and there would be no impact.

NO IMPACT

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?

The project site is designated as Neighborhood/Community Commercial (NCC) under the City's General Plan, titled *Envision San José 2040*. This designation supports a very broad range of commercial activity, including commercial uses that serve the communities in neighboring areas, such as neighborhood serving retail and services and commercial/professional office development. NCC uses typically have a strong connection to and provide services and amenities for the nearby community and should be designed to promote that connection with an appropriate urban form that supports walking, transit use and public interaction (City of San José 2011). The project is also within Santa Teresa Boulevard/Bernal Road Urban Village. Urban Village plans promote walkable communities. However, the project site is within a more auto-oriented area where there is an existing gas station with a car wash service and a fast food restaurant with drive through use.

The proposed project is an addition to this existing gas station, and the project does not change the pedestrian circulation from the sidewalk along Bernal Road to the convenience store. Therefore, the project would not be inconsistent with the Urban Village plan. The proposed project would be consistent with existing uses of the project site. Therefore, the proposed project would be consistent with the land use designation and future development of the site area. As described throughout the Initial Study, there would be no significant environmental impacts resulting from the

proposed project with implementation of applicable mitigation measures and Standard Permit Conditions. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

12 Mineral Resources

	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?	☐	☐	☐	■

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b. Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

The State Mining and Geology Board under the Surface Mining and Reclamation Act of 1975 (SMARA) has designated an area of Communications Hill in Central San José, bounded by the Union Pacific Railroad, Curtner Avenue, State Route 87, and Hillsdale Avenue, as a regional source of construction aggregate materials. Other than the Communications Hills area, San José does not have mineral deposits subject to SMARA.

The project site is an existing gasoline station and is part of a larger shopping center in a developed area of San José. The site is not used for mineral extraction and does not contain any known or designated mineral resources. The physical distance between the project site and the Communications Hill area is approximately 5.3 miles. Implementation of the project would not result in the loss of availability of any known mineral resources. There would be no impact.

NO IMPACT

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13 Noise

	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?	☐	☐	☐	■

Several factors influence sound as it is perceived by the human ear, including the actual level of sound, the period of exposure to the sound, the frequencies involved, and the fluctuation in the noise level during exposure. Noise is measured on a “decibel” scale which serves as an index of loudness. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a range of intensities. Because the human ear cannot hear all pitches or frequencies, sound levels are frequently adjusted or weighted to correspond to human hearing. This adjusted unit is known as the A-weighted decibel, or dBA.

Since excessive noise levels can adversely affect human activities and human health, federal, state, and local governmental agencies have set forth criteria or planning goals to minimize or avoid these effects. Noise guidelines are almost always expressed using one of several noise averaging methods, such as Leq, DNL, or CNEL. Leq is a measurement of average energy level intensity of noise over a given period of time. DNL is a 24-hour average of noise levels, with a 10 dB penalty applied to noise occurring between 10:00 p.m. and 7:00 a.m. CNEL includes an additional 5 dB applied to noise occurring between 7:00 p.m. and 10:00 p.m. As a general rule of thumb where traffic noise predominates, the CNEL and DNL are typically within 1 dBA of each other. Using one of these descriptors is a way for a location’s overall noise exposure to be measured, given that there are specific moments when noise levels are higher (e.g., when a jet is taking off from an airport or when a leaf blower is operating) and specific moments when noise levels are lower (e.g., during lulls in traffic flows on freeways or in the middle of the night). L_{max} is the maximum A-weighted noise level during a measurement period.

Environmental Setting

Regulatory Framework

FEDERAL AND STATE

Federal Transit Administration Vibration Limits

The FTA has developed vibration impact assessment criteria for evaluating vibration impacts associated with transit projects. The FTA has proposed vibration impact criteria based on maximum overall levels for a single event. The impact criteria for groundborne vibration are shown in Table 1, below. Note that there are criteria for frequent events (more than 70 events of the same source per day), occasional events (30 to 70 vibration events of the same source per day), and infrequent events (less than 30 vibration events of the same source per day).

Table 1 FTA Groundborne Vibration Impact Criteria

	Groundborne Vibration Impact Levels (Vibration Decibels: VdB)		
Land Use Category	Frequent Events	Occasional Events	Infrequent Events
Category 1: Buildings where vibration would interfere with interior operations	65 VdB	65 VdB	65 VdB
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use	75 VdB	78 VdB	83 VdB

Frequent events: More than 70 vibration events from the same source per day
Occasional events: Between 30 and 70 vibration events from the same source per day
Infrequent events: Fewer than 30 vibration events of the same kind per day

Source: FTA 2018

LOCAL

Envision San José 2040 General Plan

The 2040 General Plan includes noise compatibility guidelines for various land uses. For reference, these guidelines are provided in Table 2 below.

Table 2 City of San José Land Use Compatibility Guidelines

	Noise Exposure Levels (DNL, dBA)		
Land Use Category	Normally Acceptable	Conditionally Acceptable	Unacceptable
Residential, Hotels and Motels, Hospitals and Residential Care	<60	60-75	>75
Outdoor Sports and Recreation, Neighborhood Parks and Playgrounds	<65	65-80	>80

Land Use Category	Noise Exposure Levels (DNL, dBA)		
	Normally Acceptable	Conditionally Acceptable	Unacceptable
Schools, Libraries, Museums, Meeting Halls, and Churches	<60	60-75	>75
Office Buildings, Business Commercial, and Professional Offices	<70	70-80	>80
Sports Arena, Outdoor Spectator Sports	<70	70-80	>80
Public and Quasi-Public Auditoriums, Concert Halls, and Amphitheaters	N/A	70 or less	>70

Source: Envision San José 2040 General Plan

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

Conditionally acceptable: Specified land use may be permitted only after detailed analysis of the noise reduction requirements and noise mitigation features included in the design.

Unacceptable: New construction or development should generally not be undertaken because mitigation is usually not feasible to comply with noise element policies. Development will only be considered when technically feasible mitigation is identified that is also compatible with relevant design guidelines.

The General Plan includes the following noise policies applicable to the proposed project.

Policy EC-1.2: Minimize the noise impacts of new development on land uses sensitive to increased noise levels by limiting noise generation and by requiring use of noise attenuation measures such as acoustical enclosures and sound barriers, where feasible. The City considers significant noise impacts to occur if a project would:

- Cause the DNL at noise sensitive receptors to increase by five dBA DNL or more where the noise levels would remain “Normally Acceptable”; or
- Cause the DNL at noise sensitive receptors to increase by three dBA DNL or more where noise levels would equal or exceed the “Normally Acceptable” level.

Policy EC-1.3: Mitigate noise generation of new nonresidential land uses to 55 dBA DNL at the property line when located adjacent to existing or planned noise-sensitive residential and public/quasi-public land uses.

Policy EC-1.6: Regulate the effects of operational noise from existing and new industrial and commercial development on adjacent uses through noise standards in the City’s Municipal Code.

Policy EC-1.7: Construction operations within San José will be required to use best available noise suppression devices and techniques and limit construction hours near residential uses per the City’s Municipal Code. The City considers significant construction noise impacts to occur if a project located within 500 feet of residential uses or 200 feet of commercial or office uses would:

- Involve substantial noise generating activities (such as building demolition, grading, excavation, pile driving, use of impact equipment, or building framing) continuing for more than 12 months.

For such large or complex projects, a construction noise logistics plan that specifies hours of construction, noise and vibration minimization measures, posting or notification of construction schedules, and designation of a noise disturbance coordinator who would respond to neighborhood complaints will be required to be in place prior to the start of construction and implemented during construction to reduce noise impacts on neighboring residents and other uses.

Policy EC-2.3: Require new development to minimize vibration impacts to adjacent uses during demolition and construction. For sensitive historic structures, a vibration limit of 0.08 in/sec PPV (peak particle velocity) will be used to minimize the potential for cosmetic damage to a building. A vibration limit of 0.20 in/sec PPV will be used to minimize potential for cosmetic damage at buildings of normal conventional construction. Equipment or activities typical of generating continuous vibration include but are not limited to: excavation equipment; static compaction equipment; vibratory pile drivers; pile-extraction equipment; and vibratory compaction equipment. Avoid use of impact pile drivers within 125 feet of any buildings, and within 300 feet of historical buildings, or buildings in poor condition. On a project-specific basis, this distance of 300 feet may be reduced where warranted by a technical study by a qualified professional that verifies that there will be virtually no risk of cosmetic damage to sensitive buildings from the new development during demolition and construction. Transient vibration impacts may exceed a vibration limit of 0.08 in/sec PPV only when and where warranted by a technical study by a qualified professional that verifies that there will be virtually no risk of cosmetic damage to sensitive buildings from the new development during demolition and construction.

City of San José 2040 Municipal Code – Construction Standards

The City's Municipal Code contains a Zoning Ordinance that limits noise levels at adjacent properties. Chapter 20.30.700 states that sound pressure levels generated by any use or combination of uses on a property shall not exceed 55 dBA at any property line shared with land zoned for residential use, except upon issuance and in compliance with a Conditional Use Permit. The code is not explicit in terms of the acoustical descriptor associated with the noise level limit. However, a reasonable interpretation of this standard, which is based on policy EC-1.3 of the City's General Plan, would identify the ambient base noise level criteria as a day-night average noise level (DNL). Section 20.100.450 of the Municipal Code establishes allowable hours of construction within 500 feet of a residential unit between 7:00 AM and 7:00 PM Monday through Friday unless permission is granted with a development permit or other planning approval. No construction activities are permitted on the weekends at sites within 500 feet of a residence.

Existing Conditions

Ambient Noise

The project site is currently developed with a convenience store and gasoline station. There is a drive-through car wash attached to the convenience store. Operation of the car wash is the primary

noise source on the project site. Other sources of noise include car doors closing, people shopping, and fuel dispensers.

The primary noise source in the project area is roadway traffic noise on Bernal Road and San Ignacio Avenue. Bernal Road and San Ignacio Avenue are both collector streets in the area that provide connections between large residential subdivisions and State Route 85 and Highway 101.

Sensitive Receptors

Sensitive receptors to noise and vibration include residences, schools, recording studios, and hospitals. The nearest sensitive receptor to the project site is a residence located approximately 200 feet east of the site, on the opposite site of Bernal Road.

Impact Assessment

a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Construction of the proposed project would require activities such as excavation. Heavy machinery, such as a backhoe, would be used for these activities. Heavy machinery would generate noise during various stage of construction. Construction activities would begin soon after entitlements are granted and would be completed in approximately 6 to 8 months. Construction would be conducted between the hours of 7 a.m. and 7 p.m., when most people are awake. Because construction would occur for less than 12 months, during daytime hours on weekdays when most people are not sleeping, the project would not conflict with General Plan policies, particularly Policy EC-1.7, pertaining to construction noise and would be in compliance with Section 20.100.450 of the City's Municipal Code. Additionally, construction of the proposed project would be subject to the following City of San José Standard Permit Conditions.

> **Construction-Related Noise.** Noise minimization measures include, but are not limited to, the following:
>
> - Limit construction hours to between 7:00 a.m. and 7:00 p.m., Monday through Friday, unless permission is granted with a development permit or other planning approval. No construction activities are permitted on the weekends at sites within 500 feet of a residence.
> - Construct solid plywood fences around ground level construction sites adjacent to operational businesses, residences, or other noise-sensitive land uses.
> - Equip all internal combustion engine-driven equipment with intake and exhaust mufflers that are in good condition and appropriate for the equipment.
> - Prohibit unnecessary idling of internal combustion engines.
> - Locate stationary noise-generating equipment such as air compressors or portable power generators as far as possible from sensitive receptors. Construct temporary noise barriers to screen stationary noise-generating equipment when located near adjoining sensitive land uses.
> - Utilize "quiet" air compressors and other stationary noise sources where technology exists.

- Control noise from construction workers' radios to a point where they are not audible at existing residences bordering the project site.
- Notify all adjacent business, residences, and other noise-sensitive land uses of the construction schedule, in writing, and provide a written schedule of "noisy" construction activities to the adjacent land uses and nearby residences.
- If complaints are received or excessive noise levels cannot be reduced using the measures above, erect a temporary noise control blanket barrier along surrounding building facades that face the construction sites.
- Designate a "disturbance coordinator" who shall be responsible for responding to any complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., bad muffler, etc.) and shall require that reasonable measures be implemented to correct the problem. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule.
- Limit construction to the hours of 7:00 a.m. to 7:00 p.m. Monday through Friday for any on-site or off-site work within 500 feet of any residential unit. Construction outside of these hours may be approved through a development permit based on a site-specific "construction noise mitigation plan" and a finding by the Director of Planning, Building and Code Enforcement that the construction noise mitigation plan is adequate to prevent noise disturbance of affected residential uses.

Therefore, with implementation of Standard Permit Conditions, project construction impacts would be less than significant.

A confidential noise assessment was prepared that involved measuring the noise levels generated by the proposed hydrogen fueling equipment. Measurements were conducted at an undisclosed location where the proposed hydrogen fueling equipment is already installed and operational. Measurements were conducted during both daytime operations and nighttime operations, as equipment would operate more frequently during daytime when use is more common. Table 3 shows the 12-hour average noise levels of the hydrogen equipment at various distances from the equipment.

Table 3 Hydrogen Fueling Equipment Noise Measurements

Distance from Hydrogen Equipment	Daytime Leq dBA	Nighttime Leq dBA
Five meters (approximately 16 feet)	69.9	54.2
Ten meters (approximately 33 feet)	63.9	48.2
Twenty meters (approximately 66 feet)	57.9	42.2
Forty meters (approximately 131 feet)	51.8	36.1

Source: Confidential report prepared by Sweco Danmark A/S – Acoustica. Sweco is an accredited company by DANAK, the Danish supervisory authority to perform sound and noise measurements. Report is on file at San José City Hall.

As described above, the nearest sensitive receptor to the project site is a residence located on the opposite side of Bernal Road from the site. This receptor is located approximately 200 feet away from the project site. As Table 3 shows, noise levels generated by the equipment would be 51.8 dBA at approximately 131 feet from the hydrogen fueling equipment. Noise would attenuate to less than 51.8 dBA at 200 feet away, where the nearest receptor is located. Regardless, 51.8 dBA is below the 55 dBA standard for residences set forth in Chapter 20.30.700 of the City of San José Municipal Code. This would also be consistent with General Plan Policy EC-1.3, which establishes a noise level of 55 dBA for residential uses.

FCEVs do not generate exhaust noise like conventional gasoline-powered cars. However, the operation of FCEVs on roadways does generate traffic noise from the friction of tires on the road surface, like conventional vehicles. The confidential noise assessment did not measure noise from the vehicle trips arriving and departing hydrogen fueling facilities. According to a trip generation study prepared for the project by Hexagon Transportation Consultants (Appendix B), the proposed project would generate eight vehicle trips during the AM peak hour (7 am to 9 am) and 12 vehicle trips during the PM peak hour (4 pm to 6 pm). Peak hours are likely when the most FCEV trips to the project site would occur, as refueling would likely occur as accessory stop to regional commutes in the area.

According to Crocker (2007), traffic volumes must approximately double on roadway for a 2 to 3 dBA increase in traffic noise levels. Bernal Road and San Ignacio Avenue are major collector streets, connecting large residential subdivisions of hundreds of homes to State Route 85 and Highway 101. The additional eight and 12 vehicle trips generated during AM and PM peak hours would not double the existing large volume of traffic on these roadways. Therefore, FCEV trips generated by the project would not result in a noticeable increase in traffic noise levels at receptors. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Construction of the proposed project would require the use of standard construction equipment, such as a backhoe for excavation and a paver to restore asphalt surfaces after excavation. Table 4 provides typical vibration levels for construction equipment based on data from the Federal Transit Administration (2018).

Table 4 Vibration Source Levels for Construction Equipment

	in/sec PPV				
Equipment	**25 feet**	**50 feet**	**100 feet**	**150 feet**	**200 feet**
Air Compressor	0.045	0.023	0.011	0.008	0.004
Backhoe	0.04	0.02	0.01	0.007	0.004
Compactor (ground)	0.057	0.028	0.014	0.01	0.005
Concrete Mixer	0.071	0.036	0.018	0.013	0.009
Dump Truck	0.025	0.013	0.006	0.004	0.003
Excavator	0.045	0.023	0.011	0.008	0.004
Flat Bed Truck	0.02	0.01	0.005	0.004	0.003
Front End Loader	0.036	0.018	0.009	0.006	0.005
Generator	0.045	0.023	0.011	0.008	0.004
Paver	0.113	0.057	0.028	0.02	0.014
Pickup Truck	0.023	0.011	0.006	0.004	0.003
Pneumatic Tools	0.071	0.036	0.018	0.013	0.009
Roller	0.04	0.02	0.01	0.007	0.004
Saw	0.013	0.006	0.003	0.002	0.001
Welder/Torch	0.02	0.01	0.005	0.004	0.003

Source: Federal Transit Administration 2018

Note: Values in table were converted to in/sec PPV from VdB.

As shown in Table 4, use of a paver would generate the greatest vibration levels during project construction. Vibration levels at the nearest sensitive residence, approximately 200 feet west of the project site, would be approximately 0.014 in/sec PPV when the paver is in use. This vibration level would be below the City's vibration limit of 0.08 in/sec PPV near historic structures and 0.20 in/sec PPV near buildings of normal conventional construction. Use of the paver would not be a frequent event. Other equipment, as shown in Table 4, would generate less groundborne vibration than the paver. Accordingly, impacts of construction would be less than significant.

Operation of the project would not generate groundborne vibration. Therefore, groundborne vibration and noise impacts resulting from implementation of the project would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?*

The Norman Y. Mineta San José International Airport is located approximately 11 miles northwest of the project site. The project site is not within the adopted Airport Comprehensive Land Use Plan for the airport (Santa Clara County Airport Land Use Commission 2011), nor is it located within or close to the aircraft noise impact area (65 dB CNEL) of the Airport. There are no private airstrips or other airports within 2 miles of the project site. The proposed project would have no impact.

NO IMPACT

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14 Population and Housing

	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 (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	☐	☐	☐	■
b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	■

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)?

b. Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

The proposed project would involve the addition of hydrogen fueling facilities to an existing gasoline station. Residential units do not exist on the site, nor are any proposed as part of the project. The project would not induce population growth directly or indirectly because it does not include the expansion of infrastructure or roads and does not include educational or large-scale employment opportunities. The altered facility would provide additional fueling opportunities for the City of San José. The project would not impact population growth and would not displace housing units or people, necessitating the construction of replacement housing elsewhere. There would be no impact.

NO IMPACT

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15 Public Services

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the 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:				
1 Fire protection?	☐	☐	■	☐
2 Police protection?	☐	☐	☐	■
3 Schools?	☐	☐	☐	■
4 Parks?	☐	☐	☐	■
5 Other public facilities?	☐	☐	☐	■

a.1. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The proposed project would not involve the construction of new or expanded fire protection facilities. The existing San José Fire Department Station 27 is located on the northeast corner of the intersection of Bernal Road and Via Serena, approximately 215 feet from the project site. Given its proximity to the site, the Fire Department would respond to a fire on-site within minutes. Therefore, no new fire protection facilities would be required to maintain acceptable response times.

Operation of the proposed project would not result in increased demand for fire protection services. Although hydrogen is flammable, the proposed project includes emergency shutoff valves to stop fuel flows if there is ignition. Additionally, the proposed hydrogen fueling system design is in conformance with the National Fire Protection Association (NFPA) 2 – Hydrogen Technologies Code [2020], as stated on project plans. Conformance with the NFPA 2 reduces the severity of hydrogen fires, especially to offsite property or people. The San José Fire Department would review project plans prior to issuance of building permits to ensure compliance with all applicable fire and building safety codes. Therefore, impacts to fire protection services would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.2. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The proposed project does not involve the construction of new or expanded police protection facilities. The proposed project would add hydrogen fueling facilities to an existing gasoline station. Therefore, the proposed project would not generate new demand for police protection facilities or services because it would be an addition to an existing business. The proposed project would no impact.

NO IMPACT

a.3. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The proposed project does not involve the construction of new or expanded school facilities. The proposed project would involve hydrogen fueling facilities for FCEVs, which would not generate population growth that could in turn increase enrollment at schools. The proposed project would have no impact on schools.

NO IMPACT

a.4. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?

The proposed project does involve the construction of new or expanded park facilities. The proposed project would provide hydrogen fueling facilities at an existing gasoline station in a shopping center. There would be no increased use of parks resulting from implementation of the proposed project. The proposed project would have no impact.

NO IMPACT

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The proposed project does not involve the construction of new public facilities, such as libraries. The proposed project would serve to fuel FCEVs, which would not generate population growth resulting in increased need or demand for public facilities. There would be no impact.

NO IMPACT

16 Recreation

	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?	☐	☐	☐	■

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?

The proposed project would involve the addition of hydrogen fueling facilities to an existing gasoline station; it would not include the construction of residential units and would not generate substantial numbers of people in the area. Therefore, the project would not increase the use and deterioration of existing recreational facilities or require the construction or expansion of additional facilities. The proposed project would have no impact.

NO IMPACT

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17 Transportation

	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. 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 use (e.g., farm equipment)?	☐	☐	☐	■
d. Result in inadequate emergency access?	☐	☐	☐	■

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

Transit facilities in the project area include a bus stop on the north side of San Ignacio Avenue, approximately 200 feet from the project area, and a bus stop on Bernal Road, approximately 210 feet northeast of the project site. The proposed project would add hydrogen fueling facilities to the existing gasoline station on the project site and would not involve work at either bus stop. The proposed project would require no work within the travel lanes of Bernal Road or San Ignacio Avenue that could delay transit service. The proposed project would have no impact to transit.

Bicycle facilities in the project area include Class II bicycle lanes on either side of Bernal Road and San Ignacio Avenue adjacent to the project site. The proposed project would not involve work within these bicycle lanes. However, reconstruction of driveways to the project site would be adjacent to these bicycle lanes and may result in temporary closures. Bicycles would be temporarily rerouted, if necessary, during construction activities. The proposed hydrogen fueling facilities would not be used by bicycles. Therefore, there would be no change in number of cyclists using bicycle facilities in the project area. Impacts on bicycle circulation would be temporary and less than significant.

Pedestrian facilities in the project area consist of sidewalks along the streets in the immediate vicinity of the project site. Crosswalks and pedestrian push buttons are located at the signalized intersection of the Bernal Road and San Ignacio Avenue adjacent to the project site. The proposed project would involve reconstructing driveways to the project site from both Bernal Road and San Ignacio Avenue to meet City and Americans with Disabilities Act (ADA) standards. The Reconstruction of the driveways would result in temporary closure of sidewalks at the driveway

locations. However, sidewalks would be restored with completion of the driveway reconstruction. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

Section 15064.3 of the CEQA Guidelines provides guidance on evaluating a project's transportation impacts. According to Section 15064.3, vehicle miles traveled (VMT) is generally the most appropriate measure of transportation impacts, with the exception of projects consisting of the addition of travel lanes to roadways. VMT refers to the amount and distance of automobile travel attributable to a project, regardless of the type of vehicle or number of occupants in a vehicle. Section 15064.3(b) establishes metrics and thresholds by which VMT can be evaluated for land use projects and transportation projects.

The proposed project would add hydrogen fueling facilities to an existing gasoline station. The hydrogen fueling facilities would be used exclusively by FCEVs. According to a trip generation study prepared for the project by Hexagon Transportation Consultants, the proposed project would generate eight vehicle trips during the AM peak hour (7 am to 9 am) and 12 vehicle trips during the PM peak hour (4 pm to 6 pm). Peak hours are likely when the most FCEV trips to the project site would occur, as refueling would likely occur as an accessory stop to regional commutes in the area. The trip generation study is provided as Appendix B to this Initial Study.

As stated in the trip generation study, it is expected that as the number of hydrogen-powered vehicles increases, the number of gasoline-powered vehicles will decrease proportionately. Therefore, vehicle trips to gas stations could remain unchanged. In addition, City Council adopted Council Policy 5-1, Transportation Analysis Policy, which established VMT as the City's new metric for evaluating transportation impacts under CEQA. The Policy exempts several categories of project types because the Council has determined they would result in no significant transportation impacts. Among the exempted project types is "Transportation Projects that reduce or do not increase VMT." Appendix B of Council Policy 5-1 identifies the installation of publicly available alternative fuel infrastructure as a Transportation Project that reduces or does not increase VMT. The proposed project would provide hydrogen fueling infrastructure, which is an alternative fuel. Therefore, the proposed project is exempt from a VMT analysis pursuant to Council Policy 5-1. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?

The proposed project would involve reconstruction of the driveway for the site on both Bernal Road and San Ignacio Avenue to replace broken or uplifted curb and gutter, as well as sidewalk that is not compliant with the American with Disabilities Act (ADA). However, the driveway locations would remain the same as current conditions. The proposed project involves no other changes to traffic circulation patterns. The hydrogen fueling facilities would be used for FCEVs, which operate and travel at speeds consistent with conventional vehicles on roadways. The proposed project would have no impact.

NO IMPACT

d. Would the project result in inadequate emergency access?

The proposed project would change no emergency access routes. There would be no impact.

NO IMPACT

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18 Tribal Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in a Public Resources Code Section 21074 as either a site, feature, place, or cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	■	☐
b. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	■	☐

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is 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)?

b. Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is 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?

As described in Section 5, Cultural Resources, the project would involve construction within a fully developed and previously disturbed site. Construction of the existing gasoline station on the site, as well as the existing subsurface slurry wall required excavation and disturbed native soils, reducing the potential for subsurface cultural resources to remain intact on-site. Therefore, the potential for tribal cultural resources to be encountered is low. However, the project would involve subsurface construction activities, and there is always possibility for intact resources or undocumented human remains to be discovered during construction. If encountered, construction could damage or destroy these resources or remains. However, the project would be required to implement the City's Standard Permit Conditions listed in Section 5, Cultural Resources. These conditions require

contacting the NAHC in the event remains are uncovered, as well as protecting resources in place until further evaluation and protection, as applicable, are implemented. With Standard Permit Conditions, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

19 Utilities and Service Systems

	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?	☐	☐	■	☐
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?	☐	☐	■	☐

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?

The proposed project consists of hydrogen fueling facilities that would not require water to operate. Operation of the hydrogen fueling facilities would also not generate wastewater or change storm drainage patterns on site. No natural gas or telecommunication facilities would be required for the proposed project.

Electrical power would be necessary for operation of the proposed hydrogen fueling facilities, as well as the new streetlamp on the site at the facilities. The project site has existing electrical

facilities, as it currently operates as a convenience store and gasoline station. Connections would be beneath existing asphalt concrete on the site. Therefore, the proposed project would have a less-than-significant impact.

LESS THAN SIGNIFICANT IMPACT

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?

The proposed project consists of hydrogen fueling facilities for FCEVs. Refueling FCEVs would generate no demand for water. Therefore, the proposed project would have no impact.

NO IMPACT

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?

The proposed project consists of hydrogen fueling facilities for FCEVs. The hydrogen fuel facilities, such as the fuel dispensers, would generate no wastewater. While stopped at the gasoline station, FCEV customers may choose to use restroom facilities at the existing convenience store on the site or utilize the on-site carwash to wash their FCEV. The estimated 15 customers per day when the project first becomes operational would not be a substantial generator of wastewater, as it would be only an incremental increase in the number of restroom or carwash visits. It is unlikely every customer using the hydrogen fueling facilities would utilize the restroom or carwash. As the popularity of FCEVs increases and more people utilize the proposed hydrogen fueling facilities, the net number of customers to the site would remain relatively consistent with existing conditions, as FCEVs would replace conventional cars. Accordingly, the proposed project would not generate wastewater in excess of existing treatment capacity. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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?

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

The proposed project consists of hydrogen fueling facilities for FCEVs. Refueling FCEVs would generate no new sources of solid waste. However, while stopped at the gasoline station, FCEV customers may choose to discard small amounts of solid waste from their vehicles or from goods purchased in the existing convenience store on the site. However, the estimated 15 customers per day when the project first becomes operational would not be a substantial generator of solid waste. As the popularity of FCEVs increases and more people utilize the proposed hydrogen fueling facilities, the net number of customers to the site would remain relatively consistent with existing conditions, as FCEVs would replace conventional cars. Accordingly, the proposed project would not generate solid waste in excess of state or local standards or the capacity of local infrastructure. The proposed project would comply with regulations related to solid waste. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

20 Wildfire

	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 downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	■	☐

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?

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

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 downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

The project site is not in or near state responsibility areas or lands classified as very high fire hazard severity zones. The nearest state responsibility area or lands classified as very high fire hazard severity zones are approximately 1.1 miles away from the project site (California Department of Forestry & Fire Protection 2007; 2008). The project site is a developed gasoline station consisting primary of asphalt and structural concrete. Large open asphalt parking lots are adjacent to the south and west of the site, and relatively wide roadways are to the north and east. The project site is not adjacent to wildland fuels, such as forest, chaparral, or annual grasslands. Therefore, the proposed project would have a less-than-significant impact.

LESS THAN SIGNIFICANT IMPACT

21 Mandatory Findings of Significance

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Does the project:				
a. 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. 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. Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	■	☐

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

As descried in Section 4, *Biological Resources*, the proposed project would have no impact on fish or wildlife or plant communities. This is because the project site is currently a gasoline station with a convenience store and car wash. The site is part of a larger shopping center and adjacent to roadways.

As described in Section 5, *Cultural Resources*, the project site has been disturbed and developed with multiple uses in the past, including a semiconductor manufacturing facility and the current gasoline station. Development of these uses, as well as the slurry wall to prevent spread of soil and

groundwater contamination, required ground disturbance and excavation. Therefore, the potential to encounter cultural resources during excavation required for the proposed project is low. Standard Permit Conditions would be implemented in the event of encountering a resource and would reduce impacts to less than significant.

LESS THAN SIGNIFICANT IMPACT

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)?

The proposed project involves minimal construction disturbance at an existing gasoline station. As described throughout this document, impacts of construction would be less than significant either with or without mitigation. Operation of the project would involve minor increases in noise, generally limited to the project site and within surrounding roadways. There are no other known projects in the area that would contribute to these impacts, increase severity. Therefore, impacts of the proposed project would not be cumulatively considerable. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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

In general, environment effects which can be adverse human beings are associated with air quality, hazards and hazardous materials, noise, and wildfire. As discussed in Section 3, *Air Quality*, the project would not conflict with an air quality plan, result in cumulatively considerable net increase in pollutants, or expose sensitive receptors to substantial concentrations of pollutants or odors. In addition, compliance with the City's Standard Permit Conditions for construction emissions would further reduce this already less than significant impact.

A discussed in Section 9, *Hazards and Hazardous materials*, construction of the proposed project could result in exposure of workers to contaminated soils and groundwater from prior or current land uses on the site. Implementation of Mitigation Measure HAZ-1.1 requires coordination with the RWQCB prior to workers beginning demolition, excavation, or grading activities to mitigate any potential impacts associated with encountering the slurry wall designed to contain existing contaminants from the Superfund Site, and Mitigation Measure HAZ-1.2 requires shallow soil sampling for contamination prior to construction. If hazardous contamination in site soils exceeds RWQCB environmental screening levels, the project applicant shall obtain regulatory oversight from the SCCDEH, RWQCB, or equivalent agency and develop a Site Management Plan (SMP) and Health & Safety Plan (HASP), or similar document, as required by the oversight agency. The SMP and HASP must contain measures to protect worker and public health during construction. Operation of the proposed project would not involve the handling or transport of hazardous materials. Explosion or fire hazards would be reduced by project design features, such as wall enclosures and property line setbacks. Therefore, with implementation of Mitigation Measures HAZ-1.1 and HAZ-1.2, impacts to humans from hazards and hazard materials would be less than significant.

As discussed in Section 13, Noise, neither construction nor operation the proposed project would result in substantial increases in ambient noise levels at the nearest sensitive receptors. Likewise, groundborne vibration generate during construction would not exceed FTA standards at the nearest

residence to the project site. Impacts to humans from noise and vibration would be less than significant. Compliance with the City's Standard Permit Condition for noise would further reduce this less than significant impact.

The project site is not in or near state responsibility areas or lands classified as very high fire hazard severity zones. The nearest state responsibility area or lands classified as very high fire hazard severity zones are approximately 1.1 miles away from the project site (California Department of Forestry & Fire Protection 2007; 2008). The project site is a developed gasoline station consisting primary of asphalt and structural concrete. Large open asphalt parking lots are adjacent to the south and west of the site, and relatively wide roadways are to the north and east. The project site is not adjacent to wildland fuels, such as forest, chaparral, or annual grasslands. Therefore, the proposed project would have a less-than-significant impact on humans related to wildfire.

LESS THAN SIGNIFICANT IMPACT

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List of Preparers

LEAD AGENCY

City of San José
Department of Planning, Building and Code Enforcement

Shannon Hill, Planner
David Keyon, Principal Planner

RINCON CONSULTANTS, INC.

Stephen Svete, AICP, LEED AP ND, Principal-in-Charge
George Dix, Project Manager
Kari Zajac, Technical Analyst
Allysen Valencia, GIS Analyst

Appendix A

Project Plan Set

PLANNED DEVELOPMENT PERMIT AMENDMENT, PDA98-079-01

FOR

SHELL HYDROGEN

101 BERNAL ROAD
SAN JOSE, CA 95119

EASEMENT NOTES

4. THE FACT THAT THE LAND LIES WITHIN THE BOUNDARIES OF THE EDENVALE REDEVELOPMENT PROJECT AREA, AS DISCLOSED BY THE DOCUMENT RECORDED AUGUST 19, 1976 IN BOOK C226, PAGE 482 OF OFFICIAL RECORDS.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

5. TERMS AND CONDITIONS OF THAT CERTAIN PERMIT FILE NO.: H 88-07-116
DISCLOSED BY: NOTICE OF GRANTING OF A PLANNED DEVELOPMENT PERMIT
RECORDED: OCTOBER 19, 1988 IN BOOK K724, PAGE 1416, OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO THE RECORD FOR PARTICULARS.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

6. COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED MAY 17, 1989 AS INSTRUMENT NO. 10113311 IN BOOK K953, PAGE 959 OF OFFICIAL RECORDS, BUT DELETING ANY COVENANT, CONDITION OR RESTRICTION INDICATING A PREFERENCE, LIMITATION OR DISCRIMINATION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS, NATIONAL ORIGIN, SEXUAL ORIENTATION, MARITAL STATUS, ANCESTRY, SOURCE OF INCOME OR DISABILITY, TO THE EXTENT SUCH COVENANTS, CONDITIONS OR RESTRICTIONS VIOLATE TITLE 42, SECTION 3604(C), OF THE UNITED STATES CODES. LAWFUL RESTRICTIONS UNDER STATE AND FEDERAL LAW ON THE AGE OF OCCUPANTS IN SENIOR HOUSING OR HOUSING FOR OLDER PERSONS SHALL NOT BE CONSTRUED AS RESTRICTIONS BASED ON FAMILIAL STATUS. AMONG OTHER MATTERS THE DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINS THE FOLLOWING:

   1. "THE GRANTOR OF EACH DEED AND THE LANDLORD OF EACH GROUND LEASE HEREAFTER EXECUTED CONVEYING AN INTEREST IN THE PROPERTY OR ANY PORTION THEREOF SHALL CAUSE SUCH DEED OR GROUND LEASE TO CONTAIN THE FOLLOWING STATEMENT:
   THE (REAL PROPERTY/INTEREST IN REAL PROPERTY) CONVEYED BY THIS (DEED/GROUND LEASE) IS SUBJECT TO THAT CERTAIN DECLARATION DATED MAY 16, 1989 AND RECORDED ON MAY 17, 1989 IN THE OFFICIAL RECORDS OF THE COUNTY OF SANTA CLARA, STATE OF CALIFORNIA AS INSTRUMENT NO. 10113311, WHICH DECLARATION IMPOSES CERTAIN COVENANTS, CONDITIONS, AND RESTRICTIONS ON THE INSTALLATION OF GROUNDWATER WELLS, EXCAVATION OR OTHER DISTURBANCE OF SOILS, AND INTERFERENCE WITH THE OPERATION OF REMEDIAL PROGRAM EQUIPMENT AT THE REAL PROPERTY DESCRIBED HEREIN."

   PARTIAL RELEASE OF DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS EXECUTED BY: LUCKY STORES PROPERTIES, INC., A DELAWARE CORPORATION RECORDED: JUNE 16, 1998 AS INSTRUMENT NO. 14235545 OF OFFICIAL RECORDS THE PROPERTY DESCRIBED IN SCHEDULE A HEREIN HAS BEEN MADE SUBJECT TO SAID COVENANTS, CONDITIONS AND RESTRICTIONS, AS REFERENCED IN THAT CERTAIN "CORRECTIVE GRANT DEED" RECORDED JUNE 02, 2010 AS INSTRUMENT NO. 20729257, SANTA CLARA COUNTY RECORDS.
   (AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

7. THE TERMS, PROVISIONS AND EASEMENT(S) CONTAINED IN THE DOCUMENT ENTITLED "DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS AND GRANT OF EASEMENT" RECORDED AUGUST 09, 1990 AS INSTRUMENT NO. 10617054 IN BOOK L443, PAGE 1068 OF OFFICIAL RECORDS.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

8. TERMS AND CONDITIONS OF THAT CERTAIN PERMIT
FILE NO.: PDSH 96-07-048
DISCLOSED BY: NOTICE OF GRANTING OF A PLANNED DEVELOPMENT PERMIT
RECORDED: JANUARY 16, 1998 AS INSTRUMENT NO. 14013692, OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO THE RECORD FOR PARTICULARS.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

9. AN EASEMENT SHOWN OR DEDICATED ON THE MAP OF PARCEL MAP RECORDED APRIL 24, 1998 AND ON FILE IN BOOK 701, PAGES 21 AND 22, OF MAPS.
FOR: COVENANT OF EASEMENT FOR RECIPROCAL INGRESS/EGRESS AND INCIDENTAL PURPOSES.
(AFFECTS PARCEL - PLOTTED)

10. COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS IN THE DOCUMENT RECORDED MAY 04, 1998 AS INSTRUMENT NO. 14169385 OF OFFICIAL RECORDS, BUT DELETING ANY COVENANT, CONDITION OR RESTRICTION INDICATING A PREFERENCE, LIMITATION OR DISCRIMINATION BASED ON RACE, COLOR, RELIGION, SEX, HANDICAP, FAMILIAL STATUS, NATIONAL ORIGIN, SEXUAL ORIENTATION, MARITAL STATUS, ANCESTRY, SOURCE OF INCOME OR DISABILITY, TO THE EXTENT SUCH COVENANTS, CONDITIONS OR RESTRICTIONS VIOLATE TITLE 42, SECTION 3604(C), OF THE UNITED STATES CODES. LAWFUL RESTRICTIONS UNDER STATE AND FEDERAL LAW ON THE AGE OF OCCUPANTS IN SENIOR HOUSING OR HOUSING FOR OLDER PERSONS SHALL NOT BE CONSTRUED AS RESTRICTIONS BASED ON FAMILIAL STATUS.

    DOCUMENT(S) DECLARING MODIFICATIONS THEREOF RECORDED SEPTEMBER 29, 1999 AS INSTRUMENT NO. 15000705 OF OFFICIAL RECORDS.
    (AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

EASEMENT NOTES (CONT'D)

11. TERMS AND CONDITIONS OF THAT CERTAIN PERMIT
FILE NO.: PDA 96-01-048
DISCLOSED BY: NOTICE OF GRANTING OF A PLANNED DEVELOPMENT PERMIT
RECORDED: JUNE 23, 1998 AS INSTRUMENT NO. 14247692, OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO THE RECORD FOR PARTICULARS.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

12. AN EASEMENT FOR COMMUNICATION FACILITIES AND INCIDENTAL PURPOSES, RECORDED NOVEMBER 23, 1998 AS INSTRUMENT NO. 14516917 OF OFFICIAL RECORDS.
IN FAVOR OF: PACIFIC BELL
AFFECTS: AS DESCRIBED THEREIN
(AFFECTS PARCEL - SKETCH INDICATES UTILITY WITHIN DRIVE AISLE ON NORTH SIDE OF PARCEL)

13. AN EASEMENT FOR UNDERGROUND CONDUITS, PIPES AND INCIDENTAL PURPOSES, RECORDED JANUARY 26, 1999 AS INSTRUMENT NO. 14619102 OF OFFICIAL RECORDS.
IN FAVOR OF: PACIFIC GAS AND ELECTRIC COMPANY, A CALIFORNIA CORPORATION
AFFECTS: AS DESCRIBED THEREIN
(AFFECTS PARCEL - SKETCH INDICATES UTILITY WITHIN DRIVE AISLE ON NORTH SIDE OF PARCEL)

14. TERMS AND CONDITIONS OF THAT CERTAIN PERMIT
FILE NO.: PD 98-12-079
DISCLOSED BY: NOTICE OF GRANTING OF A PLANNED DEVELOPMENT PERMIT
RECORDED: MARCH 23, 1999 AS INSTRUMENT NO. 14718270, OFFICIAL RECORDS
REFERENCE IS HEREBY MADE TO THE RECORD FOR PARTICULARS.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

15. TERMS AND PROVISIONS OF AN UNRECORDED LEASE DATED APRIL 14, 1999, BY AND BETWEEN PORTOFINO II INVESTMENT COMPANY, LLC, A CALIFORNIA LIMITED LIABILITY COMPANY AS LESSOR AND HOLLYWOOD ENTERTAINMENT CORPORATION, AN OREGON CORPORATION AS LESSEE, AS DISCLOSED BY A MEMORANDUM OF LEASE RECORDED DECEMBER 07, 2001 AS INSTRUMENT NO. 16001431 OF OFFICIAL RECORDS.
AFFECTS:
THE LAND AND OTHER PROPERTY.
DEFECTS, LIENS, ENCUMBRANCES OR OTHER MATTERS AFFECTING THE LEASEHOLD ESTATE, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS ARE NOT SHOWN HEREIN.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

16. TERMS AND PROVISIONS OF AN UNRECORDED LEASE DATED SEPTEMBER 26, 2001, BY AND BETWEEN PORTOFINO II INVESTMENT COMPANY, A CALIFORNIA LIMITED LIABILITY COMPANY AS LESSOR AND STAPLES THE OFFICE SUPERSTORE, INC., A DELAWARE CORPORATION AS LESSEE, AS DISCLOSED BY A AMENDED AND RESTATED MEMORANDUM OF LEASE RECORDED AUGUST 07, 2002 AS INSTRUMENT NO. 16407728 OF OFFICIAL RECORDS.
AFFECTS:
THE LAND AND OTHER PROPERTY.
DEFECTS, LIENS, ENCUMBRANCES OR OTHER MATTERS AFFECTING THE LEASEHOLD ESTATE, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS ARE NOT SHOWN HEREIN.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

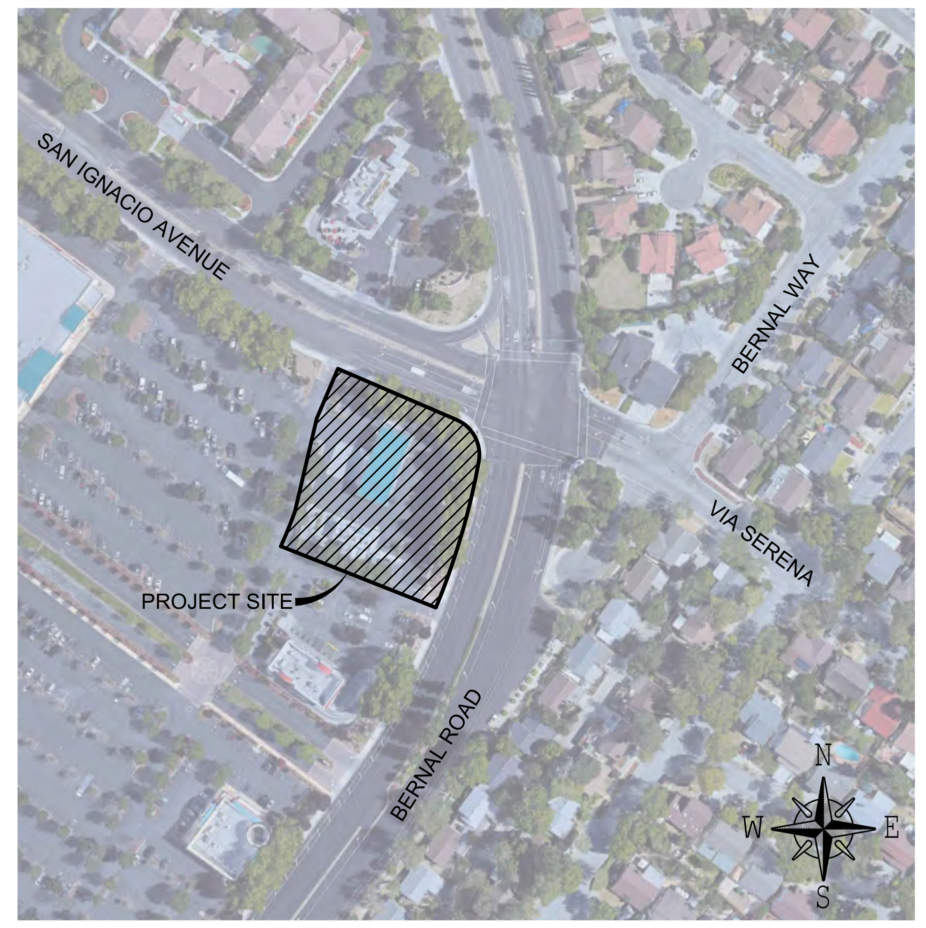
17. TERMS AND PROVISIONS OF AN UNRECORDED LEASE DATED NONE SHOWN, BY AND BETWEEN PORTOFINO II INVESTMENT COMPANY, A CALIFORNIA LIMITED LIABILITY COMPANY AS LESSOR AND ROSS STORES, INC., A DELAWARE CORPORATION AS LESSEE, AS DISCLOSED BY A MEMORANDUM OF LEASE RECORDED APRIL 09, 2003 AS INSTRUMENT NO. 16950655 OF OFFICIAL RECORDS.
AFFECTS:
THE LAND AND OTHER PROPERTY.
DEFECTS, LIENS, ENCUMBRANCES OR OTHER MATTERS AFFECTING THE LEASEHOLD ESTATE, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS ARE NOT SHOWN HEREIN.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

18. AN EASEMENT FOR RECIPROCAL EASEMENT FOR INGRESS AND EGRESS AND INCIDENTAL PURPOSES, RECORDED APRIL 30, 2003 AS INSTRUMENT NO. 17003813 OF OFFICIAL RECORDS.
IN FAVOR OF: PORTOFINO II INVESTMENT COMPANY, LLC, A CALIFORNIA LIMITED LIABILITY COMPANY
AFFECTS: AS DESCRIBED THEREIN
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

19. THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "TENANTS IN COMMON AGREEMENT" RECORDED APRIL 30, 2003 AS INSTRUMENT NO. 17003815 OF OFFICIAL RECORDS.
DOCUMENT(S) DECLARING MODIFICATIONS THEREOF RECORDED MARCH 18, 2011 AS INSTRUMENT NO. 21115093 OF OFFICIAL RECORDS.
A DOCUMENT RECORDED MARCH 18, 2011 AS INSTRUMENT NO. 21115094 OF OFFICIAL RECORDS PROVIDES THAT THE ABOVE DOCUMENT WAS SUBORDINATED TO THE DOCUMENT RECORDED MARCH 18, 2011 AS INSTRUMENT NO. 21115092 OF OFFICIAL RECORDS.
DOCUMENT(S) DECLARING MODIFICATIONS THEREOF RECORDED DECEMBER 09, 2011 AS INSTRUMENT NO. 21451744 OF OFFICIAL RECORDS.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

20. THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "MEMORANDUM OF ASSIGNMENT OF LEASES" RECORDED MAY 05, 2003 AS INSTRUMENT NO. 17011454 OF OFFICIAL RECORDS.
(AFFECTS PARCEL - BLANKET IN NATURE - NOT PLOTTABLE)

VICINITY MAP



SHEET INDEX

SHEET NO.	SHEET TITLE
C0.0	TITLE SHEET
C1.0	SITE PLAN
C1.1	EQUIPMENT PLAN - COMPOUND AREA
C1.2	EQUIPMENT PLAN - DISPENSING AREA
C1.3	OFFSITE IMPROVEMENT PLAN
C2.0	EQUIPMENT ELEVATIONS
C3.1	PRELIMINARY GRADING PLAN - COMPOUND AREA
C3.2	PRELIMINARY GRADING PLAN - DISPENSING AREA
C3.3	GRADING DETAILS
L1.0	LANDSCAPE PLAN - COMPOUND AREA
L1.1	LANDSCAPE PLAN - DISPENSING AREA
A1.0	CANOPY PLAN, ELEVATIONS & PERSPECTIVES
E1.0	LIGHTING PLAN

LEGAL DESCRIPTION

REAL PROPERTY IN THE CITY OF SAN JOSE, COUNTY OF SANTA CLARA, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

PARCEL ONE:

PARCEL 3, AS SHOWN ON THAT CERTAIN PARCEL MAP FILED FOR RECORD IN THE OFFICE OF THE RECORDER OF THE COUNTY OF SANTA CLARA, STATE OF CALIFORNIA ON APRIL 24, 1998 IN BOOK 701 OF MAPS, PAGES 21 AND 22.

PARCEL TWO:

A RECIPROCAL EASEMENT FOR INGRESS AND EGRESS OVER THOSE PORTIONS OF PARCELS 1, 2, 4, 5, 6 AND 7, SHOWN AS RECIPROCAL (COE) INGRESS & EGRESS EASEMENT, AS SHOWN ON THE MAP FILED FOR RECORD APRIL 24, 1998 IN BOOK 701 OF MAPS, PAGES 21 AND 22.
PARCEL THREE:

THOSE CERTAIN RIGHTS AND EASEMENTS PROVIDED IN THE DECLARATION OF RESTRICTIONS AND GRANT OF EASEMENTS DATED MAY 01, 1998, RECORDED MAY 04, 1998, AS RECORDER'S SERIES NO. 14169385, OFFICIAL RECORDS, AS AMENDED BY THAT CERTAIN FIRST AMENDMENT TO DECLARATION OF RESTRICTIONS AND GRANT OF EASEMENTS, DATED JULY 21, 1999 AND RECORDED SEPTEMBER 29, 1999 AS RECORDER'S SERIES NO. 15000705.

APN: 706-01-085

BASIS OF BEARINGS

CALIFORNIA STATE PLAN ZONE 3

THE BEARING EQUATION FOR THIS PROJECT WOULD BE THE CENTERLINE OF VIA DEL ORO, NORTHWESTERLY OF BERNAL ROAD, HAVING A BEARING OF N 52° 28' 43" W, ALSO BEING N 53° 04' 54" W AS SHOWN ON MAP THEREOF ON FILE IN BOOK 701 OF MAPS, AT PAGES 21 AND 22, OFFICIAL RECORDS, SANTA CLARA COUNTY CALIFORNIA.

BENCHMARK

NGS BENCHMARK HS2787
DESIGNATION: QQ453

BEING A DISK SET IN CONCRETE HEADWALL STAMPED "N 453 1954 CGS"

ELEVATION: 199.59 (US SURVEY FEET)
60.835 (METERS)

BASED ON NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)

FLOOD ZONE

THE SUBJECT PROPERTY IS LOCATED WITHIN A ZONE "D" PER FLOOD INSURANCE RATE MAP NO. 06085C0406H WITH AN EFFECTIVE DATE OF 5/18/2009, AREAS IN WHICH FLOOD HAZARDS ARE UNDETERMINED BUT POSSIBLE.

SCOPE OF WORK

1. TO CONSTRUCT A 1,150 SQUARE FOOT, 15'-0" HIGH ENCLOSED EQUIPMENT COMPOUND THAT WILL HOLD STORAGE AND COMPRESSION EQUIPMENT FOR HYDROGEN REFUELING TO AN EXISTING GAS STATION.
2. TO CONSTRUCT TWO 11'-2" HIGH HYDROGEN FUELING CANOPIES.

SITE INFORMATION

I. SITE:

LOT SIZE:	52,864 SQ. FT.	1.21 ACRES
AREA OF DISTURBANCE:	4,387 SQ. FT.	0.10 ACRE
ASSESSORS PARCEL #(S):	706-01-085	
PROPERTY ADDRESS:	101 BERNAL ROAD, SAN JOSE CA 95119	
GENERAL PLAN LAND USE DESIGNATION:	NEIGHBORHOOD / COMMUNITY COMMERCIAL AND URBAN VILLAGE	
ZONING (EXISTING):	A(PD) - AGRICULTURAL (PLANNED DEVELOPMENT ZONING DISTRICT) FILE NO. PDC 96-039	

II. LANDSCAPE & HARD SURFACES

LANDSCAPE:

EXISTING TO REMAIN:	11,804 SQ. FT.	22.3 %
NEW:	1,156 SQ. FT.	2.2 %
NET TOTAL:	12,960 SQ. FT.	24.5 %

HARD SURFACE (PAVEMENT/WALK INCLUSIVE OF CANOPY):

EXISTING TO REMAIN:	41,060 SQ. FT.	77.7 %
NEW:	3,231 SQ. FT.	6.1 %
NET TOTAL:	39,904 SQ. FT.	75.5 %

III. STRUCTURES:

EXISTING FUELING CANOPY:	3,787 SQ. FT.	7.2 %
EXISTING C-STORE:	1,035 SQ. FT.	2.0 %
EXISTING CARWASH:	928 SQ. FT.	1.8 %
NET TOTAL:	5,750 SQ. FT.	10.9 %

PROPOSED HEIGHT:
ENCLOSURE / EQUIPMENT 15'-0" / 15'-0"
CANOPIES 11'-2"

PROPOSED SETBACKS:
LANDSCAPE SETBACK > 25'-0" FOR ENCLOSURE / CANOPIES

IV. PARKING:

USE:	C-STORE	
REQUIRED (1 SPACE PER 200 FT OF FLOOR AREA):		4 SPACES
EXISTING		4 SPACES
NEW:		0 SPACE
NET TOTAL:		4 SPACES

PROJECT DEVELOPER

PROJECT DEVELOPER:
SHELL NEW ENERGIES
ATTN: MICHAEL HOBAN
(925) 313-0866
650 CALIFORNIA ST., STE. 2250
SAN FRANCISCO, CA 94108

AGENT:
BEN STECKLER, AICP
FIEDLER GROUP
(213) 381-3243
299 N. EUCLID AVE. STE. 550
PASADENA, CA 91101

PROJECT MANAGER:
AYDIN MANOUCHEHRI
FIEDLER GROUP
(213) 381-3478
299 N. EUCLID AVE. STE. 550
PASADENA, CA 91101

PROJECT TEAM

CIVIL ENGINEER:
PATRICK O. FIEDLER, P.E.
FIEDLER GROUP
(213) 381-7891
299 N. EUCLID AVE., STE. 550
PASADENA, CA 91101

LAND SURVEYOR:
TRENT J. KEENAN, L.S.
SALEM ENGINEERING GROUP, INC.
(909) 980-6435
8711 MONROE COURT, SUITE A
RANCHO CUCAMONGA, CA 91730

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Design & Engineering
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NO.	DATE	REVISION DESCRIPTION
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2	11/18/2019	CLIENT REVISIONS
3	12/16/2019	PLANNING RESUBMITTAL

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DEVELOPMENT INFORMATION:
SHELL HYDROGEN
HYDROGEN FUELING STATION
PDA98-079-01

SITE ADDRESS:
101 BERNAL ROAD
@ SAN IGNACIO AVENUE
SAN JOSE, CA 95119
-

DESIGNED BY: TH	FG PM: AM
CHECKED BY: POF	MEP PM:
DRAWN BY: TH	CONSULTANT PM:
DATE: 06/24/2019	PROJECT NO.: 15935

DRAWING TITLE:
TITLE SHEET

SHEET NO.:
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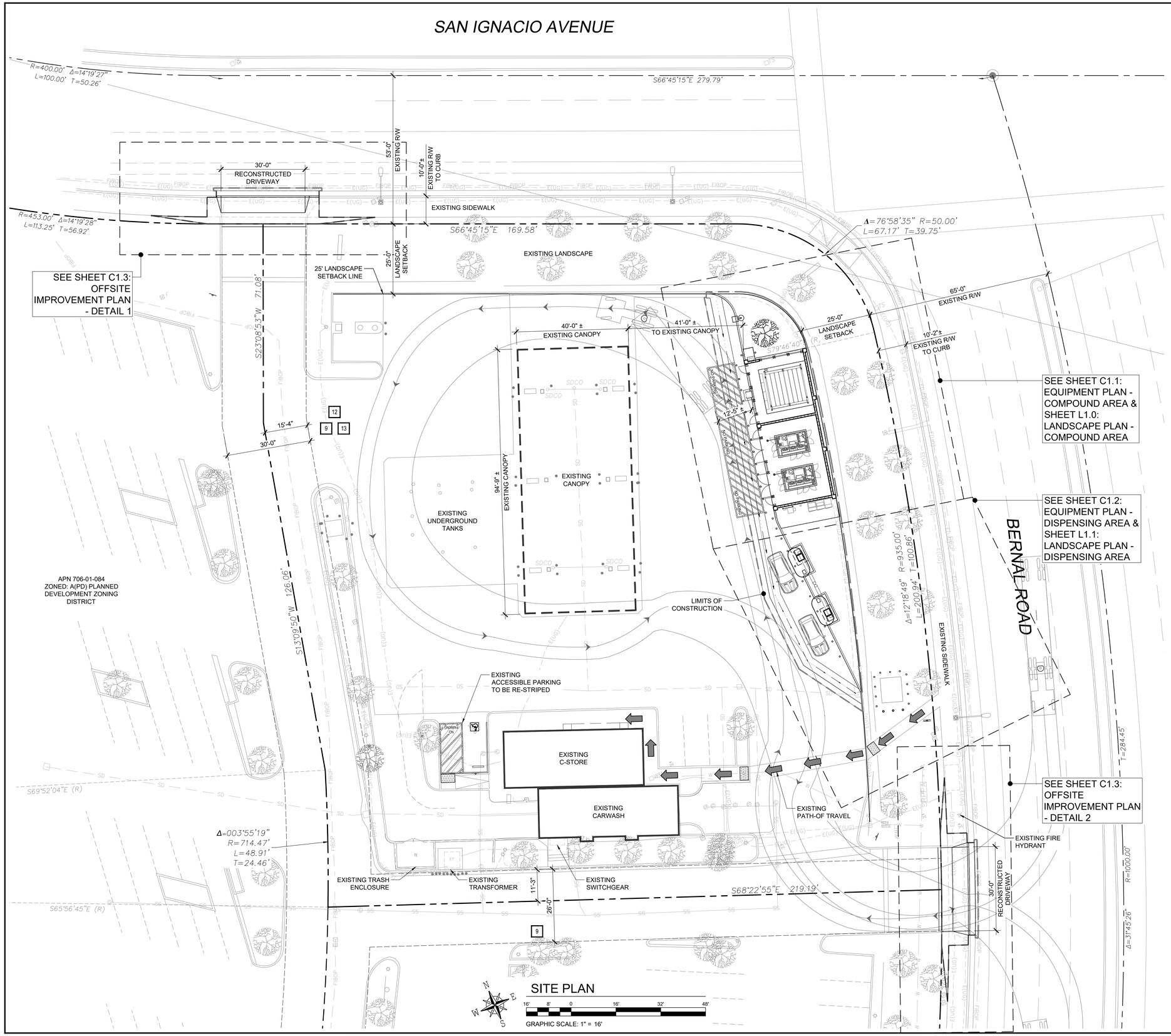


OPERATION NOTES

THE FUELING STATION IS EXPECTED TO HAVE THE FOLLOWING OPERATIONS:

1. HOURS OF OPERATION: 24 HOURS / 7 DAYS (SAME AS EXISTING)
2. EXPECTED NUMBER OF CUSTOMER VEHICLES: APPROXIMATE 15 CARS/ DAY USING HYDROGEN FUELING. NO NET CHANGE EXPECTED TO THE OVERALL NUMBER OF VEHICLE FUELING, SINCE LOCAL ADOPTION OF FCEV'S IS ANTICIPATED TO REPLACE EXISTING GASOLINE POWERED VEHICLES WITHIN THE COMMUNITY.
3. EXPECTED FREQUENCY OF REFUELING TRUCKS: APPROXIMATE (2) DELIVERIES PER WEEK. ACTUAL USAGE CAN BE LESS OR MORE DEPENDING ON VEHICLE CONVERSION/ADOPTION. THE MAXIMUM LOGISTICAL CAPACITY OF THE SITE IS ONE DELIVERY PER DAY, HOWEVER THE DEMAND NECESSARY TO ACHIEVE THIS THRESHOLD IS UNLIKELY TO BE ACHIEVED.

TREE PROTECTION NOTE

1. THE APPLICANT SHALL MAINTAIN THE TREES AND OTHER VEGETATION SHOWN TO BE RETAINED IN THIS PROJECT AND AS NOTED ON THE APPROVED PLAN SET. MAINTENANCE SHALL INCLUDE PRUNING AND WATERING AS NECESSARY AND PROTECTION FROM CONSTRUCTION DAMAGE. PRIOR TO THE REMOVAL OF ANY TREE ON THE SITE, ALL TREES TO BE PRESERVED SHALL BE PERMANENTLY IDENTIFIED BY METAL NUMBERED TAGS. PRIOR TO ISSUANCE OF THE GRADING PERMIT OR REMOVAL OF ANY TREE, ALL TREES TO BE SAVED SHALL BE PROTECTED BY CHAIN LINK FENCING, OR OTHER FENCING TYPE APPROVED BY THE DIRECTOR OF PLANNING. SAID FENCING SHALL BE INSTALLED AT THE DRIPLINE OF THE TREE IN ALL CASES AND SHALL REMAIN DURING CONSTRUCTION. NO STORAGE OF CONSTRUCTION MATERIALS, LANDSCAPE MATERIALS, VEHICLES OR CONSTRUCTION ACTIVITIES SHALL OCCUR WITHIN THE FENCED TREE PROTECTION AREA. ANY ROOT PRUNING REQUIRED FOR CONSTRUCTION PURPOSES SHALL RECEIVE PRIOR REVIEW AND APPROVAL AND SHALL BE SUPERVISED BY THE CONSULTING LICENSED ARBORIST. FENCING AND SIGNAGE SHALL BE MAINTAINED BY THE APPLICANT TO PREVENT DISTURBANCES DURING THE FULL LENGTH OF THE CONSTRUCTION PERIOD THAT COULD POTENTIALLY DISRUPT THE HABITAT OR TREES.

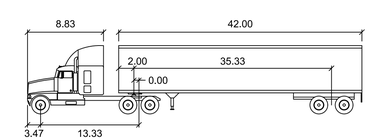
STREET IMPROVEMENT GENERAL NOTES

1. BROKEN, UPLIFTED CURB AND GUTTER AS WELL AS BROKEN, UPLIFTED OR NON-ADA COMPLIANT SIDEWALK ALONG PROJECT FRONTAGE SHALL BE REMOVED AND REPLACED.
2. CURB, GUTTER, AND SIDEWALK DAMAGED DURING CONSTRUCTION OF THE PROJECT SHALL BE REMOVED AND REPLACED.

LEGEND

ACCESSIBLE ROUTE

EASEMENT NOTE. SEE TITLE SHEET.



Jumbo GH2 feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 17.7
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		

HYDROGEN OFFLOADING

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DEVELOPMENT INFORMATION:

SHELL HYDROGEN

HYDROGEN FUELING STATION # PDA98-079-01

SITE ADDRESS:

101 BERNAL ROAD
@ SAN IGNACIO AVENUE
SAN JOSE, CA 95119

-

DESIGNED BY: TH	FG PM: AM
CHECKED BY: POF	MEP PM: -
DRAWN BY: TH	CONSULTANT PM:
DATE: 06/24/2019	PROJECT NO.: 15935

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SITE PLAN

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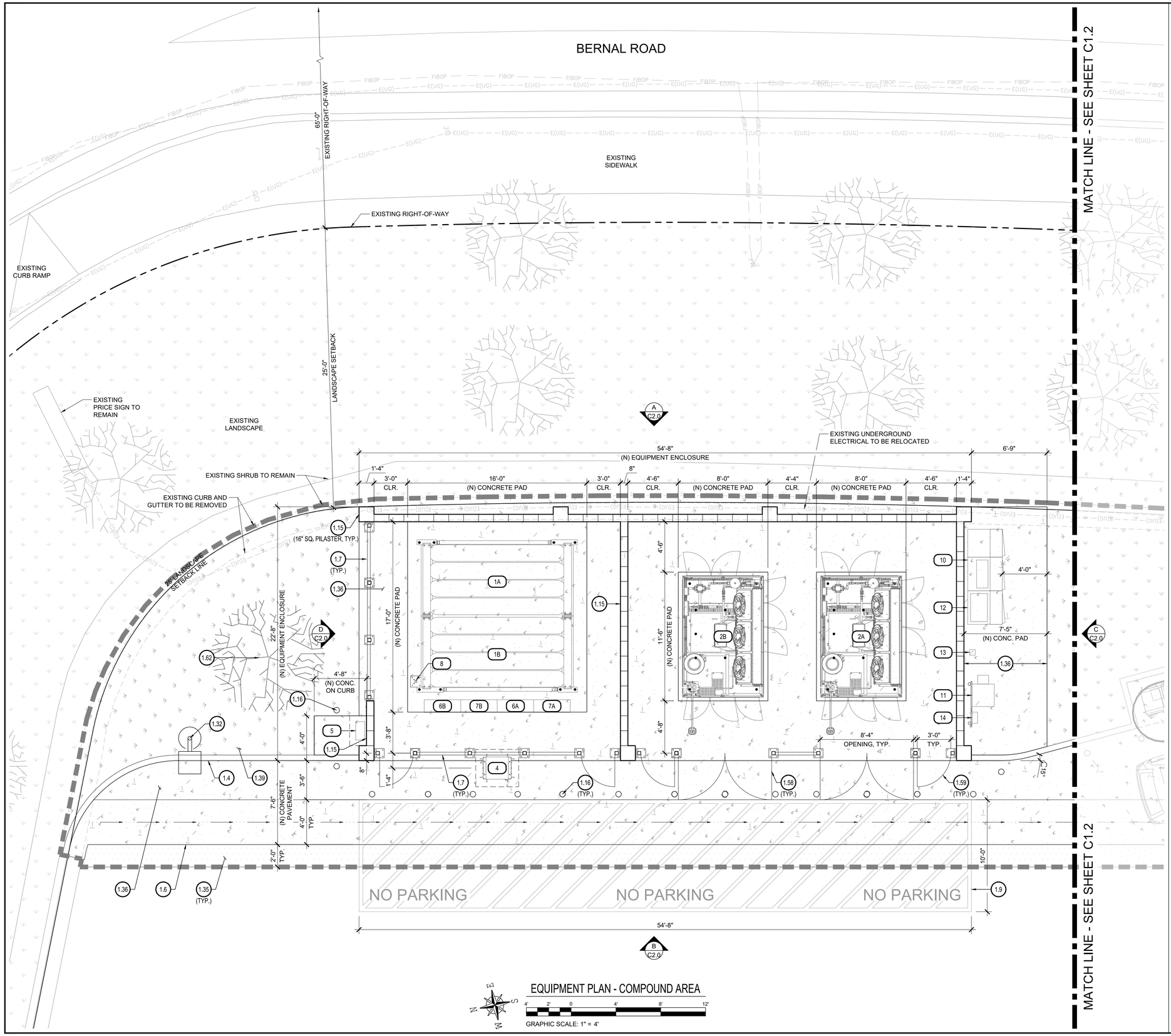

EQUIPMENT PLAN - COMPOUND AREA

GRAPHIC SCALE: 1" = 4'

EQUIPMENT LIST

#	EQUIPMENT
1A/1B	SUPPLY & FUELING STORAGE (FS002)
2A/2B	STATION MODULE (SM002)
3A/3B	HYDROGEN DISPENSER (DI004)
4	SUPPLY CABINET - VALVE PANEL (SS003)
5	SUPPLY CABINET - HMI (SS003)
6A/6B	SUPPLY STORAGE VALVE PANEL (FS002)
7A/7B	FUELING STORAGE VALVE PANEL (FS002)
8	VENT
9	PAYMENT OPERATING SYSTEM (POS)
10	SWITCHGEAR (NEMA 3R; 480 VAC)
11	NETWORK EQUIPMENT ENCLOSURE
12	LOW VOLTAGE (240/120 VAC) PANEL-LV
13	AP TELEMETRY
14	ESD SYSTEM STATUS PANEL

KEY NOTES

#	NOTE
	NEW ITEMS
1.4	(N) VERTICAL CURB
1.5	(N) CURB & GUTTER
1.6	(N) GUTTER
1.7	(N) FENCE & POST
1.9	(N) STRIPING
1.15	(N) WALL
1.16	(N) GUARD POST
1.32	(N) LIGHT
1.35	(N) ASPHALT
1.36	(N) CONCRETE
1.39	(N) LANDSCAPE
1.58	(N) SWING GATE
1.59	(N) PEDESTRIAN ACCESS GATE WITH PANIC HARDWARE
1.62	(N) TREE

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HYDROGEN FUELING STATION
PDA98-079-01

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SAN JOSE, CA 95119

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EQUIPMENT PLAN - COMPOUND AREA

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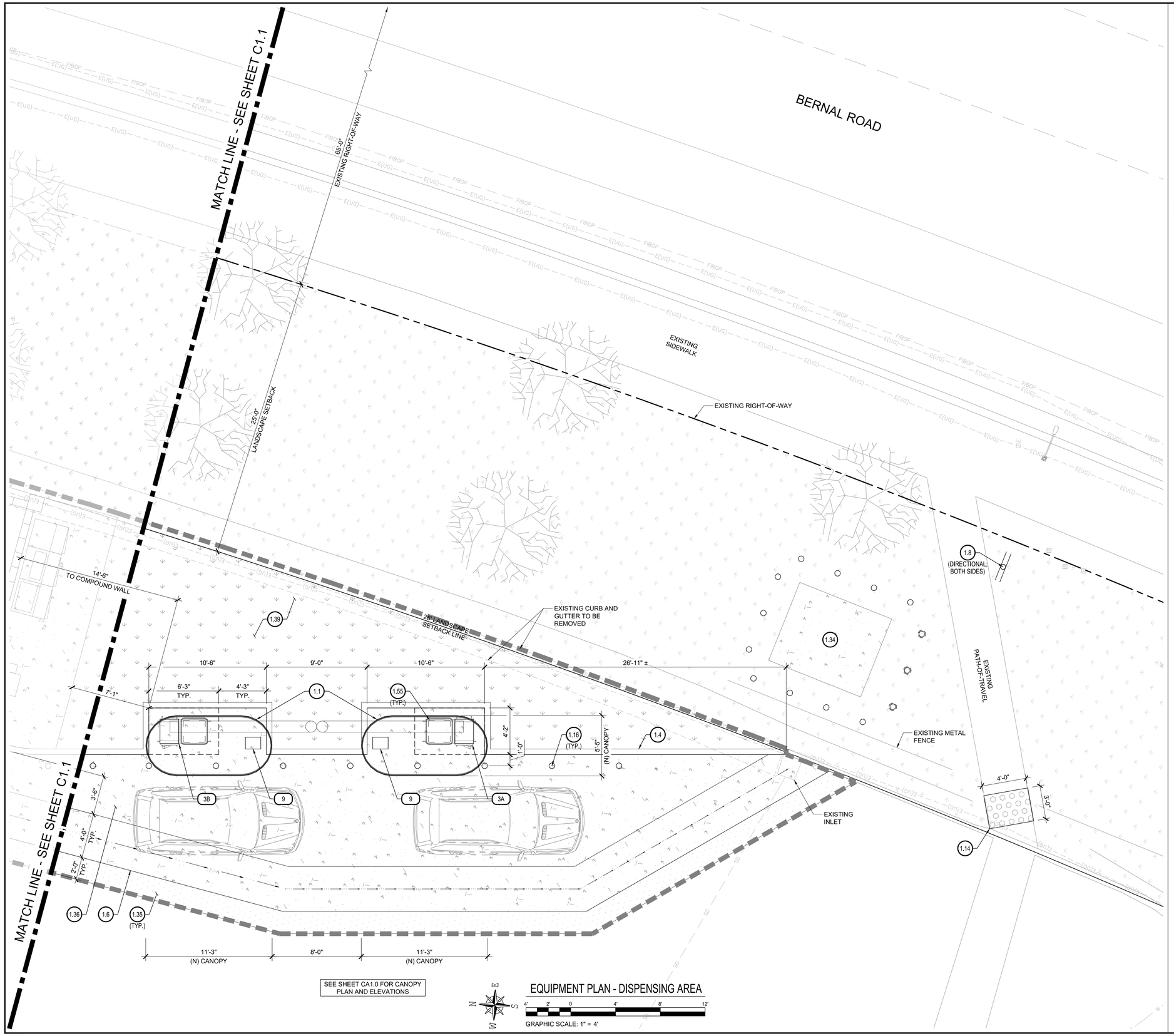

EQUIPMENT PLAN - DISPENSING AREA

EQUIPMENT LIST

#	EQUIPMENT
1A/1B	SUPPLY & FUELING STORAGE (FS002)
2A/2B	STATION MODULE (SM002)
3A/3B	HYDROGEN DISPENSER (DI004)
4	SUPPLY CABINET - VALVE PANEL (SS003)
5	SUPPLY CABINET - HMI (SS003)
6A/6B	SUPPLY STORAGE VALVE PANEL (FS002)
7A/7B	FUELING STORAGE VALVE PANEL (FS002)
8	VENT
9	PAYMENT OPERATING SYSTEM (POS)
10	SWITCHGEAR (NEMA 3R; 480 VAC)
11	NETWORK EQUIPMENT ENCLOSURE
12	LOW VOLTAGE (240/120 VAC) PANEL-LV
13	AP TELEMETRY
14	ESD SYSTEM STATUS PANEL

KEY NOTES

#	NOTE
	NEW ITEMS
1.1	(N) CANOPY / AWNING
1.4	(N) VERTICAL CURB
1.6	(N) GUTTER
1.8	(N) SIGN
1.14	(N) TRUNCATED DOMES
1.16	(N) GUARD POST
1.34	(N) TRANSFORMER & GUARD POSTS
1.35	(N) ASPHALT
1.36	(N) CONCRETE
1.39	(N) LANDSCAPE
1.55	(N) MANHOLE COVER

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HYDROGEN FUELING STATION
PDA98-079-01

SITE ADDRESS:

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@ SAN IGNACIO AVENUE
SAN JOSE, CA 95119

-

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CHECKED BY: POF	MEP PM:
DRAWN BY: TH	CONSULTANT PM:
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EQUIPMENT PLAN - DISPENSING AREA

SHEET NO.:

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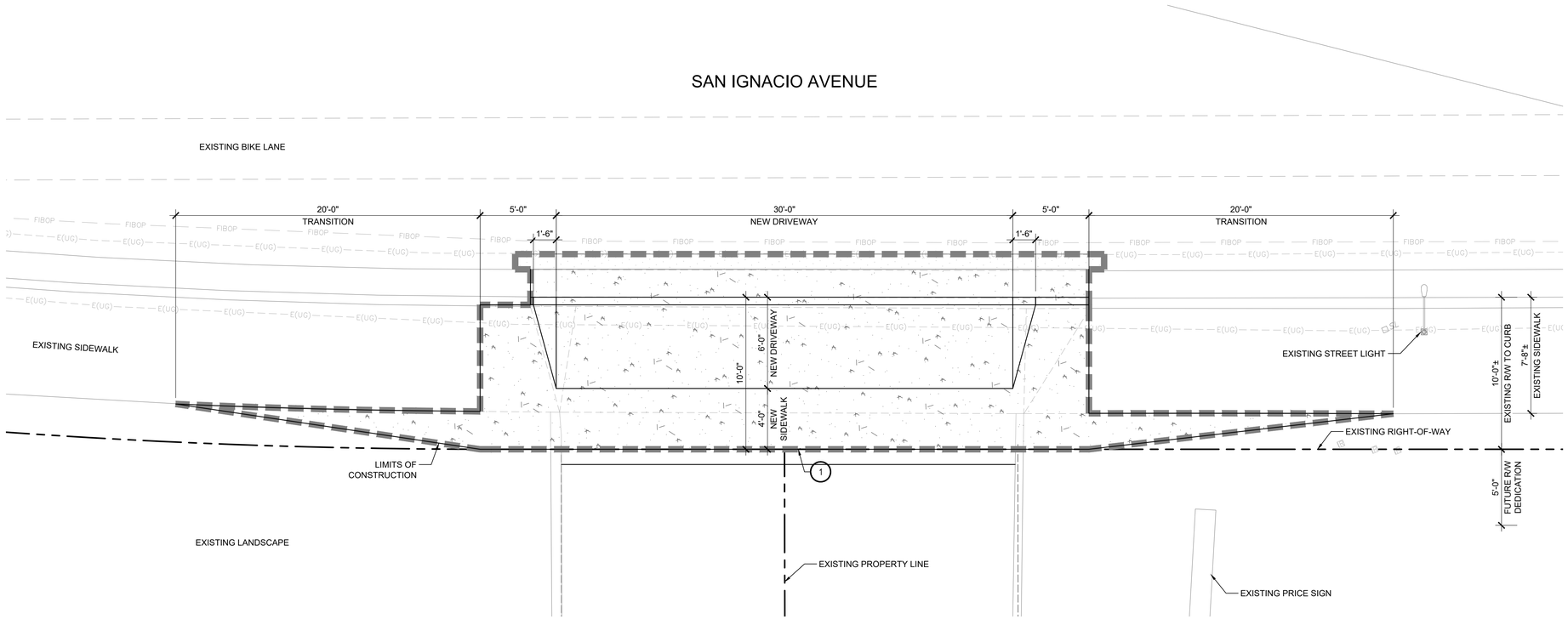
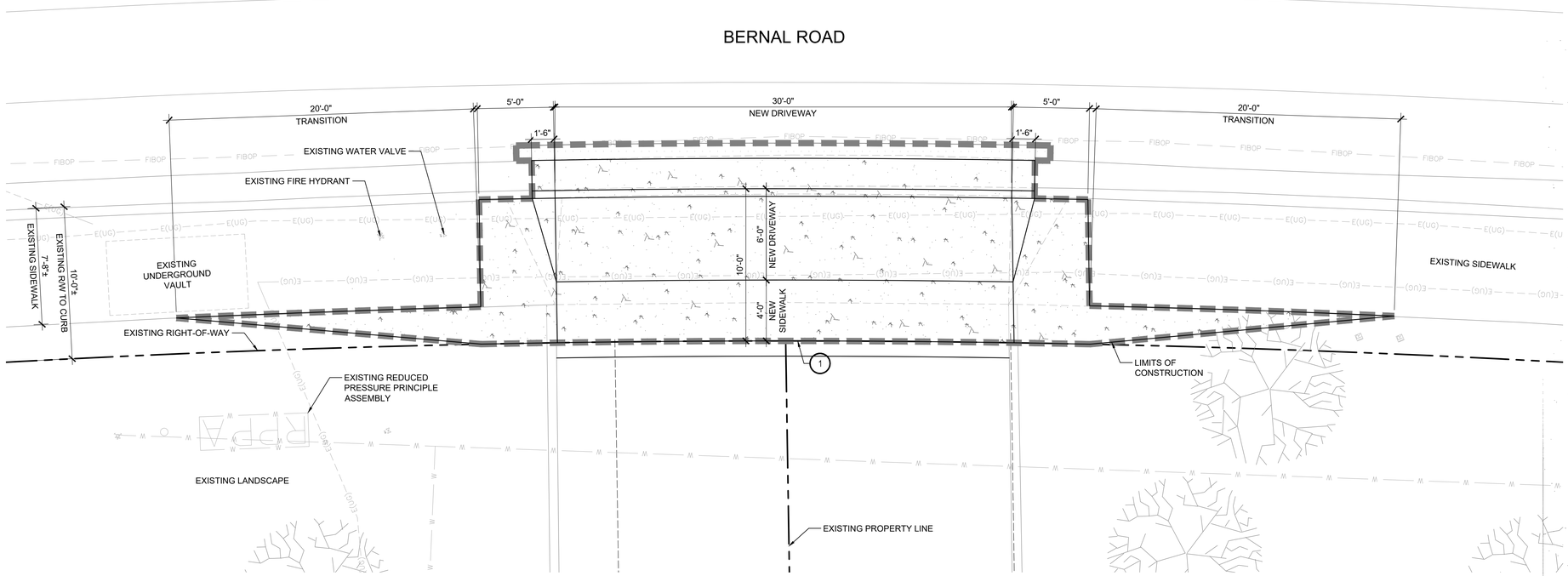


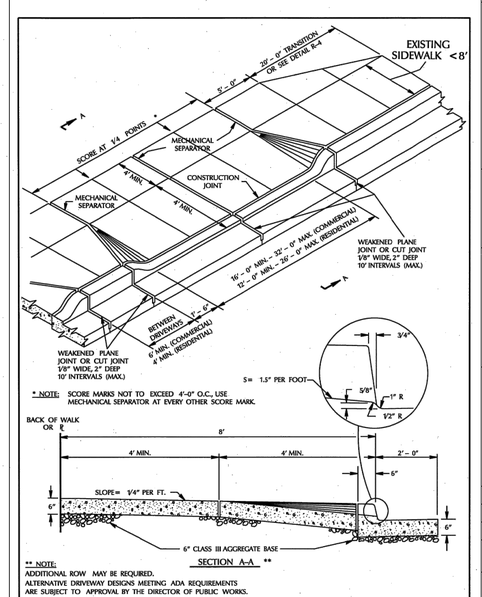
OFFSITE IMPROVEMENT PLAN - DETAIL 1



OFFSITE IMPROVEMENT PLAN - DETAIL 2

KEY NOTES

#	NOTE	QUANTITY	REFERECE
1	NEW COMMERCIAL DRIVEWAY FOR EXISTING ATTACHED SIDEWALK < 8' (FOR RETROFIT ONLY)	2 EA.	A/THIS SHEET



A - CITY STD. DRAWING R-7

GRAPHIC SCALE: N.T.S.

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DEVELOPMENT INFORMATION:

SHELL HYDROGEN

HYDROGEN FUELING STATION
PDA98-079-01

SITE ADDRESS:

101 BERNAL ROAD
@ SAN IGNACIO AVENUE
SAN JOSE, CA 95119

-

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CHECKED BY: POF	MEP PM:
DRAWN BY: TH	CONSULTANT PM:
DATE: 06/24/2019	PROJECT NO.: 15935

DRAWING TITLE:

OFFSITE IMPROVEMENT PLAN

SHEET NO.:

C1.3

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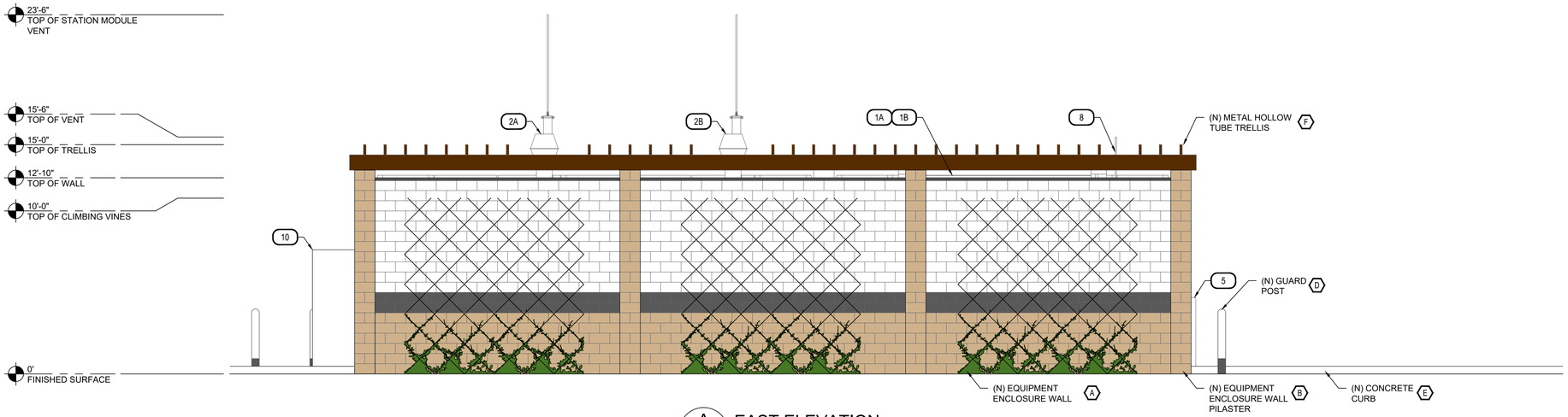
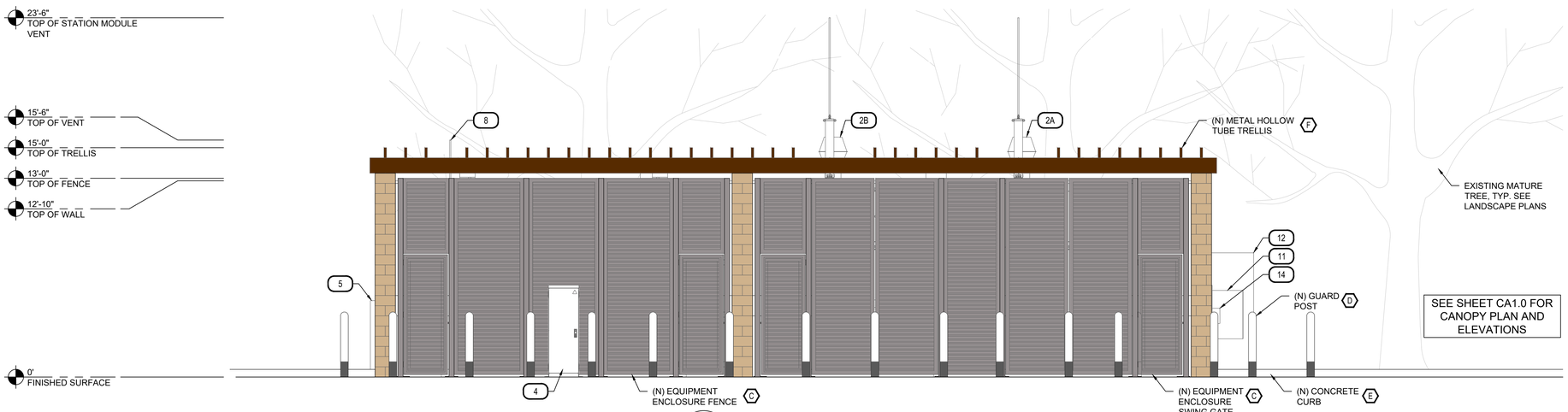
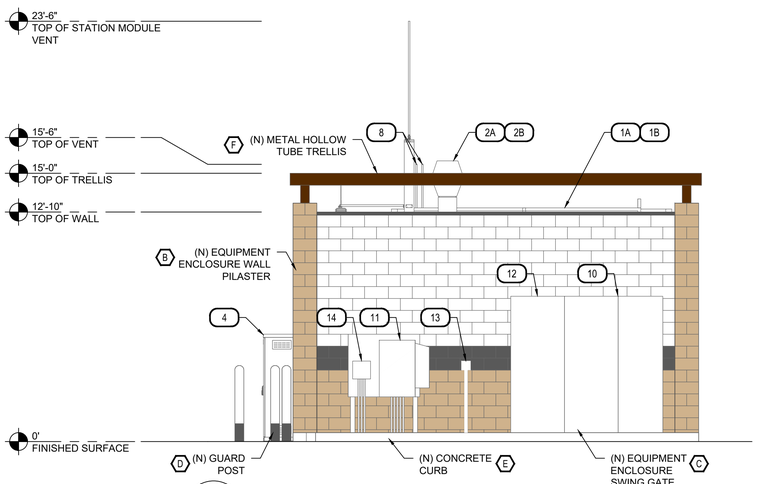


A EAST ELEVATION
SCALE: 1/4" = 1'-0"



SEE SHEET CA1.0 FOR CANOPY PLAN AND ELEVATIONS

B WEST ELEVATION
SCALE: 1/4" = 1'-0"



C SOUTH ELEVATION
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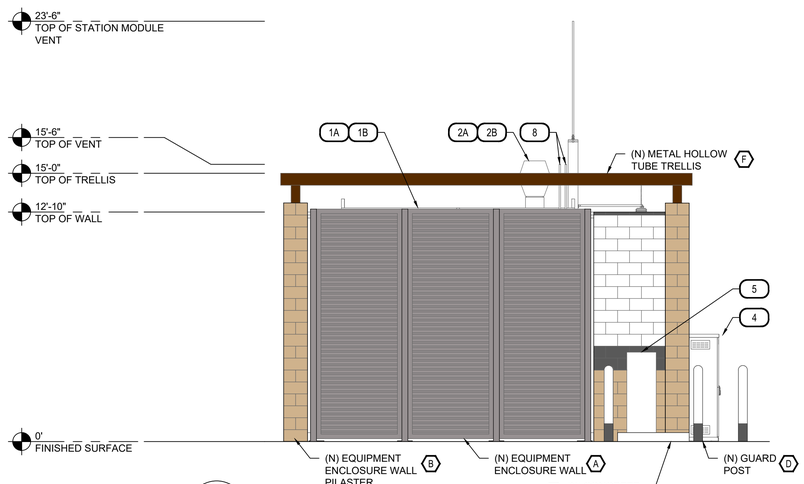

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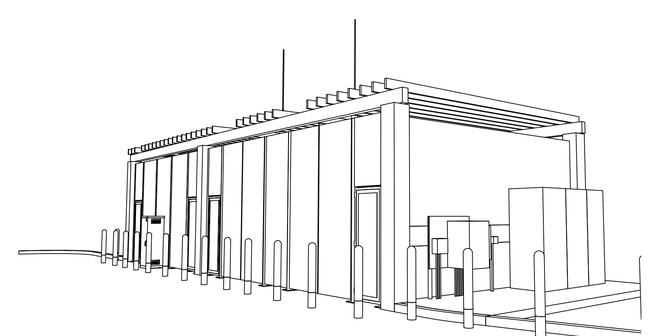
SCALE: 1/4" = 1'-0"



NOTE: PRESPECTIVE VIEW NOT COLORED FOR SIMPLICITY.

E PERSPECTIVE VIEW
SCALE: NOT TO SCALE

EQUIPMENT LIST

#	EQUIPMENT
1A/1B	SUPPLY & FUELING STORAGE (FS002)
2A/2B	STATION MODULE (SM002)
3A/3B	HYDROGEN DISPENSER (DI004)
4	SUPPLY CABINET - VALVE PANEL (SS003)
5	SUPPLY CABINET - HMI (SS003)
6A/6B	SUPPLY STORAGE VALVE PANEL (FS002)
7A/7B	FUELING STORAGE VALVE PANEL (FS002)
8	VENT
9	PAYMENT OPERATING SYSTEM (POS)
10	SWITCHGEAR (NEMA 3R; 480 VAC)
11	NETWORK EQUIPMENT ENCLOSURE
12	LOW VOLTAGE (240/120 VAC) PANEL-LV
13	AP TELEMETRY
14	ESD SYSTEM STATUS PANEL

NOTE: NOT ALL EQUIPMENT SHOWN HERE. REFER TO SHEET C1.1.

FINISH SCHEDULE

#	NOTE	MATERIAL	COLOR	FINISH
A	EQUIPMENT ENCLOSURE WALL	CMU	ORCO BLACK 100 LW (BOTTOM 2 ROWS AND TOP CAP) & WHITE MW	SMOOTH-FACE (BOTTOM 2 ROW ONLY) & SPLIT-FACE ELSEWHERE
B	EQUIPMENT ENCLOSURE WALL PILASTER	CMU	ORCO BLACK 100 LW	SPLIT-FACE
C	EQUIPMENT ENCLOSURE FENCE, POST & GATE	STEEL W/ ZINC COATING	N/A	N/A
D	GUARD POST	STEEL/ CONCRETE	SHELL WARM WHITE & 12" HIGH SHELL GRAY BAND	SEMI-GLOSS PAINT
E	CURB	CONCRETE	N/A	N/A
F	TRELLIS	METAL	BROWN	N/A

WALL/TRELLIS LEGEND

LEGEND	ACTUAL COLOR	DESCRIPTION
		ORCO BLACK 100 LW
		ORCO WHITE MW
		ORCO NUFAD MW
		METAL HOLLOW TUBE TRELLIS - BROWN PAINT FINISH

NOTE: SEE MATERIAL SAMPLE BOARD FOR ACTUAL COLOR AND/OR MATERIALS.

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DEVELOPMENT INFORMATION:

SHELL HYDROGEN

HYDROGEN FUELING STATION # PDA98-079-01

SITE ADDRESS:

101 BERNAL ROAD
@ SAN IGNACIO AVENUE
SAN JOSE, CA 95119

-

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CHECKED BY: POF	MEP PM:
DRAWN BY: TH	CONSULTANT PM: -
DATE: 06/24/2019	PROJECT NO.: 15935

DRAWING TITLE:

EQUIPMENT ELEVATIONS

SHEET NO.:

C2.0

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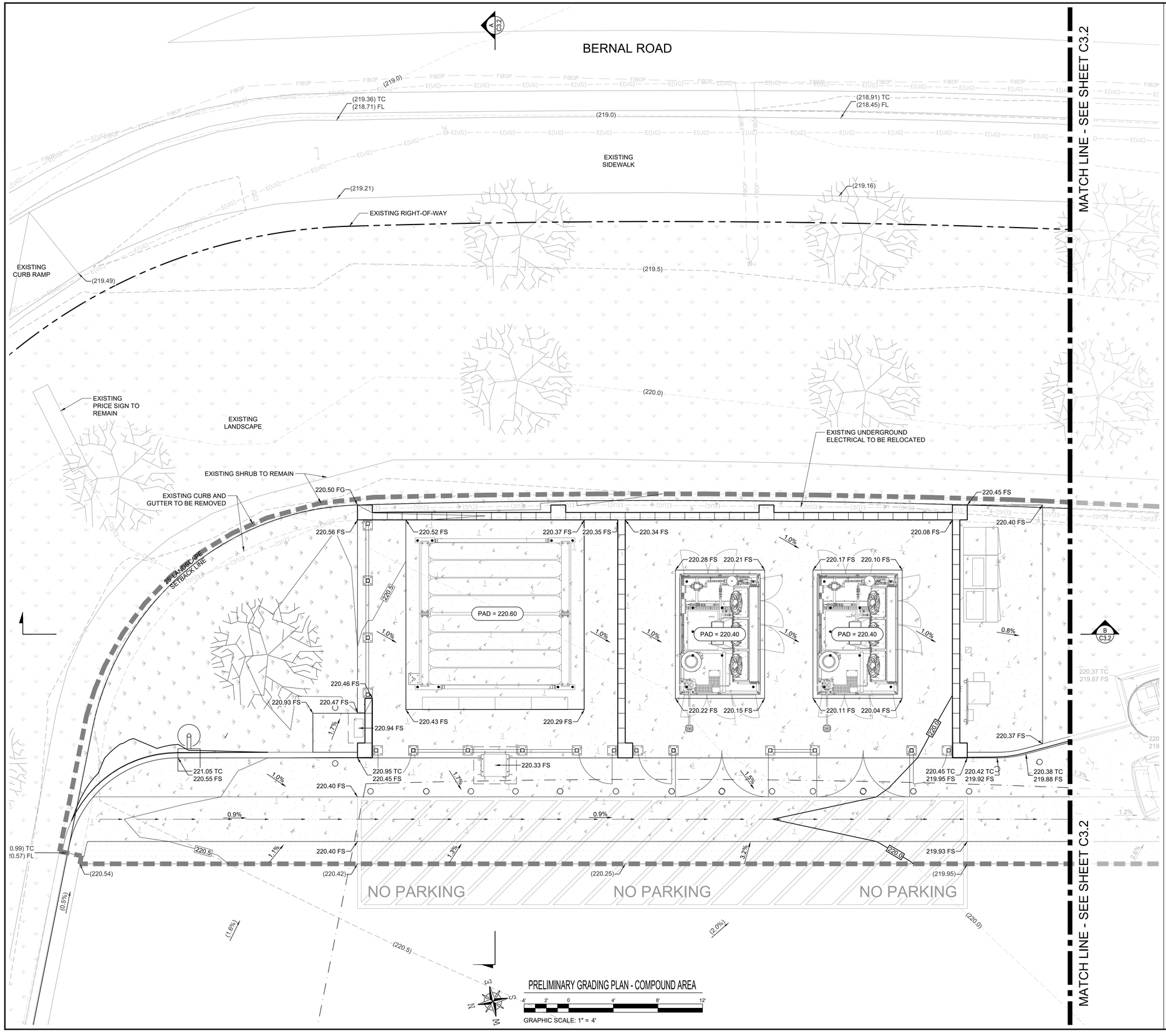

EARTHWORK

AREA OF DISTURBANCE:	4,387 SQ. FT.	0.10 ACRE
CUT:		3 CU. YD.
FILL:		55 CU. YD.
NET (FILL):		52 CU. YD.

*EARTHWORK IS TO FINISHED GRADE

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PDA98-079-01

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SAN JOSE, CA 95119

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CHECKED BY: PDF	MEP PM: -
DRAWN BY: TH	CONSULTANT PM:
DATE: 06/24/2019	PROJECT NO.: 15935

DRAWING TITLE:

PRELIMINARY GRADING PLAN - COMPOUND AREA

SHEET NO.:

C3.1

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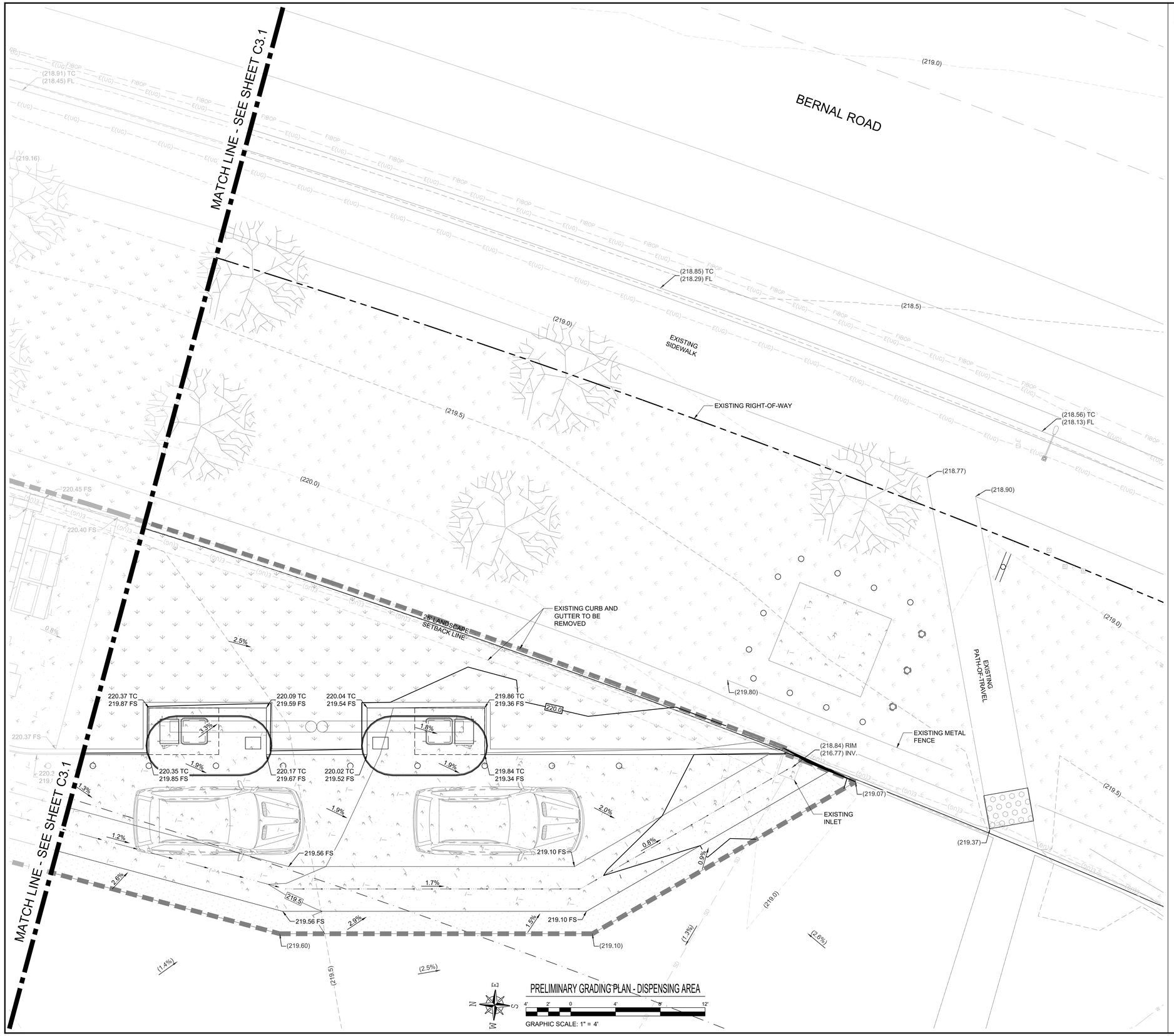

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CUT:		3 CU. YD.
FILL:		55 CU. YD.
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PDA98-079-01

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101 BERNAL ROAD
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SAN JOSE, CA 95119

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DRAWN BY: TH	CONSULTANT PM:
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DRAWING TITLE:

PRELIMINARY GRADING PLAN - DISPENSING AREA

SHEET NO.:

C3.2

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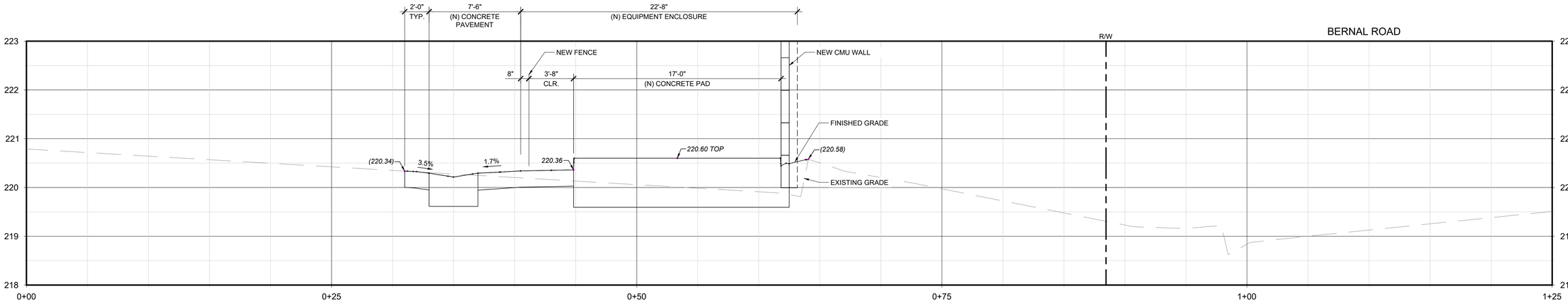

A
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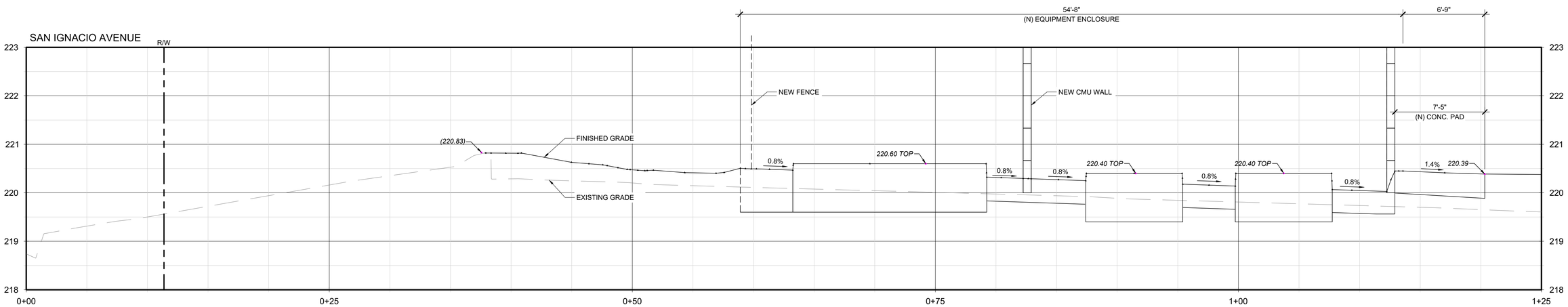
CROSS SECTION A

GRAPHIC SCALE: 1"=4'-0" (HORIZONTAL); 1"=1'-0" (VERTICAL)



B
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CROSS SECTION B

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HYDROGEN
FUELING STATION
PDA98-079-01

SITE ADDRESS:

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SAN JOSE, CA 95119

-

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DATE: 06/24/2019	PROJECT NO.: 15935

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GRADING DETAILS

SHEET NO.:

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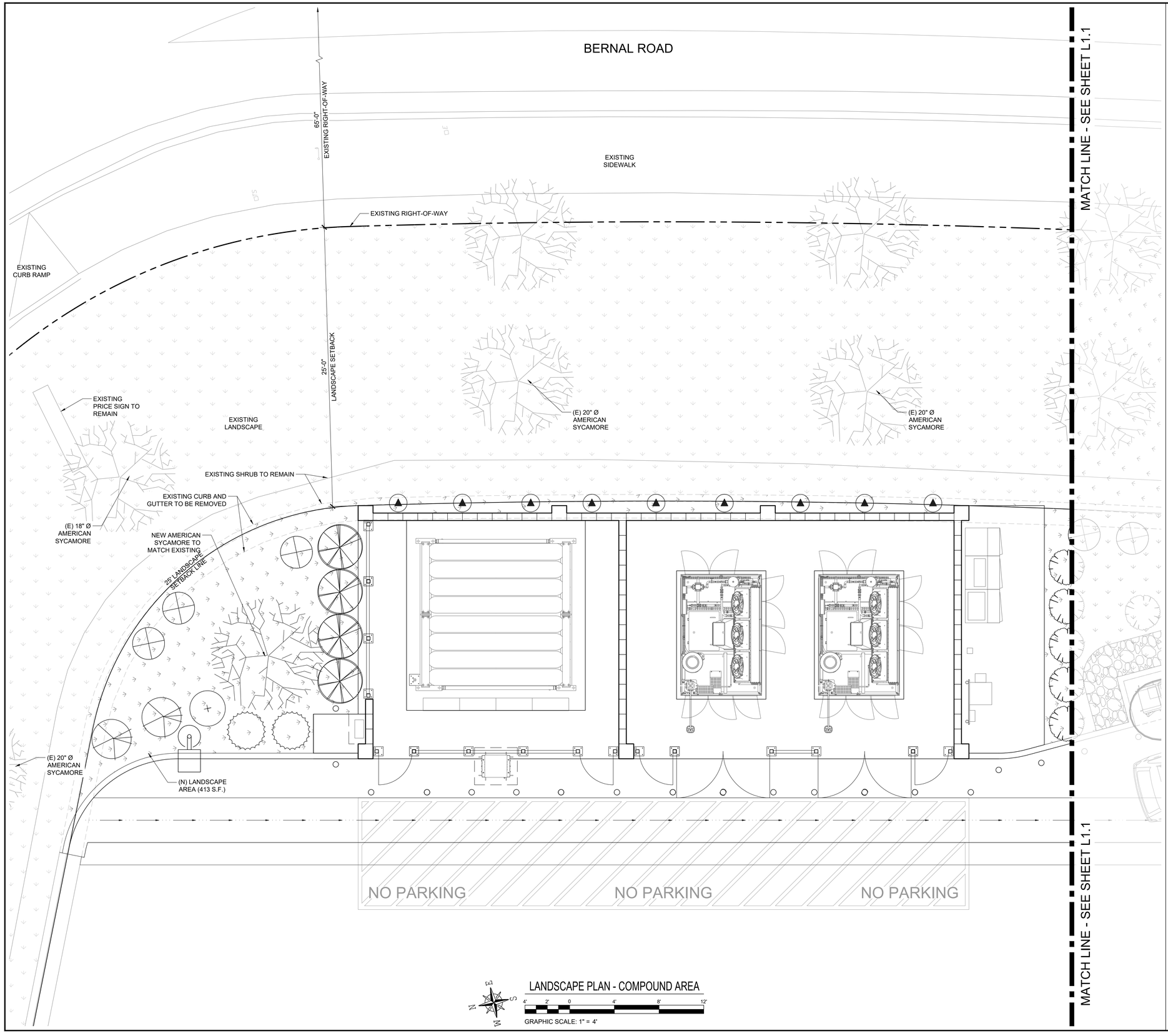

LANDSCAPE PLAN - COMPOUND AREA

4' 2' 0 4' 8' 12'

GRAPHIC SCALE: 1" = 4'

LANDSCAPE CALCULATIONS

II. LANDSCAPE & HARD SURFACES

LANDSCAPE:
EXISTING TO REMAIN: 11,804 SQ. FT.

LANDSCAPE PLANT MATERIAL TABLE

SYMBOL	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	REMARKS
	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	24" BOX	2	STANDARD
		EXISTING TREE	VARIES	5	PROTECT DURING CONSTRUCTION ACTIVITIES
	JUNIPERUS CHINENSIS 'TORULOSA'	HOLLYWOOD JUNIPER	15 GAL.	4	PLANT 4'-0" O.C.
	RHAPHIOLEPIS INDICA 'DANCER'	DANCER INDIAN HAWTHORNE	5 GAL.	2	PLANT 3'-6" O.C.
	SALVIA LEUCANTHA 'SANTA BARBARA'	SANTA BARBARA MEXICAN BUSH SAGE	5 GAL.	6	PLANT 3'-6" O.C.
	CALLISTEMON VIMINALIS 'LITTLE JOHN'	LITTLE JOHN BOTTLEBRUSH	5 GAL.	9	PLANT 3'-0" O.C.
	MUHLENBERGIA CAPILLARIS REGAL MIST'	REGAL MIST PINK MUHLY	5 GAL.	6	PLANT 3'-0" O.C.
	LOMANDRA LONGIFOLIA 'BREEZE'	BREEZE LOMANDRA	5 GAL.	4	PLANT 3'-0" O.C.
	PARTHENOCISSUS TRICUSPICATA 'VEITCHII'	VEITCHII BOSTON IVY	1 GAL.	9	PLANT 5'-0" O.C.
	DECORATIVE GRAVEL			154 S.F.	

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DRAWN BY: TH	CONSULTANT PM:
DATE: 06/24/2019	PROJECT NO.: 15935

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LANDSCAPE PLAN - COMPOUND AREA

SHEET NO.:

L1.0

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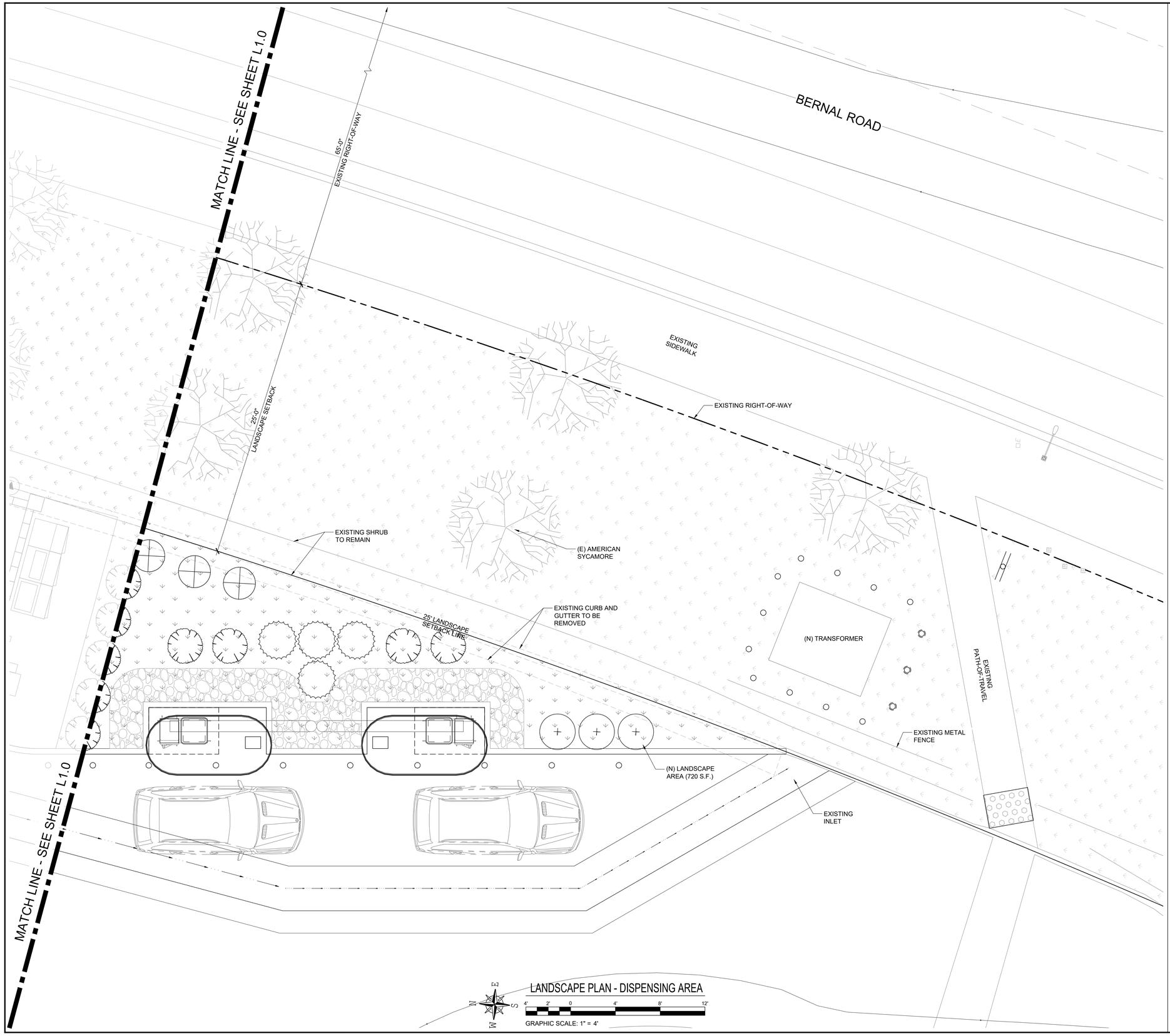

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	PARTHENOCISSUS TRICUSPICATA 'VEITCHII'	VEITCHII BOSTON IVY	1 GAL.	9	PLANT 5'-0" O.C.
	DECORATIVE GRAVEL			154 S.F.	

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PDA98-079-01

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@ SAN IGNACIO AVENUE
SAN JOSE, CA 95119

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CHECKED BY: JL	MEP PM: -
DRAWN BY: TH	CONSULTANT PM: -
DATE: 06/24/2019	PROJECT NO.: 15935

DRAWING TITLE:

LANDSCAPE PLAN - DISPENSING AREA

SHEET NO.:

L1.1

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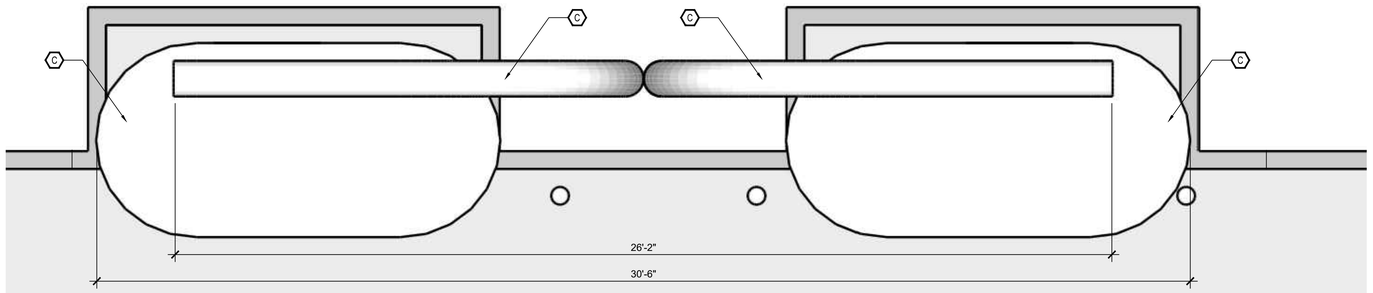
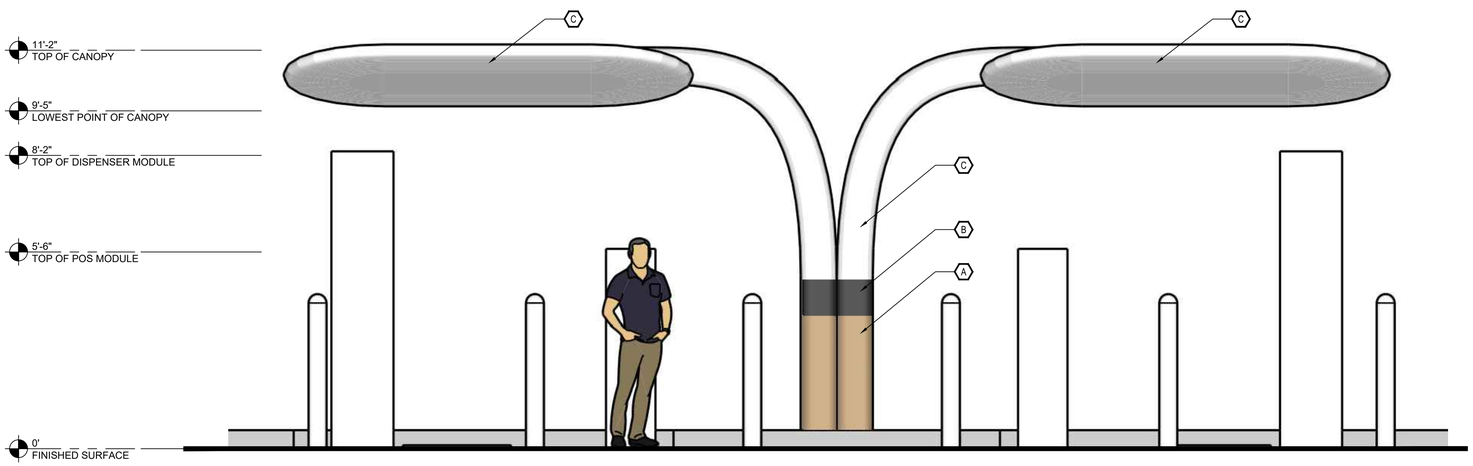
FINISH SCHEDULE

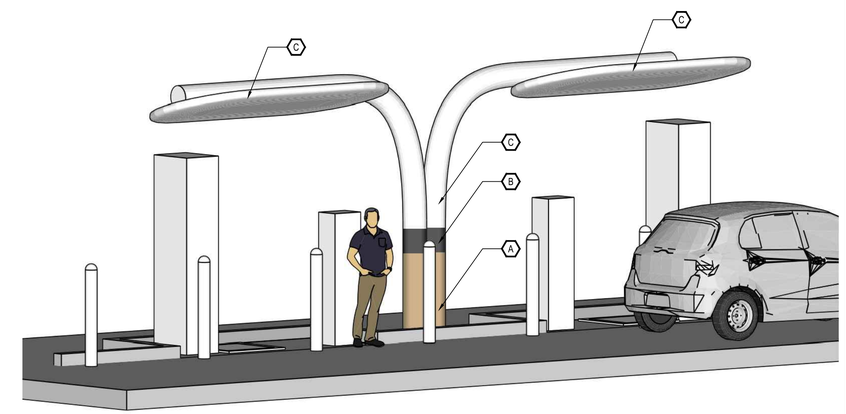
#	NOTE	MATERIAL	COLOR
A	PAINT FINISH	STEEL	BEIGE TO MATCH ENCLOSURE
B	PAINT FINISH	STEEL	BLACK TO MATCH ENCLOSURE
C	PAINT FINISH	STEEL	WHITE TO MATCH ENCLOSURE



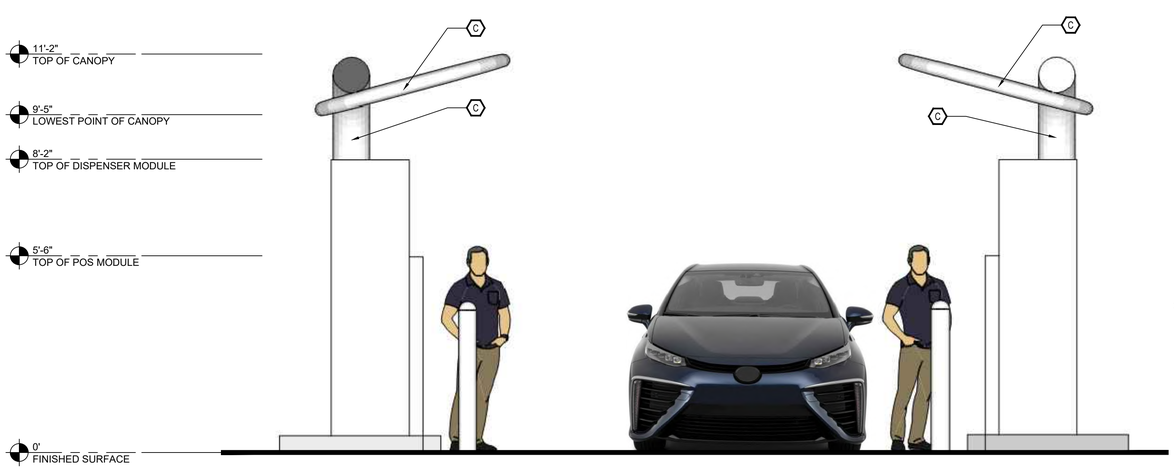
A - ROOF PLAN
SCALE: 1/2" = 1'-0"



B - WEST ELEVATION
SCALE: 1/2" = 1'-0"

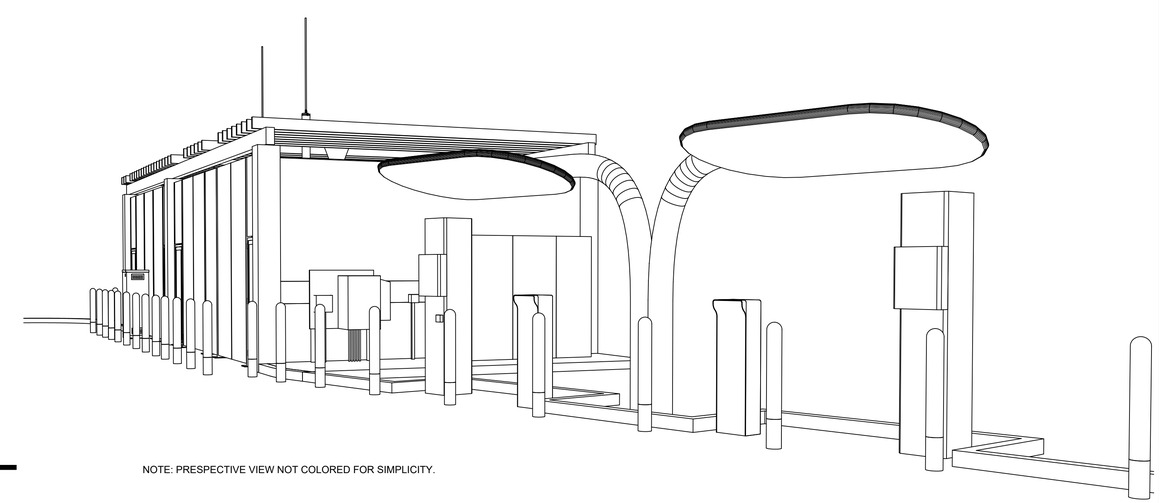


F - PERSPECTIVE VIEW
SCALE: NOT TO SCALE



C - NORTH ELEVATION
SCALE: 1/2" = 1'-0"

D - SOUTH ELEVATION
SCALE: 1/2" = 1'-0"



NOTE: PRESPECTIVE VIEW NOT COLORED FOR SIMPLICITY.

E - PERSPECTIVE VIEW
SCALE: NOT TO SCALE

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Design & Engineering

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Pasadena, CA 91101

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DEVELOPMENT INFORMATION:

SHELL HYDROGEN

HYDROGEN
FUELING STATION
PDA98-079-01

SITE ADDRESS:

101 BERNAL ROAD
@ SAN IGNACIO AVENUE
SAN JOSE, CA 95119

-

DESIGNED BY: JC	FG PM: AM
CHECKED BY: POF	MEP PM: -
DRAWN BY: JC	CONSULTANT PM: -
DATE: 06/24/2019	PROJECT NO.: 15935

DRAWING TITLE:

CANOPY PLAN ELEVATIONS & PERSPECTIVES

SHEET NO.:

A1.0

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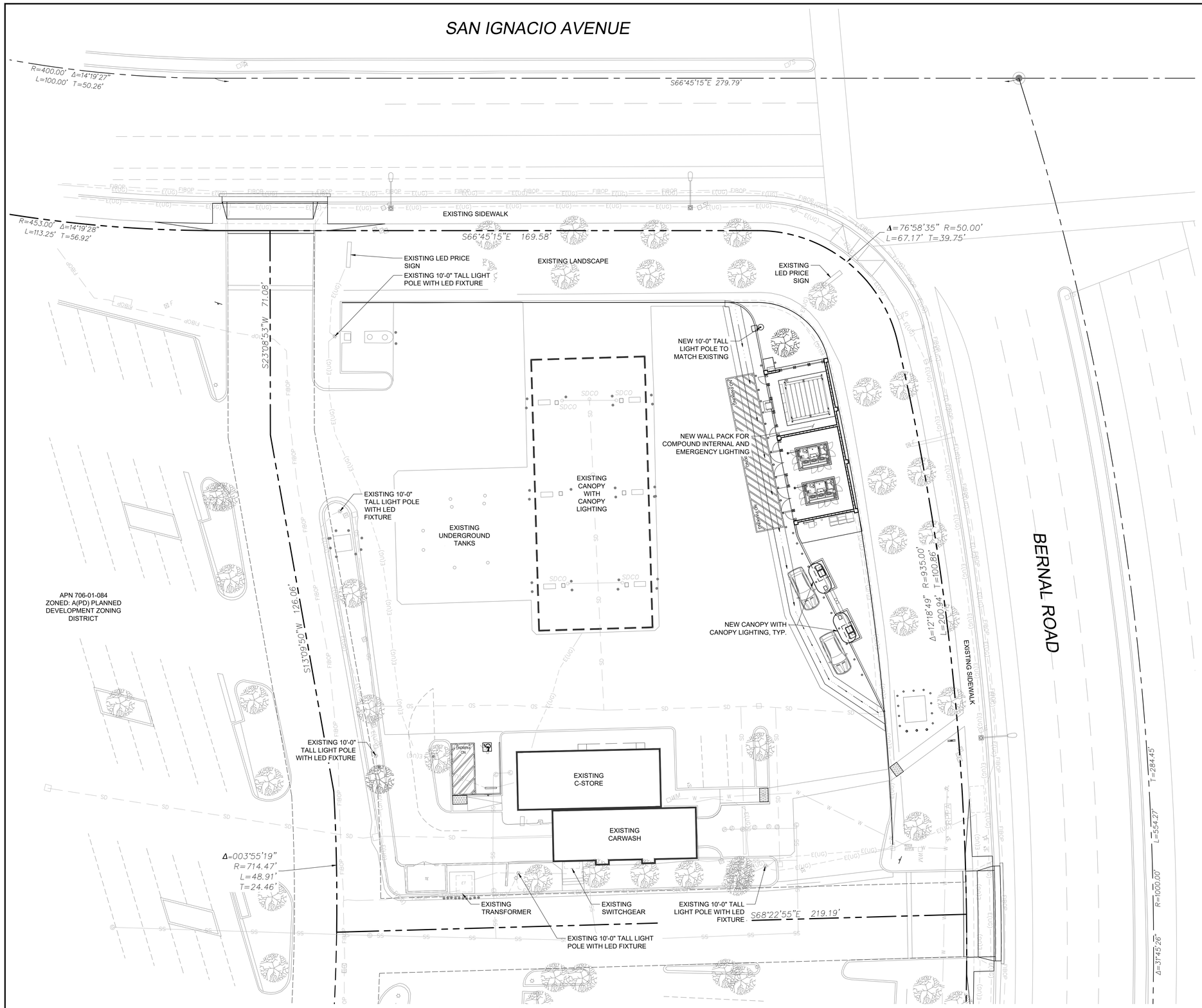

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SHELL HYDROGEN

HYDROGEN
FUELING STATION
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SITE ADDRESS:

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-

DESIGNED BY: TH	FG PM: AM
CHECKED BY: POF	MEP PM: -
DRAWN BY: TH	CONSULTANT PM: -
DATE: 06/24/2019	PROJECT NO.: 15935

DRAWING TITLE:

LIGHTING PLAN

SHEET NO.:

E1.0

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Appendix B

Trip Generation Study

HEXAGON TRANSPORTATION CONSULTANTS, INC.

February 24, 2020

Mr. Harsh Dev
Fiedler Group
299 N. Euclid Avenue, Suite 550
Pasadena, CA 91101

Re: Trip Generation Study for the Proposed Hydrogen Fuel Station Located at 101 Bernal Road in San Jose, California

Dear Mr. Dev:

Hexagon Transportation Consultants, Inc. has completed a trip generation analysis for the proposed hydrogen fuel station at 101 Bernal Road in San Jose, California. Hydrogen fuel is used by fuel cell vehicles. There are currently 7 models of fuel cell vehicles for sale in the country. The number of fuel cell vehicles is expected to increase in the future. The project proposes to install two hydrogen fuel pumps to the existing Shell gas station on site. There would be no reduction in the number of gasoline pumps. The existing Shell gas station currently does not have any hydrogen fuel pumps.

Project Trip Generation

Typically, the magnitude of traffic generated by a project can be estimated by applying to the size of the development the applicable trip generation rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* for the proposed land uses. However, the ITE *Trip Generation Manual* does not have trip generation rates for hydrogen fuel pumps. Therefore, vehicle trips that would be generated by the addition of hydrogen fuel pumps were estimated based on driveway counts collected at an existing hydrogen fuel pump station on Winchester Boulevard in Campbell, California (see Appendix A). The Campbell location is comparable to the proposed Bernal Road location in that it is on a major street and is located in a predominantly residential area.

There are 2 existing hydrogen fuel pumps at the Valero gas station in Campbell. The peak hour volumes are summarized in Table 1 for the AM and PM peak hours. The project proposes to install 2 hydrogen fuel pumps at the Shell gas station. Therefore, the average existing peak hour volumes were used to estimate the trips generated by the project. The project is expected to generate 8 AM peak hour trips (4 inbound and 4 outbound) and 12 PM peak hour trips (6 inbound and 6 outbound) (see Table 2).

It is expected that as the number of hydrogen-powered vehicles increases, the number of gasoline-powered vehicles will decrease proportionately. Therefore, vehicle trips to gas stations could remain unchanged.

Table 1
Driveway Counts at Valero Gas Station (2855 S. Winchester Boulevard, Campbell, CA)

	2/11/2020		2/12/2020		2/13/2020		Average Peak Volume	
Peak Hour	In	Out	In	Out	In	Out	In	Out
AM	4	4	6	6	3	3	4	4
PM	7	7	6	6	4	4	6	6

Source: Driveway counts conducted at Valero Gas Station (2855 S. Winchester Blvd., Campbell, CA) on typical weekdays

Table 2
Project Trip Generation Estimates

		AM Peak Hour			PM Peak Hour		
Land Use	Size	In	Out	Total Trips	In	Out	Total Trips
Proposed Shell Station[1]							
Hydrogen Fuel Pumps	2 pumps	4	4	8	6	6	12

Notes:
1. Trip for the proposed addition of hydrogen fuel pumps at the existing Shell Gas Station were estimated using driveway counts at the existing hydrogen fuel pumps at the Valero Gas Station in Campbell in February 2020.

Increases in Fuel Cell Vehicles

The number of fuel cell vehicles is expected to increase in the future. The *Road Map to a US Hydrogen Economy* report, published for the California Fuel Cell Partnership, has a road map for the projected increase in fuel cell vehicles and stations. Table 3 summarizes the number of fuel cell vehicles and stations today in the country and the predicted numbers for 2022, 2025, and 2030. While the number of fuel cell vehicles is expected to increase, it is unclear whether that increase would lead to an increase in trips to fueling stations. It is expected that as the number of hydrogen-powered vehicles increases, the number of gasoline-powered vehicles will decrease proportionately. Therefore, vehicle trips to gas stations could remain unchanged.

Table 3
Projected Country Wide Increase in Fuel Cell Vehicles and Stations

	Today[1]	2022	2025	2030
Fuel Cell Vehicles	8,098	50,000	200,000	5,300,000
Fueling Stations	63	110	580	5,600
Vehicles per Station	129	455	345	946

Source: Road Map to a US Hydrogen Economy, Executive Summary (http://www.fchea.org/us-hydrogen-study)
1. The national number of fuel cell vehicles as reported on the California Fuel Cell Partnership website: *https://cafcp.org/by_the_numbers*

We appreciate the opportunity to submit this trip generation analysis. If you have any questions, please do not hesitate to call.

Sincerely,
HEXAGON TRANSPORTATION CONSULTANTS, INC.

Gary K. Black
President

Jocelyn Lee
Engineer

Appendix A
Driveway Counts at Valero Gas Station

20GB04- Hydrogen Gas Pump(Campbell)

AUTO CENSUS

Traffic Monitoring and Analysis

5973 Larkstone Loop
San Jose, Ca. 95123
Phone 408-533-3398

Date: 2/11, 2/12, & 2/13 2020
Counter: Jana
Intersection Name: 2855 Winchester Blvd.
Weather: Fair

Tue 2/11

AM	IN	OUT
7:00	0	0
7:15	1	1
7:30	2	2
7:45	4	4
8:00	4	4
8:15	4	4
8:30	4	4
8:45	6	6
9:00	8	8

Peak Hour

7:00 - 8:00	4	4
7:15 - 8:15	3	3
7:30 - 8:30	2	2
7:45 - 8:45	2	2
8:00 - 9:00	4	4

PM	IN	OUT
4:00	0	0
4:15	6	6
4:30	7	7
4:45	7	7
5:00	7	7
5:15	7	7
5:30	8	8
5:45	8	8
6:00	8	8

Peak Hour

4:00 - 5:00	7	7
4:15 - 5:15	1	1
4:30 - 5:30	1	1
4:45 - 5:45	1	1
5:00 - 6:00	1	1

Wed 2/12

AM	IN	OUT
7:00	0	0
7:15	2	2
7:30	4	4
7:45	4	4
8:00	5	5
8:15	7	7
8:30	9	9
8:45	10	10
9:00	10	10

7:00 - 8:00	5	5
7:15 - 8:15	5	5
7:30 - 8:30	5	5
7:45 - 8:45	6	6
8:00 - 9:00	5	5

PM	IN	OUT
4:00	0	0
4:15	1	1
4:30	2	2
4:45	2	2
5:00	3	3
5:15	3	3
5:30	6	6
5:45	7	7
6:00	9	9

4:00 - 5:00	3	3
4:15 - 5:15	2	2
4:30 - 5:30	4	4
4:45 - 5:45	5	5
5:00 - 6:00	6	6

Thur 2/13

AM	IN	OUT
7:00	0	0
7:15	1	1
7:30	2	2
7:45	2	2
8:00	2	2
8:15	2	2
8:30	4	4
8:45	5	5
9:00	5	5

7:00 - 8:00	2	2
7:15 - 8:15	1	1
7:30 - 8:30	2	2
7:45 - 8:45	3	3
8:00 - 9:00	3	3

PM	IN	OUT
4:00	0	0
4:15	2	2
4:30	3	3
4:45	3	3
5:00	4	4
5:15	4	4
5:30	4	4
5:45	6	6
6:00	7	7

4:00 - 5:00	4	4
4:15 - 5:15	2	2
4:30 - 5:30	1	1
4:45 - 5:45	3	3
5:00 - 6:00	3	3

Highlighted cells represent peak volumes

Appendix C

Sixth Five-Year Report for Fairchild Semiconductor Corporation South San Jose Plant Superfund Site

SIXTH FIVE-YEAR REVIEW REPORT FOR

FAIRCHILD SEMICONDUCTOR CORPORATION SOUTH SAN JOSE PLANT SUPERFUND SITE

SANTA CLARA COUNTY, CALIFORNIA

PREPARED BY

U.S. Army Corps of Engineers, Seattle District

Approved by: Digitally signed by John Wolfenden Date: 2019.09.11 16:33:05 -07'00'

Date: September 11, 2019

John D. Wolfenden, Acting Division Chief
Toxics Cleanup Division
California Regional Water Quality Control Board

Approved by:

Date: 9/12/19

Dana Barton, Branch Chief
Superfund Site Cleanup Branch
U.S. Environmental Protection Agency, Region 9

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Executive Summary

The U.S. Environmental Protection Agency (EPA) Region 9 has conducted its sixth Five-Year Review of the Fairchild Semiconductor Corporation South San Jose Plant Superfund Site (Site) located at 101 Bernal Road, San Jose, Santa Clara County, California. The purpose of this Five-Year Review is to evaluate the implementation and performance of the remedy, and to determine whether the remedy is and will continue to be protective of human health and the environment.

The Site was used for electronics manufacturing and semiconductor fabrication from 1977 through 1983. The manufacturing process involved etching, cleaning, coating, and inspection of silicon wafers and required the use of solvents. In 1981, a failed underground storage tank containing waste solvents was discovered that had released a mixture of solvents into the subsurface. A public drinking water supply well located approximately 1,800 feet down-gradient from the Site was impacted by the release.

Initial actions following the discovery of the release included: removal of the impacted drinking water well from service; decommissioning of private wells located down-gradient of the Site in potentially impacted areas; excavation of soil within the source area; extraction of groundwater and treatment on-site and off-site; and installation of an on-site slurry cutoff wall to contain contaminants.

The State of California Regional Water Quality Control Board (Regional Water Board) adopted the Final Site Cleanup Requirements (SCR) Order No. 89-016 for the Site in January 1989. The U.S. Environmental Protection Agency (EPA) issued a Record of Decision (ROD) for the Site in March 1989, which incorporated the actions required under the SCR Order. The selected remedy included: continued groundwater extraction and treatment; soil vapor extraction in the source area; and soil flushing in the source area. Contaminants of concern identified in the ROD include: 1,1,1-trichloroethane (TCA); 1,1-dichloroethene (DCE); 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113); xylenes; acetone; isopropyl alcohol; and tetrachloroethene (PCE). The ROD also included institutional controls to prevent exposure to contaminated groundwater and soil.

Groundwater extraction was halted in 1998 after it was demonstrated that asymptotic concentrations and other conditions had been reached, and no active remediation has been performed at the Site since that time.

The institutional controls are still in place and are effective at preventing exposure to contaminated groundwater. The slurry wall appears to be effective in containing contaminants on-site. However, concentrations of 1,1,1-TCA, 1,1-DCE, and PCE within the slurry wall exceed cleanup standards and do not show decreasing trends. Therefore, it is unknown when cleanup standards within the slurry wall will be reached.

The current state maximum contaminant level for Freon-113 is now lower than the ROD cleanup standard, and the current toxicity value for isopropyl alcohol is more stringent than the ROD cleanup level. However, Freon-113 and isopropyl alcohol have not been detected in groundwater in at least the

last 10 years. Therefore, the changed maximum contaminant level and toxicity values do not affect protectiveness of human health and the environment. 1,4-dioxane has been detected inside the slurry wall since 2001 and was also detected outside the slurry wall during the most recent sampling event. There is no cleanup level for 1,4-dioxane selected in the remedy. Additionally, 1,1-dichloroethane (DCA), 1,2-DCA and vinyl chloride were not included in the ROD and have been detected inside the slurry wall near the source area at levels above California Maximum Contaminant Levels.

In 2018, EPA and the Regional Water Board oversaw a vapor intrusion assessment at the Site, which included the collection of indoor air samples and sub-slab samples along utility conduits. Soil vapor samples were also obtained within the vicinity of the former source area in the parking lot. The results of the sampling showed no evidence of unacceptable vapor intrusion occurring or with the potential to occur in the buildings under the current land use. Exceedances of health-protective screening levels were detected in soil vapor near the former source area, which do not pose any current health risks due to their subsurface location below paved asphalt. Further investigation, remediation, and/or mitigation of the source area would be appropriate prior to development of any kind (residential or commercial).

The remedy at the Fairchild Semiconductor Corporation South San Jose Plant Superfund Site is currently protective of human health and the environment because Institutional Controls prevent exposure to contaminated groundwater and concentrations of site-related contaminants of concern in indoor air do not pose an unacceptable human health risk to existing tenants or occupants under current land use. However, in order for the remedy to be protective in the long term, the Record of Decision should be amended to include a revised remedy and include 1,4-dioxane, 1,1-dichloroethane, 1,2-dichloroethane, and vinyl chloride as contaminants of concern; and the frequency of groundwater monitoring should be evaluated to identify a period less than the current five-year interval to better monitor the fluctuations in groundwater concentrations associated with extreme variations in groundwater levels.

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List of Abbreviations

µg/L	micrograms per liter
ARAR	applicable or relevant and appropriate requirement
bgs	below ground surface
CDPH	California Department of Public Health
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DCA	dichloroethane
DCE	dichloroethene
DHS	California Department of Health Services
ESL	Environmental Screening Level
EPA	U.S. Environmental Protection Agency
FFS	Focused Feasibility Study
Freon-113	1,1,2-trichloro-1,2,2-trifluoroethane
FYR	Five-Year Review
HI	hazard index
HVAC	Heating, Ventilation, and Air Conditioning
MCL	maximum contaminant level
mg/kg	milligram per kilogram
NPL	National Priority List
PCE	tetrachloroethene
RAO	remedial action objective
ROD	Record of Decision
RP	Responsible Party (the RP at this Site Schlumberger)
RSL	regional screening level
Regional Water Board	State of California Regional Water Quality Control Board, San Francisco Bay Region
SCR	Site Cleanup Requirements
SCVWD	Santa Clara Valley Water District
SMP	self-monitoring plan
SVE	soil vapor extraction
TCA	trichloroethane
TCE	trichloroethene
USACE	U.S. Army Corps of Engineers
VOC	volatile organic compound

1. Introduction

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) and the State of California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) are preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act Section 121, 40 Code of Federal Regulation Section 300.430(f)(4)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan and EPA policy.

This is the sixth FYR for the Fairchild Semiconductor Corporation South San Jose Plant Superfund Site (Site). The triggering action for this policy review is the completion date of the previous FYR. The FYR has been prepared because hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

The FYR for the Site was led by Celina Hernandez, Regional Water Board ‘ Project Manager and Melanie Morash, EPA’s Remedial Project Manager. Participants included Aaron King, Environmental Engineer, Kristin Addis, Hydrogeologist, and Benino McKenna, Hydrogeologist of the U.S. Army Corps of Engineers (USACE). The review began on November 15, 2018.

Table 1. Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: Fairchild Semiconductor Corporation South San Jose Plant		
EPA ID: CAD097012298		
Region: 9	**State:** CA	**City/County:** San Jose/Santa Clara
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: State ***[If "Other Federal Agency", enter Agency name]*:**		
Author name (Federal or State Project Manager): Celina Hernandez		
Author affiliation: State of California Regional Water Quality Control Board, San Francisco Bay Region		
Review period: 11/15/2018 – 4/23/2019		
Date of site inspection: 3/15/2019		
Type of review: Policy		
Review number: 6		
Triggering action date: 8/13/2014		
Due date *(five years after triggering action date)*: 8/13/2019		

1.1. Background

In 1975, Fairchild Semiconductor Corporation constructed a manufacturing plant for electronic devices at the Site. Manufacturing processes that involved etching, cleaning, coating, and inspection of silicon wafers began in 1977 and ceased in 1983. These operations required the use of solvents such as 1,1,1-trichloroethane (TCA), 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113), acetone, and isopropyl alcohol. Waste solvents and waste hydrofluoric acid flowed through piping from disposal sinks and/or floor drains to storage tanks located outside of the building.

In 1981, a fractured acid-neutralization pipeline was discovered. In response, exploratory borings were completed and volatile organic compounds (VOCs), including the solvents mentioned above, were discovered. A subsequent investigation discovered the source of the released VOCs was a 5,940-gallon underground storage tank containing solvent waste which failed and released a mixture of solvents to the subsurface. A public drinking water supply well, Great Oaks Water Company well number GO-13, located approximately 1,800 feet down-gradient of the Site, was impacted by the release, with 1,1,1-TCA concentrations of up to 5,700 micrograms per liter (µg/L) detected.

Following the discovery of VOCs in the subsurface, a series of interim actions was completed. Water supply well GO-13 was immediately removed from service in 1981 following the detection of contamination. From 1981 to 1982, a survey identified twenty-five existing private water wells near the Site. Eight of these wells were decommissioned because they were located down-gradient of the Site in potentially impacted areas. Additional remedial actions, listed below, include soil excavation and disposal, installation of a slurry wall, and groundwater extraction and treatment.

- In 1982, approximately 3,400 cubic yards of impacted soil within the area of the underground storage tank source was removed and disposed of off-site; estimates indicate that approximately 38,000 pounds of VOCs was removed.

- In 1986, a soil-bentonite slurry cutoff wall was constructed around a rectangular-shaped area (approximately 1,260 feet long by 1,125 feet wide), creating a physical barrier to slow or prevent off-site migration of contaminants and to facilitate remediation of on-site VOC "hot spots." The cutoff wall is about 3 feet thick, varies in depth from 55 to 148 feet below ground surface (bgs), and is keyed into the aquitard between the B zone and C zone aquifers a minimum of 2 feet into the aquitard. (Figure 2).

- Starting in 1992, groundwater was extracted to hydraulically control VOC migration, and treated using granular activated carbon and aeration towers to remove VOCs from the extracted groundwater. Former drinking water supply well GO-13 was converted into a remediation extraction well. Additional extraction wells were installed in the on-site area within the A and B aquifer zones and in the off-site area within the B and C aquifer zones.

EPA listed the Site on the National Priority List (NPL) in January 1989.

1.2. Physical Characteristics

The Site is located approximately 9 miles southeast of downtown San Jose and is near the intersection of Highways 101 and 85, about 20 miles southeast of San Francisco Bay (Figure 1). The Site is divided into two portions. The area contained within the slurry wall is referred to as "Site" or "on-site" and the area outside the slurry wall and down-gradient is referred to as "off-site"

The Site was primarily used for agriculture during the early 1900s. Transition from agricultural to industrial and commercial land use occurred in the 1960s and 1970s. In 1975, Fairchild Semiconductor Corporation purchased the 22-acre parcel that comprises the on-site portion of the Site and constructed a manufacturing plant for electronic devices. Manufacturing processes occurred between 1977 and 1983. In 1990, the Site was sold to a retail property developer. Between 1988 and 1992, the developer decommissioned and demolished the former manufacturing facilities. Between 1998 and 2000, the developer constructed the current shopping center, which includes a grocery market, restaurants, other retail businesses, a post office, and a surface parking lot that covers the slurry wall footprint. Buildings in the immediate vicinity of the Site consist of low-rise commercial buildings and warehouses. A residential development is located to the east of Bernal Road.

Groundwater in the area is used for municipal water supply and agriculture. Great Oaks Water Company, a local water purveyor, operates wells for municipal use within one mile of the Site. The closest operating down-gradient well is about 5,000 feet west of the Site. Two additional supply wells are located cross-gradient (2,000 feet northeast and 2,000 feet north) but are outside the Site's monitoring area. A restrictive covenant is currently in place that prohibits the installation of groundwater wells on the property except in connection with the remedial action.

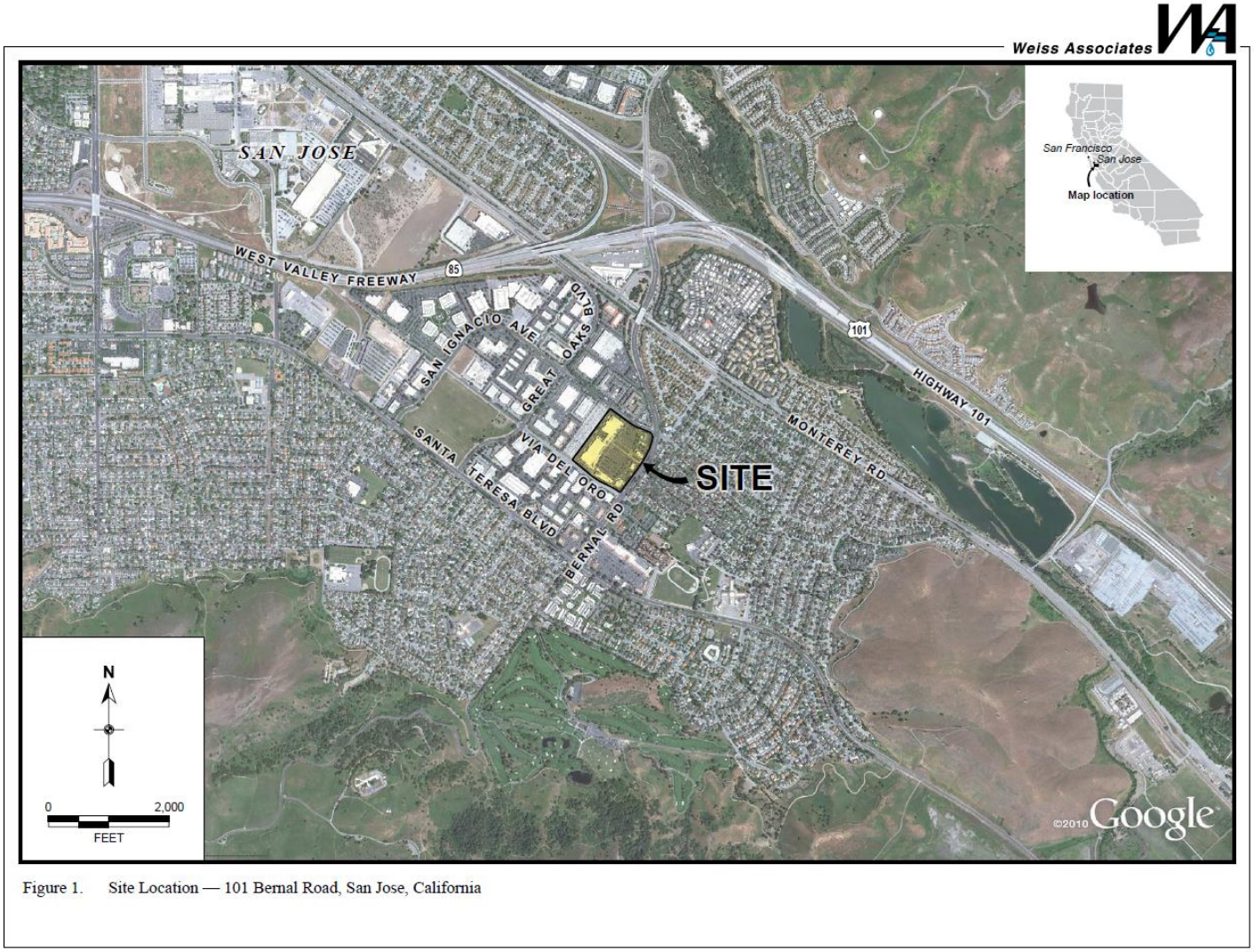


Figure 1. Site Location — 101 Bernal Road, San Jose, California

Figure 1. Location Map for the Fairchild Semiconductor Corporation South San Jose Plant Superfund Site

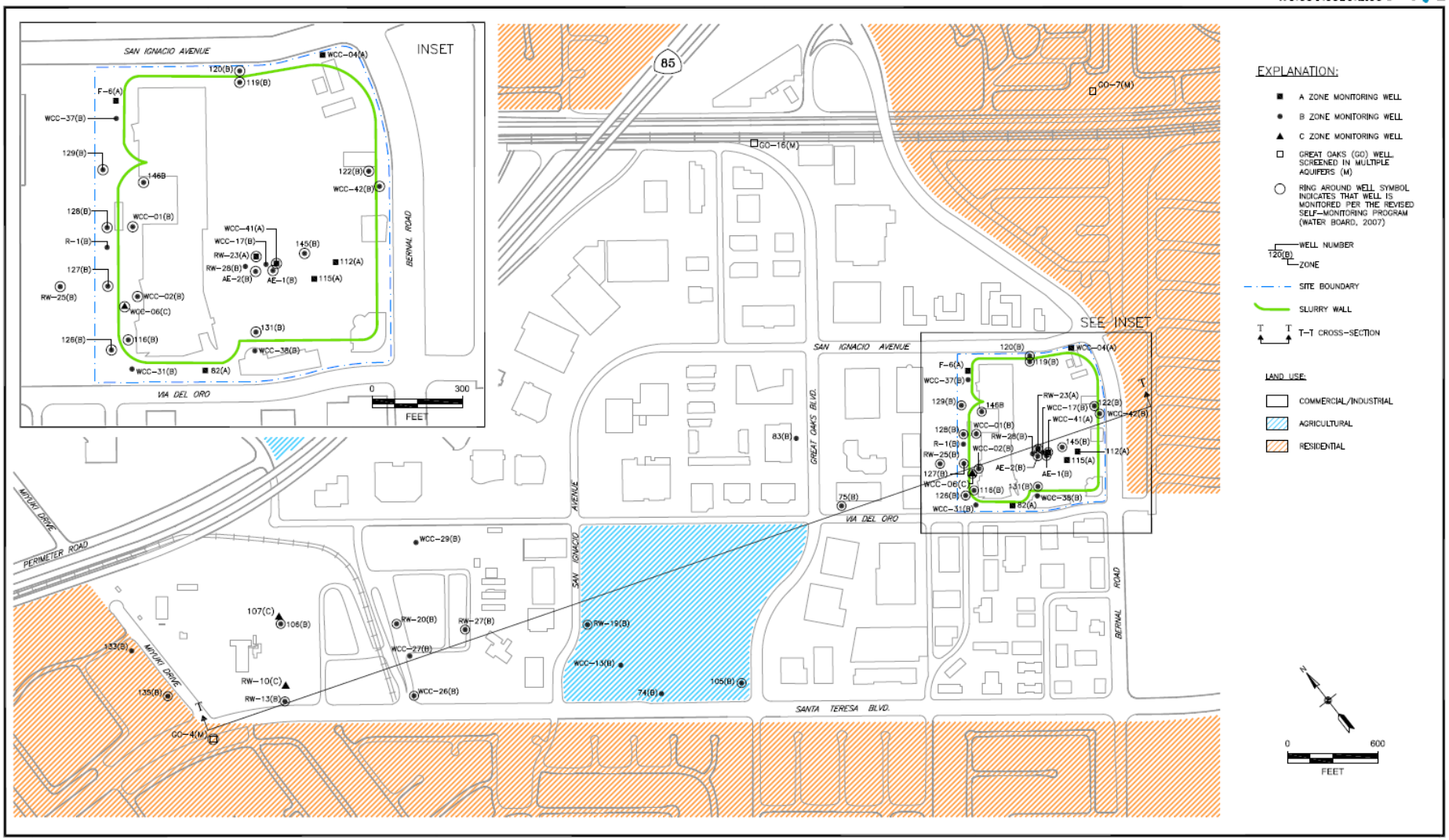


Figure 2. Monitoring Well Locations — 101 Bernal Road, San Jose, California

Figure 2. Detailed Map of the Fairchild Semiconductor Corporation South San Jose Plant Superfund Site

1.3. Hydrology

The Site is located in the Santa Teresa Basin, a southern extension of the Santa Clara Valley at higher elevation. The Santa Clara Valley is a fault-bounded structural basin filled with marine and alluvial sediments. Alternating layers of coarse and fine deposits result in a heterogeneous sequence of interbedded sands, gravels, silts, and clays. The bedrock outcrops of Coyote Narrows and Tulare Hill bound the Santa Teresa Basin on the southeast, and the Diablo Range on the northeast.

Groundwater at the Site occurs in the alluvial sediments that extend from ground surface to bedrock at a depth of about 330 to 360 feet. The alluvial aquifer is separated into four water-bearing zones, designated as "A," "B," "C," and "D." These zones are composed of transmissive, coarse-grained sediments (sand or sandy gravel) and separated by silt and silty clay aquitards up to 60 feet thick. The shallowest zone (A) is 10 to 40 feet thick and is first encountered at depths of 10 to 20 feet bgs. The A zone is laterally discontinuous in the off-site area. The B zone is generally located between 60 and 120 feet bgs; the C zone between 150 and 190 feet bgs; and the D zone greater than 300 feet bgs. The B, C, and D zones are laterally continuous and are currently a source of drinking water in the basin.

The natural groundwater flow direction at the Site is northwest towards San Francisco Bay. There is some hydraulic communication between the A and B zones. The C zone appears to be hydraulically isolated from the B zone, as demonstrated by the lack of contaminants detected within the C zone in the on-site area. In the off-site area, agricultural and supply wells were direct conduits for vertical migration between the B and C zones.

2. Remedial Actions Summary

2.1. Basis for Taking Action

The primary contaminants of concern present in on-site groundwater at the Site are 1,1,1-trichloroethane (TCA); 1,1-dichloroethene (1,1-DCE); 1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113; xylenes; acetone; isopropyl alcohol; and tetrachloroethene (PCE) in on-site groundwater and soils. The primary contaminants of concern present in off-site groundwater are 1,1,1-TCA and 1,1-DCE. The presence of these contaminants above California Department of Health Services (DHS) action levels provided the basis for taking action, with ingestion of contaminants of concern -containing groundwater posing the primary threat to human health.[1]

2.2. Remedy Selection

The Regional Water Board is the lead agency overseeing cleanup of the Site. The Regional Water Board adopted the Final Site Cleanup Requirements (SCR) Order No. 89-016 for the Site in January 1989. The

[1] DHS is now the California Department of Public Health (CDPH).

EPA issued a Record of Decision (ROD) for the Site in March 1989, which incorporates the remedial actions in the SCR Order.

The objective of the final cleanup plan for the Site is overall protection of human health and the environment. SCR Order No. 89-016 states:

> *The proposed final cleanup plan protects human health and the environment by requiring on-site aquifers to be cleaned up to drinking water actions levels and by requiring off-site aquifers to be cleaned up to a level at least 4 times more stringent than drinking water action levels. The plan therefore prevents migration of chemicals above cleanup levels into drinking water supply wells. Human health is also protected by requiring a deed restriction to prohibit use of on-site groundwater until health standards are achieved. Until cleanup levels are achieved in off-site aquifers, wells could potentially be drilled in areas of the plume containing chemical concentrations in excess of drinking water criteria. However, as part of their permitting process, the Santa Clara Valley Water District (SCVWD) would advise the potential well owner of the risks associated with such well installation. The proposed plan protects human health and the environment by preventing further vertical or horizontal migration of chemical concentrations above cleanup levels in the aquifers.*

The final cleanup plan described in the ROD includes:

- Continued groundwater extraction from off-site aquifers until a Hazard Index of 0.25 is achieved;
- Continued groundwater extraction from on-site aquifers until the achievement of drinking water quality, if feasible. If these levels are determined to be infeasible, on-site groundwater extraction shall continue as long as groundwater extraction removes significant quantities of chemicals. If achievement of drinking water quality is infeasible, the dischargers must meet, to the satisfaction of the Regional Water Board, the conditions for waiving an applicable or relevant and appropriate requirement (ARAR) and that alternative proposals will be protective of human health and the environment;
- Treatment by air stripping and reinjection or reuse of groundwater extracted on-site and from off-site well RW-25(B). If the discharger attempts reinjection or reuse and the Regional Water Board determines it to be infeasible, the water will be treated using air stripping and discharged into storm drains leading to Canoas Creek;
- Nozzle aeration of groundwater extracted from off-site wells except well RW-25(B), and then discharge into storm drains leading to Canoas Creek;
- Cleanup of on-site soils using in-situ soil aeration;
- A goal of 100 percent for reuse of off-site groundwater;
- A laboratory and field study of biodegradation of on-site chemicals;
- A re-evaluation of the feasibility and effectiveness of on-site groundwater flushing;

- A deed restriction prohibiting the use of on-site groundwater for drinking water and limiting other subsurface activities in order to protect and maintain the integrity of the slurry wall. The deed restriction shall remain in place until achievement of safe drinking water levels on-site;

- Additional monitoring wells to define the boundaries of the plume in the area bordered by Bernal Road, Via del Oro, Great Oaks Boulevard, and Santa Teresa Boulevard. Piezometers may also be required to determine extraction well capture zones; and

- Long-term monitoring (for approximately 30 years) after achievement of cleanup levels.

Except for acetone and isopropyl alcohol, the groundwater cleanup standards identified in the ROD were the drinking water action levels established by DHS at the time, or the Federal or California maximum contaminant levels (MCLs), whichever was more stringent for each contaminant. At the time the ROD was issued, EPA and DHS had not established MCLs or drinking water action levels for acetone or isopropyl alcohol. The oral reference dose in the Integrated Risk Management Information System was the basis for the cleanup standard for acetone. A DHS site-specific remediation criterion was the basis for the cleanup standard for isopropyl alcohol. The cleanup standards identified in the ROD for the on-site and off-site areas are listed in Table 2 below.

Table 2. ROD Cleanup Standards

Chemical of Concern	Cleanup Standard in micrograms per Liter (µg/L)	
	On-site	Off-site
1,1,1-TCA	200	50[a]
1,1-DCE	6	1.5[a]
Freon-113	18,000	--
Xylenes	620[b]	--
Acetone	3,500	--
isopropyl alcohol	2,250	--
PCE	5[c]	--

[a] For the off-site area, groundwater cleanup standards were set at a 0.25 hazard index. As defined in the ROD, the Hazard Index is the sum of the ratios of the concentrations of each chemical to their respective cleanup standards.
[b] The xylenes cleanup standard is for either a single isomer or the sum of isomers.
[c] The cleanup standard at the time of the ROD was the proposed California MCL of 2 µg/L. The ROD provides that if the final MCL is not the proposed value, the final cleanup standard shall be modified. The final MCL promulgated later in 1989 was 5 µg/L.

A soil cleanup goal of 1 milligram per kilogram (mg/kg) was established for on-site soils for 1,1,1-TCA, 1,1-DCE, xylenes, Freon-113, and PCE. Because of the low rate of migration from soils to groundwater, their potential for biodegradation, and the lower toxicity of acetone and isopropyl alcohol, EPA did not establish soil cleanup goals for these chemicals.

2.3. Remedy Implementation

At the time of the final SCR order adoption in 1989, soil excavation and construction of the slurry wall were complete, and the groundwater extraction and treatment system and groundwater monitoring program were fully implemented.

Groundwater remediation at the Site began in 1982 and extraction rates increased rapidly, reaching a peak flow of about 9,500 gallons per minute. At its peak, the extraction system consisted of two wells in the A and B aquifer zones inside the slurry wall area and 19 wells outside the slurry wall (off-site) in the B and C aquifer zones. By 1989, off-site groundwater extraction from the C zone was terminated and in 1991, all off-site pumping ended. In 1989, six additional B zone wells were installed on-site to dewater the A and B zones and facilitate the soil vapor extraction (SVE) system; pumping from all but two of these on-site wells ceased by 1990. With concurrence from the Regional Water Board, groundwater extraction and treatment were suspended completely in July 1998 after it was demonstrated that asymptotic VOC concentrations were reached. During operation of the groundwater extraction and treatment between 1982 and 1998, a total of 93,285 pounds of VOCs were removed from groundwater.

The SVE system operated at the Site between 1989 and 1990 to extract and treat vadose-zone soil contamination. The system was permanently shut down and removed in 1995 when Fairchild Semiconductor Corporation demonstrated that soil cleanup goals established in the SCR were achieved. In 1995, the Regional Water Board issued a SCR amendment (Order No. 95-084) allowing the SVE system to be decommissioned. In total, the SVE system removed 15,906 pounds of VOCs.

An on-site flushing program was implemented for the B aquifer zone from September 1990 to June 1991. The program consisted of extracting and re-injecting water into wells near the former underground storage tank. Because chemical concentrations in wells near and down-gradient of the former underground storage tank did not decrease, the program was terminated.

A restrictive covenant was prepared for the property and recorded with the Santa Clara County Recorder's Office on May 17, 1989. The covenant prohibits the installation of groundwater wells on the property except in connection with the remedial actions, restricts excavation below a depth of 5 feet, and prohibits damage or interference with the operation of the remedial actions. In 1990, the restrictive covenant was transferred to SDRC Inc. and an easement was granted. Under the terms of the restrictive covenant, the institutional controls need to be referenced/re-recorded with each subsequent purchaser (which was required by the original restrictions). Although this was overlooked in 2006, when Lucky/Save Mart purchase the Site in 2006, Lucky/Save Mart recorded a Corrective Warranty Deed in 2014 to address the situation. As such, the Corrective Warranty Deed retroactively changed the property records to incorporate the applicable environmental restrictions back ot the date of Lucky/Save Mart's restrictions in 2006 (and running forward).

2.4. Operations and Maintenance

Operations and maintenance of the groundwater extraction and treatment system ceased when the system was shut down in 1998. Routine groundwater sampling has occurred in accordance with Regional Water Board Order No. 95-084. Per this order, a self-monitoring plan (SMP), last updated in 2007, is being implemented with the following operations and maintenance activities:

- Through 2016, annual water level measurements and groundwater sampling at approximately 30 monitoring wells (all samples were analyzed for VOCs and samples from two wells [WCC-41(A) and AE-1(B)] were also analyzed for 1,4-dioxane);
- Screening of the analytical results to the cleanup goals for contaminants of concern established by the ROD. These contaminants of concern include acetone, 1,1-DCE, Freon-113, isopropyl alcohol, PCE, 1,1,1-TCA, and total xylenes. The ROD stipulates that the goals for the groundwater inside the slurry wall are California action levels or maximum contaminant levels (MCLs) for drinking water. Outside the slurry wall, the cleanup goal is a Hazard Index not action levels or MCLs, but a maximum Hazard Index of 0.25 based on 1,1,1-TCA and 1,1-DCE concentrations;
- Maintenance of the wellheads; and
- Annual reporting of the water level and sampling results and other site-related activities.

In 2017, the Regional Water Board approved revisions to the Self-Monitoring Plan for reducing the number of monitoring wells to 13 and the sampling frequency of the remaining wells to once every 5 years preceding FYRs. The first groundwater monitoring event following this revision of the groundwater monitoring program occurred in the summer of 2018.

3. Progress Since the Last Five-Year Review

3.1. Previous Five-Year Review Protectiveness Statement and Issues

The protectiveness statement from the 2014 FYR for the Site stated the following:

> *The remedy at the Fairchild Semiconductor San Jose Site is currently protective of human health and the environment because all exposure pathways are currently controlled. However, to be protective in the long-term, a remedy that addresses 1,4-dioxane needs to be selected and a new restrictive covenant needs to be placed on the property. Additionally, a vapor intrusion assessment for current land use and in consideration of future land use and in consideration of future residential use needs to be completed for sources other than groundwater (including from the former source area and due to lateral vadose zone transport and via subsurface preferential pathways).*

The 2014 FYR included three issues and recommendations. Each recommendation and its status are discussed below.

Table 3. Status of Recommendations From the 2014 Five-Year Review

Issue	Recommendation	Current Status	Current Implementation Status Description	Completion Date (if applicable)
1,4-dioxane is present in groundwater inside the slurry wall but is not identified in the ROD and does not have a cleanup level.	Finalize the Focused Feasibility Study and amend the ROD to reflect a change in remedy.	Ongoing	A cleanup goal for 1,4-dioxane was proposed in the draft Focused Feasibility Study (2011), but the Focused Feasibility Study has not yet been finalized and the ROD has not yet been amended. The draft Focused Feasibility Study is currently under review by the Regional Water Board and EPA.	N/A
The existing restrictive covenant was recorded prior to the passage of California Civil Code section 1471, which establishes the framework for environmental covenants in California.	Finalize and record the new restrictive covenant for the site that is consistent with current California law.	Completed	A Corrective Grant Deed was recorded on June 2, 2010 and a Corrective Warranty Deed Stating Environmental Restriction was recorded on June 27, 2014; these deed restrictions changed the property record from 2006 to incorporate the applicable environmental restrictions from the original restrictive covenants. The Regional Water Board and EPA approved these deed restrictions in 2017.	7/12/2017
The FYR vapor intrusion evaluation indicated a potential for vapor intrusion in the source area under residential scenario land use and did not consider all potential sources of risk for the vapor intrusion pathway.	Complete vapor intrusion assessment for current land use and in consideration of future residential use for sources other than groundwater (including from the former source area and due to lateral vadose zone transport and via subsurface preferential pathways).	Completed	A "Revised Vapor Intrusion Assessment" report, summarizing the results of indoor air and soil vapor sampling conducted at the Site was submitted in April 2019. This report is currently undergoing Agency review.	4/1/2019

3.2. Work Completed at the Site During this Five-Year Review Period

A Draft Focused Feasibility Study was submitted in 2011. It evaluated the existing remedy as well as alternative remedies to accelerate the groundwater cleanup. The Draft Focused Feasibility Study is currently undergoing Agency review.

In August 2017, the Regional Water Board approved the decommissioning of 13 former groundwater monitoring, extraction, and reinjection wells at the Site. Twelve wells were decommissioned between October 23 and November 1, 2017, which included eight by pressure grouting and four by over-drilling

the original boring. The destroyed wells included monitoring wells 112A, 115A, 119(B), 120(B), 122(B), 129(B), 146(B), and WCC-42(B); inactive reinjection well R-1(B); and inactive extraction wells RW-23A, RW-28(B), and WCC-17R(B) (Figure 2). Though its decommissioning was approved, well AE-2(B) was not decommissioned in order to facilitate future groundwater monitoring down-gradient of the former source area.

In a letter dated December 7, 2017, the Regional Water Board requested work plans for the evaluation of both indoor air and soil vapor at the Site. Two rounds of indoor air sampling were conducted at six retail spaces and the postal annex building in March and August of 2018. Eight temporary soil vapor probes were installed in four locations at the Site. As noted above in Table 3, the results of the soil vapor and indoor air evaluation were most recently documented in a Revised Vapor Intrusion Assessment report dated April 15, 2019, submitted to the Agencies by Schlumberger. A summary of the vapor intrusion assessment is provided in Section 4.2.2.

4. Five-Year Review Process

4.1. Community Notification, Involvement, and Site Interviews

On May 2, 2019 a public notice was published in the *San Jose Mercury News* announcing the commencement of the FYR process for the Site and inviting community participation. The public notice is available in Appendix F. EPA did not receive any calls as a result of this notice.

The FYR report will be made available to the public once it has been finalized. A copy of this document will be placed in the EPA Records Center, 75 Hawthorne Street, San Francisco, California and online at:

State website: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43360089
EPA website**:** www.epa.gov/superfund/fairchildsemiconductorsouth

4.2. Data Review

Groundwater data collected from 1998 through 2018 were reviewed as part of this FYR. Additionally, 2018 data from two rounds of indoor air sampling at six retail spaces and the postal annex building and from sampling of temporary soil vapor probes were also reviewed.

4.2.1. Groundwater

Below is a summary of the groundwater data analysis. A detailed summary of detected constituents for the last five years (2014 through 2018) is presented in Appendix D.

4.2.1.1 Groundwater Elevations

A review of groundwater reports for the review period shows significant regional changes to groundwater elevations, which are likely the result of statewide drought conditions and recovery. Groundwater elevations in the A and B zones have been declining continuously since 2011 and resulted in A zone wells being dry for the 2014 and 2015 sampling events. Between September 2016 and September 2018, the

groundwater elevations in the A and B zones rose by 30 and 25 feet, respectively. These groundwater elevations are the highest measured for the A and B zones since 2001 and the 1980s, respectively.

Three pairs of B zone monitoring wells are located across the slurry wall from each other (one just inside and the other just outside the wall; see Appendix D for hydrographs of the three well pairs), to evaluate groundwater containment. Water level measurements collected since the groundwater extraction system was shut down in July 1998 has generally indicated an inward hydraulic gradient along the northeastern and southeastern portions of the wall.

Vertical flow across the aquitard between the B and C zones inside the slurry wall was evaluated using wells WCC-02(B) and WCC-06(C). Water level data has historically indicated a downward gradient. In the 2014 monitoring event, the water levels in the B zone were approximately 10 feet higher than in the C zone. Although a downward gradient is present, the B-C aquitard is effective at containing contamination within the B zone, as VOCs were not detected in the C zone well during the 2014 sampling event. WCC-06(C) was abandoned in 2015 and evaluation of the vertical flow across the B-C aquitard has not been possible since 2015.

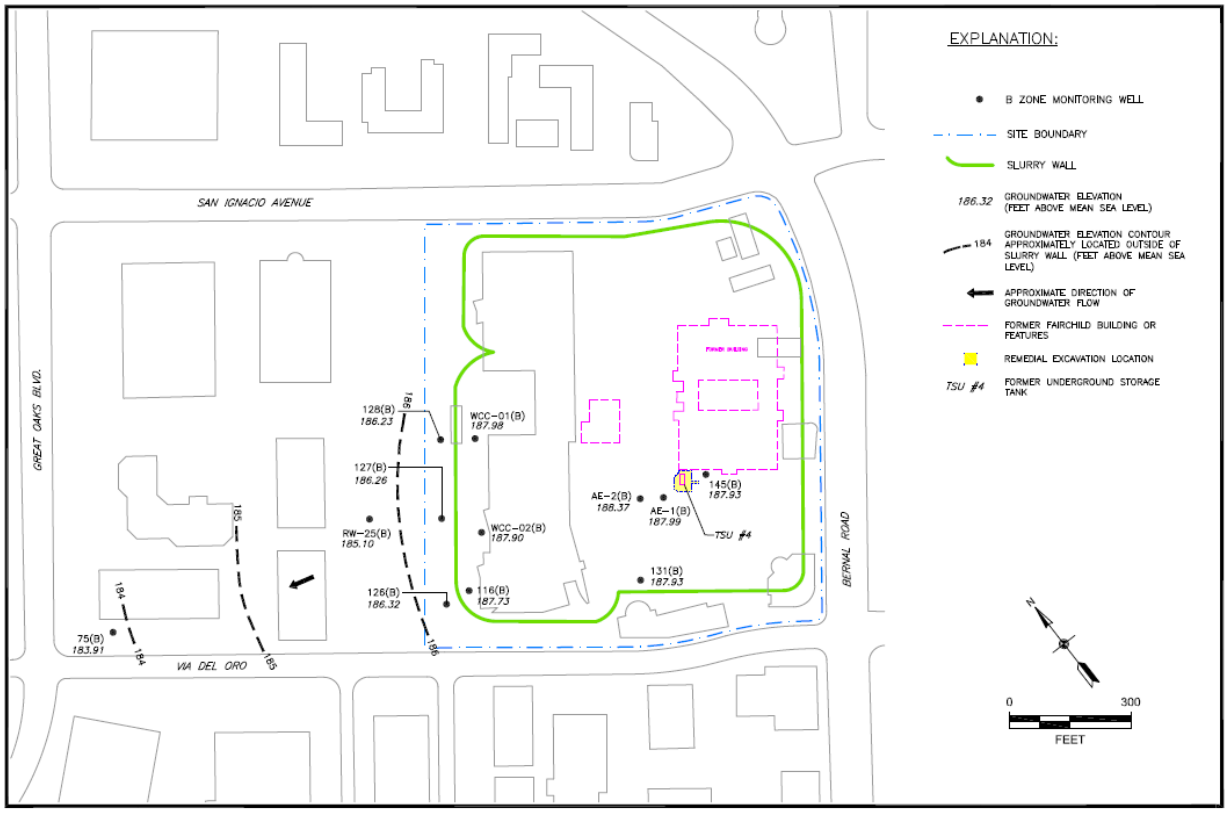


Figure 3. Groundwater Level Contours for the Aquifer Zone B, September 2018

4.2.1.2 Contaminant Concentrations Inside the Slurry Wall

The slurry wall continues to be effective in containing the contaminants of concern at the Site despite the continuing elevated concentrations reported in groundwater. The contaminants detected at or above cleanup standards within the slurry wall area include 1,1,1-TCA, 1,1-DCE, and PCE. During the review period, contaminants of concern were reported at historically elevated concentrations which corresponded to the historic high and low groundwater elevations cited above.

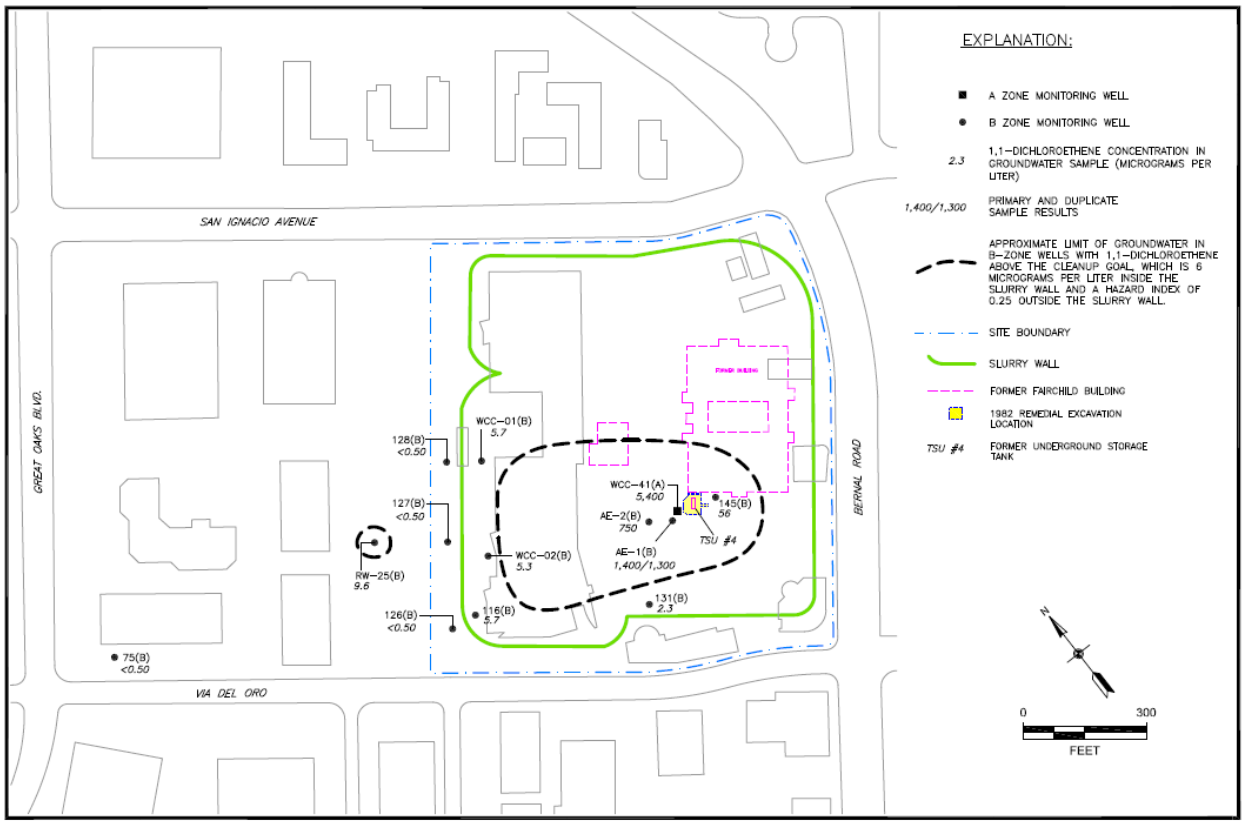


Figure 4. 1,1-DCE Concentrations in B Zone September 2018

The 1,1-DCE and PCE concentrations in A zone well WCC-41(A) during the review period were the highest detected for this well since before the groundwater extraction and treatment was shut down in 1998, which were 5,400 µg/L and 53 µg/L, respectively. The 1,1,1-TCA concentration of 280 µg/L was the highest detected for this well since 2001 (Appendix D), and the 1,4-dioxane concentration was the highest detected since monitoring for this constituent since 2001. The concentration increases in this well are likely the result of back diffusion from low permeability layers and may be contributing to the persistence of 1,4-dioxane in groundwater. The significant increase in the water elevation in the A zone has also likely mobilized residual contamination in the vadose zone in the vicinity of well WCC-41(A).

Data collected from 2008 through 2018 was evaluated to determine the cleanup progress inside the slurry wall area. Following the shutdown of the extraction system, concentrations inside the slurry wall area were redistributed as the gradients induced by the extraction system were no longer present. The

dominant transport mechanism switched from advective to diffusive, so that residual contaminants remaining in low-permeability soil were able to desorb and accumulate in the more permeable aquifer zones. During this period, chemical concentrations in some wells increased while others decreased.

1,1,1-TCA, one of the primary constituents in the former underground storage tank, can degrade through biological mechanisms to 1,1-DCA, or through abiotic mechanisms to 1,1-DCE. Both 1,1-DCA and 1,1-DCE are found at the Site, indicating that both of these mechanisms are likely occurring. Long-term data trends since 2008 were evaluated for 1,1,1-TCA, 1,1-DCE, and 1,1-DCA using the Mann-Kendall nonparametric test for trend (see Table 4). Multiple wells inside the slurry wall exhibited no trend due to either inability to collect groundwater samples during annual sampling events or significant fluctuations in recent sample results, which decrease the confidence factor of the Mann-Kendall analysis.

Table 4. Results of Mann-Kendall Test for Trend at Wells Inside the Slurry Wall, 2008-2018

Well	1,1,1-TCA		1,1-DCE		1,1-DCA	
	Trend (2008-2018)	**Confidence Factor**	**Trend (2008-2018)**	**Confidence Factor**	**Trend (2008-2018)**	**Confidence Factor**
116(B)	Stable	75.8%	No Trend	66.8%	NA	NA
131(B)	Stable	66.8%	No Trend	81.0%	No Trend	53.5%
145(B)	No Trend	89.2%	No Trend	89.2%	No Trend	72.9%
AE-1(B)	Stable	85.4%	Stable	78.4%	Stable	78.4%
AE-2(B)	Probably Decreasing	90.7%	Stable	50.0%	Stable	45.6%
WCC-01(B)	Decreasing	99.9%	Stable	78.4%	Decreasing	99.4%
WCC-02(B)	Probably Decreasing	90.1%	Increasing	99.1%	NA	NA
WCC-41(A)	No Trend	50.0%	No Trend	37.9%	No Trend	88.1%

When using the statistical analysis to determine whether concentrations are increasing, stable, or decreasing over time, a “No Trend” result can be considered as evidence that the concentration is not increasing at the relevant sampling point, similar to a “Stable” result. Contaminant back-diffusion rates from the low permeability zones has been cited as potentially affecting natural attenuation rates. During the review period, groundwater elevations in the B zone was recorded at near-record lows and historic highs, which likely contributed to fluctuating attenuation rates. Since back-diffusion could continue for an extended time, it is unknown when cleanup standards will be reached.

The presence of 1,4-dioxane was first detected at monitoring wells inside the slurry wall in 2001. Since then, there have been several sampling events where 1,4-dioxane was analyzed and detected, and data indicates 1,4-dioxane is now found both inside and outside of the slurry wall (Table 5). The sample from well WCC-41(A) contained 1,4-dioxane at the highest concentration for this well since 2001. The concentration increase is likely due to the 30-foot rise in the water level in this well over the past two years.

Table 5. 1,4-Dioxane Concentrations in Wells

Well	September 2001	September 2008	February 2011	September 2018
82(A)	<0.97 µg/L	--	--	--
112(A)	--	--	6.4 µg/L	--
115(A)	--	--	77 µg/L	--
127(B)	<2 µg/L	<0.94 µg/L	--	--
128(B)	--	7.0 µg/L	<0.98 µg/L	3.1 µg/L
AE-1(B)	<40 µg/L	--	180 µg/L	--
AE-2(B)	--	--	56 µg/L	--
F-6(A)	--	--	<0.97 µg/L	--
RW-23(A)	--	--	<1.0 µg/L	--
WCC-02(B)	<2 µg/L	--	--	--
WCC-04(A)	--	--	<0.96 µg/L	--
WCC-06(C)	--	<1.0 µg/L		--
WCC-41(A)	890 µg/L	79 µg/L	95 µg/L	1,300 µg/L

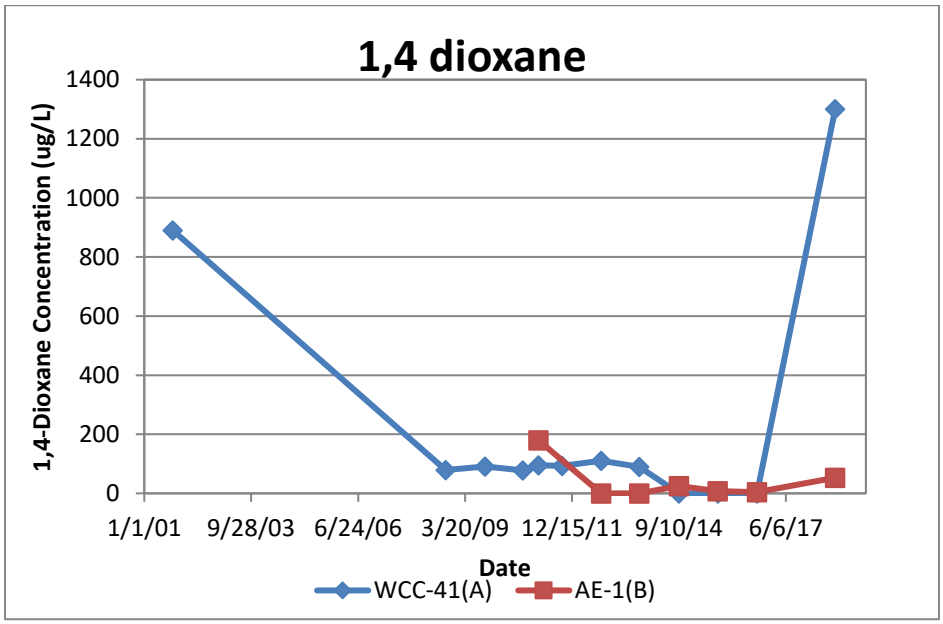


Figure 5. 1,4-Dioxane Concentrations in Well WCC-41(A)

Groundwater concentrations from wells near or immediately down-gradient from the source area continue to show chemical concentrations above the on-site cleanup standards. The VOCs 1,1,1-TCA, 1,1-DCE, and PCE continue to be detected in wells 145(B), AE-1(B), AE-2(B) and WCC-41(A) above cleanup standards.

4.2.1.3 Contaminant Concentrations Outside of the Slurry Wall

Chemical concentrations in the wells outside of the slurry wall were evaluated to determine effectiveness of the slurry wall and progress toward achieving cleanup standards. The primary contaminants remaining in off-site wells are 1,1,1-TCA and 1,1-DCE. Cleanup standards are set at a Hazard Index of 0.25 for the combination of 1,1,1-TCA and 1,1-DCE. Concentration trends at off-site wells were evaluated using the Mann-Kendall test for trend (Table 6).

Elevated concentrations were reported in off-site well 126(B) during 2014 and 2015 sampling events where concentrations had historically been non-detectable for 1,1,1-TCA and 1,1-DCE; the cleanup standard was exceeded during both of these events. These elevated concentrations were likely related to the lower water levels in these wells. Chemical concentrations have been higher in well 126(B) when the groundwater elevation has been at or below approximately 145 feet above mean sea level (Figure 6). This is the approximate elevation of a contact between two units: an upper sand and gravel, and a lower clayey silt (Figure 6). Contaminants likely remain sorbed to fine-grained units of low permeability within and at the bottom of the B zone down-gradient of the slurry wall. When water levels are at or below 145 feet above mean sea level, the highly transmissive portion of the upper B zone above this elevation is dry. Thus, during periods of low groundwater elevations, water that flows through the well is primarily groundwater that is in contact with the low permeability units that contain residual contaminants.

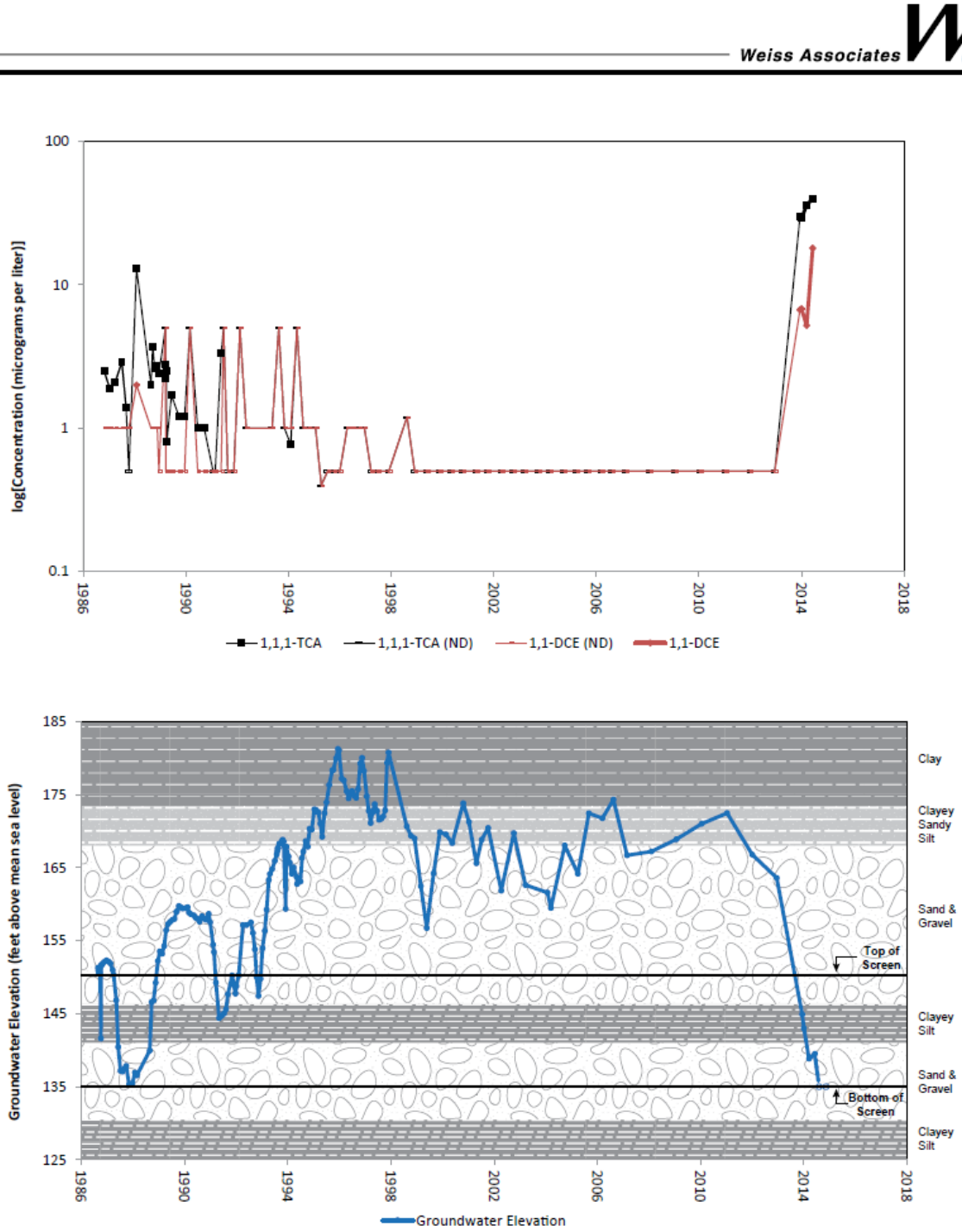
Concentrations of 1,1,1-TCA and 1,1-DCE in off-site well RW-25(B) were reported above the cleanup standard in the last five years. The elevated concentrations of these contaminants at well RW-25(B) are not thought to be due to slurry wall issues, however, because monitoring well 127(B), which is located between RW-25(B) and the slurry wall, does not indicate any increases in contaminants concentrations. It is likely, therefore, that the elevated concentrations in well RW-25(B) are due to localized conditions within the aquifer. Additionally, despite exceeding the cleanup standard, both 1,1,1-TCA and 1,1-DCE concentrations are decreasing in well RW-25(B) (Table 6).

Other off-site monitoring wells (75(B), 127(B), and 128(B)) had minor detections of 1,1,1-TCA and 1,1-DCE, but all contaminants of concern concentrations were well below cleanup standards. Additionally, well 128(B) had a 1,4-dioxane concentration of 3.1 µg/L during the 2018 sampling event; this was the first time since 2008 that 1,4-dioxane has been detected outside of the slurry wall.

Table 6. Results of Mann-Kendall Test for Trend at Off-Site Wells, 2008-2018

Well	1,1,1-TCA		1,1-DCE	
	Trend (2008-2018)	Confidence Factor	Trend (2008-2018)	Confidence Factor
75(B)	No Trend	63.6%	NA	NA
126(B)	NA	NA	NA	NA
127(B)	NA	NA	NA	NA
128(B)	Stable	89.1%	NA	NA
RW-25(B)	Decreasing	99.8%	Probably Decreasing	92.4%

NA – not applicable, more than 50% of data non-detect



Notes: Lithology based on log for adjacent soil boring SB-152. Screen interval is 135 to 150 feet above mean sea level.
1,1,1-TCA: 1,1,1-trichloroethane. 1,1-DCE: 1,1-dichloroethene. ND: not detected above the reporting limit.
Water level dropped below bottom of well screen between March and June 2015.

Figure 6. VOC Concentrations and Hydrograph for Monitoring Well 126(B)

4.2.2. Vapor Intrusion

In response to a request by the Regional Water Board and EPA to address the potential vapor intrusion pathway, two rounds of indoor air sampling were completed at six retail spaces and the postal annex building in March and August of 2018. In addition to the indoor air sampling, eight temporary soil vapor probes were installed and sampled in four areas in August of 2018. Results were reported in the Revised Vapor Intrusion Assessment Report that was submitted to the Regional Water Board and EPA in April 2019; this report is currently undergoing Agency review.

The results of the sampling showed no evidence of unacceptable vapor intrusion occurring in the buildings under the current land use and confirmed that the underground utility conduits are not acting as a migration pathway for soil vapor to indoor air.

Indoor air concentrations of 1,1-DCE, 1,1,1-TCA, and vinyl chloride were well below the Regional Water Board Environmental Screening Levels (ESLs) and EPA's Regional Screening Levels for residential and commercial/industrial land use in all samples (Table 7).

Table 7. Summary of Indoor Air Sampling Results

Location Name	Sample Depth (ft bgs)	Volatile Organic Compounds			Helium
		1,1-Dichloroethene	1,1,1-Trichloroethane	Vinyl chloride	
Environmental Screening Level[2]	Residential	2,400	35,000	0.32	N/A
	Commercial/ Industrial	10,000	150,000	5.2	
Vapor Intrusion Screening Level	Residential[3]	6,950	174,000	5.6	
	Commercial/ Industrial[4]	29,200	730,000	9,300	
SVP-01	5	<16	1,300	<10	0.090 J
	20	78	610	<10	0.14 J
SVP-02	5	370	6,500	<54	0.21
	20	5,400	9,200	<81	0.097 J
SVP-03	5	340	4,200	<32	0.074 J
	20	4,900	7,400	<55	0.16 J
SVP-04	5	**570,000 / 560,000**	120,000 / 120,000	<4,400 / <4,300	0.056 J / 0.13 J
	20	**770,000 / 830,000**	140,000 / 150,000	<9,200 / **910 J**	0.099 J / 0.19

Notes:
1. Samples were collected on 6 August 2018 in batch certified clean 1-Liter Summa ™ canisters and analyzed by Test America of West Sacramento, CA via EPA Method TO-15.
2. Environmental Screening Levels (ESLs) from Subslab/Soil Gas Vapor Intrusion Human Health Risk Levels published by the San Francisco Bay Regional Water Quality Control Board (January 2019).
3. Residential Vapor Intrusion Screening Levels (VISLs) from Target Sub-Slab and Near-Source Soil Gas Concentration calculated by the EPA VISL Calculator using a target risk of 10^{-6} and hazard quotient of 1 and assuming default (non-site-specific) screening levels (May 2018).
4. Commercial/Industrial VISLs from Target Sub-Slab and Near-Source Soil Gas Concentration calculated by the EPA VISL Calculator using a target risk of 10^{-4} and hazard quotient of 1 and assuming default (non-site-specific) screening levels (May 2018).
5. Volatile organic compound concentrations are shown in micrograms per meter cubed ($\mu g/m^3$). Helium concentrations are shown in volume/volume percent (v/v %).
6. Detected results are shown in bold.
7. < indicates analyte is not detected above the reported detection limit.
8. - / - indicates parent / duplicate sample.
9. J indicates the reported result for this analyte should be considered an estimated value as the reported concentration for this analyte is below the quantitation limit.
10. Bolded result indicates the concentration detected was greater than its respective residential and commercial/industrial ESL and VISL.
11. ft bgs = feet below ground surface
12. N/A = not applicable

Soil vapor concentrations of 1,1-DCE and 1,1,1-TCA along potential utility conduits (sample locations SVP-01, -02 and -03) were lower than their respective Regional Water Board ESLs for residential and commercial/industrial land use; vinyl chloride was not detected in these samples, but detection limits were above the residential ESL (Table 8). Near the former source area (sample location SVP-04), 1,1-DCE and vinyl chloride were detected above the residential and commercial/industrial ESLs (Table 8).

Exceedances of health-protective screening levels were detected in soil vapor near the former source area. Near the former source area (sample location SVP-04), 1,1-DCE and vinyl chloride were detected above the residential and commercial/industrial ESLs (Table 8).

This area does not pose any current human health risks, however, due its subsurface location below paved asphalt. Further investigation, remediation, and/or mitigation of the source area would be appropriate prior to development of any kind (residential or commercial).

Table 8. Summary of Soil Vapor Sampling Results

Location Name	Sample Depth (ft bgs)	Volatile Organic Compounds			Helium
		1,1-Dichloroethene	1,1,1-Trichloroethane	Vinyl chloride	
Environmental Screening Level[2]	Residential	37,000	520,000	4.7	N/A
	Commercial/ Industrial	310,000	4,400,000	160	
SVP-01	5	<16	**1,300**	<10	**0.090 J**
	20	**78**	**610**	<10	**0.14 J**
SVP-02	5	**370**	**6,500**	<54	**0.21**
	20	**5,400**	**9,200**	<81	**0.097 J**
SVP-03	5	**340**	**4,200**	<32	**0.074 J**
	20	**4,900**	**7,400**	<55	**0.16 J**
SVP-04	5	**570,000 / 560,000**	**120,000 / 120,000**	<4,400 / <4,300	**0.056 J / 0.13 J**
	20	**770,000 / 830,000**	**140,000 / 150,000**	<9,200 / **910 J**	**0.099 J / 0.19**

Notes:
1. Samples were collected on 6 August 2018 in batch certified clean 1-Liter Summa ™ canisters and analyzed by Test America of West Sacramento, CA via EPA Method TO-15.
2. Environmental Screening Levels (ESLs) from Direct Exposure Human Health Risk Levels published by the San Francisco Bay Regional Water Quality Control Board (February 2016).
3. Volatile organic compound concentrations are shown in micrograms per meter cubed ($\mu g/m^3$). Helium concentrations are shown in volume/volume percent (v/v %).
4. Detected results are shown in bold.
5. < indicates analyte is not detected above the reported detection limit.
6. - / - indicates parent / duplicate sample.
7. J indicates the reported result for this analyte should be considered an estimated value as the reported concentration for this analyte is below the quantitation limit.
8. Highlighted result indicates the concentration detected was greater than its respective commercial/industrial ESL. The results also exceeds its respective residential ESL.
9. ft bgs = feet below ground surface
10. N/A = not applicable

4.3. Site Inspection

The inspection of the Site was conducted on March 15, 2019. In attendance were Melanie Morash (EPA), Celina Hernandez (Regional Water Board), Benino McKenna (USACE), Kimberly Ryan (Weiss Associates, consultant for Schlumberger), and Angus Chan (Geosyntec, consultant for Schlumberger). The participants met on-site and proceeded to walk the Site and inspect the recent well abandonments and the remaining monitoring well network. All of the abandoned wells appeared to be properly sealed per California code and the existing wells were secured and in good condition. A detailed report of the Site inspection is included in Appendix H.

5. Technical Assessment

5.1. Question A: Is the remedy functioning as intended by the decision documents?

The ROD prescribed groundwater extraction and treatment, SVE, and soil flushing. At the time the ROD was signed, the slurry wall had already been installed. The groundwater extraction and treatment system started operation in 1982, shortly after contamination was discovered. Off-site groundwater extraction and

treatment wells were shut down in 1991 and the remaining on-site wells were shut down in 1998. The SVE system operated from 1987 to 1990, and the soil flushing program was implemented from September 1990 to June 1991. No active remediation has been performed at the Site since 1998.

The slurry wall installed in 1986 appears to be effective in containing contaminants on-site. Water level data collected near the northeastern and southeastern portion of the wall indicate an inward gradient. Water level data collected near the down-gradient, northwest portion of the slurry wall show seasonal variations in gradient – inward during the wet season and outward during the dry season. However, this may be a function of water level fluctuations outside the wall. A downward vertical gradient between the B and C zones is consistently observed within the slurry wall, but the B-C aquitard is effective at containing contamination within the B zone, as contaminants of concern have not been detected in the C zone. Furthermore, contaminant concentration data do not indicate that there is contaminant migration moving off-site from within the slurry wall area.

While the slurry wall appears to be containing contaminated groundwater, some contaminant concentrations within the slurry wall exceed cleanup standards and do not show decreasing trends. Therefore, it is unknown when cleanup standards within the slurry wall will be reached. Additionally, in the last five years, groundwater contaminant concentrations have been detected above cleanup standards in several wells located outside of the slurry wall.

The last five years have shown some of the lowest groundwater elevations since 1991, with A zone wells completely dry in 2014 and 2015. Groundwater elevations in the B zone were also at record lows, with well 126(B) dry during 2015. The extremely low groundwater elevations coincided with elevated groundwater concentrations, likely associated with residual contaminants sorbed to the fine-grained units of low permeability at the bottom of the B zone. Conversely, some of the highest groundwater elevations in the A and B zone since 2001 and the 1980s, respectively, was observed in 2018. The concentrations of 1,1,1-TCA, 1,1-DCE, PCE, and 1,4-dioxane in well WCC-41(A) for 2018 were the highest since 2001. Additionally, 1,4-dioxane was detected in well 128(B) outside of the slurry wall. The concentration increases are likely due to the 30-foot rise in water levels in this well over the past two years. This rise in groundwater elevations has likely mobilized residual contaminants in the vadose zone, resulting in elevated groundwater concentrations. In summary, contaminant concentration increases have been associated with extremely low and extremely high-water levels at the Site.

Schlumberger is currently conducting long-term monitoring. Through 2016, groundwater elevation measurements and samples were collected annually at approximately 30 monitoring wells. In 2017, the Regional Water Board approved reducing the number of monitoring wells to 13 and the sampling frequency of the remaining wells to once every five years.

A restrictive covenant was prepared for the property and recorded with the Santa Clara County Recorder's Office on May 17, 1989. The covenant prohibits the installation of groundwater wells on the property except in connection with the remedial actions, restricts excavation below a depth of five feet, and prohibits damage or interference with the operation of the remedial actions. In 1990, the restrictive covenant was transferred to SDRC Inc. and an easement was granted. The 1990 restrictive covenant

explicitly references the 1989 restrictive covenant and SDRC Inc. agreed to abide by its terms. The fourth and fifth FYRs recommended that a new restricted covenant be completed because the existing covenant was recorded prior to the passage of California Civil Code section 1471, which establishes the framework for environmental covenants in California. Schlumberger amended the original restrictive covenant by a Corrective Grant Deed (recorded on June 2, 2010) and a Corrective Warranty Deed Stating Environmental Restriction (recorded on June 27, 2014) to address the issue and recommendation associated with the original restrictive covenant. The 2014 corrective warranty deed retroactively changed the property records to incorporate the applicable environmental restrictions from the 1989 and 1990 restrictive covenants. The Regional Water Board and EPA approved these amendments in 2017. These institutional controls have been effective at preventing exposure to contaminated groundwater.

5.2. Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?

Yes, the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the ROD are valid. There have been changes to ARARs, toxicity, and exposure assumptions, but these changes do not affect current protectiveness.

Chemical-specific ARARs, which are the basis for several of the cleanup standards for groundwater, have changed since the ROD for xylenes and Freon 113 (see Appendix C). The current State and Federal MCLs for xylenes are higher (less stringent) than the cleanup standard in the ROD. The current California MCL for Freon 113 is lower (more stringent) than the cleanup standard in the ROD; however, Freon 113 has not been detected in on-site wells above the current California MCL. Therefore, these changes in chemical-specific ARARs do not affect protectiveness. Action- and location-specific ARARs have changed since the ROD, but none of these changes are relevant to the remedy as currently operated.

The current toxicity value for isopropyl alcohol is now more stringent than the ROD cleanup level (see Appendix E). However, in at least the last 10 years, isopropyl alcohol has not been detected in groundwater.

The land use has not changed on-site or off-site since the last FYR. Indoor air and soil vapor sampling were conducted in 2018 to evaluate the vapor intrusion pathway. Concentrations of site-related contaminants in indoor air do not pose an unacceptable human health risk to existing tenants under the current building use. Soil vapor concentrations of 1,1-DCE and vinyl chloride in the former source area, which is currently in the center of a parking lot, exceeds State residential and commercial/industrial screening levels. This area would require further investigation, mitigation with engineering controls, or other response actions prior to development of any kind (residential or commercial). Consequently, institutional controls should be recorded to address requirements for protectiveness of new construction over the former source area.

1,4-dioxane has been detected inside the slurry wall since 2001. In the latest sampling event, 1,4-dioxane was also detected outside of the slurry wall. There is currently no cleanup level for 1,4-dioxane

established for the Site. Additionally, VOCs (1,1-DCA, 1,2-DCA, and vinyl chloride) that were not included in the ROD have been detected inside the slurry wall near the source area at levels above California MCLs.

The objective of the ROD is to protect human health and the environment by cleaning up on-site and off-site groundwater to the identified cleanup standards and instituting intuitional controls to prevent exposure to contaminated groundwater. Because of institutional controls, no exposure to contaminated groundwater is occurring. However, while the slurry wall appears to be containing contaminated groundwater, some contaminants concentrations within the slurry wall exceed cleanup standards and do not show decreasing trends. Therefore, it is unknown when cleanup standards within the slurry wall will be reached. Additionally, in the last five years, groundwater concentrations have been detected above cleanup standards in several wells outside of the slurry wall.

5.3. Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

At this time, no other information has come to light that could call into question the protectiveness of the remedy. There have been no impacts from earthquakes or other natural disasters at the Site in the last five years.

6. Issues/Recommendations

Table 9. Issues and Recommendations Identified in the Five-Year Review

Issues and Recommendations Identified in the Five-Year Review:				
OU(s): N/A	**Issue Category:** Changed Site Conditions			
	Issue: 1,4-dioxane is present in groundwater inside and outside of the slurry wall, likely due to rising groundwater levels, but is not identified as a contaminant of concern in the ROD and does not have a cleanup level. In addition, 1,1-DCA, 1,2-DCA, and vinyl chloride exceed California MCLs at the Site, but are not identified in the ROD as contaminants of concern.			
	Recommendation: Evaluate inclusion of 1,4-dioxane. 1,1-DCA, 1,2-DCA, and vinyl chloride as contaminants of concern with cleanup levels in an amended ROD.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	RP	State	9/1/2024
OU(s): **N/A**	Issue Category: Remedy Performance			
	Issue: The selected remedy of pump and treat has not been operational since 1993, and some contaminant concentrations within the slurry wall exceed cleanup standards and do not show decreasing trends.			
	Recommendation: Finalize the Focused Feasibility Study and issue a ROD Amendment selecting a new remedial action.			

Affect Current Protectiveness	Affect Future Protectiveness	Party Responsible	Oversight Party	Milestone Date
No	Yes	EPA	State	9/1/2024
OU(s): **N/A**	Issue Category: **Changed Site Conditions**			
	Issue: Extreme variations in groundwater levels can lead to variability in groundwater concentrations.			
	Recommendation: Evaluate and implement sampling frequencies more frequent than the current five-year interval to optimize the monitoring of groundwater contaminant concentrations fluctuations and more expeditiously identify any impacts on protectiveness.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	RP	State	9/1/2022

6.1. Other Findings

In addition, the following recommendation to accelerate site close-out but will not affect current and/or future protectiveness was identified during the FYR:

- Monitoring well 128(B) should be added to the Self-Monitoring Plan for future monitoring to verify the presence of contaminants of concern outside of the slurry wall that were reported in the Schlumberger's 2018 Groundwater Monitoring Report.

- Although the results of the sampling showed no evidence of unacceptable vapor intrusion occurring in the buildings under the current land use and confirmed that the underground utility conduits are not acting as a migration pathway for soil vapor to indoor air, elevated concentrations of 1,1-DCE and vinyl chloride were detected in the soil gas above the residential and commercial/industrial ESLs near the former source area. This area does not pose any current human health risks, however, due to its subsurface location below paved asphalt. Further investigation, remediation, and/or mitigation of the source area would be appropriate prior to development near the former source area. The next FYR should verify that land use has not changed, nor anticipated to change.

7. Protectiveness Statement

Table 10. Protectiveness Statement

Sitewide Protectiveness Statement
Protectiveness Determination: Short-term Protective
Protectiveness Statement: The remedy at the Fairchild Semiconductor Corporation South San Jose Plant Superfund Site is currently protective of human health and the environment because Institutional Controls prevent exposure to contaminated groundwater and concentrations of site-related contaminants of concern in indoor air do not pose an unacceptable human health risk to existing tenants or occupants under current land use. However, in order for the remedy to be protective in the long term, the Record of Decision should be amended to include a revised remedy and include 1,4-dioxane, 1,1-dichloroethane, 1,2-dichloroethane, and vinyl chloride as contaminants of concern; and the frequency of groundwater monitoring should be evaluated to identify a period less than the current five-year interval to better monitor the fluctuations in groundwater concentrations associated with extreme variations in groundwater levels.

8. Next Review

This is a policy review Site that requires ongoing Five-Year Reviews as long as waste is left on site that does not allow for unlimited use and unrestricted exposure. The next Five-Year Review report for the Fairchild Semiconductor Corporation South San Jose Plant Superfund Site is required five years from the completion date of this review.

Appendix A: List of Documents Reviewed

Geosyntec Consultants, Inc. 2018. Work Plan Indoor Air Sampling, 101 Bernal Road, San Jose, California. January 3, 2018.

Geosyntec Consultants, Inc. 2018. Work Plan for Soil Vapor Sampling, 101 Bernal Road, San Jose, California. January 18, 2018.

Geosyntec Consultants, Inc. 2018. Revised Vapor Intrusion Assessment, Fairchild Semiconductor South San Jose Plan Superfund Site, 101 Bernal Road, San Jose, California. December 2018.

Regional Water Quality Control Board (Regional Water Board). 2009. Fourth Five-Year Review, Fairchild Semiconductor – San Jose Site, 101 Bernal Road, San Jose, Santa Clara County, CA. California Regional Water Quality Control Board (CRWQCB). September 2009.

Santa Clara County Recorder. 1989. Declaration of Covenants Conditions and Restrictions. May 17, 1989.

Santa Clara County Recorder. 2010. Corrective Grant Deed. June 2, 2010.

Santa Clara County Recorder. 2014. Corrective Warranty Deed Stating Environmental Restriction. June 27, 2014.

U.S. Environmental Protection Agency (EPA). 1989. Record of Decision, Fairchild Semiconductor Corp. (South San Jose Plant), San Jose, CA., March 20, 1989.

U.S. Environmental Protection Agency (EPA). 2014. Fifth Five-Year Review, Fairchild Semiconductor Corporation South San Jose Plant Superfund Site, San Jose, Santa Clara County, CA. August 2014.

U.S. Environmental Protection Agency (EPA). 2017. Final Comments on Draft Groundwater Focused Feasibility Study (FFS) for the Former Fairchild Facility, 101 Bernal Road, San Jose, California, June 2011. February 6, 2017.

U.S. Environmental Protection Agency (EPA). 2018. Fairchild Semiconductor South San Jose Plant Superfund Site (SSID: 0962) September 6, 2018 Vapor Intrusion Assessment Comments. September 24, 2018.

Weiss Associates. 2011. Draft Groundwater Focused Feasibility Study, Former Fairchild Semiconductor Facility, 101 Bernal Road, San Jose, California. June 16, 2011.

Weiss Associates. 2013. 2013 Annual Status Report for Former Fairchild Facility, 101 Bernal Road, San Jose, California. November 5, 2013.

Weiss Associates. 2014. 2013 Fifth Five-Year Review Report for Former Fairchild Facility, 101 Bernal Road, San Jose, California. January 31, 2014.

Weiss Associates. 2014. 2014 Annual Status Report for Former Fairchild Facility, 101 Bernal Road, San Jose, California. November 26, 2014.

Weiss Associates. 2015. 2015 Annual Status Report for Former Fairchild Facility, 101 Bernal Road, San Jose, California. November 10, 2015.

Weiss Associates. 2016. Vapor Intrusion Data Summary Former Fairchild Facility, 101 Bernal Road, San Jose, California. April 20, 2016.

Weiss Associates. 2016. 2016 Annual Status Report for Former Fairchild Facility, 101 Bernal Road, San Jose, California. November 8, 2016.

Weiss Associates. 2017. RE: Response to Comments Draft Groundwater Focused Feasibility Study Former Fairchild Semiconductor Facility, 101 Bernal Road, San Jose, California. November 15, 2017.

Weiss Associates. 2017. RE: Well Destruction Completion Report Former Fairchild Semiconductor Facility, 101 Bernal Road, San Jose, California. December 20, 2018.

Weiss Associates. 2018. 2018 Groundwater Monitoring Report for Former Fairchild Facility, 101 Bernal Road, San Jose, California. November 8, 2018.

Appendix B: Site Chronology

Event	Date
Fairchild Semiconductors (Fairchild) began electronics manufacturing at the Fairchild Semiconductor Corporation South San Jose Plant Superfund Site (Site).	1977
Initial investigations identified a leaking waste solvent underground storage tank (UST), as well as associated soil and groundwater contamination.	Nov-Dec 1981
Great Oaks Water company public supply well GO-13 was found to contain 1,1,1-trichloroethane (TCA) and was taken out of service.	Dec 1981
Fairchild removed the leaking underground storage tank and associated piping. Fairchild also excavated a 50-foot by 65-foot area around the underground storage tank to a depth of approximately 50 feet.	1982
Fairchild began groundwater extraction.	1982
Fairchild stopped industrial operation at the Site.	1983
Fairchild installed an underground slurry wall to contain the subsurface contaminant plume and prevent further off-property migration.	1986
Site added to the National Priorities List (NPL).	1989
Fairchild conducted on-property soil vapor extraction (SVE) from A and B aquifer zones between January 1989 and April 1990.	Jan 1987 – Apr 1990
California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) adopted Final Site Cleanup Requirements (SCR) Order 89-016 for the Site.	Jan 1989
U.S. Environmental Protection Agency (EPA) issued the Record of Decision (ROD) for the Site.	Mar 1989
Declaration of Covenants, Conditions and Restrictions (Declaration) recorded.	May 17, 1989
Fairchild/Schlumberger sold the Site property to SRDC, Inc.	1990
Declaration of Covenants, Conditions and Restrictions (Declaration) recorded.	Aug 9, 1990
Fairchild/Schlumberger terminated off-property pumping.	Dec 1991
Preliminary Close-Out Report completed.	Mar 1992
Fairchild submitted first Five-Year Review (FYR) Report to the Regional Water Board.	Feb 1994
Regional Water Board adopted SCR Order No. 95-084, an amendment of Order No. 89-016, curtailing soil remediation (SVE system).	April 1995

Event	Date
A Supplemental Health Risk Assessment was conducted to assess vapor intrusion.	Nov 1995
Fairchild submitted a Containment Zone Application.	March 1998
Fairchild terminated on-property groundwater extraction and treatment.	July 1998
Property redeveloped into retail shopping center.	1998 - 2000
Regional Water Board and EPA completed the second FYR	July 1999
Santa Clara Valley Water District requested groundwater sampling for 1,4-dioxane.	2001
Site status changed to Open with verification monitoring	July 2002
Regional Water Board and EPA completed the third FYR.	September 2004
1,1,-dichloroethene (DCE) is detected at a concentration above the maximum contaminant level (MCL) of 6 micrograms per liter (µg/L) in well RW-25B, located outside the slurry wall.	October 2005
Fairchild initiated quarterly sampling of wells RW-25B and 127B to evaluate concentration changes. No Contaminants of Concern were ever detected in well 127B, so frequency of sampling in this well reverted back to annual in January 2008.	January 2007
Regional Water Board issued Self-Monitoring Program requirement, changing monitoring and reporting requirements from semi-annual to annual. Wells 74B, 83B, WCC-13B and WCC-27B removed from SMP.	July 2007
Groundwater sampling and analysis results for 1,4-dioxane in wells WCC-6(C), WCC-41(A), 127(B), and 128(B) indicated a maximum of 79 µg/L.	September 2008
A vapor intrusion evaluation using Regional Water Board environmental screening level (ESL) guidance was conducted.	October 2008
Regional Water Board and EPA completed the fourth FYR.	September 2009
Corrective Grant Deed recorded to clarify the record title of the property is subject to the Declaration recorded May 17, 1989.	June 2, 2010
Groundwater sampling at 10 wells was completed to support a Focused Feasibility Study (FFS).	February 2011
Draft FFS completed.	June 2011
Regional Water Board requires vapor intrusion evaluation and screening level risk assessment report.	December 12, 2013
Vapor intrusion evaluation and screening level risk assessment report submitted in the Responsible Party's Fifth FYR.	January 31, 2014
Corrective Warranty Deed recorded between Grantor, Lucky Stores Properties, Inc. and Grantee, LSP Properties LLC.	June 27, 2014

Event	Date
Regional Water Board and EPA completed the fifth FYR.	August 4, 2014
Regional Water Board and EPA issued comments on the Draft FFS.	September 17, 2015
Response to Regional Water Board and EPA comments on the Draft FFS.	December 28, 2015
Vapor Intrusion Data Summary report submitted as requested by Regional Water Board on September 17, 2015.	April 20, 2016
Regional Water Board approved reducing the number of monitoring wells to 13 and the sampling frequency of the remaining wells to once every five years.	2017
Regional Water Board and EPA issue response to Draft FFS comments.	August 2, 2017
Response to Regional Water Board and EPA comments on the Draft FFS.	November 15, 2017
Regional Water Board requires submittal of indoor air and soil vapor sampling workplans for the Site.	December 7, 2017
Regional Water Board approves indoor air sampling workplan.	February 1, 2018
Regional Water Board approves soil gas sampling workplan.	May 2, 2018
Schlumberger conducts vapor intrusion assessment at the Site, including Heating, Ventilation, and Air Conditioning (HVAC)-on indoor air and soil vapor sampling in the main building, and HVAC-off indoor air sampling in the postal annex building.	August 2018
Schlumberger submits report on vapor intrusion assessment for Regional Water Board approval.	September 7, 2018
Schlumberger submits revised report on vapor intrusion assessment to Regional Water Board, which includes responses to Regional Water Board and EPA comments received on October 18, 2018.	December 6, 2018

Appendix C: ARAR Assessment

Section 121(d)(1)(A) of the Comprehensive Environmental Response, Compensation, and Liability Act requires that remedial actions at CERCLA sites attain (or justify the waiver of) any Federal or state environmental standards, requirements, criteria, or limitations that are determined to be legally applicable or relevant and appropriate requirements (ARARs). Federal ARARs may include requirements promulgated under any Federal environmental laws. State ARARs may only include promulgated, enforceable environmental or facility-siting laws of general application that are more stringent or broader in scope than Federal requirements and that are identified by the State in a timely manner. ARARs are identified on a site-specific basis from information about the chemicals at the site, the remedial actions contemplated, the physical characteristics of the site, and other appropriate factors. ARARs include only substantive, not administrative requirements, and pertain only to on-site activities. There are three general categories of ARARs: chemical-specific, location-specific, and action-specific.

Chemical-specific ARARs identified in the selected remedy within the Record of Decision (ROD) for the groundwater at the Fairchild Semiconductor Corporation South San Jose Plant Superfund Site (Site) and considered for this Five-Year Review (FYR) for continued groundwater treatment are shown in Table 11. Contaminants with cleanup goals that exceed their current maximum contaminant levels (MCLs) are highlighted in light green below. Freon-113 is the only contaminant of concern where its current California Maximum Contaminant Level (MCL) is below the 1989 ROD cleanup level; however, Freon-113 has not been detected above the current California MCL.

Table 11. Summary of Chemical-Specific ARARs

Contaminants of Concern	1989 ROD Cleanup Levels (µg/L)		Current California MCL (µg/L)	Current Federal MCL (µg/L)	Are the cleanup levels above the current MCLs?
	On-site	Off-site			
1,1,1-trichloroethane (TCA)	200	50	200	200	No
1,1-dichloroethene (DCE)	6	1.5	6	7	No
1,1,2-trichloro-1,2,2-trifluoroethane (Freon-113)	18,000	--	1,200	--	Yes
Xylenes	620	--	1,750	10,000	No
Acetone	3,500[a]	--	--	--	No
Isopropyl alcohol	450[a]	--	--	--	No
Tetrachloroethene (PCE)	5	--	5	5	No

[a] At the time of the ROD, the U.S. Environmental Protection Agency and California Department of Health Services (DHS) had not established MCLs or Drinking Water Action Levels for acetone or isopropyl alcohol. The oral reference dose in the Integrated Risk Management Information System was the basis for the cleanup standard for acetone. A DHS site-specific remediation criterion was the basis for the cleanup standard for isopropyl alcohol. Currently, there are no State or Federal MCLs for acetone or isopropyl alcohol.

Changes to MCLs for Freon 113 and xylenes have occurred since the ROD was issued. The newer Freon MCL is more stringent than the cleanup level in the ROD; however, this change does not affect the protectiveness of the remedy because Freon 113 has not been detected in any groundwater wells since 1993. Xylenes have been detected in groundwater wells within the slurry wall area. However, the newer MCLs for xylene are less stringent than those specified in the ROD. These proposed changes to clean up levels are included in the draft FFS prepared for the proposed ROD amendment.

Federal and State laws and regulations other than the chemical-specific ARARs that have been promulgated or changed over the past five years are described in Table 12. The table does not include those ARARs identified from the ROD that are no longer pertinent, now that the response action has transitioned from construction to long-term operations and maintenance phase work. For example, ARARs related to remedial design and construction are not included in the table if they do not continue into long-term operations and maintenance. There have been no revisions to laws or regulations that affect the protectiveness of the remedy. Additionally, the following ARARs have not changed since the last FYR, and therefore protectiveness is not affected:

- SWRCB 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California"
- SWRCB Resolution 88-63, "Sources of Drinking Water"
- 23 CCR Division 3, Chapter 15, Article 3, “Waste Management Unit Classification and Siting”

Table 12. Summary of Other ARARs

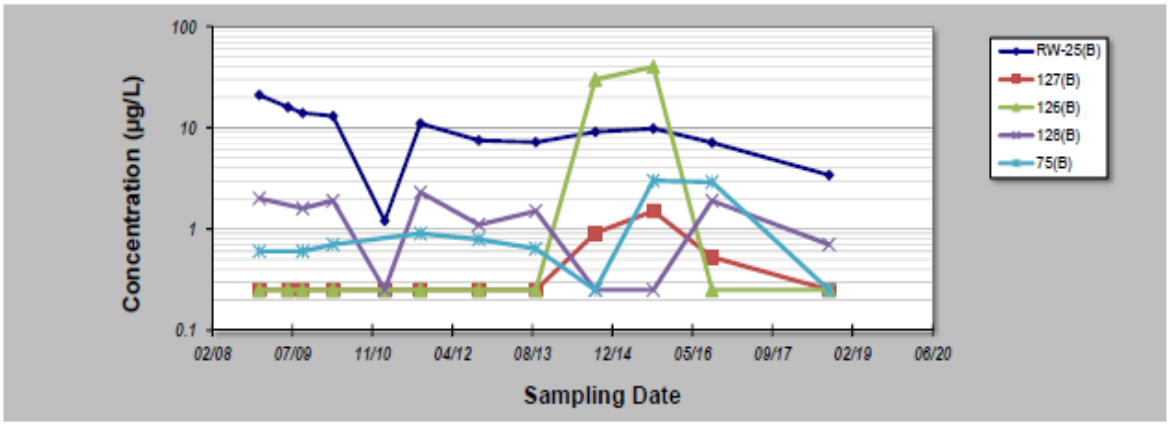
Type of Requirement	Citation	Document	Description	Amendment Date	Comments	Effect on Protectiveness
Hazardous Waste	42 USC Chapter 82 §6901-6991(i); Resource Conservation and Recovery Act	1989 ROD	Provides criteria for determining whether a solid or liquid waste is a RCRA-regulated hazardous waste. This is primarily applicable to purge water from groundwater monitoring activities.	§6939d. Public vessels: 2019	Revisions update references to other sections.	Revisions do not affect protectiveness.
				§6939f. Long-term storage: 2016	§6939f applies to long-term management and storage of elemental mercury generated with the United States.	Revisions do not affect protectiveness.
				§6945. Upgrading of open dumps: 2016	Subsection was added regarding State programs for control of coal combustion residuals.	Revisions do not affect protectiveness.
Hazardous Waste	22 CCR Division 4.5, Chapter 11; Identification and Listing of Hazardous Waste	1989 ROD	Provides criteria for determining whether a solid or liquid waste is a RCRA-regulated hazardous waste. This is primarily applicable to purge water from groundwater monitoring activities.	§66261.4. Exclusions: 2014; 2016, 2018	Section was revised with regard to disposal of cathode ray tube panel glass. Otherwise, revisions were filed as changes without regulatory effect.	Revisions do not affect protectiveness.
				§66261.6. Requirements for Recyclable Materials: 2018	Amendment was filed as a change without regulatory effect.	Revisions do not affect protectiveness.
				§66261.24. Requirements for Recyclable Materials: 2018	An editorial correction was made.	Revisions do not affect protectiveness.

Appendix D: Data Trend Sheets, Hydrographs, Vapor Intrusion Locations

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Jan-19	Job ID:	2019 FYR
Facility Name:	Fairchild Semiconductor SSJP	Constituent:	1,1,1-TCA
Conducted By:	B. McKenna	Concentration Units:	µg/L

Sampling Point ID:		RW-25(B)	127(B)	126(B)	128(B)	75(B)		
Sampling Event	Sampling Date	1,1,1-TCA CONCENTRATION (µg/L)						
1	11-Dec-08	21	0.25	0.25	2	0.6		
2	9-Jun-09	16	0.25	0.25				
3	9-Sep-09	14	0.25	0.25	1.6	0.6		
4	17-Mar-10	13	0.25	0.25	1.9	0.7		
5	3-Feb-11	1.2	0.25	0.25	0.25			
6	14-Sep-11	11	0.25	0.25	2.3	0.9		
7	13-Sep-12	7.5	0.25	0.25	1.1	0.79		
8	4-Sep-13	7.2	0.25	0.25	1.5	0.64		
9	10-Sep-14	9.1	0.91	30	0.25	0.25		
10	8-Sep-15	9.8	1.5	40	0.25	3		
11	9-Sep-16	7.1	0.53	0.25	1.9	2.9		
12	10-Sep-18	3.4	0.25	0.25	0.7	0.25		
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.54	0.90	2.27	0.62	0.96		
Mann-Kendall Statistic (S):		-42	20	13	-17	5		
Confidence Factor:		99.8%	90.2%	79.0%	89.1%	63.6%		
Concentration Trend:		Decreasing	Prob. Increasing	No Trend	Stable	No Trend		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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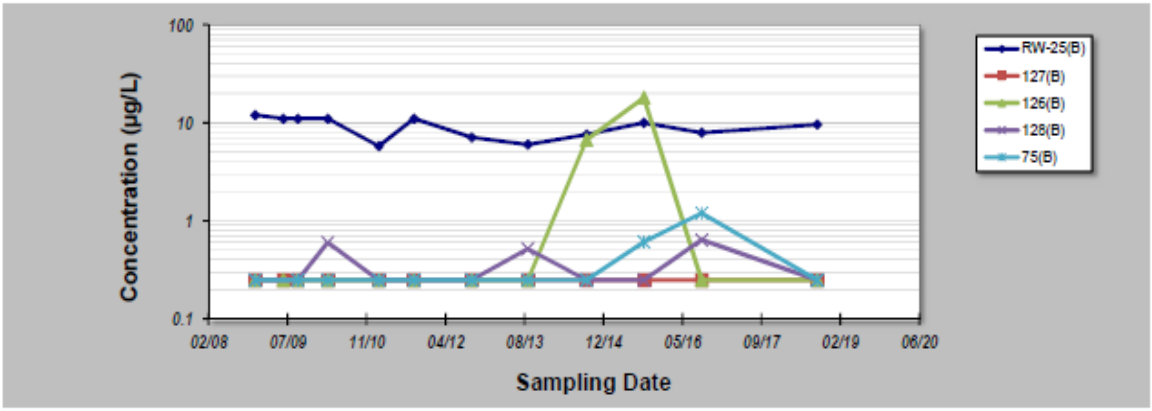
Figure 7. Mann-Kendall Trend Analysis for 1,1,1-TCA in Wells Outside the Slurry Wall: 2008-2018

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Jan-19	Job ID:	2019 FYR
Facility Name:	Fairchild Semiconductor SSJP	Constituent:	1,1-DCE
Conducted By:	B. McKenna	Concentration Units:	µg/L

Sampling Point ID:	RW-25(B)	127(B)	126(B)	128(B)	75(B)		
Sampling Event	**Sampling Date**	**1,1-DCE CONCENTRATION (µg/L)**					
1	11-Dec-08	12	0.25	0.25	0.25	0.25	
2	9-Jun-09	11	0.25	0.25			
3	9-Sep-09	11	0.25	0.25	0.25	0.25	
4	17-Mar-10	11	0.25	0.25	0.6	0.25	
5	3-Feb-11	5.8	0.25	0.25	0.25	0.25	
6	14-Sep-11	11	0.25	0.25	0.25	0.25	
7	13-Sep-12	7.1	0.25	0.25	0.25	0.25	
8	4-Sep-13	6	0.25	0.25	0.52	0.25	
9	10-Sep-14	7.6	0.25	6.7	0.25	0.25	
10	8-Sep-15	10	0.25	18	0.25	0.61	
11	9-Sep-16	7.9	0.25	0.25	0.64	1.2	
12	10-Sep-18	9.6	0.25	0.25	0.25	0.25	
13							
14							
15							
16							
17							
18							
19							
20							
Coefficient of Variation:		0.24	0.00	2.33	0.47	0.80	
Mann-Kendall Statistic (S):		-22	0	13	5	15	
Confidence Factor:		92.4%	47.3%	79.0%	61.9%	85.9%	
Concentration Trend:		Prob. Decreasing	Stable	No Trend	No Trend	No Trend	



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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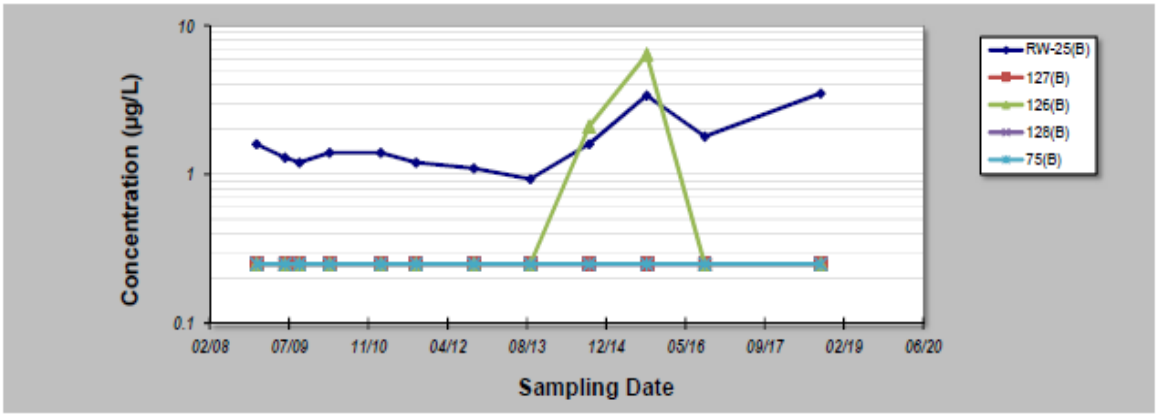
Figure 8. Mann-Kendall Trend Analysis for 1,1-DCE in Wells Outside the Slurry Wall: 2008-2018

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Jan-19	Job ID:	2019 FYR
Facility Name:	Fairchild Semiconductor SSJP	Constituent:	1,1-DCA
Conducted By:	B. McKenna	Concentration Units:	µg/L

Sampling Point ID:		RW-25(B)	127(B)	126(B)	128(B)	75(B)		
Sampling Event	Sampling Date	1,1-DCA CONCENTRATION (µg/L)						
1	11-Dec-08	1.6	0.25	0.25	0.25	0.25		
2	9-Jun-09	1.3	0.25	0.25	0.25	0.25		
3	9-Sep-09	1.2	0.25	0.25	0.25	0.25		
4	17-Mar-10	1.4	0.25	0.25	0.25	0.25		
5	3-Feb-11	1.4	0.25	0.25	0.25	0.25		
6	14-Sep-11	1.2	0.25	0.25	0.25	0.25		
7	13-Sep-12	1.1	0.25	0.25	0.25	0.25		
8	4-Sep-13	0.93	0.25	0.25	0.25	0.25		
9	10-Sep-14	1.6	0.25	2.1	0.25	0.25		
10	8-Sep-15	3.4	0.25	6.4	0.25	0.25		
11	9-Sep-16	1.8	0.25	0.25	0.25	0.25		
12	10-Sep-18	3.5	0.25	0.25	0.25	0.25		
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.50	0.00	1.97	0.00	0.00		
Mann-Kendall Statistic (S):		17	0	13	0	0		
Confidence Factor:		86.0%	47.3%	79.0%	47.3%	47.3%		
Concentration Trend:		No Trend	Stable	No Trend	Stable	Stable		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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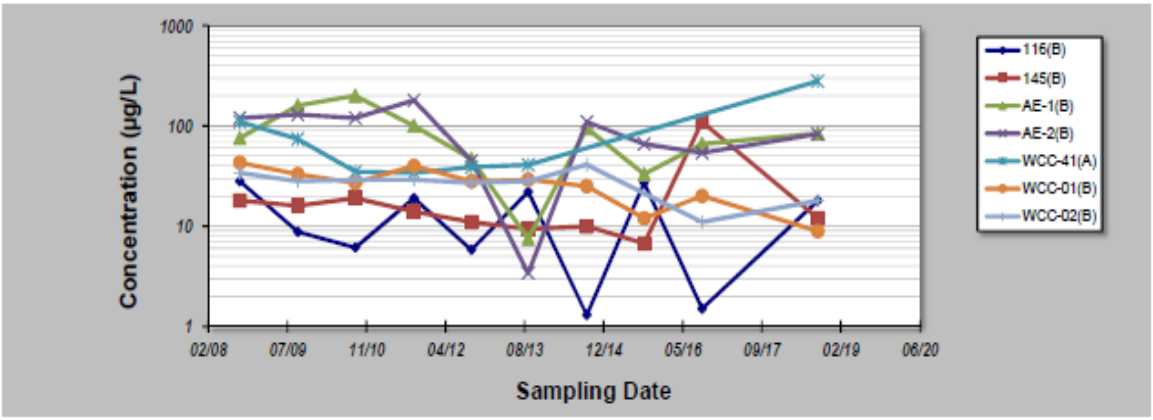
Figure 9. Mann-Kendall Trend Analysis for 1,1-DCA in Wells Outside the Slurry Wall: 2008-2018

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Jan-19	Job ID:	2019 FYR
Facility Name:	Fairchild Semiconductor SSJP	Constituent:	1,1,1-TCA
Conducted By:	B. McKenna	Concentration Units:	µg/L

Sampling Point ID:		116(B)	145(B)	AE-1(B)	AE-2(B)	WCC-41(A)	WCC-01(B)	WCC-02(B)
Sampling Event	Sampling Date	1,1,1-TCA CONCENTRATION (µg/L)						
1	9-Sep-08	28	18	76	120	110	43	34
2	10-Sep-09	8.8	16	160	130	74	33	28
3	9-Sep-10	6.1	19	200	120	35	27	29
4	14-Sep-11	19	14	100	180	34	40	29
5	12-Sep-12	5.8	11	47	45	39	28	27
6	5-Sep-13	22	9.4	7.5	3.4	41	29	28
7	10-Sep-14	1.3	10	95	110		25	41
8	8-Sep-15	27	6.7	33	66		12	
9	9-Sep-16	1.5	110	66	54		20	11
10	10-Sep-18	18	12	84	83	280	8.9	18
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.74	1.37	0.66	0.56	1.02	0.41	0.32
Mann-Kendall Statistic (S):		-9	-15	-13	-16	1	-33	-14
Confidence Factor:		75.8%	89.2%	85.4%	90.7%	50.0%	99.9%	91.0%
Concentration Trend:		Stable	No Trend	Stable	Prob. Decreasing	No Trend	Decreasing	Prob. Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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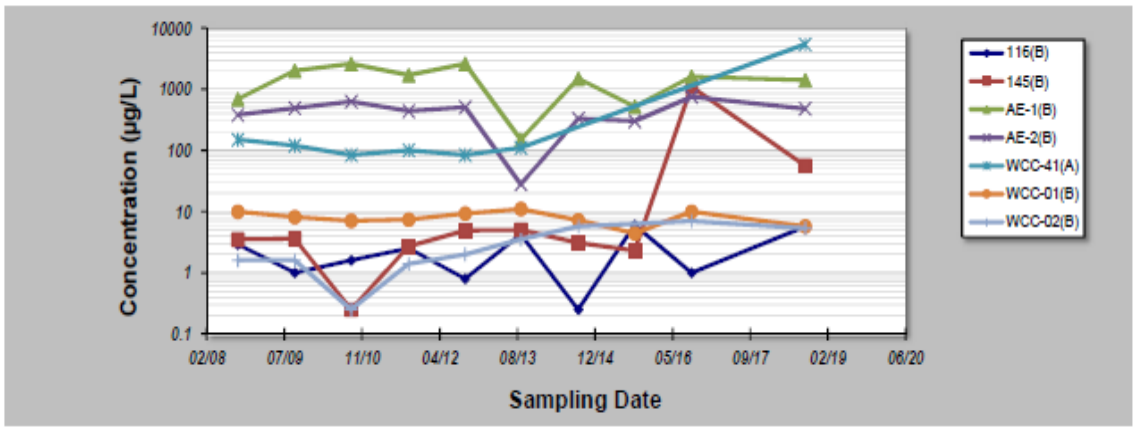
Figure 10. Mann-Kendall Trend Analysis for 1,1,1-TCA in Wells Inside the Slurry Wall: 2008-2018

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Jan-19	Job ID:	2019 FYR
Facility Name:	Fairchild Semiconductor SSJP	Constituent:	1,1-DCE
Conducted By:	B. McKenna	Concentration Units:	µg/L

Sampling Point ID:		116(B)	145(B)	AE-1(B)	AE-2(B)	WCC-41(A)	WCC-01(B)	WCC-02(B)
Sampling Event	Sampling Date	1,1-DCE CONCENTRATION (µg/L)						
1	9-Sep-08	2.9	3.5	690	380	150	10	1.6
2	10-Sep-09	1	3.6	2000	490	120	8.1	1.6
3	9-Sep-10	1.6	0.25	2600	630	84	7.1	0.25
4	14-Sep-11	2.5	2.7	1700	440	100	7.4	1.4
5	12-Sep-12	0.8	4.9	2600	510	84	9.3	2
6	5-Sep-13	4.2	5	150	28	110	11	3.5
7	10-Sep-14	0.25	3.1	1500	330		7.2	5.7
8	8-Sep-15	6	2.3	520	300		4.4	
9	9-Sep-16	1	1100	1600	750		10	7
10	10-Sep-18	5.7	56	1400	480	5400	5.7	5.3
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.80	2.92	0.56	0.45	2.32	0.26	0.74
Mann-Kendall Statistic (S):		6	15	-10	-1	0	-10	23
Confidence Factor:		66.8%	89.2%	78.4%	50.0%	37.9%	78.4%	99.1%
Concentration Trend:		No Trend	No Trend	Stable	Stable	No Trend	Stable	Increasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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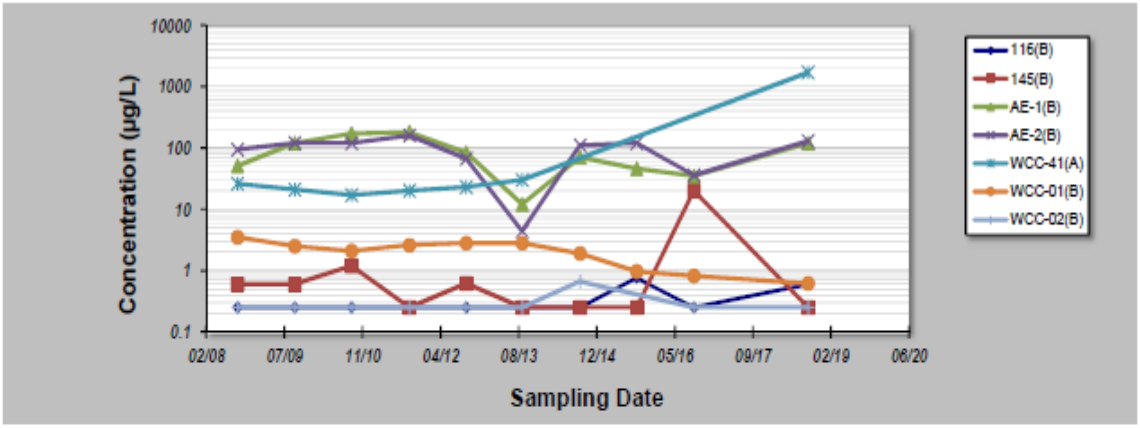
Figure 11. Mann-Kendall Trend Analysis for 1,1-DCE in Wells Inside the Slurry Wall: 2008-2018

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Jan-19	Job ID:	2019 FYR
Facility Name:	Fairchild Semiconductor SSJP	Constituent:	1,1-DCA
Conducted By:	B. McKenna	Concentration Units:	µg/L

Sampling Point ID:		116(B)	145(B)	AE-1(B)	AE-2(B)	WCC-41(A)	WCC-01(B)	WCC-02(B)
Sampling Event	Sampling Date	1,1-DCA CONCENTRATION (µg/L)						
1	9-Sep-08	0.25	0.6	51	94	26	3.5	0.25
2	10-Sep-09	0.25	0.6	120	120	21	2.5	0.25
3	9-Sep-10	0.25	1.2	170	120	17	2.1	0.25
4	14-Sep-11	0.25	0.25	180	160	20	2.6	0.25
5	12-Sep-12	0.25	0.62	84	67	23	2.8	0.25
6	5-Sep-13	0.25	0.25	12	4.4	30	2.8	0.25
7	10-Sep-14	0.25	0.25	70	110		1.9	0.66
8	8-Sep-15	0.76	0.25	46	120		0.97	
9	9-Sep-16	0.25	20	35	36		0.82	0.25
10	10-Sep-18	0.6	0.25	120	130	1700	0.62	0.25
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.55	2.55	0.64	0.49	2.42	0.47	0.46
Mann-Kendall Statistic (S):		13	-8	-10	0	9	-28	4
Confidence Factor:		85.4%	72.9%	78.4%	45.6%	88.1%	99.4%	61.9%
Concentration Trend:		No Trend	No Trend	Stable	Stable	No Trend	Decreasing	No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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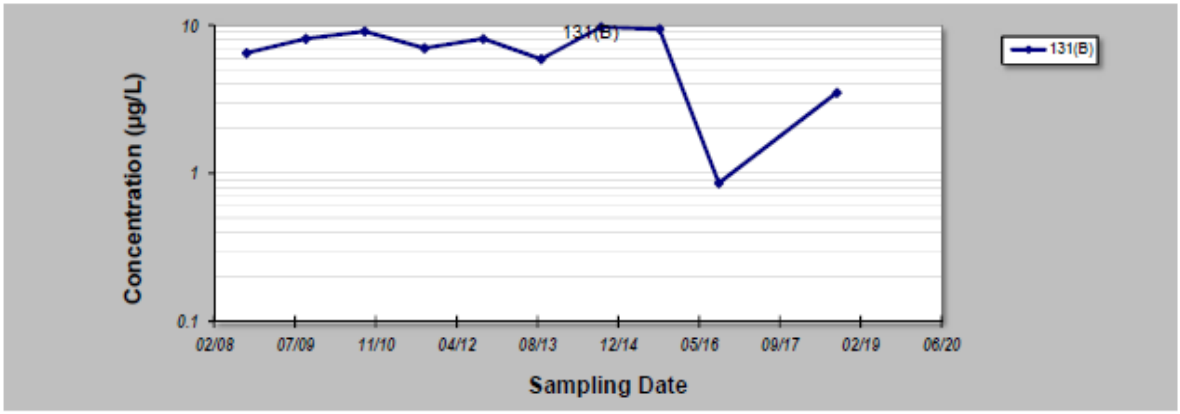
Figure12. Mann-Kendall Trend Analysis for 1,1-DCA in Wells Inside the Slurry Wall: 2008-2018

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Jan-19	Job ID:	2019 FYR
Facility Name:	Fairchild Semiconductor SSJP	Constituent:	1,1,1-TCA
Conducted By:	B. McKenna	Concentration Units:	µg/L

Sampling Point ID: 131(B)

Sampling Event	Sampling Date	1,1,1-TCA CONCENTRATION (µg/L)						
1	9-Sep-08	6.5						
2	10-Sep-09	8.1						
3	9-Sep-10	9.1						
4	14-Sep-11	7						
5	12-Sep-12	8.1						
6	5-Sep-13	5.9						
7	10-Sep-14	9.7						
8	8-Sep-15	9.4						
9	9-Sep-16	0.86						
10	10-Sep-18	3.5						
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.41						
Mann-Kendall Statistic (S):		-6						
Confidence Factor:		66.8%						
Concentration Trend:		Stable						



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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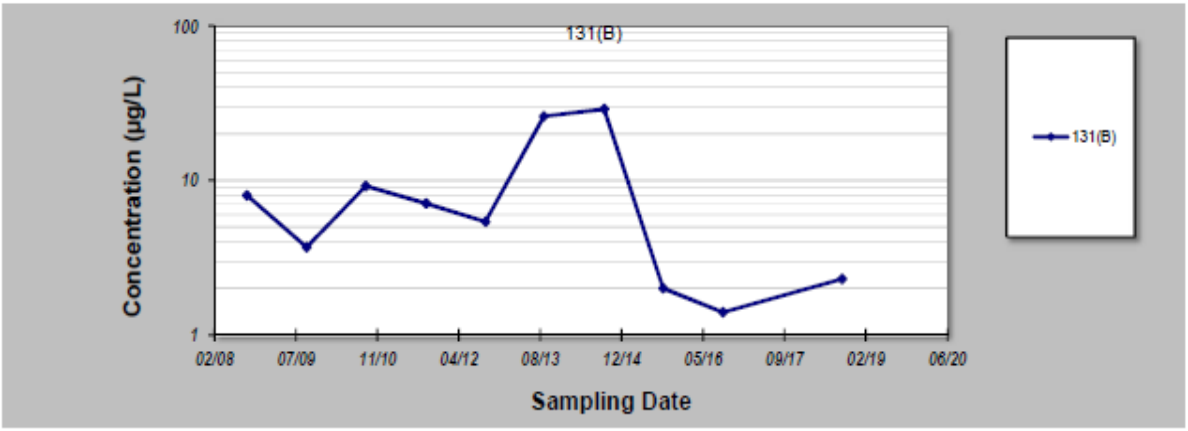
Figure 13. Mann-Kendall Trend Analysis for 1,1,1-TCA in Well 131(B): 2008-2018

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Jan-19	Job ID:	2019 FYR
Facility Name:	Fairchild Semiconductor SSJP	Constituent:	1,1-DCE
Conducted By:	B. McKenna	Concentration Units:	µg/L

Sampling Point ID: 131(B)

Sampling Event	Sampling Date	1,1-DCE CONCENTRATION (µg/L)
1	9-Sep-08	8
2	10-Sep-09	3.7
3	9-Sep-10	9.2
4	14-Sep-11	7.1
5	12-Sep-12	5.4
6	5-Sep-13	26
7	10-Sep-14	29
8	8-Sep-15	2
9	9-Sep-16	1.4
10	10-Sep-18	2.3
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		1.05
Mann-Kendall Statistic (S):		-11
Confidence Factor:		81.0%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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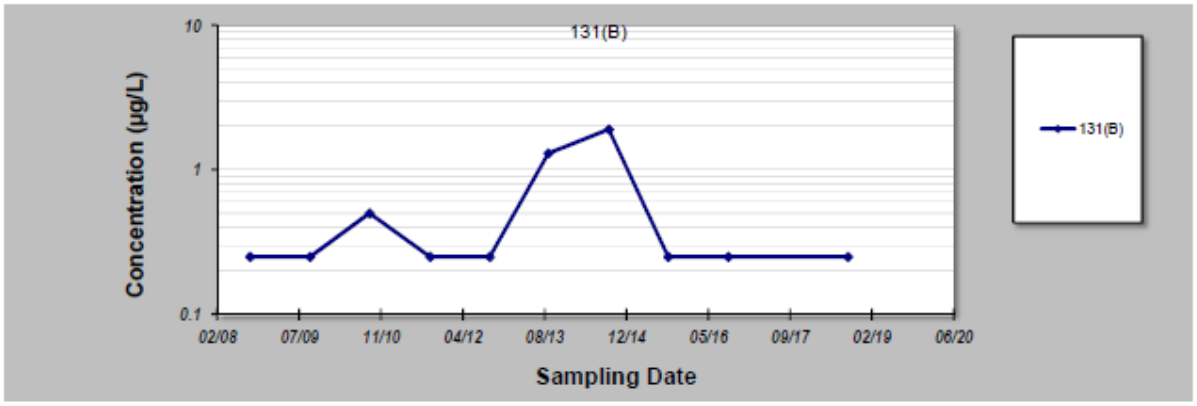
Figure 14. Mann-Kendall Trend Analysis for 1,1-DCE in Well 131(B): 2008-2018

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	14-Jan-19	Job ID:	2019 FYR
Facility Name:	Fairchild Semiconductor SSJP	Constituent:	1,1-DCA
Conducted By:	B. McKenna	Concentration Units:	µg/L

Sampling Point ID: 131(B)

Sampling Event	Sampling Date	1,1-DCA CONCENTRATION (µg/L)						
1	9-Sep-08	0.25						
2	10-Sep-09	0.25						
3	9-Sep-10	0.5						
4	14-Sep-11	0.25						
5	12-Sep-12	0.25						
6	5-Sep-13	1.3						
7	10-Sep-14	1.9						
8	8-Sep-15	0.25						
9	9-Sep-16	0.25						
10	10-Sep-18	0.25						
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.06						
Mann-Kendall Statistic (S):		2						
Confidence Factor:		53.5%						
Concentration Trend:		No Trend						



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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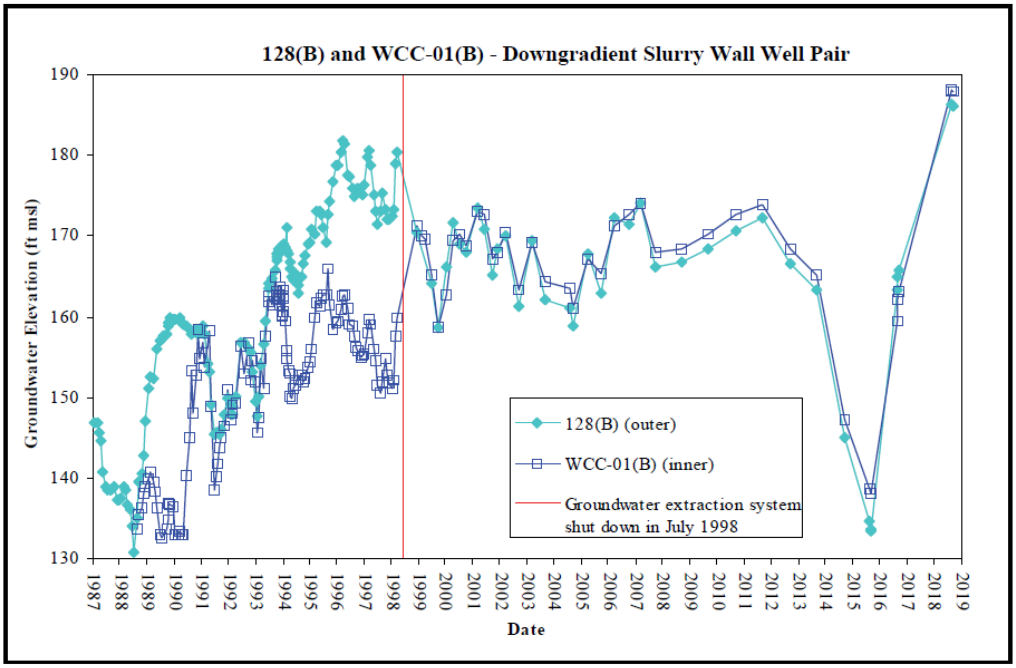
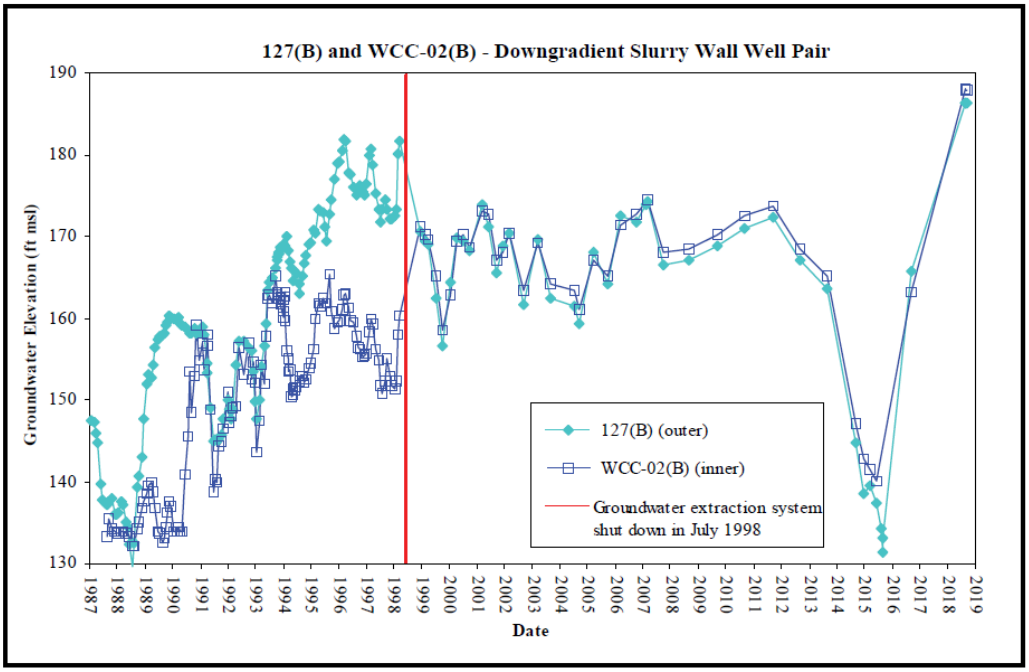
Figure 15. Mann-Kendall Trend Analysis for 1,1-DCA in Well 131(B): 2008-2018



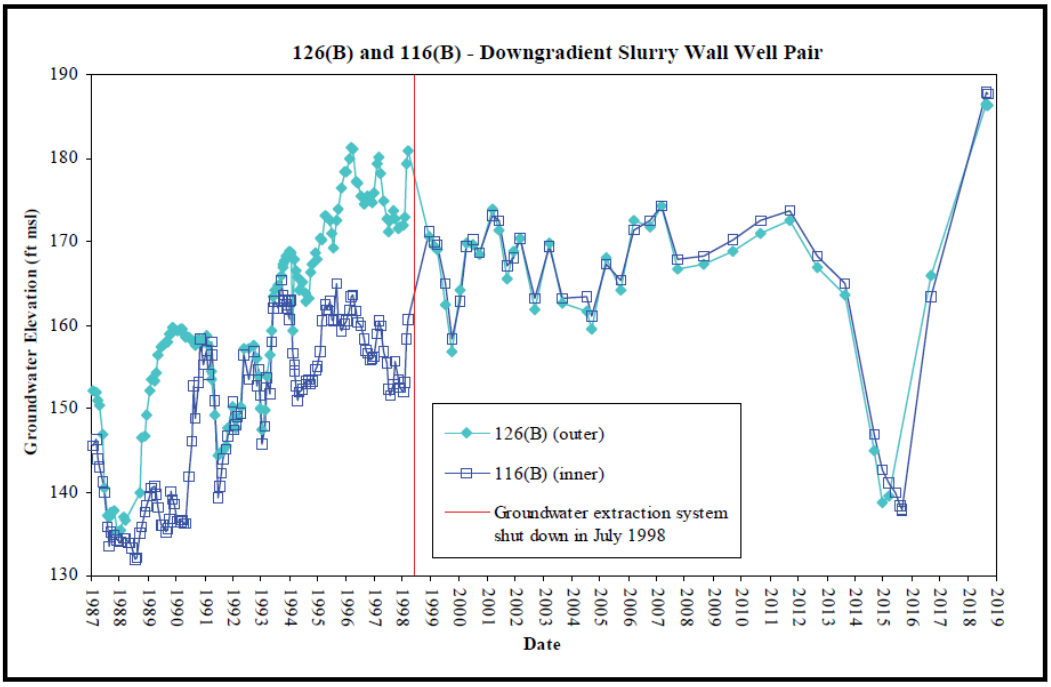
Abbreviation:
ft msl - feet above mean sea level

Figure 16. Hydrograph for Wells 128(B) and WCC-01(B)



Abbreviation:
ft msl - feet above mean sea level

Figure17. Hydrograph for Wells 127(B) and WCC-02(B)



Abbreviation:
ft msl - feet above mean sea level

Figure18. Hydrograph for Wells 126(B) and 116 (B)

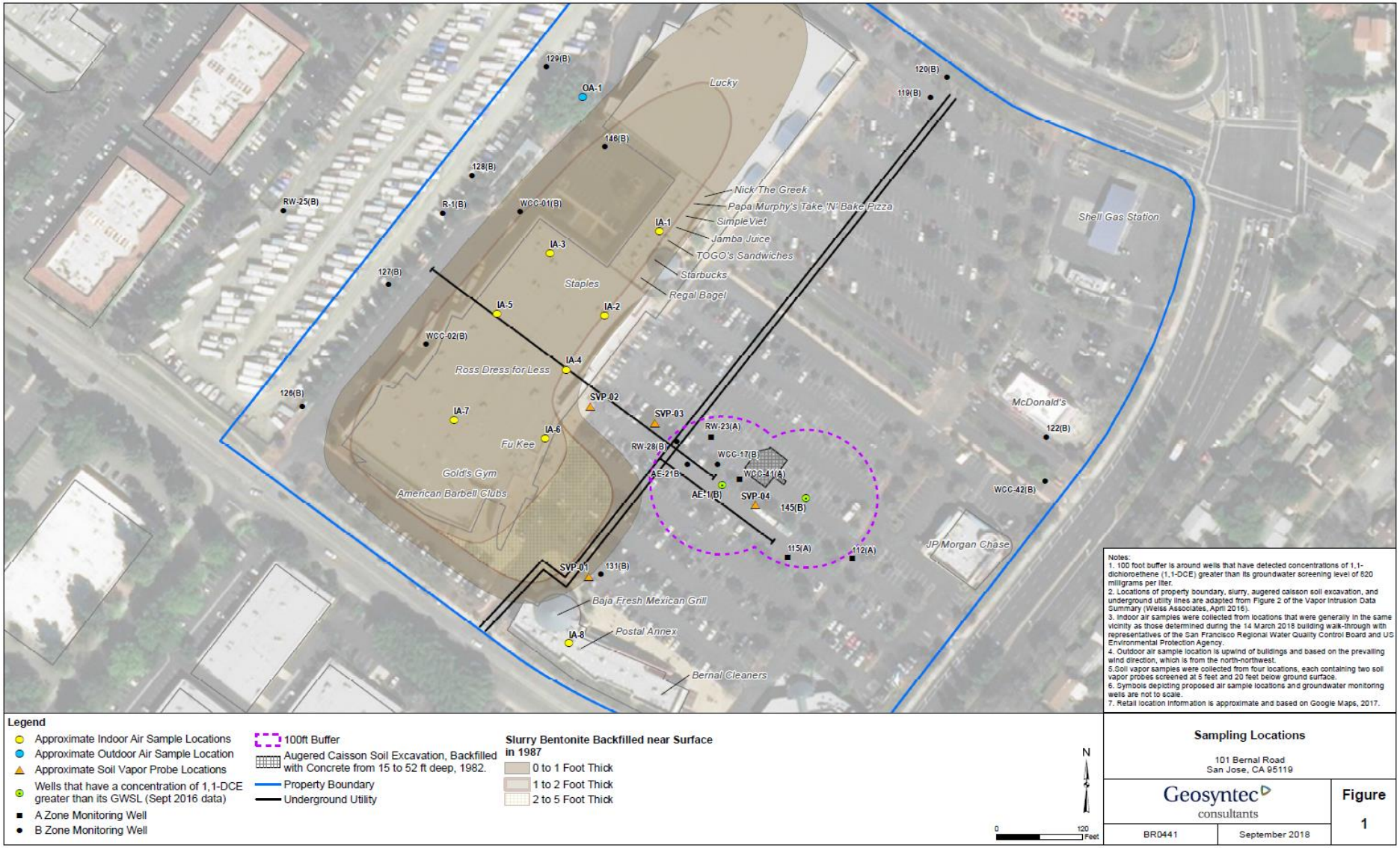


Figure 19... Indoor Air and Soil Vapor Sampling Location

Table 15. Indoor Air Sampling Location Details

Retail Space	Retail Space Information [1]		Sample ID	Rationale for Sampling Location [3, 4]
	Approximate Area (ft^2)	HVAC Information [2]		
125 Bernal Road				
Togo's Sandwiches	1,400	Tenant did not respond	IA-1	Near an underground utility line
121 Bernal Road				
Staples	19,900	Tenant did not respond	IA-2, IA-3	Near an underground utility line
Ross Dress for Less	20,700	The seven (7) HVAC units that provide air exchange and maintain termperatures within the entire retail space are located on the roof. - Five (5) Lennox LGA series cooling & electric heating units (Blower flow rates = 300 to 4000 CFM) - Two (2) Lennox LGC series cooling & gas heating units (Blower flow rates = 600 to 5200 CFM) The HVAC units operate to maintain preset conditions (e.g., temperature) Sunday through Thursday from 6:00 AM to 10:30 PM and Friday through Saturday from 6:00 AM to 11:00 PM.	IA-4, IA-5 (DUP-1)	Over an underground utility line
Fu Kee Restaurant	900	Tenant did not respond	IA-6	Near an underground utility line and over a floor drain
American Barbell Gym	22,500	Tenant did not respond	IA-7	Near an underground utility line and within an area of the retail space where a floor drain was present
117 Bernal Road				
Postal Annex	700	One HVAC unit, which is located on the roof, provides air exchange and temperature control for the retail space. The HVAC unit operates in the summer months when temperatures are over 80°F, usually between 1:00 PM and 5:30 PM. The HVAC unit is off in the winter months and on Sundays when the store is closed.	IA-8	Near an underground utility line

Notes:
1. Multiple attempts to collect building information and information about each tenant space were made over the past ten months. Geosyntec representatives called and emailed the property manager many times and emailed the tenants requesting information through the property manager. The information provided in this table is based on what the property manager and tenants provided.
2. Each retail space has its own HVAC system. The property manager is not responsible for operation of the HVAC systems and could not provide information regarding each tenant space.
3. Access to specific retail spaces was arranged by the property manager.
4. Sample location within each retail space was selected based on where access was granted by the tenant.
5. ft^2 = square feet
6. HVAC = heating, ventilation, and air conditioning
7. CFM = cubic feet per minute

Appendix E. Human Health and Environment Risk Assessment

The Fairchild Semiconductor Corporation South San Jose Plant Superfund Site (Site) Record of Decision (ROD) determined that the primary threat to human health and the environment was through the consumption of contaminated drinking water. This immediate threat was eliminated by removing the contaminated drinking water supply well and containing the plume to prevent other supply wells from being contaminated. The ROD indicated that other risks resulting from air emissions, surface waters, and surface soils were minimal. In 2018, Geosyntec Consultants, on behalf of Schlumberger, completed a vapor intrusion assessment[2], which indicated that there was no unacceptable vapor intrusion risk to tenants or occupants under current land use, and that there was no current need for further actions to address the vapor intrusion pathway at the Site.

Toxicity Values

Revisions to toxicity information for Site-related contaminants may call into question the protectiveness of cleanup levels established in the ROD. Thus, it is appropriate during a site's Five-Year Review (FYR) to re-evaluate protectiveness for contaminants where risk-based cleanup levels were chosen in the ROD. For the Site, risk-based cleanup levels were chosen for isopropyl alcohol and acetone.

EPA's Integrated Risk Management Information System updates toxicity values used by EPA in risk assessments when newer scientific information becomes available. Since the ROD in 1989, there have been changes to the toxicity values for certain contaminants of concern at the Site. Toxicity values were not listed in the ROD, and the baseline risk assessment for the Site was not available at the time of this FYR. However, the cumulative impact of toxicity value revisions can be inferred by comparing current EPA regional screening levels (RSLs) with the ROD's risk-based cleanup levels.

The RSLs are chemical-specific concentrations for individual contaminants that correspond to an excess cancer risk level of $1x10^{-6}$ or a hazard index of 1 for non-carcinogens. RSLs have been developed for a variety of exposures scenarios (e.g., residential, commercial/industrial). RSLs are not de facto cleanup standards for a Superfund site, but they do provide a good indication of whether actions may be needed to address potential human health exposures. For isopropyl alcohol and acetone, no cancer-based RSLs currently exist, so comparison to EPA's cancer risk range is not applicable for the Site. The non-cancer RSLs, which correspond to a Hazard Index of 1, are presented in Table 16.

[2] Geosyntec Consultants. 2018. *Memorandum: Revised Vapor Intrusion Assessment. Fairchild Semiconductor South San Jose Plant Superfund Site. 101 Bernal Road, San Jose, California.* 6 December 2018.

Table 16. Comparison of ROD Groundwater Cleanup Levels Against November 2018 EPA RSLs

Contaminant of Concern	ROD Cleanup Level (µg/L)	Non-cancer Tapwater RSLs (µg/L)	RSL < ROD Cleanup Level?
Isopropyl alcohol	**2,250**	**410**	**Yes**
Acetone	3,500	14,000	No

Notes:
Bold values are less than the ROD cleanup level
No cancer-based RSLs are available for isopropanol and acetone.
RLSs are from EPA RSL summary table (TR=1E-06, THQ=1) published November 2018.

As shown in Table 15, the RSL for isopropyl alcohol is now more stringent than the ROD cleanup level. In at least the last 10 years, isopropyl alcohol has not been detected above reporting limits in groundwater. Therefore, this change does not affect protectiveness.

Appendix F: Press Notice

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San Jose, CA 95113
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2003193

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IN THE CITY OF SAN JOSE
IN THE STATE OF CALIFORNIA
COUNTY OF SANTA CLARA

FILE NO. 3247419

In the matter of

San Jose Mercury News

The undersigned, being first duly sworn, deposes and says: That at all times hereinafter mentioned affiant was and still is a citizen of the United States, over the age of eighteen years, and not a party to or interested in the above entitled proceedings; and was at and during all said times and still is the principal clerk of the printer and publisher of the San Jose Mercury News, a newspaper of general circulation printed and published daily in the City of San Jose, County of Santa Clara, State of California as determined by the court's decree dated June 27, 1952, Case Numbers 84096 and 84097, and that said San Jose Mercury News is and was at all times herein mentioned a newspaper of general circulation as that term is defined by Sections 6000; that at all times said newspaper has been established, printed and published in the said County and State at regular intervals for more than one year preceding the first publication of the notice herein mentioned. Said decree has not been revoked, vacated or set aside.

I declare that the notice, of which the annexed is a true printed copy, has been published in each regular or entire issue of said newspaper and not in any supplement thereof on the following dates, to wit:

05/02/2019

Dated at San Jose, California
May 2, 2019

I declare under penalty of perjury that the foregoing is true and correct.

Principal clerk of the printer and publisher of the San Jose Mercury News

Legal No. **0006331894**

Water Boards

REGIONAL WATER BOARD AND EPA BEGIN 6TH FIVE-YEAR REVIEW OF CLEANUP AT THE FAIRCHILD SEMICONDUCTOR SOUTH SAN JOSE SUPERFUND SITE

The California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) and the U.S. Environmental Protection Agency (EPA) are conducting a review of cleanup actions at the Fairchild Semiconductor Corp. Superfund site (site), located at 101 Bernal Road, San Jose, CA. The review evaluates whether the cleanup actions for the site remain protective of human health and the environment.

For this review, the Regional Water Board and EPA will study site-specific information for the period between 2014-2019 to evaluate how well the cleanup remedies are working. To do this, the project managers will conduct facility inspections and talk with company representatives, other regulatory authorities, and interested members of the public. The methods, findings and conclusions from the review will be documented in the Five-Year Review, to be issued by Fall 2019. The report will be available to the public online at the websites listed below.

Any member of the public who wishes to participate in an interview and provide input is welcome to contact the Agencies at the contact information below.

Groundwater and soil investigations began at the site in the 1980s to determine the extent of solvent contamination. Initial cleanup actions in 1982 included the removal of a leaking underground tank of 1,1,1-trichloroethane (1,1,1-TCA) and contaminated soils. A deed restriction was recorded on the property to prevent exposure to contamination. A soil vapor extraction and treatment system operated between 1987 and 1990 to treat soil contamination. An underground slurry wall was also constructed to prevent contaminated groundwater from leaving the property. Between 1982 and 1998 contaminated groundwater was extracted and treated to remove solvents. Annual groundwater monitoring continues to confirm that contaminant levels continue to decline over time and are not migrating.

The Regional Water Board and EPA invite the community to learn more about this review process and provide input by contacting the Regional Water Board project manager, Celina Hernandez, at (510) 622-2447 or by e-mail to celina.hernandez@waterboards.ca.gov.

You can find more site information, including recent technical documents, at the following websites:

State website:
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=43360089

EPA website:
www.epa.gov/superfund/fairchildsemiconductorsouth

CNS-3247419#

A0000050608 51

Appendix G: Interviews

Five-Year Review Interview Record			
Site:	Fairchild Semiconductor, South San Jose Plant	**EPA ID No:**	CAD097012298

Interview Type: *[e.g. Visit, Teleconference, etc.]*
Location of Visit:
Date:
Time:

Interviewers

Name	Title	Organization
Benino McKenna	Geologist	USACE
Aaron King	Environmental Engineer	USACE

Interviewees

Name	Organization	Title	Telephone	Email
Angus Chan	Geosyntec	Project Engineer	(510) 836-3034	achan@geosyntec.com

Summary of Conversation

1) What is your overall impression of the project?
Geosyntec became involved with the project in late 2017 to assess the potential for vapor intrusion (VI) to impact the indoor air quality of buildings constructed on the site. The data we reviewed and collected during our assessment indicates there is no concern for VI to impact building occupants.

2) Is the remedy functioning as expected? How well is the remedy performing?
No remedial actions are needed to address the potential for VI on the site.

3) What does the monitoring data show? Are there any trends that show contaminant levels are decreasing?
No monitoring activities associated with the VI pathway are being conducted nor are any monitoring activities needed to address the VI pathway.
The soil gas and indoor air sampling data collected in 2018 indicated there is no unacceptable vapor intrusion risk to indoor air in the current buildings constructed on the Site. Although concentrations of 1,1-DCE in soil vapor in the former source area slightly exceed the screening level (within the same order of magnitude), these data indicate that the underground utility conduits are not acting as a migration pathway for soil vapor to indoor air. Therefore, no further actions to assess or address the VI pathway at this Site under the current conditions are warranted.

4) Is there a continuous O&M presence? If so, please describe staff and activities. If there is not a continuous on-site presence, describe staff and frequency of site inspections and activities.
This question is not applicable for the VI pathway. There is no continuous O&M presence associated with the VI pathway. No O&M activities are needed to address the VI pathway as the pathway is not complete under the current site conditions. No further actions (other than the indoor air and soil gas sampling conducted in 2018) are warranted for this site.

5) Have there been any significant changes in the O&M requirements, maintenance schedules, or sampling routines in the last five years? If so, do they affect protectiveness of the remedy? Please describe changes and impacts.
This question is not applicable for the VI pathway. There were no O&M requirements, maintenance schedules or sampling routines associated with the VI pathway. The VI assessment conducted in 2018 indicated no O&M activities are needed as the pathway is incomplete.

6) What are the annual operating costs for your organization's involvement with the site?
This question is not applicable for the VI pathway as there are no annual activities being conducted to address the VI pathway.

7) Have there been unexpected O&M difficulties or costs at the site in the last five years? If so, please give details.
This question is not applicable to the VI pathway. No O&M activities are conducted, nor do they need to be conducted, to address the potential for VI to impact buildings on the Site. The VI pathway is incomplete under current conditions.

8) Have there been opportunities to optimize O&M or sampling efforts? Please describe changes and resultant or desired cost savings or improved efficiency.

This question is not applicable to the VI pathway. No O&M activities are conducted, nor do they need to be conducted, to address the potential for VI to impact buildings on the Site. The VI pathway is incomplete under current conditions. 9) Are you aware of any changes in Federal/State/County/Local laws and regulations that may impact the protectiveness of the remedy? As stated in the April 2019 Vapor Intrusion Assessment Report (Geosyntec, 2019), the soil gas and indoor air data collected in 2018 was compared to the most recent (e.g., January 2019 San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels) screening levels developed to be protective of human health via the VI pathway. This assessment indicated no further actions were needed to assess or address the VI pathway under current conditions. 10) Do you have any comments, suggestions, or recommendations regarding the project? No. No further actions are needed to assess or address the VI pathway under current conditions.
Additional Site-Specific Questions
[If needed]

Appendix H: Site Inspection Report

Trip Report

Fairchild Semiconductor South San Jose Plant Superfund Site, San Jose, California

1. INTRODUCTION

a. Date of Visit: 15 March 2019

b. Location: San Jose, California

c. Purpose: A site visit was conducted to visually inspect and document the conditions of the remedy, the site, and the surrounding area for inclusion into the Five-Year Review Report.

d. Participants: *List all attendees*

Melanie Morash USEPA Region 9 Remedial Project Manager (RPM) (415) 972-3050
Celina Hernandez Regional Water Quality Control Board (510) 622-2447
Benino McKenna USACE Seattle District Hydrogeologist (206) 764-3803
Kimberly Ryan Weiss Associates, Senior Staff Scientist (510) 450-6139
Angus Chan Geosyntec, Project Engineer (510) 836-3034

2. SUMMARY

A site visit to the Fairchild Semiconductor South San Jose Plant (SSJP) was conducted on 15 March 2019. All participants met on site for preliminary briefings and health and safety check in. The site is currently a commercial/retail shopping center with multiple buildings and customer parking. No active remediation is currently being conducted on site. Participants toured the site and observed evidence of recent well abandonments and the former remediation compound.

3. DISCUSSION

On 11 March, Ben McKenna flew to San Jose, California to meet with multiple parties for five Year Review Site Visits at multiple sites. On 15 March Ben McKenna met the Fairchild SSJP participants at the site. The weather was sunny and warm (temperature approximately 65º F). The site is accessed from California Highway 101 South and Bernal Road and is located southeast of downtown San Jose.

Mr. McKenna arrived at the site at 0900 and did a preliminary walk around the site to note the locations of existing wells in the facility parking lot. The other participants arrived at 1000 and met in a coffee shop on site. USEPA gave an overview of the objectives of the site visit and a brief background on the site history. Mr. McKenna detailed what groundwater and vapor intrusion data had been reviewed for the Five-Year Review period and verified if any additional pertinent information should be included in the Five-Year Review Report. The participants had no additional data for the report.

After the overview and discussion, the team proceeded outside and inspected numerous well locations that had been abandoned in the past five years. Existing wells were photographed and documented. The abandoned wells consisted of both extraction wells and monitoring wells. The current monitoring well network maintains wells in each of the subsurface water-bearing zones but no extraction capabilities. The remnants of the Groundwater Extraction and Treatment System (GWETS) compound are located off site to the west of the shopping center within a storage yard. Former extraction well RW-25 remains inside the compound and is included in the five-year sampling schedule. All existing wells were secured, locked and in good condition.

After viewing the former GWETS compound the site inspection was concluded and Mr. McKenna left the site by 1200. EPA and Regional Water Board participants elected to remain at the site for additional discussions.

4. ACTIONS

The USACE will incorporate information obtained from the site visit into the Five-Year Review report.

Benino McKenna, P.G.

Geologist/Hydrogeologist

CENWS-ENT-G

Former Extraction Well RW-23(A)	Former Extraction Well RW-28(B)

Former Extraction Well RW-23(A)	Former Extraction Well RW-28(B)

Existing Well WCC-41(A)	Existing Well RW-25(B)